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EVALUATION OF RECREATIONAL AREAS IN SİİRT

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ABSTRACT

This study investigates how users evaluate Siirt recreational areas in various variables. The study includes 200 voluntary participants selected from users of such areas via the convenience sampling method. To collect the study's data, the Recreational Areas Scale (RAS), whose validity and reliability studies were conducted by Ulaş and Ayan (2017), was used in terms of the proximity to recreational areas, frequency of use, and various variables. The data was evaluated via the SPSS 26 package program. As a result, depending on the proximity to the recreational area, there was a statistically significant difference in terms of equipment, functionality, diversity and quantitative adequacy of the area, general adequacy of the area, the ability to meet basic needs, and adequacy of sanitation and the mean score ($p<0.05$). A slight difference was found in terms of the frequency of use of the recreational areas. In addition, it was determined that there was no significant difference in the mean score and all sub-scales depending on the gender variable ($p>0.05$). In conclusion, future investments in recreational areas considering various variables are expected to yield more positive results.

Keywords: Recreational Areas; diversity; equipment

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SİİRT İLİNDEKİ REKREATİF ALANLARIN DEĞERLENDİRİLMESİ

ÖZET

Bu çalışmanın amacı Siirt ilinde bulunan rekreatif alanların kullanıcılar tarafından çeşitli değişkenler açısından değerlendirilmesidir. Çalışmaya bu alanları kullanan, uygun örnekleme metodu ile seçilmiş toplam 200 gönüllü kişi katılmıştır. Çalışmada veri toplamak amacıyla, rekreatif alanların yakınlığı, kullanım sıklığı ve cinsiyet değişkenleri ile birlikte, geçerlilik ve güvenilirlik çalışması, Ulaş ve Ayan (2017) tarafından yapılan "Rekreatif alanları değerlendirme ölçeği" (RAD) uygulanmıştır. Elde edilen verilerin değerlendirilmesi SPSS 26 paket programında yapılmıştır. Veriler incelendiğinde; rekreatif alan yakınlığına bağlı olarak, alanın donanım, işlevsellik, çeşitlilik ve nicel yeterlilik boyutu, alanın genel yeterlilik boyutu, temel ihtiyaçları karşılayabilme ve hijyen yeterlilik alt boyutlarında ve genel ortalamada istatistiksel olarak anlamlı bir fark olduğu tespit edilmiştir ($p<0.05$). Rekreatif alanların kullanım süresinde ise, kısmi fark bulunmuştur. Ayrıca cinsiyet değişkenine bağlı olarak genel ortalama ve tüm alt boyutlarda anlamlı bir fark olmadığı tespit edilmiştir ($p>0.05$). Sonuç olarak, rekreatif alanlara yönelik yapılacak yatırımların değişkenler gözetilerek gerçekleştirilmesi daha olumlu sonuçlar verecektir.

Anahtar Kelimeler: Rekreatif alanlar; çeşitlilik; donanım

INTRODUCTION

In the wake of the industrial revolution, countries rapidly became industrialized, causing migration from small cities, towns, and villages to big cities (Çakır, 2011). For this reason, the population of industrialized cities is higher and increasing day by day (Ficher, 1994). This rising population causes more people to live in tighter and more sedentary places (Sağlam, 2011). According to Maslow's hierarchy of needs, basic needs, including breathing, resting, and food and water, are at the bottom of such a condo. In contrast, safety needs include the security of health, hygiene, or fears at the second level (Henden, 2018). It can be argued that the availability of areas where the individual can physically engage in activities is the first or second step of the pyramid.

People living in big cities engage in physical activities to renew themselves and relax in their time out of work, and such activities are called recreational activities (Badrić et al., 2016). Recently, people's recreational needs have begun to increase, and therefore the number of courses they attend for recreational purposes has increased (Dattilo et al., 2012). This shows that the recreational areas in the cities bring movement to the congested world of people and prevent the formation of an unhealthy society, which causes the need for recreational areas to increase gradually (Karakuş, 1995; Koçer, 1980; Krous, 1985).

Participation in recreational activities and increasing users also raise social awareness, contribute to public health, and prevent several diseases. Studies show that recreational activities provide physical fitness and benefit mental health (McKenzie et al., 2010; Bucworth & Dishman., 2002; Long, 1993; Gill, 1986). Besides, they are helpful in the fight against stress, which has become one of the biggest problems of modern lives in recent years, and recreational activities also help block out work intensity, which in turn results in lower levels of stress levels and increased self-confidence (Wijndaele et al., 2007; Coleman & Iso-Ahola, 1993; Soyer et al., 2012; Sarı, 2012; Kirkcaldy et al., 2002).

As people's interest in recreational activities increases, they need recreational areas at higher levels. It can be suggested that this urges local governments to open new recreational areas and make up for shortages. Local governments are responsible for providing these services with their maintenance (Ökmen & Özer, 2013). In this context, local governments have a great responsibility to raise healthy generations (Çakırer & Boz, 2015). They have conducted various studies to evaluate recreational areas in Isparta, Osmaniye, and Konya, respectively (Akten, 2003; Metin et al., 2020; Koçyiğit & Yıldız, 2014). And this study has been designed to evaluate the recreational areas in Siirt in terms of users and reveal the shortages and deficiencies that users find in the light of scientific data.

METHOD

Study Group

Participants aged 200 (age = 32.2 ± 6.6; male = 143; female = 57; married = 124, single = 76) living in Siirt province voluntarily participated in the study. Necessary information was given before the participants filled out the scales. It took 10 minutes to complete the scale.

Data Collection Tool

The Recreational Areas Scale (RAS)

The Evaluation of Recreational Areas Scale was developed in the study by Ulaş and Ayan (2017). The form containing the personal information of the participants in the descriptive information section prepared by the researcher was used to evaluate the recreational areas. The scale consists of 3 sub-scales and 19 questions. Considering the content of the items, Factor I ((1, 2, 3, 4) includes "Field General Competence Dimension", Factor II (7, 8, 9, 10, 14, 15, 16, 17,18,19) includes "Domain Hardware, Functionality, Diversity and Quantitative Competency Dimension" and, Factor III (5, 6, 11, 12, 13) has "Basic Needs and Hygiene Adequacy Dimension". In this study, the Cronbach Alpha coefficient of the scale was found to be .95 in RAS total, .85 in Field General Competence Dimension, .93 in Domain Hardware, Functionality, Diversity and Quantitative Competency and .83 in Basic Needs and Hygiene Adequacy Dimension.

Data Analysis

SPSS 26 statistical program was used in the analysis of the study. Arithmetic means and standard deviation values were determined for descriptive information. An independent sample t-test was used for the proximity to recreational areas, frequency of use of recreational areas, and gender variable.

FINDINGS

In this part of the study, the responses regarding the evaluation of recreational areas in Siirt province were examined.

Table 1. T-Test Results of the RAS Scale Scores Depending on the Proximity to Recreational Areas Variable

	N Close/Distant	**x̄**	**SD**	**df**	**t**	**P**
Field General Competence	106 94	2,55 2,10	,95 ,92	198	3,451	**0.001***
Domain Hardware, Functionality, Diversity and Quantitative Competency	106 94	2,44 2,08	,87 ,88	198	2,885	**0,004***
Basic Needs and Hygiene Adequacy	106 94	2,55 2,14	,84 ,85	198	3,380	**0,001***
The RAS Total	106 94	2,49 2,10	,79 ,83	198	3,398	**0,001***

p<0.05

Table 1 shows a statistically significant difference among groups in the RAS scores of users in terms of the proximity of recreational areas based on the t-test results (p<0.05). This indicates that recreational areas are adequate for users closer to recreational areas in terms of all sub-scales and mean scores.

Table 2. T-Test Results of the RAS Scale Scores Depending on the Frequency of Use of Recreational Areas Variable

	N Once A Week/ Twice A Week and More	**x̄**	**SD**	**df**	**t**	**P**
Field General Competence	110 90	2,20 2,51	,97 ,93	198	-2,276	**0.024***
Domain Hardware, Functionality, Diversity and Quantitative Competency	110 90	2,16 2,40	,89 ,88	198	-1,884	0,061
Basic Needs and Hygiene Adequacy	110 90	2,22 2,53	,81 ,91	198	-2,612	**0,011***
The RAS Total	110 90	2,18 2,46	,82 ,83	198	-2,330	**0,021***

p<0.05

Table 2 shows a statistically significant difference among groups in the RAS scores of users in terms of the frequency of use of recreational areas based on the t-test results (p<0.05). This indicates that recreational areas are adequate for users to use recreational regions twice a week or more in general adequacy and sanitation, as well as mean scores.

Table 3. T-Test Results of the RAS Scale Scores Depending on the Gender Variable

	N Female/Male	**x̄**	**SD**	**df**	**t**	**P**
Field General Competence	143 57	2,32 2,39	1,00 ,85	198	-,477	0.634
Domain Hardware, Functionality, Diversity and Quantitative Competency	143 57	2,25 2,31	,95 ,73	198	-,375	0,708
Basic Needs and Hygiene Adequacy	143 57	2,36 2,36	,92 ,72	198	-,025	0,980
The RAS Total	143 57	2,30 2,34	,90 ,66	198	-,334	0,739

$p<0.05$

Table 3 shows a statistically significant difference among groups in the RAS scores of users in terms of the gender variable based on the t-test results ($p<0.05$).

DISCUSSION AND CONCLUSION

It is known that recreational activities meet the needs of individuals, such as self-renewal, rest, relaxation, pleasure, and improving social relations with their environment (İskender et al., 2015). As living conditions are gradually changing, people residing in cities are looking for a recreational area where they can make the best use of their free time to keep away from the stress, fatigue, pressure, various troubles, and problems caused by the intense tempo (Demirel & Harmandar, 2009). In particular, the value of these areas has been further understood during the Covid-19 pandemic, and the subject's trends have increased. So much so that, along with these trends, studies on the evaluation of recreational areas have gained significant importance. This study was carried out to contribute to current needs and research by focusing on assessing recreational areas in terms of users in the province of Siirt.

Based on the study's findings, there was a statistically significant difference in the proximity to the recreational area used by people ($p<0.05$). Accordingly, it was concluded that in all sub-scales of the Evaluation of Recreational Areas Scale and the mean score, users close to the relevant areas see recreational areas as more adequate. Results of various previous studies overlapped with the results of this study. In a survey conducted by Kara et al. in the province of Istanbul, it was found that there are differences between the districts regarding recreational areas, and the population density in the sections is a factor affecting the use and access of the areas. The old settlements (Fatih, Eminönü, Beşiktaş, Şişli, Zeytinburnu, Bakırköy) host more recreational areas and the people living in these districts have easier access to recreation areas compared to those living in other sections (Kara et al., 2008). It is not possible to compare the socio-economic structure of Istanbul with the province of Siirt. Still, the proximity to recreational areas and the abundance led to similar results for both sections. In a study on the region of Konya, which is the largest city in Turkey in terms of area and has metropolitan status in terms of population, findings on the relationship between people and the recreational areas were revealed to

emphasize that more importance should be given to investments in recreational areas along with a further need for renewal of existing facilities (Koçyiğit & Yıldız, 2014).

Another related study was carried out by Akten in 2003 in Isparta, concluding that most of the participants did not know the location of the recreational areas. In this respect, the study is inconsistent with our research findings on the province of Siirt. Demirel and Harmandar's (2008) research on university students is noteworthy as a study in which the problems related to recreational areas come to the fore in their findings. In the related research, the facilities in the recreational areas and the difficulties experienced by the participants in transportation were emphasized. Likewise, in Sandal and Karademir's (2008) study on the province of Kahramanmaraş, the emphasis was on problems such as lack of security, lack of hygiene in places where recreational areas are located, environmental pollution, lack of necessary equipment, and crowded recreational areas. Zorba et al. (2006) studied recreational areas in the province of Muğla based on the attitudes of local governments in Muğla towards recreational areas and activities. They concluded that the facilities and personnel were inadequate.

Another finding of the study conducted in the province of Siirt is a statistically significant difference in terms of the frequency of use ($p<0.05$). Recreational areas are more adequate for people who use recreational areas two or more times a week in terms of general adequacy, the ability to meet basic needs and adequacy of sanitation, and the mean score of the Evaluation of Recreational Areas Scale. Along the same lines, Demir (2019) studied the province of Çankırı to conclude that individuals differed significantly according to the frequency of use of recreational areas and that there were significant differences in terms of functionality, equipment, diversity, and quantitative adequacy of the area, general adequacy of the area, the ability to meet basic needs and adequacy of sanitation.

It was observed in this study that there was no statistically significant difference depending on gender. Parallel to this study, the research conducted by Metin et al. in Osmaniye is remarkable. The study concluded that there was no difference in the mean score and all sub-scales in terms of the evaluation of recreational areas scale according to the gender variable (Metin et al., 2020). However, Demir found that the overall scale and all sub-scales differed significantly according to gender (Demir, 2019).

As a result, considering the previous studies, the need for recreational areas is commonly accepted by people regardless of provinces. In terms of the findings obtained from the participants who supported our study, it can be said that while there was no significant difference depending on the gender variable in the use of recreational areas, there was a considerable difference depending on the proximity to recreational areas and the frequency of use. Based on these findings, considering the need for recreational areas, the importance of diversifying the features of the areas and facilitating access to these areas has been understood once again. Local governments, other public administrations, and even the private sector have significant roles. It is thought that the satisfaction of the services offered to the citizens will increase even more by making the recreational areas attractive.

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DETERMINATION OF PARENTS' VIEWS ON THE ROLE OF BASKETBALL AND THE PERSONALITY DEVELOPMENT OF CHILDREN

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ABSTRACT

The aim of this study was to determine the views of the parents, who encourage their children to play sports or who support their children that have an interest in participating in sportive activities; the role of sports in personal development of the children and the parents' views were evaluated according to demographical characteristics of the parents. The parents of 60 children who go to randomly selected Private Basketball Schools in Nicosia, Kyrenia, and Morphou affiliated to the Basketball Federation in the Turkish Republic of Northern Cyprus were interviewed and a semi-structured form was utilized. The qualitative research showed that, basketball helps a child to develop a compatible personality, and leadership skills, accept responsibility, establish communication and controlling emotions, and have a positive contribution to a child's personality development.

Keywords: Basketball; family; children; development characteristics

BASKETBOLUN ÇOCUKLARIN KİŞİLİK GELİŞİM ÖZELLİKLERİ ETKİSİNE YÖNELİK EBEVEYN GÖRÜŞLERİNİN İNCELENMESİ

ÖZET

Araştırmada, çocuklarını spora yönlendiren ya da çocuklarının spora yönelmelerini destekleyen ailelerin, sporun insan organizması üzerindeki kişilik gelişimlerine yönelik görüşleri tespit edilmiş ve ebeveynlerin demografik özelliklerine bakılıp incelenmiştir. KKTC'nin Basketbol Federasyonuna bağlı olan Lefkoşa, Girne ve Güzelyurt ilçesi içerisinde yer alan rastgele yöntemle seçilen Özel Basketbol Okullarına giden çocukların (toplam 60) ebeveynlere uygulanan görüşme yöntemi ve bu görüşmede kullanılan yarı yapılandırılmış görüşme formu hazırlanmış ve uygulanmıştır. Nitel araştırmada, çocukların

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basketbolun çocuğun kişilik gelişimlerine yönelik Uyumlu bir kişilik, liderlik, sorumluluk duygusu özelliğini, iletişim kurma yeteneğini geliştirdiğini ve duygu durumlarını kontrol edebilme özelliğini geliştirdiğini ve olumlu katkılar sağladığı saptanmıştır.

Anahtar Kelimeler: Basketbol; aile; çocuk; gelişim özellikleri

1. INDRODUCTION

A family's interest and level of knowledge in sports, play an essential role in the popularity of sports, developing a social dimension of sports and for future generations to be healthy (Yetim, 2005). Nowadays, sportive activities and organizations have increasingly become important due to these reasons.

Personality refers to the consistent characteristic patterns that make a person unique and embraces continuous intellectual, emotional, social, and physical aspects of an individual. In this sense, personality is the key element that determines relatively persistent tendencies of behavior, relationship patterns, and reactions of an individual. Another description of personality emphasized that personality is the collection of systems within an individual that determines his or her specific thoughts and behaviors (Taymur, 2012).

Freud believed that the unconscious mind and biology of an individual are important for development of the personality traits; however, Erikson's view showed that cultural and social factors are more important in the development of the personality traits. Erik Erikson was influenced by Sigmund Freud; however, Erikson's theory differs from Freud's views on personality development in psychoanalytic theory and his approach toward individuals. Development experiences of a child's motor skills, play a role in shaping his or her self-representation, as well as his or her personality. Negative early-life experiences inhibit personality development and may damage their self-esteem. If a child avoids some movements due to low self-esteem, this will hinder motor development and increase low self-esteem and anxiety. Motor development is an inseparable component for personality development and psychological development (İkizler, 2000).

Children are always on the move while they are growing up. Each body part moves in a different direction and changes constantly. There are many studies which emphasize the importance of physical activity for children, in order to become healthy individuals during growth, education, and throughout their lifetime; and to have an active life. Sportive activities have a positive impact and play an important role in the academic achievement of children (Çağlar & Uluöz, 2016). Enabling education and resting at the same time, effective leisure time management is of great importance in terms of ensuring the socialization and personality development of children.

Nowadays, sports are an significant area of interest in all societies. Sports is an essential area of interest, especially for young adults who are usually active and have infinite energy (Atlı, 2008). Children should be taught at an early age, that being active in sports is an essential element for building a healthy life that has a balance between sports and other interests (Leblanc and Dickson, 2005).

The aim of this study was, to determine the views of the parents, who encourage their children to play sports or who encourage their children who have an interest in sports to acknowledge the role of sports in their personal development. These views were evaluated according to demographical characteristics of the parents. In this context, the determination of families' attitudes, regarding their children to participate in sportive activities is an important point.

2. METHODS

2.1. Research Model

This was survey research, which determined parents' views. In this research, the aim was to obtain reliable, in-depth, and detailed information; therefore, the research model employed qualitative research methods. Survey models are research approaches that aim to describe a past or present situation as it is.

2.2. Research Population

The parents of children aged between 6 and 12 and who attend Private Basketball Schools affiliated with the Basketball Federation that includes all districts of TRNC constitute the research population. The research population consisted of parents of children who attend basketball school. A total of 60 parents who were randomly selected from every district participated in the study. The sample of this study was determined by, purposeful sampling used in case studies (Maxwell, 2005).

2.3. Data Collection Methods

Data was collected by the semi-structured interview form, issued by the researcher and the personal information form. The questions aimed to determine the views of parents who encourage their children to play sports or who support their children to participate in sports for the role of sports on the physical, social, psychological, and mental development of individuals and to ascertain their expectations regarding leisure time management. There are a variety of methods of data collection in qualitative research, including in-depth interviews (one-on-one interviews), observations, and textual analysis (Legard, Keegan, and Ward, 2003).

2.4. Data Collection Analysis

Content analysis including coding and categorization of qualitative data was performed for the data collection in this study. The aim of content analysis is, to create themes by gathering similar concepts within the dataset and interpreting these themes by establishing relations between them (Yıldırım and Şimşek, 2016).

3. RESULTS

3.1. Distribution of Parents' Demographic Characteristics

In this section, variables *(area, age, gender, child's age, child's gender, duration of basketball playing, occupation, educational status, monthly income, number of children, branch choice)* of the parents were collected by using semi-structured interview forms were explained.

A total of 60 parents from Morphou (20), Nicosia (17), Kyrenia (23), and Famagusta (0) participated in the study and were interviewed. The age distribution of participants included in this study was 30-35 years (15), 31-40 years (25), and 41-50 years (5) and of the participants, 27 were men and 33 were women. Children were grouped according to age as 6-7 years (17), 8-10 years (28), and 10-12 years (15), and 40 of the children were boys and 20 were girls. The distribution of duration played among children, was 0-6 months (10), 6 months - 1 year (24), 1 - 2 years (15), 2 years, and more (11). Of the parents, 12 were teachers, 5 were academicians, 3 were physicians, 10 were self-employed, 28 were civil servants and 2 were workers. Distribution of parents according to educational status were, primary school graduate (0), middle school graduate (1), high school graduate (3), associate degree (0), graduate degree (46), and post-graduate (10). The average incomes of patients were 500-1000 TL (0), 1000-2000 TL (0), 2000-3000 TL (5) and 3000 TL and above (55). According to the number of children, the parents were divided into those with a single child (19), 2 children (38), 3 children (3), and 4 or more children (0). The last variable was who has chosen the sports branch, and the answers were a mother (2), father (1), child (45), mother-father and child (family (10), and teacher (2).

3.2. Determination of Parents' Views on The Role of Basketball on Personality Development of Children

3.2.1. Develops a Compatible Personality

In order to determine the views of parents on the role of basketball in the personality development of their children, of the parents who participated in the study, all (100%) stated that their child/children developed a compatible personality due to playing basketball.

One of the parents stated that *"my child learned how to go somewhere as a team (learning the concept of time)"* (G:E(5)), and another parent indicated that *"my child learned how to establish interpersonal communications and to accept other people as they are"* (G:E(26)). Another participant (G:E(19)) indicated that *"Sports is the easiest and maybe the most effective way of communicating with children. Because sportive activities enable children to use their infinite energy, by contributing to their health and teach them to obey the rules, teamwork and unity, cooperation and sharing and the most important of all, help children to become compatible people"*, while a parent (G:E(32)) pointed out that *"When they play sport, children understand the necessity of working with patience, sacrifice and in discipline to achieve something; on the other hand, they also learn to accept defeat and being under equal circumstances, how to appreciate someone, get to know oneself. Moreover, sports help children to build self-confidence, to learn how to be courageous and make friends and therefore, become a compatible person"*.

3.2.2. Leadership Skills

In order to determine the views of parents on the role of basketball on the personality development of their child, all the parents who participated in the study, (100%) stated that their child/children developed leadership skills.

One of the parents (G:E(26)) stated that *"Basketball develops leadership skills and children try to make another person do the same thing".* While another participant (G:E(44)) indicated that *"Sports help children to develop new skills, such as learning teamwork, leadership and socializing."* One parent (G:E(55)) expressed his view as *"I think basketball enables children to learn new skills including working as a group, taking responsibility, being decisive and role model and directing people and improve speaking skills, decision making."*

3.2.3. Develops a Sense of Responsibility

In order to determine the views of parents on the role of basketball in the personality development of children, all of the parents who participated in the study, (100%) stated that their child/children developed a sense of responsibility due to playing basketball.

In this theme, the participant stated *"a child who plays sport becomes a responsible person in social life by taking responsibility*" (G:E(2)). "Basketball thought *my child to fulfill his/ duties. For example, he learned to take responsibility, such as preparing his bag or knowing the training day*" (G:E(35)).

3.2.4. Develops Effective Communication Skills

In order to determine the views of parents on the role of basketball in the personality development of children, all the parents who participated in the study, (100%) stated that their child/children developed effective communication skills due to playing basketball.

Some views on this theme are as follows: "Basketball helped my child to develop a good communication with other people and form good relations" (G:E(40)). *"After starting to play basketball, my kid started expressing himself/herself to other people regardless of their gender and age"* (G:E(51).

3.2.5. Develops the Ability to Control Emotions.

In order to determine the views of parents on the role of basketball on the personality development of a child, of the parents who participated in the study, all (100%) stated that their child/children developed the ability to control emotions due to playing basketball.

In this theme, one of the parents stated that *"children learn to win and lose during games and share this feeling with their friends"* (G:E(8)).

"*Children can control their anger or aggression towards other people"* (G:E(14). Another participant expressed (G:E(4)) that *"children start to trust themselves; therefore, they are no longer shy. This enables them to establish communication with other people around"*. *"Thanks to basketball, my son has overcome his shyness and improved his self-esteem"* said (G:E(8)). Similar expressions in this theme were: *"my child learned how to control his anger and aggression."* (G:E(27)) and *"sports help children to be happy and use their infinite energy to a good cause"* (G:E(20)).

4. DISCUSSION

In this study, we aimed to determine the views of the parents who encourage their children to play sports or who support their children that have an interest to participate in sportive activities. The

role of sports in personal development and their views were evaluated according to demographical characteristics of the parents.

In order to determine the views of parents on the role of basketball in the personality development of children, of the parents who participated in the study, all (100%) stated that their child/children developed a compatible personality due to playing basketball. A child's experiences of motor skills development play an important role in shaping his or her self-representation as well as his or her personality. Moreover, these experiences have a significant importance for socialization and personality development. Personality is an individual's interests, attitudes, competencies, and behavioral characteristics that help an individual to survive in his or her environment (Yüksel, 2006). While adapting to an environment with his natural abilities, an individual's personality is shaped (Kulaksızoğlu, 2006). This reveals an individual's way of interacting with the physical and social environments (Atkinson et al, 2002). Participation in sportive activities, which are a form of social interaction, has a positive impact on psychological and social development. There are studies showing that the personalities of sportive people differ from those who are not sportive (Weinberg and Gould, 2007).

In order to determine the views of patients on the role of basketball in the personality development of children, of the parents who participated in the study, all (100%) stated that their child/children developed leadership skills. Active listening, honesty, interpersonal skills, communication skills, sharing, and having some individual values are important leadership skills, which develop during adolescence (Conner and Strobel, 2007). There are studies that demonstrated leadership skills change upon age; however, do not change according to gender, educational status of parents, and the birth order of the children in the family.

In the light of obtained results, further research should be conducted on the development of the leadership skills of students. In adolescence, the leadership skills of children in school focus more on skills, information, and talent. There are studies in the literature that concentrate on leadership skills and the development of leadership skills in undergraduate students or on the leadership skills of adults (Dempster and Lizzio, 2007). Studies on discussion, determination, and development of leadership skills in the educational ground should be extended to different age groups and levels. Following up on leadership development at an early age, may ensure individuals to have more qualified leadership skills in later years (Murphy and Johnson, 2011).

Playing improves the psychological, physical, cognitive, and motor well-being of children. Playing is an enjoyable way for children to keep an active and healthy life and teaches while enjoying themselves. It also improves leadership skills, provides values, education, develops creativity, and has a positive impact on discovery and problem-solving skills (Engin, A. O., Seven, M.A. & Turkan, V. N., 2004). Through playing, children have the possibility to learn about the world and themselves and create personal values (Karadağ, Korkut & Kesim, 2012). It was determined that, students who participate in sportive activities have positive personal characteristics. Moreover, the leadership skills of the students

who participate in sportive activities are considered good (Koca, İmamoğlu, 2018). In accordance with the statements, it is possible to say that determination of leadership skills in children, has a great significance in growing individuals with leadership skills in later years.

In order to determine the views of parents on the role of basketball in the personality development of children, of the parents who participated in the study, all (100%) stated that their child/children developed a sense of responsibility due to playing basketball. Depending on the findings, every parent would like his or her child to become a healthy, happy, compatible, and a responsible individual. Therefore, sports are the key educational tool for raising a healthy generation. In addition to psychomotor and cognitive development, children learn sexual identity, have a sense of responsibility, establish healthy relations with people and also learn solidarity through play. Sports are important for personality development and mental health. Children usually participate in sportive activities for having fun, feeling excited, being together with friends, and learning new skills. Children usually gain experience, improve creativity and develop a sense of responsibility through play. Playing can help children develop their social skills, such as helping each other and cooperating, respecting friends, and the rules of the game. Children who receive sports training acquire the below-mentioned characteristics (Mengütay, 2005). Moreover, rapid cultural changes have caused major differences in the concept of family and attitudes worldwide. In other words, the concept of the family has become different, in terms of traditional values and a sense of responsibility.

In order to determine the views of parents on the role of basketball in the personality development of children, of the parents who participated in the study, all (100%) stated that their child/children developed effective communication skills by playing basketball. Sports strengthen interpersonal connections. Sports have the ability to render people into members of a family, neighbors, city, and a nation. Some of the researchers suggested that sports act as a catalyst for resistance and social change. Nowadays, societies' interest in sports, either in form of doing or watching sports, is one of the distinguishing features of contemporary social life. There is no other event that may gather millions of people from all over the world regardless of language, religion, race, and gender at the same time in tribunes or in front of televisions (Yetim, 2005).

In order to determine the views of parents on the role of basketball in the personality development of children, of the parents who participated in the study, all (100%) stated that their child/children developed the ability to control emotions due to playing basketball. In the light of the findings, all the parents mentioned many different emotional states that their children improved their ability to control their emotional-state. The author may suggest that sports contribute to the development of self-confidence, help control anger and aggression, and reduce anxiety in cases of winning and losing. Moreover, it is observed that sports contribute to the socialization of children by helping them gain self-confidence, making them feel more confident in every environment, and making them more active and proactive. Furthermore, doing regular sports cause some psychological changes. It helps mood, anxiety, depression, and self-perception, which are among the parameters of mental health (İkizler, 2000).

Children who participate in sportive activities will have the opportunity to express their feelings with movements. Sports help children to discharge emotions, such as aggressiveness, anger, and jealousy, and teach them to control these emotions (Kınalı, 2003).

5. CONCLUSION and RECOMMENDATIONS

5.1. Conclusion

- Upon examination of the demographical characteristics of the parents *(area, age, gender, child's age, child's gender, duration of basketball playing, occupation, educational status, monthly income, number of children, branch choice)*, for which the necessary statistical information was collected with the semi-structured interview forms with the parents. It was concluded that of the participants, 3.3% were from Morphou, 28.3% were from Nicosia, 38.3% were from Kyrenia, and 0% were from Famagusta with 0%, and that there was no private basketball school in Famagusta.
- It was concluded that the parents included in the study consisted of a total of 60 parents who have child/children who attend to the Private Basketball school in the districts of Morphou, Nicosia, Kyrenia, and Famagusta, which are affiliated with the Basketball Federation in the TRNC, and that there was no private basketball school in the district of Famagusta.
- Of the participants of this study, 45% were men and 55% were women. Moreover, 25% of the participants were aged between 30-35; 41.6% were 31-40 and 8.3% were 41-50.
- Of the children who attend a basketball school, 28.3% were 6-7 years old; 46.6% were 8-10 years old and 25% were 10-12 years old. Sixty-six percent of the children were boys and 33.3% were girls.
- According to the variable of the child's playing time, it was determined that 16.6% were 0-6 months, 40% were between 6 months and 1 year, 25% were between 1-2 years, and 18.3% were over 2 years.
- According to the educational status of the participants, the majority were graduate or postgraduate students.
- The monthly income was 3000 TL and over. In this case, it is possible to say that the parents participating in the research are from middle and high-income groups.
- The majority of the participants are civil servants and teachers, and most of them have 2 children.
- It has been determined that basketball provides a compatible personality, develops leadership skills and the ability to communicate with a sense of responsibility, and helps to control emotions.
- It has been determined that basketball has a positive impact on personality development in children regarding children spending their leisure time with sportive activities.

5.2. Recommendations

- Children should start sportive activities as early as possible and be supported and appreciated by their families.
- Depending on personal characteristics, children have limitations in terms of physical, social, psychological, etc. characteristics.
- Supporting the children and, not leaving them alone will increase trust and communication within the family.
- A child should be allowed to determine the sports, which he or she will practice. It should be kept in mind that a child who practices a sport that he or she likes will be more successful.
- Such studies should be conducted on more people in different areas, different classes of society, and branches.
- More in-depth and detailed information can be obtained by conducting studies in different sports branches and working with different methods.

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MEASUREMENT INVARIANCE OF TURKISH "CENTRAL EXAM FOR SECONDARY EDUCATION" BY SPECIFIC LEARNING DISABILITY

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ABSTRACT

Ensuring measurement invariance for students with disabilities is critical for fair measurement in large-scale testing. Specific learning disability constitutes the largest group among disability groups. In this study, it was aimed to examine the measurement invariance of the Turkish Central Exam for Secondary Education according to whether or not students have a specific learning disability. 994 students diagnosed with specific learning disability formed the focus group, whilst 1,000 students without any disability constituted the reference group. Mantel Haenszel and Lord's chi-square methods were used to determine whether or not the items in each subtest showed Differential Item Functioning (DIF). In addition, by applying Multigroup Confirmatory Factor Analysis, the configural invariance, metric invariance, scalar invariance, and strict invariance of the subtests were examined. The study's findings proved that 34 of the 90-item test indicated DIF according to both methods. Eleven items show moderate DIF and five show high DIF. Metric invariance is not provided in all subtests, with factor loadings in all subtests varied between the groups.

Keywords: Differential item functioning; factorial invariance; measurement invariance; specific learning disability; test accommodations

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ORTAÖĞRETIME GEÇIŞ MERKEZI SINAVININ ÖZEL ÖĞRENME GÜÇLÜĞÜ OLAN ÖĞRENCILERE GÖRE ÖLÇME DEĞIŞMEZLIĞININ İNCELENMESI

ÖZET

Geniş ölçekli testlerin, özel gereksinimli öğrenciler için ölçme değişmezliğinin sağlanması ve buna yönelik bilimsel analizler adil ölçmeler için kritiktir. Özel öğrenme güçlüğü, özel gereksinim grupları içerisinde en büyük grubu oluşturmaktadır. Bu araştırmada ortaöğretime geçiş sınavının öğrencilerin özel öğrenme güçlüğü olup olmama durumuna göre ölçme değişmezliği incelenmiştir. Araştırmada öğrenme güçlüğü tanısı olan 994 öğrenci odak grubu, özel gereksinimi olmayan 1000 öğrenci ise referans grubu oluşturmuştur. Her bir alt testteki maddelerin Değişen Madde Fonksiyonu(DMF) gösterip göstermediği Mantel Haenszel ve Lord'un ki karesi yöntemleri ile incelenmiştir. Bunun yanında, Çoklu Grup Doğrulayıcı Faktör Analizi uygulanarak, alt testlerin yapısal, zayıf, güçlü ve katı değişmezlikleri aşamalı olarak incelenmiştir. Araştırma sonucuna göre 90 maddelik testin 34 maddesi her iki yönteme göre DMF göstermektedir. On bir madde orta ve beş madde ise yüksek düzeyde DMF göstermektedir. Zayıf değişmezlik ise tüm alt testlerde sağlanmamaktadır. Bu sonuca göre, sınavın tüm alt testlerinde, faktör yükleri gruplar arasında değişiklik göstermektedir. Bu sonuçlara göre söz konusu sınavın özel öğrenme güçlüğüne göre ölçme değişmezliğini sağlamadığı belirtilebilir.

Anahtar Kelimeler: Değişen madde fonksiyonu; faktöriyel değişmezlik; ölçme değişmezliği; özel öğrenme güçlüğü; test düzenlemeleri

1. INTRODUCTION

The results obtained from tests applied to individuals with disabilities and their peers should be comparable. This is essential for the validity of test scores and for the fairness of decisions that are subsequently taken based upon the results of the measurement. According to international measurement standards (AERA et al., 2014), an individual's disability, that is, a feature that is not intended to be measured, should not interfere with the measurement result of the intended construct. In addition, when tests are applied to groups with different characteristics, such as students with disabilities, the necessity of presenting and reporting evidence of the validity of the test in these separate groups should be reported. Especially in large-scale tests, in which scores are the basis of critical decisions made that affect the lives of the test takers, measurement invariance plays a critical role for disability groups.

If the aim of a test is not to measure an individual's disability or a construct related to disability, the disability itself should therefore not affect the test results. Getting assistance from a reader/coder (person or device), taking additional time where permitted, and presenting a larger font size are some of the test accommodations that are used to prevent test results from being affected by the disability of the test takers (Cortiella, 2005). There have been numerous research studies that have focused on the extent to which test accommodations ensure/increase the validity of the measurement (Bolt & Ysseldyke, 2008; Buzick & Stone, 2011; Elbaum, 2007; Gregg & Nelson, 2012; Lai & Berkeley, 2012; Lindstrom & Gregg, 2007; Middleton & Laitusis, 2007; Rogers et al., 2014, 2016; Stone et al., 2010). Today, test accommodations, whose current positive effects on validity have been largely proven by validated

research, are now widely applied in large-scale tests. However, the effective practice of test accommodations does not guarantee measurement invariance according to disability groups. Research has proven that tests conducted with accommodations do not, or rarely, provide measurement invariance for disability groups (Knickenberg et al., 2020; Şenel, 2021; Yılmaz, 2019).

Measurement invariance is the condition that the individual's group membership, which is unrelated to any characteristic being measured in the test, has no effect on the score or outcome (Mellenbergh, 1989). In this study, measurement invariance is where test items or test scores are not dependent on knowing if a test taker has any disability or whether they have received any form of test accommodations. In the absence of measurement invariance, tests treat groups differently, and therefore the validity of a test score that favors a certain group may be seen as skeptical. In this case, the scores from different groups in the same test cannot be readily compared (Borsboom, 2006).

Measurement invariance can be examined at the individual test item level or at the test level itself. Differential Item Functioning (DIF) and Differential Distractor Functioning (DDF) are forms of analysis that are frequently used in item level examinations (Abedi et al., 2007; Finch & French, 2007; Mori et al., 1974; Stone et al., 2010). What we usually understand from *measurement invariance* is invariance based on the test score. In other words, the measurement model should have the same construct across more than one group. In order to monitor and control test level *measurement invariance*, it is expected that the factor loadings of the test items, correlations between factors, and also error variances are the same between groups (Van De Schoot et al., 2015).

Specific learning disability (SLD) is a neurodevelopmental disorder that may negatively affect the individual's listening, speaking, reading, writing, spelling, concentration, mathematics, reasoning, motor, and organizational skills (Kavale & Forness, 2000; Kishore et al., 2021). SLD is characterized by unexpected low performance in certain academic fields, even though the absence of intellectual disability, sensory impairment, emotional disturbance, cultural deprivation, and insufficient instruction (Büttner & Hasselhorn, 2011). Students with SLD have the highest rate among all students with disabilities (National Center for Statistics Education, 2021). The literature reports that between 5% and 15% of the school-age population have some SLD (Bolt & Ysseldyke, 2008; Elliott et al., 2018; First, 2013; Grigorenko et al., 2019; Rogers et al., 2019). As a result, the rate of individuals with disabilities participating in large-scale testing is considered to be high, and a significant portion of measurement invariance studies are conducted with individuals who have some form of SLD, and varies depending on the disability or the use of test accommodations (Rogers et al., 2014, 2016, 2019).

Validity evidence concerns regarding the test results of students with SLD can be addressed in different dimensions (Bolt & Ysseldyke, 2008): (1) Do the items cause students to experience difficulties due to their learning disabilities? (2) Does the preferred accommodation affect the measurement of the structure? (3) Is the preferred accommodation considered sufficient? (4) Does reading fluency affect test scores? and (5) If it is a test consisting of open-ended items, can the writing difficulties of test takers affect the test score? Validity concerns may vary and increase with research.

In studies dealing with the validity of tests administered to students with SLD, the focus of research is the effect of test accommodations. Students with SLD generally make use of test accommodations related to the presentation of the tests (Rogers et al., 2014). Extended time is the most frequently used and is considered a significant accommodation that individuals with SLD opt to use (Camara et al., 2005; Gregg & Nelson, 2012; Kingsbury & Houser, 1988; Koretz, 1997). The read-aloud accommodation is frequently preferred; however, the literature has not provided a clear picture of the impact of the read-aloud accommodation, with varied results having been published to date. While some studies indicate significant increase in favor of individuals with SLD (Brumfield, 2014; Fletcher et al., 2006), others have reported increased scores for individuals without disabilities (Elbaum, 2007; Elbaum et al., 2004), or proving similar increases in the scores of those with and without a disability (Meloy et al., 2000). As understood from the current literature; although it is necessary and appropriate to provide test accommodations for students with physical or sensory disabilities, test accommodations and their effects are considered to be more controversial for students with SLD (Bolt, 2004). It is also observed that there are significant practice differences with regards to test accommodations between different countries, and even between different states in the example of the United States (Lai & Berkeley, 2012). However, the validity of tests for students with SLD, which has the highest rate among all need groups, is a situation that should always be examined and reported on the basis of accountability.

The literature that has focused on examining measurement invariance for SLD has mostly employed test-based factorial invariance analyses. Cook et al. (2010) compared the basic factors in the measurement of individuals with and without SLD in a Fourth Grade State-Standards-based English Language Arts (ELA) assessment, which consists of a total of 75 multiple-choice items, including both reading and writing parts. Results of the factorial analysis indicated that the test provided measurement invariance. Similarly, Steinberg et al. (2011) examined fifth-grade science test scores of students with and without SLD according to state standards. They examined factorial invariance with test-level exploratory and confirmatory factor analyses, along with item-level analysis. The findings confirmed the validity of the test scores. Another study that confirmed the provision of measurement invariance between students with and without SLD through examining factorial invariance was the work of Randall and Engelhard (2010), who employed both confirmatory factor analysis and the Rasch model in their study. In another study, Kim et al. (2009) also found that a statewide secondary school science test provided factorial invariance between groups of students with and without SLD.

Along with the studies that proved non-invariance between groups, there have also been studies that have examined item-based measurement invariance and which have shown that test results were in favor of a certain group. Kamata and Vaughn (2004) examined whether or not a 40-item statewide math test showed DIF for individuals with SLD. According to the result of the DIF analysis conducted using the Mantel-Haenszel and logistic regression methods, it was found that three items showed DIF against students with SLD and one item against students without SLD. Anjorin (2009) also researched DIF according to disability status in a statewide high-stake math test administered in the spring of 2003 to

students seeking a high school diploma in the United States. The study's results proved that items showing DIF worked in favor of those individuals without a disability.

In Turkey, studies examining the measurement invariance of large-scale tests according to the disability status of test-takers (Ozarkan et al., 2017; Şenel, 2021; Yılmaz, 2019) have also been quite limited in number. Şenel (2021) assessed measurement invariance of the Turkish "Central Exam for Secondary Education Institutions" (Milli Eğitim Bakanlığı[MEB][Turkish Ministry of National Education], 2018) in terms of visually impaired students. This large-scale test is considerable importance, since its results are used to decide on students' transition from secondary school to high school. The study's results highlighted that 17.78% of test items indicated DIF, and that 62.5% of the DIF detected items represented some form of disadvantage for students with visual impairments. Yılmaz (2019) also examined bias in terms of the mathematics (n = 20) and science (n = 20) subtests in 2016-2017 form of the test, according to disability status. Three disability groups; visually impaired, hearing impaired, and physically disabled students were compared with each other in pairs in Yılmaz's (2019) study. The results showed that four items in the mathematics subtest and eight items in the science subtest were found to be biased. In another study, Ozarkan et al. (2017) examined the DIF of items from the mathematics subtest (n = 20) in the 2015-2016 first semester exam according to the visual disability status of the participant individuals. Their findings showed that all 14 mathematics items, that provided analyses assumptions, contained negligible levels of DIF.

Studies on the validity of the results of the tests taken by individuals with SLD, whose rates in society are deemed quite high, have increased at a certain level over the past two decades. However, as the literature reports, the validity of these tests in which individuals with SLD and all other disability groups had participated was not adequately questioned during the development of the tests. The validity of large-scale test results, which are effective in critical decisions in the lives of individuals, is lower for these special groups and as a result may directly harm social justice. Although various test accommodations are provided, they alone do not guarantee measurement invariance. The first step in ensuring validity evidence of tests administered to students with disabilities is to conduct exploratory research on the tests and to report the research findings. Students with SLD, who have a high percentage of students with disabilities, should be given priority. Therefore, the aim of the current study is to examine the measurement invariance of the Central Exam for Secondary Education applied throughout Turkey according to students with SLD. The *Central Exam for Secondary Education* is a central examination administered annually since 2018 by the Turkish Ministry of National Education. The purpose of the exam is the placement of eighth-grade students to different high schools such as science high schools, social sciences high schools, and vocational and technical high schools (MEB, 2018).

2. METHODOLOGY

The research was conducted with a descriptive approach. Since the aim of the research is to present an existing situation, the study is descriptive in nature.

2.1. Participants

The study group consisted of students with SLD (n = 994) and students without disabilities (n = 1000) who each sat the 2017-2018 *Central Exam for Secondary Education.* The students without disabilities (n = 1000) were randomly selected from a population of 4986 students. All of the participant students were in their eighth grade, which is the final year of middle school education in Turkey. Students who also had other disabilities (e.g., visual impairment, intellectual disability, etc.) in addition to SLD were excluded from the study (n = 37). In addition, those students who had a course exemption, who had not taken the exams of certain courses, or who had taken a foreign language exam other than English were also excluded from the study. The selected students with SLD (n = 994) had each taken the same central exam with extended time accommodation. The characteristics of the study group are presented in Table 1.

Table 1. Descriptives of Study Group

			Students without learning difficulties	Students with learning difficulties	Total
School type	Religious School	*f*	111	91	202
		%	5.6	4.6	10.1
	State Middle School	*f*	790	858	1,648
		%	39.6	43.0	82.6
	Private Middle School	*f*	83	43	126
		%	4.2	2.2	6.3
	State Boarding Middle School	*f*	16	2	18
		%	0.8	0.1	0.9
Gender	Male	*f*	505	640	1,145
		%	25.3	32.1	57.4
	Female	*f*	495	354	849
		%	24.8	17.8	42.6
Total		*f*	**1,000**	**994**	**1,994**
		%	**50.2**	**49.8**	**100.0**

According to Table 1, students who sat the exam were mainly educated in state middle schools (82.6%). Although the male and female ratios were close to each other, the male ratio was slightly higher at 57.4%. In line with the research design, the rate of students with SLD and those without disabilities were very close to equal.

2.2. Data Collection

Data were obtained from the Turkish Ministry of National Education's General Directorate of Assessment and Examination Services, following official processes for obtaining such data. The *Central Exam for Secondary Education* was implemented by the Turkish Ministry of National Education for the first time in 2018, based on the eighth-grade curriculum. Consisting of 90 multiple-choice items, the exam is presented in two parts, verbal and quantitative, which are administered in two separate sessions. The verbal domain consists of a total of 50 items in four subtests; Turkish Language (n = 20), Religious Culture and Moral Knowledge (n = 10), Revolutionary History of the Republic of Turkey and Kemalism

(n = 10), and Foreign Language (English) (n = 10). The quantitative domain consists of a total of 40 items in two subtests; Mathematics (n = 20), and Science (n = 20). The duration of the exam's verbal domain is 75 minutes, whilst for the quantitative domain is 60 minutes (MEB,2018). Students with SLD sit the same exam with an additional 20 minutes allowance. In addition, students with disabilities can also request readers and coders (MEB, 2018).

2.3. Data Analyses

Item-based and subtest-based analyses were carried out in order to examine the measurement invariance of the exam, Students with SLD formed the focus group of the study. For an item-based review, the DIF was examined for each subtest. DIF can be observed as consistently favoring one group across the entire ability distribution (uniform), or up to a certain skill level, with one group favoring the other group after a certain skill level (non-uniform) (Swaminathan & Rogers, 1990).

Various techniques exist for DIF analysis (French & Miller, 1996; Svetina et al., 2017; Zumbo, 1999). The current study employed the Mantel Haenszel method based on Classical Test Theory and Lord's chi-square method based on Item Response Theory (IRT). The Mantel-Haenszel is based on the χ^2 statistic which is used to determine uniform DIF. The ΔMH (D) statistic is used to evaluate the DIF level. The DIF size is interpreted according to the absolute value of this statistic. According to the classification of Educational Test Service (Zieky, 2003), Category A is where DIF is absent or negligible ($|D| < 1$), Category B is where there is moderate DIF ($1 < |D| < 1.5$), and Category C is where there is a high level of DIF ($|D| \geq 1.5$).

The literature emphasizes that IRT is offered for DIF due to the invariance of parameters (Kamata & Vaughn, 2004). Lord's chi-square method, which is used in DIF analysis, is also a technique based on IRT that is preferred for determining uniform and non-uniform DIF (Lord, 1980). Since Lord's chi-square is based on IRT, the IRT assumptions were tested. Yen (1993)'s Q3 index was used for the analysis of local independence. The Q3 values calculated for the items were found to be less than .20, which indicates that local independence was achieved (Demars, 2010). Unidimensionality of each subtest was then examined using Modified Parallel Analysis, and scree plots were examined as another evidence for one-dimensionality. As an example, the scree plot of the Turkish Language and Mathematics subtests are presented in Figure 1.

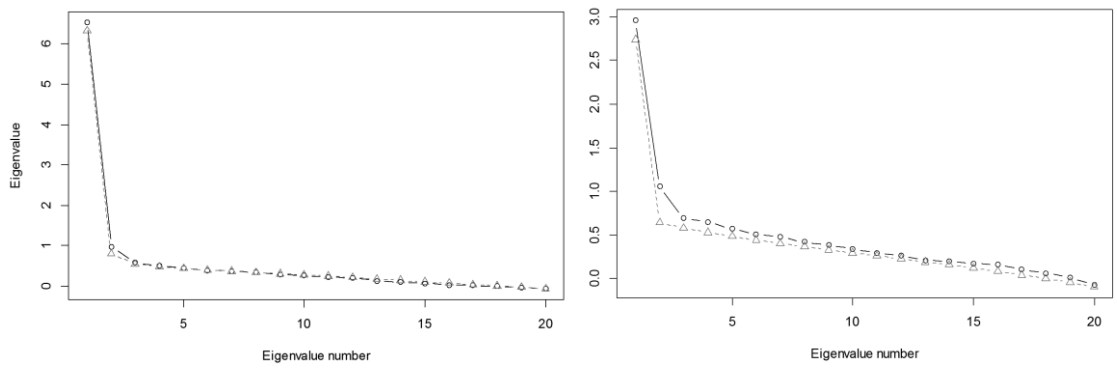

Figure 1. Scree-plots of Turkish and Mathematics Subtests

Figure 1 confirms the presence of a dominant factor in the subtests, and is evidence for the ability to work with one-dimensional models. Model data fit was evaluated using log-likelihood, Akaike Information Criterion and also Bayesian Information Criterion, and it was observed that model fit was higher in the 3PL model. For this reason, analyses related to Lord's chi-square were applied according to the 3PL model.

Multigroup Confirmatory Factor Analysis (MCFA), one of the techniques based on Structural Equation Modeling (SEM), was applied to examine measurement invariance on the basis of each subtest. This technique is one of the leading methods used to measure invariance between groups (Alatlı & Bökeoğlu, 2018; Fischer & Karl, 2019; Van De Schoot et al., 2015). Measurement invariance was investigated in stages with structural, weak, strong, and rigid invariance steps, and the analyses were performed in R with *ltm*(Rizopoulos, 2006), *difR*(Magis et al., 2010), and *lavaan* (Rosseel, 2012) packages.

2.4. Assumption

The number of students with SLD who sat the central exam was within the limit considered acceptable for analysis. In order not to reduce the data volume, item data obtained from different exam test booklets were evaluated together. The item order effect was ignored as the items were aligned according to the different ordering of the different test booklets.

3. FINDINGS AND INTERPRETATION

A summary of the items showing DIF in the *Central Exam for Secondary Education* according to SLD is presented in Table 2.

Table 2. Item Rates Showing DIF in Subtests

	MH			Lord's chi square	Showing DIF in both methods	Showing DIF in at least one method	Showing DIF in favor of reference group in at least one method
	A	**B**	**C**				
Mathematics	4	4	3	19	10	20	8
Turkish Language	5			7	4	8	7
Science	9	4		18	12	19	10
Foreign Language (English)	3	2	1	8	4	10	5
Revolution History of Turkish Republic & Kemalism	3		1	4	3	5	3
Religious Culture & Moral Knowledge	1	1		4	1	5	3
Total	25	11	5	60	34	67	36
%	**27.78**	**12.22**	**5.56**	**66.67**	**37.78**	**74.44**	**40.00**

As summarized in Table 2, 12 items in the Science subtest, 10 items in the Mathematics subtest, four items in the Turkish Language subtest, four items in the Foreign Language (English) subtest, three items in the Revolutionary History of the Turkish Republic & Kemalism subtest, and one item in the Religious Culture & Moral Knowledge subtest showed DIF according to both of the methods applied. Accordingly, a total of 34 items of the 90-item test showed DIF according to both methods. The overall DIF rate of 37.78% is a remarkable finding for a central exam. Among the subtests, those containing the most DIF items were Science and Mathematics, respectively. According to the Mantel Haenszel method, the number of items showing "moderate DIF" or "high DIF" was found to be 16. Considering the number of items in the subtests, it can be stated that DIF rates are very high.

The number of items showing DIF in at least one method was 67 (74.44%), which is a sign of validity regarding measurement invariance across the whole test. At the same time, the number of items showing DIF according to at least one method was 36 in favor of the reference group, as in the group of

1,000 students without disabilities. In other words, 40% of the items showed DIF against individuals with SLD.

Measurement invariance was conducted gradually in the examination of configural invariance, metric invariance, scalar invariance, and strict invariance (Meredith, 1993). Following one after another, each step was verified before the next review was conducted. Configural invariance is considered as the basic test-based measurement of invariance, and shows whether or not tests have the same factor structure across the groups. In another words, it establishes whether or not the items in the test measure the same structure among all groups (Vandenberg & Lance, 1998). According to the results of Multigroup Confirmatory Factor Analysis, configural invariance was provided in all subtests. Metric invariance, which is the second-stage examination of measurement invariance, was not found to have been provided for all the exam's subtests. In Table 3, the results of the Multigroup Confirmatory Factor Analysis applied for configural invariance and metric invariance are summarized. Table 3 presents the X^2 difference, which allows for the examination of differences between fit indices and configural and metric invariance models.

Table 3. Analyze Results of Configural Invariance and Metric Invariance

	Invariance type	**CFI**	**TLI**	**SRMR**	**RMSEA**	**GFI**	**X^2 difference**
Mathematics	Configural	.876	.861	.03	.022	.981	
	Metric	.841	.832	.04	.025	.978	65.461*
Turkish Language	Configural	.949	.943	.03	.025	.988	
	Metric	.897	.890	.05	.034	.98	234.07*
Science	Configural	.919	.910	.03	.027	.982	
	Metric	.903	.897	.04	.029	.979	68.413*
Foreign Language	Configural	.942	.926	.03	.045	.988	
(English)	Metric	.924	.913	.04	.049	.984	54.374*
Revolutionary History	Configural	.961	.950	.03	.035	.995	
of the Turkish Republic	Metric	.923	.912	.05	.047	.992	93.888*
& Kemalism							
Religious Culture &	Configural	.944	.928	.03	.055	.991	
Moral Knowledge	Metric	.912	.899	.06	.065	.986	133.47*

***p < .01**

As can be seen from Table 3, evidence for configural invariance was obtained, which is basic level of measurement invariance. This indicates that the items of the measurement tool represent the

same psychological structure for both individuals with and without SLD. The difference (X^2 difference) between the chi-square values of the structural model and metric invariance model are shown in the rightmost column of Table 3, according to the statistical significance of $p < .01$. This means that metric invariance was not satisfied in any of the subtests. In other words, factor loadings varied between groups in all subtests of the exam. Factor loads of the subtests obtained from the students with SLD and students without disabilities were found to differ. However, since metric invariance was not provided, neither scale invariance or strict invariance was provided.

These results can be interpreted as individuals with and without SLD not responding to the test items in the same way, and thus any comparison of the test scores obtained from different groups cannot be considered meaningful (Steenkamp & Baumgartner, 1998). The lack of measurement invariance is not due to the mean of the measured latent constructs of the group differences in item responses. Since strict invariance was not provided, it may be concluded that the error variances of the responses to the test items are not equal/invariant between the comparison groups.

4. DISCUSSION AND CONCLUSION

According to the findings of this study, measurement invariance was not provided, as either item-based or subtest-based, for the 2017-2018 Turkish Central Exam for Secondary Education. The study's results proved that there was at least one item from each subtest, and a total of 16 items, that showed moderate DIF or high DIF. The subtests containing the most DIF items were identified as Science and Mathematics. Five items were found as showing a high level of DIF, with three from the Mathematics subtest. The number of items showing DIF in the current study were shown to be slightly higher than those previously reported in the literature. In Kamata and Vaughn's (2004) 40-item math test, it was observed that three items showed DIF against individuals with SLD. Similarly, Anjorin (2009) identified items showing DIF worked in favor of individuals without SLD in a high-risk math test.

Displaying DIF for multiple items may also indicate that the test measured different constructs in the group that received the test with accommodations (with SLD) compared to the reference group (without any disability) (Bolt & Ysseldyke, 2008; Kauffman & Hallahan, 2011). Considering this, measurement invariance analyses of the Central Exam for Secondary Education were also conducted on the basis of subject-level subtests. According to the study's findings, configural invariance was provided for all of the subtests, but metric invariance failed. Accordingly, this presents evidence for the subtests measured the same construct for students with and without SLD. However, since metric invariance was not provided, students with and without SLD did not respond to the items in the same way, and thus the comparison of scores obtained from different groups cannot be said to be meaningful (Steenkamp & Baumgartner, 1998). Although the test-takers were at the same ability level, the answers varied because they were in different groups.

In the literature, similar measurement invariance studies have been applied in different large-scale tests (Cook et al., 2010; Kim et al., 2009; Randall & Engelhard, 2010; Steinberg et al., 2011). However, much of the literature conducted in fields such as science and foreign language (English) and at different school levels (e.g., primary and secondary schooling) reported findings that proved that measurement invariance was ensured. Findings that indicate measurement invariance have mostly come from research in which the focus was on whether or not test accommodations were used, and where the studies examined measurement invariance differences along with the use of test accommodations (Randall et al., 2011). In this respect, the lack of metric invariance is a warning for the related test, although the current study measured the same structure between groups in its findings.

Failing to provide adequate measurement and including numerous DIF items does not mean that a test is actually biased towards a certain group (Zieky, 2003); therefore, it may be more appropriate to interpret an item with DIF as being a "probably biased item" (Kamata & Vaughn, 2004). Şenel (2021) also conducted an expert-based bias analysis for the DIF items in the same test, depending on whether they were visually impaired or not. While 16 items were found to show DIF, five items were identified as biased in favor of individuals without a disability, according to expert opinion. Similarly, expert opinion can be sought to conduct bias analysis for items showing DIF.

In Turkey, the score of *Central Exam for Secondary Education*, is the only factor in placement in qualified secondary education institutions that accept students by exam (Milli Eğitim Bakanlığı [Turkish Ministry of National Education, 2018). The significant importance of the central exam scores in the decision process to enter qualified high schools emphasizes the necessity of fair measurement. However, the results of the current study have shown that the central exam does not provide measurement invariance for students with and without SLD. This indicates that comparing students with and without SLD on the basis of this central exam score cannot be taken as meaningful (Steenkamp & Baumgartner, 1998). In other words, relying upon the scores from this centralized test for high school placement may in fact produce unfair results. In conclusion, test developers and designers must consider items showing DIF, especially in high-stake tests, and should work to decrease the number of DIF items. For this aim, it is of vital importance that special education experts are invited to take part in test development, where measures should be taken towards immutability and impartiality, and studies conducted accordingly. In addition, making statistical analyses based on measurement invariance considering relevant disability groups is a requirement for validity evidence of test that include disability groups (American Federation of Teachers et al., 1990). In particular, such analyses are of considerable priority for students with SLD, who account for the highest proportion of students with disabilities.

Students who are both gifted and also have SLD are also frequently observed. In other words, some gifted individuals who show significant potential in certain fields may also experience SLD (Brody & Mills, 1997; Silverman, 2009). The duty of educators is to guide all students to reach their potential. It is also important for students with disabilities to be placed in qualified secondary education schools in order to realize their full potential.

The literature offers that if the performance of students with disabilities in tests is not taken into account, and if the validity of the test scores obtained from these children is not questioned, schools will make less effort for development and achievement of these students (Bolt & Thurlow, 2007). Educational measurement and training has a dynamic and mutually influential relationship. In this respect, ensuring the validity evidence of test applied to students with disabilities, and especially students with SLD, affects the entire education system. Responsiveness in high-stake testing and education as a whole should also be evaluated in the context of human rights.

For practitioners, it is recommended to primarily examine the measurement invariance of large-scale tests in terms of special needs groups. It is also important in terms of accountability to report the bias results in the final reports on large-scale tests. Considering the high rate of individuals with SLD among individuals with special needs, these groups should be given priority. Due to the limited number of studies in this direction, especially in Turkey, it is recommended to conduct research on how fair and valid the measurement and results of these special groups are. Research should be conducted in terms of various dimensions such as measurement invariance of various large-scale tests according to SLD, the effectiveness of the test accommodations used, and the opinions of test takers about the fairness of the tests.

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EXAMINATION OF HIGH SCHOOL TEACHERS' PERCEPTIONS OF ORGANIZATIONAL CULTURE: ISKENDERUN SAMPLE

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ABSTRA CT

in this study, it was aimed to determine the degree of participation of teachers working in high schools in the practices made in organizational culture and its sub-dimensions, and to determine the current state of school culture; In this study, it was aimed to investigate the relationship between organizational culture and motivation perceptions. Based on the perceptions of the teachers, it was examined to what extent the schools they work in showed the organizational culture characteristics. The sample of the research consists of 443 teachers working in Hatay Province Iskenderun District in the 2022-2023 academic year. Personal Information Form, Organizational Culture Scale and Teacher Motivation Scale were used as data collection tools. The demographic information, frequency and percentage distributions of the teachers in the study group were extracted. For the first sub-problem, arithmetic mean and standard deviation scores of organizational culture and learning organization scales were calculated. For the second sub-problem, independent sample t-test analysis was used to determine the change in organizational culture and learning organization perceptions according to gender and branch variable. A single factor analysis of variance was used for the unrelated sample in order to determine the changes according

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to age and professional seniority. As a result of the research, it was concluded that the organizational culture perceptions of the teachers were at the "High" level and the learning organization perceptions were at the "Moderate" level. In the study, it was concluded that there was no significant difference in the perceptions of teachers' organizational culture and learning organization in terms of gender, branch, age and professional seniority. In the research, it was concluded that there is a positive "moderate" relationship between teachers' organizational culture (in all dimensions) and learning organization perceptions (in all dimensions).

Keywords: High school; learning organization; professional culture; organizational culture

LİSE ÖĞRETMENLERİNİN ÖRGÜT KÜLTÜRÜ ALGILARININ İNCELENMESİ: İSKENDERUN ÖRNEĞİ

ÖZET

Bu araştırmada, liselerde görev yapan öğretmenlerin, örgüt kültürü ve alt boyutlarında yapılan uygulamalara katılma dereceleri ile okul kültürünün mevcut durumunu belirlemek; örgüt kültürü ile motivasyon algıları arasındaki ilişkinin araştırılması amaçlanmıştır. Öğretmenlerin algılarına dayanarak, görev yaptıkları okulların örgüt kültürü özelliklerini ne derece gösterdikleri incelenmiştir. Araştırmanın örneklemini 2022-2023 Eğitim Öğretim yılında, Hatay İli İskenderun İlçesinde görev yapan 443 öğretmen oluşturmaktadır. Veri toplama aracı olarak Kişisel Bilgi Formu, İpek (1999) tarafından geliştirilen "Örgütsel Kültür Ölçeği" ve Uçar (2015) tarafından geliştirilen "Öğretmen Motivasyon Ölçeği" kullanılmıştır. Çalışma grubunda yer alan öğretmenlerin demografik bilgileri frekans ve yüzde dağılımları çıkarılmıştır. Birinci alt problem için örgüt kültürü ve öğrenen örgüt ölçeklerinin aritmetik ortalama ve standart sapma puanları hesaplanmıştır. İkinci alt problem için örgüt kültürü ve öğrenen örgüt algılarının cinsiyet ve branş değişkenine göre değişimini belirlemek amacıyla bağımsız örneklem t testi analizi kullanılmıştır. Yaş ve mesleki kıdem değişkenine göre değişimlerini belirlemek amacıyla ilişkisiz örneklem için tek faktörlü varyans analizi kullanılmıştır. Araştırmanın sonucunda, öğretmenlerin örgüt kültürü algılarının "Yüksek" düzeyde, öğrenen örgüt algılarının ise "Orta" düzeyde olduğu sonucuna ulaşılmıştır. Araştırmada öğretmenlerin örgüt kültürü ve öğrenen örgüt algılarında cinsiyet, branş, yaş ve mesleki kıdem durumlarında anlamlı ayrışma olmadığı sonucuna ulaşılmıştır. Araştırmada öğretmenlerin örgüt kültürü (tüm boyutlarda) ile öğrenen örgüt algıları (tüm boyutlarda) arasında pozitif yönde "Orta" seviyede bir ilişki olduğu sonucuna ulaşılmıştır.
Anahtar Kelimeler: Lise; öğrenen örgüt; mesleki kültür; örgüt kültürü

1. INTRODUCTION

Organization is a phenomenon in the daily life of a person. Today, in social life, economic, political, military, etc. different groups are encountered in organizations. The first organization that human beings find themselves in when they first come to the world is the family. Afterwards, he becomes a member of various organizations by going out of the family with various interactions in his life. School comes first. The child forms an organization in the unit where he/she receives education. Then these organizations show differences over time.

Organization includes an agreement and unity that people put forward for the sake of a set of goals and values. In its most general definition, an organization consists of people and their

coordinated actions. Organization; through division of labor, determination of functions, cascading of authority and responsibility; It involves the process of rationally coordinating the activities of individuals to achieve a clearly defined, common goal.

Each organization has different characteristics according to its field and purpose. Organizational culture is one of the most important factors that shape these characteristics. Organizational culture is of great importance for educational organizations. The ability of educational organizations to meet the expectations of society is related to the organizational culture in schools, because this culture enables us to fulfill and adopt goals in schools and to make joint efforts to achieve these goals. It also keeps schools with staff. Moreover, it has a positive effect on employee morale and productivity. In this context, it can be assumed that there is a relationship between organizational culture and teachers' motivational perceptions. When the relevant literature is examined, it is seen that a limited number of studies have been conducted to examine the relationship between teachers' organizational culture and motivation perceptions. It is thought that this study, which examines the relationship between these two concepts, will contribute to the literature.

1.1. Organization culture

Organizations look for different ways to reach the goal depending on the changes and developments in the social, cultural and economic structure of the society. One of these ways is to try to understand the social fabric of the organization and change it as needed. Organizational culture emerges as a combination of these social mechanisms in organizations.

Organizational culture is a concept that entered the management literature with Pettigrew's article titled “On Studying Organizational Cultures” in 1979 . The concept of organizational culture has gained popularity since the 1980s, when American businesses, influenced by the superior organizational structure of the Japanese, pursued their organizational philosophy, vision, values, norms, in short, the cultural formation that brought those companies to success. It has become an important aspect of behavior and management understanding.

The study of organism culture by researchers in different disciplines such as anthropology, sociology, psychology and management has led to the emergence of different definitions and views of the concept. According to Robbins (1994), organizational culture is a continuation of the meanings shared by the members of the organization, which distinguishes the organization from other organizations. According to Hoy and Miskel (2010), organizational culture It is noteworthy that in studies on organizational culture, organizational culture is generally examined in four dimensions. For example, Hofstede (1980) proposes four different tendencies: cultural distance, masculinity / femininity, individuality, and uncertainty avoidance, Harrison (1975) argues that there are four different ideological tendencies in organizations: power culture, role culture, duty culture, and individual culture, proposed by Harrison. The adaptation of these trends to ancient Gre Additional gods, Handy (1981) states that organizations have four different cultural characteristics: power culture (Zeus), role culture (Apollo), duty culture (Athena), and individual culture (Dionisus). Based on the

classifications of Harrison and Handy, Pheysey (1993) describes the cultural characteristics of organizations in four categories: power culture, role culture, success culture, and support culture. In this study, Pheysey's (1993) organizational culture classification was taken as basis. *Power source;* In such organizations, organizational rules are universally accepted and applied to all. Emphasis is placed on status, obedience and control. *role culture* ; The activities of individuals at each position in the organization are predetermined. Job descriptions, rules and principles determine the behavior of employees. It is based on hierarchical decisions and impersonal relationships. *Success culture* ; Organizations with such cultures are considered flexible bureaucracies. Top management does not interfere with short-term decisions, but determines long-term policy. Decisions are taken by committees. *Support culture* ; Mutual relations, joint decision making and commitment among the members of the organization are observed. Everyone in the organization sees himself as a member of the organization and believes that he is valuable (Pheysey, 1993).

Organizations are mini-communities with their own cultures and subcultures (Morgan, 1998). Therefore, each organculture reflects different characteristics. In this context, schools as educational institutions also have their own culture (Özdemir, 2012). The concept of culture in schools was first referred to lifestyle by Waller (1932) and he draws attention to the fact that schools have their own identity with complex rituals of personal relationships and a set of traditions, irrational sanctions and ethical rules (Schoen & Tedlie, 2008). In another definition, organizational culture in school (school culture) is conceptualized as patterns of meaning, including historically cited norms, values, beliefs, traditions, and myths (Stolp & Smith, 1995). In this respect, organizational culture in schools is considered as a lifestyle that emerges over time in schools (Balcı, 1996). Organizational culture in schools is affected by the following factors: school age, historical development process, goals and objectives, socio-economic and geographical environment, socio-economic levels of students, rural and urban areas, facilities, technology used, school and classroom size, expectations administrators, teachers , students and parents, and whether the education system is decentralized (İpek, 1999).

Considering that the output of schools is human and that people are taught in schools, school organizational behavior regulations have become more important than other organizations (Doğan, 2017) and this situation increases the importance of organizational culture in schools. Organizational culture in educational institutions includes the values, symbols, beliefs and shared meanings of parents, students, teachers and others designed as a group or community and governs what is valuable to the group and how members should think, feel and behave (Sergiovanni, 1984). For this reason, it restricts member activities, at the same time, it provides harmony and harmony, contributes to the comfort of employees by eliminating task ambiguities, and as a result of their shared behavior transmitted through generations, compatibility between organization members and between organizations and the external environment, establishing a psychological bond between staff and organizations. increases motivation (Çelik, 2007). In this context, cultures that encourage their members to participate in various organizational processes and feel organizational commitment are

also called strong cultures (Murat & Açıkgöz, 2007). A strong organizational culture is a prerequisite for an effective school. On the other hand, culture itself can be an issue in some schools. In schools with not very strong cultures, weak bonds and communication between administrators, teachers, students and parents, low level of success expectation among all members, widespread feelings of suspicion and hostility among members, destructive conflicts frequent, feelings of love and respect among members is weak and motivation is low (Özdemir, 2006). Thus, organizational culture in schools gains importance as one of the main factors affecting and directing teachers' behaviors and an important aspect of their motivation.

1.2. Teacher Motivation

Derived from the Latin root "movere" meaning "to move" (Ramlall, 2004; Steers, Porter & Bigley, 1996), motivation, in the most general terms, refers to an organism's response to a partial object or state, or that which initiates, maintains and maintains mental or physical activity. It is defined as the driving force (stimulation, desire, drive, etc.) that leads to a guiding process (Budak, 2005) and is thought to be a dynamic set of factors that define individual behavior (Chişiu, 2013), desires, wishes, needs, impossibilities (hunger, thirst, etc.). sexuality etc.) and interests (Cüceloğlu, 1999).

Motivation affects individual enthusiasm and productivity (Thahier, Ridjal & Risani, 2014). Positively motivated employees work hard to achieve their goals so they enjoy what they do. Less motivated employees lose their performance and compromise on service quality (Kasenga & Hurtig, 2014).

People can be motivated not only to different extents, but also in different ways. Research has emphasized that individual performance and experience can vary depending on internal or external causes (Amabile, 1997; Ryan & Deci , 2000). Intrinsic motivation is only associated with task performance. Intrinsic motivation arising from task content includes factors such as interesting and challenging work, self-management and responsibility, diversity, creativity, opportunities to use skills and abilities, and sufficient feedback on the satisfaction of efforts (Mottaz , 1985). External motivation is the individual influence of managers, communities, people or various external factors to achieve task goals using a number of methods (Basaran, 2004). Extrinsic motivation is based on punishment and rewards. Productive results are more important than the action itself. Approaches motivation from a behavioral point of view. It causes individuals to act on incentives and deterrents (Hoy & Miskel, 2010). The following have been the three constant elements of educational organizations from past to present: teachers, students and curriculum. Teachers, who are still regarded as a fundamental part of education (Şimşek, 2010), play an important role in education and contribute to the education system to a great extent, despite all the opportunities provided by scientific and technological developments.

Teaching is instinctively great, and it's enjoyable for teachers to see students perform well thanks to the quality of their teaching. However, although admirable, the education provided by a teacher, qualification, or teaching cannot continue on its own forever (Senge, Cambron-McCabe,

Lucas, Smith, Dutton & Kleiner, 2014). In this context, the success of schools and achievement of goals may depend on the willingness of employed teachers, in other words, on teacher motivation.

Teacher motivation includes internal values associated with teaching and choosing to continue teaching and teaching efforts, which are influenced by a number of environmental factors (Han & Yin, 2016). In this context, internal and external sources of motivation are important in teacher motivation (Yazıcı, 2009). An intrinsically motivated teacher performs tasks for a love of teaching, job satisfaction, a sense of achievement and self-actualization, while an externally motivated teacher seeks specific rewards such as salary (Wu, 2012, 2015) or social support of administrators, students, and parents and as a result of the incentives (Yazıcı, 2009).

Today, a teacher plays the following roles: a teacher to show children real life, an educator to provide children with specific knowledge and knowledge, a mainstreamer to bring schools, families and the environment together, a socializer to prepare children for community life, and an educator (Can, 2013) and sometimes a teacher They have roles as a parent, sometimes as a police officer or sometimes as a caregiver, all of which are outside the context of education. Moreover, while all these roles are carried out with great mastery, expertise and wisdom, they also need their differences while paying attention to the interests of children (Saban, 2002). In this sense, teachers' job satisfaction and encouragement, and hence their love of teaching, is crucial as all these factors require high-quality individuals taught by these teachers.

1.3. The Relationship between Organizational Culture and Teacher Motivation

Every school has its own character or feeling. This can be felt when approaching a school building. You are likely to see this character through doors, pictures on the walls, and students in halls. This character can be understood from teacher-student interaction in the classroom and student-student communication in the playground. The organizational culture in schools (Deal & Peterson, 1990), which reflects the character of a school and the deep-rooted values, beliefs and tradition patterns throughout its history, influences and shapes the thoughts and feelings of teachers, students and administrators. Teachers may have different expectations and values. Teachers' work motivation is accepted as one of them (Demirtaş, 2010).

Motivated employees are enthusiastic about their work and therefore feel responsible for the success of the institution they work for (Sokro, 2012). Culture informs teachers about what a teacher means, what teaching methods are available and approved for use, and what is appropriate or inappropriate for students. Culture provokes the energy of teachers to fulfill their duties and to feel the loyalty and commitment shaped by organization and ideals (Owens, 1987).

In successful schools, culture acts as a compass to guide people in a common direction, it provides a set of norms that define what people should achieve and have a specific meaning and sign quality for teachers, administrators and students (Sergiovanni, 1984). Teachers form the basis of student motivation through the quality of teaching and the development of the teacher-student relationship and are crucial in the implementation of teaching. important roles in the classroom as well

as educational policies. In this context, teacher motivation is important because it affects both organizations and individuals, and has an impact on classrooms and schools (Viseu, Jesus, Rus, Canavarro & Pereirra, 2016). Motivated teachers are more likely to work for educational advancement and innovative legislation. In this context, teacher motivation is thought to be an important factor for classroom effectiveness and school development (Wu, 2015). In addition, teacher motivation is important for teachers' personal satisfaction and satisfaction (Jesus & Lens, 2005).

The relationship between organizational culture and motivation has been a research topic in many areas such as strategic management, organizational behavior and industrial organizations (Parthasaraty & Ramalingam, 2015). Studies have shown that the organizational culture of schools and school effectiveness (Ayık & Ada, 2009), student academic success (Demirtaş, 2010; Vislocky, 2005), academic optimism (Yılmaz & Kurşun, 2015), organizational health (Özdemir, 2012), learning organization. (Ayık & Şayir, 2015), job satisfaction (Gligorovic, Nikolic, Terek, Glusac and Tasic), leadership practices (Turan & Bektaş, 2013), It has also been determined that academic leadership (Şahin, 2011) and teacher leadership (Yusof, Osman & Noor, 2016) and teachers' positive perceptions of organizational work increase their motivation levels (Aelterman, Engels, Petegem, & Verhaeghe, 2007; Çevik & Köse, 2017; Sertel, 2016; Yılmaz, 2009). On the other hand, teacher motivation had a significant impact on students' motivation and academic success (Atkinson, 2000; Carey, 2004; Hattie, 2013; Haycock, 1998). In this context, students need motivated teachers; and teachers need opportunities that provide motivational potential (Remijan, 2014). For this reason, the relationship between organizational culture and teachers' motivation perceptions is important for the effectiveness of the learning process in schools.

When the relevant literature is examined, it is seen that there are few postgraduate theses examining the relationship between employee motivation and organizational culture in Turkey (Karaoğlu 2014; Sop, 2016; Sözer, 2006). One of these studies was carried out with public institutions employees (Söz er, 2006), another with accommodation sector (hotel) personnel (Karaoğlu, 2014), and the other with university employees (Sop, 2016). In the literature, it is seen that there are not many studies besides theses on this subject (Alayoğlu & Doğan, 2015; Kavi, 2011; Yenihan, 2015), and only two of the few studies on the relationship between organizational culture and motivation in higher education institutions have been conducted, one with university employees (Sop, 2016).), and the other with university students (Y enihan, 2015). For this reason, it is understood that the number of studies on the relationship between teachers' organizational culture and motivation perceptions is quite limited in the literature (Çevik & Köse, 2017). From this point of view, it is expected that the research on the relationship between organizational culture and motivation perceptions of teachers employed in secondary education institutions will contribute to the relevant literature.

1.4. The aim of the Study

In this study, it was aimed to determine the degree of participation of teachers working in high schools in the practices made in organizational culture and its sub-dimensions, and to determine the

current state of school culture; In this study, it was aimed to investigate the relationship between organizational culture and motivation perceptions. For this purpose, answers to the following research questions were sought:

1. What are the perceptions of teachers about organizational culture and motivation?
2. Do teachers' organizational culture and motivation perceptions differ statistically according to gender, marital status, school type and professional seniority?
3. Do teachers' organizational culture perceptions predict their motivation perceptions?

2. METHOD

2.1. Model of the Research

Since this research aims to determine Organizational Culture Perceptions according to the opinions of teachers working in high schools, scanning model, which is one of the descriptive research methods, was used. Survey models are a suitable model for research that aims to describe a past or present situation as it exists (Karasar, 2006). It is a quantitative research design in which researchers collect information by scanning a sample group or the whole universe to explain the attitude, views, behaviors or characteristics of a universe (Creswell, 2017). In this process, survey researchers collect quantitative data using questionnaires or interviews and statistically analyze the answers to the questions to test the hypotheses (Creswell, 2017). In this study, "Relational Screening Model", which is one of the screening design types, was used.

2.2. Working Group

The study group of this research consisted of 443 teachers working in high schools in Hatay Province Iskenderun District in the 2022-2023 academic year.

Table 1. Distribution of Teachers by Gender

Gender	Frequency	Percent
Woman	277	62.6
Male	166	37.4

In Table 1, when the distribution of teachers participating in the research by gender types is examined, it is seen that 277 people (62.6%) are women and 166 people (37.4%) are men.

Table 2. Distribution of Teachers by Marital Status

Marital status	Frequency	Percent
Married	337	76.1
Single	106	23.9

When the distribution of the teachers participating in the research according to their marital status is analyzed in Table 2, it is seen that 337 people (76.1%) are married and 106 people (23.9%) are single.

Table 3. Distribution of Teachers by School Types

School Type	Frequency	Percent
General High School	280	63.2
Vocational and Technical High School	163	36.8

When the distribution of the teachers participating in the research according to the types of schools they work in is examined, it is seen that 280 people (63.2%) work in General High Schools and 163 people (36.8%) work in Vocational and Technical High Schools.

2.3. Data Collection Tools

The "Organizational Culture Scale" developed by İpek (1999) and the "Teacher Motivation Scale" developed by Uçar (2015) were used as data collection tools in the research.

The "Organizational Culture Scale" was developed by İpek (1999) based on Pheysey's (1993) organizational culture. The scale consists of 26 items and consists of four dimensions: power culture, role culture, success culture and support culture. The factor loadings of the items in the power culture dimension ranged from .32 to .72 and the explained variance was 31%; The factor loadings of the items in the role culture dimension varied between .26 and .76 and the explained variance was between 30%; The factor loadings of the items in the achievement culture dimension ranged from .38 to .72, and the explained variance was 35%; The factor loads of the items in the support culture dimension ranged from .45 to .82, and the explained variance was 53%. The Cronbach's alpha coefficient was checked for the reliability of the scale. Cronbach's alpha coefficient was $\alpha = .60$ on the original scale for the power culture, and $\alpha = .69$ fo for the role culture, $\alpha = .78$ for the success culture, and $\alpha = .90$ for the support culture. In this study, Cronbach's alpha coefficients were calculated as follows: $\alpha = .78$ for power culture, $\alpha = .82$ for role culture, $\alpha = .90$ for success culture, and $\alpha = 92$ for support culture.

The "Teacher Motivation Scale" developed by Uçar (2015) consists of 19 items and two dimensions, internal and external motivation. Factor loadings of the items in the intrinsic motivation dimension ranged from .53 to .80 and the explained variance was 30%; It was concluded that the factor loadings of the items in the extrinsic motivation dimension varied between .61 and .87 and the explained variance was 23%. The total explained variance of the "Teacher Motivation Scale" was found to be 53.22%. Model fit as a result of confirmatory factor analysis for the scale $\chi 2 = 335.08$; df=150; ($\chi 2$ /df)= 2.23; 0.96 for CFI; 0.85 for GFI; 0.069 for SRMR; 0.078 for RMSEA and 0.95 for NNFI. The alpha on Cronbach's original scale was $\alpha = .86$ for intrinsic motivation and $\alpha = .91$ for

extrinsic motivation. In the study, Cronbach's alpha values were found as follows: α = .85 for intrinsic motivation and α = .91 for extrinsic motivation.

Since the validity analyzes on the scales were performed by the researchers who developed the scales (İpek, 1999; Uçar, 2015), there was no need to perform a validity analysis again.

2.4. Data Analysis

The SPSS 21 package program was used to analyze the obtained data. In the data analysis process, arithmetic mean and standard deviation were used to define the perceptions of participating teachers about organizational culture scale and teacher motivation scale dimensions. Before applying the difference test, we examine: normal data distribution, skewness and kurtosis values, QQ plots (QQ Chart) and histogram plots. As a result of the analysis, the skewness values of the variables ranged between -.21 and -1.25, while the kurtosis values fr om changed between 1.29 and .01. When the skewness and kurtosis values range from -1.5 to +1.5, the distributions are considered normal (Tabachnick & Fidell, 2013). QQ and histogram graphs also showed that the distribution of the variables met the normality y assumption (Can, 2014). In this context, t-test, parametric test and one-way analysis of variance were used to investigate whether teachers' perceptions of organizational culture and teacher motivation change according to gender, marital status, school type and professional experience. In order to understand the suitability of the research data for regression analysis, the presence of auto-correlation suspicion and the normal distribution of the data were examined. If we suspect autocorrelation, Durbin Watson analysis is used to test it. The closer the Durbin-Watson value is to 2, the more the suspicion of auto-correlation disappears for multiple linear regression models (Doğan and Yılmaz, 2017). In the study, Durbin-Watson values were found to be 1.96 and 1.86, which can be interpreted as no autocorrelation. In the study, it was aimed to determine the multi-correlation degree of the predictive variables by examining the VIF (Variance Inflation Factor) values and tolerance to the independent variables. When the VIF value is lower than 10 and the tolerance value is higher than 0.2, the suspicion of multicorrelation disappears (Can, 2014). All analyzes showed that the data set was suitable for regression analysis. For this purpose, multiple regression analysis was used to determine whether teachers' motivations could be predicted from their organizational culture perceptions.

3. FINDINGS

In this section, the findings of the study are presented. In this context, the power, role, success and support culture sub-dimensions of teachers' organizational culture perceptions and their motivational perceptions in terms of internal and external motivation sub-dimensions were defined. In addition, teachers' organizational culture and motivation perceptions were compared with gender, marital status, school type and professional seniority. Finally, teachers' perceptions of intrinsic and extrinsic motivation were tried to be estimated from their perceptions of organizational culture sub-dimensions.

Descriptive findings in terms of teachers' organizational culture and motivation perceptions are presented in Table 4.

Table 4. Mean and Standard Deviation Scores in terms of Sub-Dimensions for Organizational Culture and Teacher Motivation Perceptions

	Sub-Dimensions	n	x	ss	Contract Range
Organization Culture	Power Culture	443	3.37	,752	somewhat appropriate
	Role Culture	443	3.37	,670	somewhat appropriate
	Success Culture	443	3.32	,816	somewhat appropriate
	Support Culture	443	3.48	,882	quite affordable
Teacher Motivation	Intrinsic Motivation	443	3.64	,744	I mostly agree
	External Motivation	443	4.34	,661	I totally agree

In Table 4, the arithmetic tools reflecting the organizational culture perceptions of teachers are 3.37 in power culture and role culture sub-dimensions; It was found as 3.32 in the success culture and 3.48 in the support culture sub-dimensions. Participants accepted the intrinsic motivation dimension of teacher motivation as 3.64 and the extrinsic motivation dimension as 4.34.

Teachers' perceptions of organizational culture and their motivation levels are presented in Table 5.

Table 5. Perception and Motivation Levels of Teachers Regarding Organizational Culture by Gender

	Dimension	Gender	n	x	ss	t	p
Organization Culture	Power Culture	Woman	277	3.46	,798	2,031	,043
		Male	166	3.31	,717		
	Role Culture	Woman	277	3.41	,660	1,107	,269
		Male	166	3.34	,674		
	Success Culture	Woman	277	3.32	,867	,018	,986
		Male	166	3.32	,785		
	Support Culture	Woman	277	3,53	,901	,891	,373
		Male	166	3.46	,870		
Teacher Motivation	Intrinsic Motivation	Woman	277	4.44	,623	2,677	,008
		Male	166	4.27	,675		
	External	Woman	277	3.68	,715	,544	,587

Motivation	Male	166	3.64	,761	

When Table 5 is examined, it is seen that teachers' organizational culture perceptions do not differ significantly in terms of role, success, and support culture dimensions, but differ significantly in power culture dimension (t=2,031; p=,043). Accordingly, it is understood that female teachers perceive a higher level of power culture tendency than male teachers in the schools where they work. Teacher motivation perceptions do not significantly change according to intrinsic motivation. However, there is an important difference in the dimension of extrinsic motivation . The external motivation perceptions of female teachers were statistically higher than male teachers (t=2.677; p=08).

Organizational culture and motivation perceptions of teachers according to marital status are presented in Table 6.

Table 6. Organizational Culture and Motivation Perceptions of Teachers by Marital Status

	Dimension	Status	n	x	ss	t	p
Organization Culture	Power Culture	married	337	3.41	,739	2,233	,026
		single	106	3.23	,774		
	Role Culture	married	337	3.39	,646	1,316	,189
		single	106	3.29	,737		
	Success Culture	married	337	3.33	,798	,393	,694
		single	106	3.30	,872		
	Support Culture	married	337	3,51	,843	1,099	,273
		single	106	3.40	,992		
Teacher Motivation	Intrinsic Motivation	married	337	4.34	,671	,306	,760
		single	106	4.32	,629		
	External Motivation	married	337	3.68	,744	,924	,356
		single	106	3.60	,740		

In Table 6, it is seen that teachers' perceptions of organizational culture do not differ statistically in the dimensions of role, success and support culture according to marital status, but there is a significant difference in the dimension of power culture. It is understood that married teachers have higher power culture perceptions than single teachers. Teachers' perceptions of motivation do not differ significantly in terms of external and internal motivation dimensions.

The Organizational Culture and Motivation Perceptions of the Teachers according to the School Types they work in are presented in Table 7.

Table 7. Organizational Culture and Motivation Perceptions of Teachers by School Types

	Dimension	Type	n	x	ss	t	p
Organization Culture	Power Culture	General High School	280	3.44	,707	2,636	,009
		Vocational High School	163	3.24	,810		
	Role Culture	General High School	280	3.45	,636	3,308	,001
		Vocational High School	163	3.23	,704		
	Success Culture	General High School	280	3.42	,791	3,305	,001
		Vocational High School	163	3.16	,833		
	Support Culture	General High School	280	3.62	,817	4,192	,000
		Vocational High School	163	3.26	,942		
Teacher Motivation	Intrinsic Motivation	General High School	280	4.36	,641	,831	,406
		Vocational High School	163	4.30	,694		
	External Motivation	General High School	280	3.70	,730	1,341	,180
		Vocational High School	163	3.60	,764		

In Table 7, teachers' perceptions of organizational culture differ significantly in the dimensions of power, role, success and support culture according to school type. It is understood that the perceptions of teachers working in general high schools in all dimensions are higher than teachers working in vocational and technical high schools. It is seen that teachers' motivation perceptions do not show a significant difference in internal and external motivation dimensions according to school type.

Organizational Culture and Motivation Perceptions of Teachers by Professional Seniority are presented in Table 8.

Table 8. Organizational Culture and Motivation Perceptions of Teachers by Professional Seniority

	Dimension	Seniority	n	x	A	F	Df	p	Difference
Organization Culture	Power Culture	0-7 years	106	3.36	0.73	0.686	439	0.303	7/less 20/more
		8-13 years	109	3.45	0.743				
		14-19 years	116	3.26	0.708				
		20 and above	112	3,4	0.817				
		Total	443	3.37	0.751				
	Role Culture	0-7 years	106	3.67	0.668	0.112	439	0.863	
		8-13 years	109	3.62	0.699				
		14-19 years	116	3.6	0.945				
		20 and above	112	3.76	0.672				
		Total	443	3.66	0.669				
	Culture of Success	0-7 years	106	3.28	0.795	0.957	439	0.23	
		8-13 years	109	3.26	0.834				
		14-19 years	116	3.29	0.798				
		20 and above	112	3.46	0.829				
		Total	443	3.32	0.816				
	Support Culture	0-7 years	106	3.32	0.96	3,108	439	0.007	
		8-13 years	109	3.43	0.894				
		14-19 years	116	3.45	0.797				
		20 and above	112	3.72	0.838				
		Total	443	3.48	0.881				
Teacher Motivation	Intrinsic Motivation	0-7 years	106	4.34	0.621	0.031	439	0.993	
		8-13 years	109	4.32	0.666				
		14-19 years	116	4.35	0.63				
		20 and	112	4.34	0.728				

	above						
	Total	443	4.34	0.661			
External Motivation	0-7 years	106	3.67	0.703	1.03	439	0.379
	8-13 years	109	3.62	0.725			
	14-19 years	116	3.6	0.692			
	20 and above	112	3.76	0.842			
	Total	443	3.66	0.734			

As seen in Table 8, teachers' perceptions of organizational culture do not differ significantly in terms of power, role and culture of success according to professional seniority. It was observed that there was a significant difference in the dimension of support culture. It has been observed that the perceptions of those with 20 years or more teaching experience are higher than the perceptions of teachers with 7 years or less teaching experience. Teachers' perceptions of external and internal motivation do not differ significantly according to professional seniority.

Teachers' external motivations were tried to be estimated from their organizational culture perceptions and the results of the regression analysis performed for this purpose are presented in Table 9.

Table 9. Regression Analysis Results for Estimating Teachers' Perceptions of External Motivation from Organizational Culture Dimensions

Variable	B	Mean standard error	ß	t	P	double r	partial r
Still	3,751	,171		21,901	,000		
Power Culture	-,016	,056	-,019	,293	,769	,10	-.01
Role Culture	,105	,068	,106	1,543	,123	,15	.07
Culture of Success	-,049	,065	-,060	,747	,456	,13	-.04
Support Culture	,130	,056	,173	,173	,021*	,18	,11th
R= .19 R^2 = .04							
$F_{(4.438)}$ = 4.16 p= .003							

Teachers' internal motivations were tried to be estimated from their organizational culture perceptions, and the results of the regression analysis performed for this purpose are presented in Table 10.

Table 10. Regression Analysis Results for Estimating Teachers' Perceptions of Intrinsic Motivation from Organizational Culture Dimensions

Variable	B	Mean standard error	ß	t	p	double r	partial r
Still	1,999	,176		11,385	,000		
Power Culture	,094	,057	,095	1,657	,098	.32	.07
Role Culture	,085	,069	,077	1,227	,221	.34	.05
Culture of Success	,211	,067	,231	3,163	,002*	,42	,14
Support Culture	,102	,057	,121	1,772	,077	.38	.08
R= .45		R^2 = .20					
$F_{(4.438)}$ = 27.37 p= . 000 s <.05							

In Table 10, it is clear that teachers' internal motivation perceptions can be estimated statistically significantly from their perceptions of power, role, success and support. Culture (R = 45; F = 27.37; p = .000). Considering the results of the regression analysis, it is understood that teachers' perceptions of power, role, success and support culture explain 20% of the difference in their internal motivation perceptions. When the correlations between teachers' perceptions of internal motivation and organizational culture dimensions are examined together, the correlation between internal motivation and power culture dimension is .32; correlation between intrinsic motivation and role culture dimension ,34; The correlation between intrinsic motivation and achievement level was .42 and the correlation between intrinsic motivation and support culture was .38. When the correlation between organizational culture dimensions and internal motivation was examined independently, the correlation between power culture and internal motivation was .07 (p=098); correlation between role culture and intrinsic motivation .05 (p=, 221); The correlation between success culture and intrinsic motivation was found to be .14 (p=002). According to the standardized regression coefficient, the relative order of importance of the predictive dimensions on intrinsic motivation is as follows: success culture, support culture, power culture, and role culture. When the results of the t-test on the importance of the regression coefficients are examined, it is seen that only the success culture sub-dimension (r=, 42; p=, 002) is an important determinant of intrinsic motivation. However, power culture, role culture, and support culture do not have a significant effect.

4. DISCUSSION AND CONCLUSION

In this study, which aims to examine high school teachers' organizational culture perceptions in terms of gender, marital status, type of school and seniority, it can be said that teachers' perceptions of organizational culture are at a high level. When the scores of the Organizational Culture Scale are

compared, the highest score is in the role culture and the lowest score is in the support culture sub-dimension. According to the results of this research, it can be said that a role-oriented culture is dominant in high schools. Thanks to the organizational culture, teachers can reach the targeted achievements in a much shorter time by acting more collectively. The main motivation source of organizational culture is unity of interest, solidarity and moral values. As intra-organizational relations and ties strengthen, commitment to organizational culture increases. When the findings are evaluated in general, it can be said that the results of the study are similar to the literature. It has been observed that teachers have formed deep-rooted traditions, moral attitudes and habits by adopting the cultural characteristics of the institutions they work for. These habits transform ideas that would normally remain abstract into concrete, a living body that has meaning and impact for a new teacher. Because culture regulates some important variables and gives them meaning. Organizational culture is an important social bond that increases the commitment of the employees of the organization to each other and to the values of the employees. It acts as a social unifier by setting appropriate standards for what employees should do and say.

In order for the organizational culture to survive, the people in the group must successfully maintain their role management. The subordinate-superior relationship and hierarchical structuring are of great importance for the culture to become permanent. The ideas and values advocated by the majority of the group constitute the dominant culture of the organization. However, numerical superiority is not always required for a culture to be considered dominant. Norms and principles advocated by more authoritative personnel can also form the dominant culture of the organization. The subculture creates the alternative structure of the organization. Even if the discourses and actions that make up the structure of this culture are clearly expressed, they cannot positively or negatively affect the decisions taken by the dominant culture. In schools with not very strong cultures, weak bonds and communication between administrators, teachers, students and parents, low expectations of success for all members, widespread feelings of suspicion and hostility among members, destructive conflicts frequent, feelings of love and respect among members. weak and low motivation. Similarly, studies have found that primary school teachers perceive the role culture more and the support culture less. Role culture is the dimension of culture where coordination and control is more difficult than other dimensions. In the role culture, where the job is at the center, duties and responsibilities are expected to be in line with a specific purpose (Handy, 1981). According to Hassenboehler (2004), school administrators use legal authority to a large extent for teachers to perform their duties. Decker (1989), on the other hand, stated that the use of power by administrators is related to the school climate perceived by teachers. Based on this data, it can be said that school administrators influence teachers and the culture of duty is dominant in schools and teachers give priority to fulfilling their duties.

Gezer (2005), Esinbay (2008) and Yılmaz (2009) also found in their research that teachers' perceptions of school culture are high; They concluded that teachers' perceptions of school leadership, collegiality, personal support, teacher cooperation, development culture and teaching culture, which

are sub-dimensions of the organizational culture scale, are at "High" level. Yüksel (2009), who investigated the relationship between organizational culture and organizational trust of teachers in secondary schools, reached the conclusion that all sub-dimensions of organizational culture are "strong" but "need to be improved" by teachers, and therefore it is possible to say that teachers' perceptions of organizational culture in their schools are positive. expressed. Balay, Kaya, and Cülha, (2013), on the other hand, found in their study that teachers' organizational culture perceptions are generally at a moderate level. In most of the studies, as in this study, the high level of acceptance of school culture by teachers can be explained by the fact that principals, who have leadership roles in educational organizations, have positive effects on the establishment of the desired level of culture in schools. As a matter of fact, researches show that the school administrator's leadership behaviors for shaping the culture affect the way school employees interpret organizational events and symbols by determining them. Şahin-Fırat (2010) stated that teachers have positive perceptions towards school culture as a result of his study. The fact that a significant relationship emerged between school principals' perceptions of school culture and value systems with teachers in the same study suggests that teachers can develop in an organization where they can gain support around a goal by acting in partnership with leaders. The fact that teachers have "High" scores in this study may mean that they adopt a culture that values professional development and school-wide development in cooperation with leaders for the common goals of the school, and that they work in collaboration with each other. It also shows that teachers with this perception should be determined to realize their individual development at school in cooperation with parents and the environment for the success of the student.

5. RECOMMENDATIONS

The following recommendations can be made in line with the research:

1. Thanks to a strong organizational culture, teachers can be enabled to act more collectively. In this way, it will be possible to reach the targeted achievements in a much shorter time.
2. It is thought that the permanent organizational culture will strengthen the hierarchical structure.
3. It is thought that creating appropriate standards for what the stakeholders in the organization should do and say will serve as a unifying function in the social sense.

It can be said that the application of this study in other provinces of Turkey and using the results as data in organizational culture studies will contribute to the field.

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EFFECTS OF PHYSICAL ACTIVITY PROGRAMS OF SCHOOL-BASED INTERVENTION ON PHYSICAL FITNESS AND PSYCHOLOGICAL RESPONSE: A SYSTEMATIC REVIEW

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Abstract

This systematic review aimed to investigate the effect of school-based physical activity interventions on physical fitness and psychological responses in children and young people. Studies were conducted from Web of Science, Scopus and PubMed databases between 1 January 2017 and 1 December 2022 according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) checklist. For the research to be conducted in the databases, "School-Based Intervention", "physical fitness ", "Psychology", School-based intervention, physical fitness and psychological responses were used in the title and abstract. The database review revealed seventy-four (74) studies. However, after eliminating seventeen (17) duplicate studies, fifty-five (57) studies remained. Subsequently, seventeen (17) studies were eliminated after reviewing the abstracts. After forty (40) studies were thoroughly analysed, eighteen (18) publications not involving psychological factors, five (5) publications involving research methods and six (6) review studies were excluded. The remaining eleven (11) studies were used after review. The results of the present systematic review showed that school-based physical activity interventions contribute positively to children's physical fitness and psychological health while ensuring a healthy life for years to come.

Keywords: Adolescents; children; physical activity; psychological response; school-based intervention

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OKUL TEMELLI FIZIKSEL AKTIVITE UYGULAMALARININ FIZIKSEL UYGUNLUK VE PSIKOLOJIK CEVAPLAR ÜZERINDEKI ETKILERI: SISTEMATIK BIR İNCELEME

Özet

Bu sistematik derlemenin amacı okul temelli fiziksel aktivite uygulamalarının çocuklar ve gençlerde fiziksel uygunluk (FU) ve psikolojik cevaplar üzerindeki etkisini araştırmaktır. 1 Ocak 2017 ile 1 Aralık 2022 tarihleri arasında Web of Science, Scopus ve PubMed veri tabanlarından Sistematik İncelemeler ve Meta-Analizler için Tercih Edilen Raporlama Öğeleri (PRISMA) kontrol listesine göre çalışmalar taranmıştır. Veri tabanlarında yapılacak araştırma için başlık ve özette "Okul Temelli Uygulama", "fiziksel uygunluk", "Psikoloji", okul temelli uygulamar, fiziksel uygunluk ve psikolojik yanıtlar kullanılmıştır. Veritabanı incelemesinde, yetmiş dört (74) çalışma ortaya çıkmıştır. Ancak tekrar eden on yedi (17) çalışma hariç tutulduktan sonra geriye elli beş (57) çalışma kalmıştır. Daha sonra, özetler incelendikten sonra on yedi (17) çalışma daha hariç tutulmuştur. Kırk (40) çalışma kapsamlı bir şekilde analiz edildikten sonra, psikolojik faktörleri içermeyen on sekiz (18) çalışma, araştırma yöntemlerini içeren beş (5) yayın ve derleme çalışması olan (6) yayın hariç tutulmuştur. Kalan on bir (11) çalışma incelemeden sonra kullanılmıştır. Mevcut sistematik incelemenin sonuçları, okul temelli fiziksel aktivite uygulamalarının çocukların fiziksel uygunluklarına ve psikolojik sağlığına olumlu katkıda bulunurken, gelecek yıllarda sağlıklı bir yaşam sürmelerini sağlamaya yardımcı olacağını göstermektedir.

Anahtar Kelimeler: Ergenler; çocuklar; fiziksel aktivite; psikolojik tepki; okul temelli müdahale

1. INTRODUCTION

Over the last 30 years, childhood obesity has reached epidemic proportions worldwide (Abarca-Gómez et al., 2017; WHO, 2018). Therefore, the importance of encouraging children to remain physically active is increasing (Reisberg et al., 2020; Riso & Jürimäe, 2018). Physical activity (PA) and physical fitness (PF) are significant instruments for enhancing the quality of life for people with health conditions as well as the cognitive aspect of development in children (Donnelly et al., 2016). Increasing the time spent actively is one of the strategies to cope with obesity. Research recommends 60 minutes of moderate-intensity physical activity (MVPA) per day for children and adolescents aged 5 to 17 (Strong et al., 2005; Janssen, 2007). However, physical activity (PA) data collected in adolescents aged 13 to 15 years from 105 countries worldwide reveal that 80.3% do not meet recommended activity guidelines (Hallal et al., 2012). In addition, studies (Nader et al., 2008; Sember et al., 2020) indicate a significant decline in PA levels during adolescence. The young population has shown less PA participation than moderate exercise recommended in PA guidelines (Costa et al., 2017). Therefore, the active participation of children and young people in physical education classes in schools will play an essential role in physical and psychological well-being.

Schools should be where children and adolescents spend most of their time, as well as a target setting for PA promotion among children and young people (Van de Kop et al., 2019). In addition, the school environment is ideal for implementing PA interventions (Kelso et al., 2020). Because children spend much time at school, schools are recognised as adequate settings to increase the PA levels of

children and adolescents who spend most of their time sitting (Dobbins et al., 2013). The meta-analysis study of Van de Kop et al. (2019) showed that school-based PA interventions increase pre-occupational PA in adolescents. In addition, it is known that PA practices implemented in the school environment contribute positively to the health factors of children and adolescents (Demetriou & Honer, 2012). Inadequate PA is one of the ten (10) leading risk factors for death worldwide and a significant risk factor for non-communicable diseases (WHO, 2018). Low PA levels have been associated with overweight obesity and a higher risk of cardiovascular disease in school-age children (Carson et al., 2016; Kurdaningsih et al., 2016; Ekelund et al., 2012). Furthermore, there is a gender-based inequality in PA among children and adolescents, with girls performing less moderate-to-vigorous PA than boys (Hubbard et al., 2016; Póvoas et al., 2018; Long et al., 2013; Chen et al., 2022). Therefore, it is important to create gender-sensitive environments where children and adolescents can regularly engage in moderate-intensity PA to improve their health profile.

School-based PA programmes aim to achieve and maintain a health-related PF level (Yuksel et al., 2020). PF is divided into two parts: fitness related to health and fitness related to motor skills or performance (Vanhees et al., 2005). Coordination, agility, balance, power, speed, and reaction based on performance are all components of skill-related fitness, as opposed to health-related fitness, which focuses on factors like composition and flexibility (Powell et al., 1989; Caspersen et al., 1985). Fitness connected to motor skills is a major element of children's development. However, children's PF may be impacted if they have trouble completing motor skills (Smits-Engelsman et al., 2020). In addition, the competence in fundamental movement skills that provide motor competence and PF of children in daily activities at later ages is directly related to a healthy and active life (Barnett et al., 2008). In this sense, some studies have found that school-based programmes have the potential to improve PF (Neil-Sztramko et al., 2021). As a result, in school-age children, having a healthy cardiorespiratory fitness level, a crucial PF indicator, provides the physical foundation for good mental health and psychological well-being (Chen et al., 2022).

Children and adolescents spend a large part of their lives at school, and this setting significantly impacts how they grow socially, emotionally, and psychologically (Tejada-Gallardo et al., 2020). According to findings by Greenleaf et al. (2010), students with better cardiorespiratory fitness had higher self-esteem and fewer depression symptoms. Additionally, studies show that kids aged 7 to 12 with good cardiorespiratory fitness outperformed their unfit peers on cognitive tests (Haverkamp et al., 2021; Blair et al., 2001). Furthermore, PA positively correlates with school success and perceived pleasure (De Souza et al., 2021).

The structure of the PE curriculum in schools has consistently changed the quantity of PA and student motivation, favouring the quality of life and other biomarkers (Delgado-Floody et al., 2019). Considering the literature, adequate participation in physical education effectively contributes to developing a healthier lifestyle in children and adolescents throughout their lives. Therefore, the main

aim of this systematic review is to examine the effect of school-based PA practices on PF and psychological responses in school-age children and adolescents.

2. MATERIALS AND METHOD

This study is a systematic review of articles in various scientific peer-reviewed journals to examine the effects of school-based PA interventions on PF and psychological responses.

2.1. Inclusion Criteria

Studies that included school-based PA practices and examined PF and psychological responses were included in the study. In addition, the included studies were considered to be peer-reviewed publications and published in English between 1 January 2017 and 1 December 2022. Studies that did not have a school-based practice did not examine PF and psychological reactions, and a study protocol was not included in the study.

2.2. Research Strategy

In the study, Web of Science (WOS), Scopus and Pubmed databases were searched for relevant scientific studies published in English between 1 January 2017 and 1 December 2022 using the keywords " School-Based Intervention ", "PF", "Psychology", in the title and abstract in the context of School-Based Intervention (SBI), PF and psychological responses. After the database review, 74 studies were found. However, 17 repetitive studies were removed, and 57 studies remained. Afterwards, 17 studies whose abstracts were analysed were excluded. As a result of analysing 40 studies in full text, 18 articles that did not contain psychological variables, 5 with study protocols and six review studies were excluded. After the review, the remaining 11 studies were used (Figure 1). The current review study fulfilled the inclusion criteria using the PICO approach (Table 1) (Huang, Lin, & Demner-Fushman, 2006).

3. RESULTS

The results regarding the effects of school-based practices on PF and psychological responses are presented.

3.1. Outcomes Regarding PA, PF and Psychological Response

3.1.1. PA

Studies investigated measuring PA levels are examined, and improvements occur in the PA results measured by accelerometer and PA scale in the groups performing school-based practice (Ha et al., 2020a; Morano et al., 2020a; Morano et al., 2020b). However, in a study by Liang et al. (2020), no significant difference was observed in the time spent in sedentary behaviour, moderate PA (MPA) and vigorous PA (VPA) levels, while significant improvements were observed in light PA (LPA).

3.1.2. PF

PF tests have shown that SBIs have shown significant improvements in aerobic endurance, flexibility, muscular strength, muscular endurance and strength results (Morano et al., 2020a; Pittman,

2020; Morano et al., 2020b; Kwasky & Serowoky, 2018; Sjöwall et al., 2017). However, in the study conducted by Murphy et al. (2022), it was observed that there was little or no effect on the components of PF. In addition, improvements in perceived physical competence and body image were observed (Morano et al., 2020a; Morano et al., 2020b). The results of anthropometric measurements show that school-based practices have a positive effect on body mass index, body fat percentage, and arm and waist circumference (Morano et al., 2020a; Kwasky & Serowoky, 2018), in contrast to studies showing no effect (Pittman, 2020; Liang et al., 2020). In addition, Morano et al. (2020a) stated that school-based practices decreased skinfold thickness.

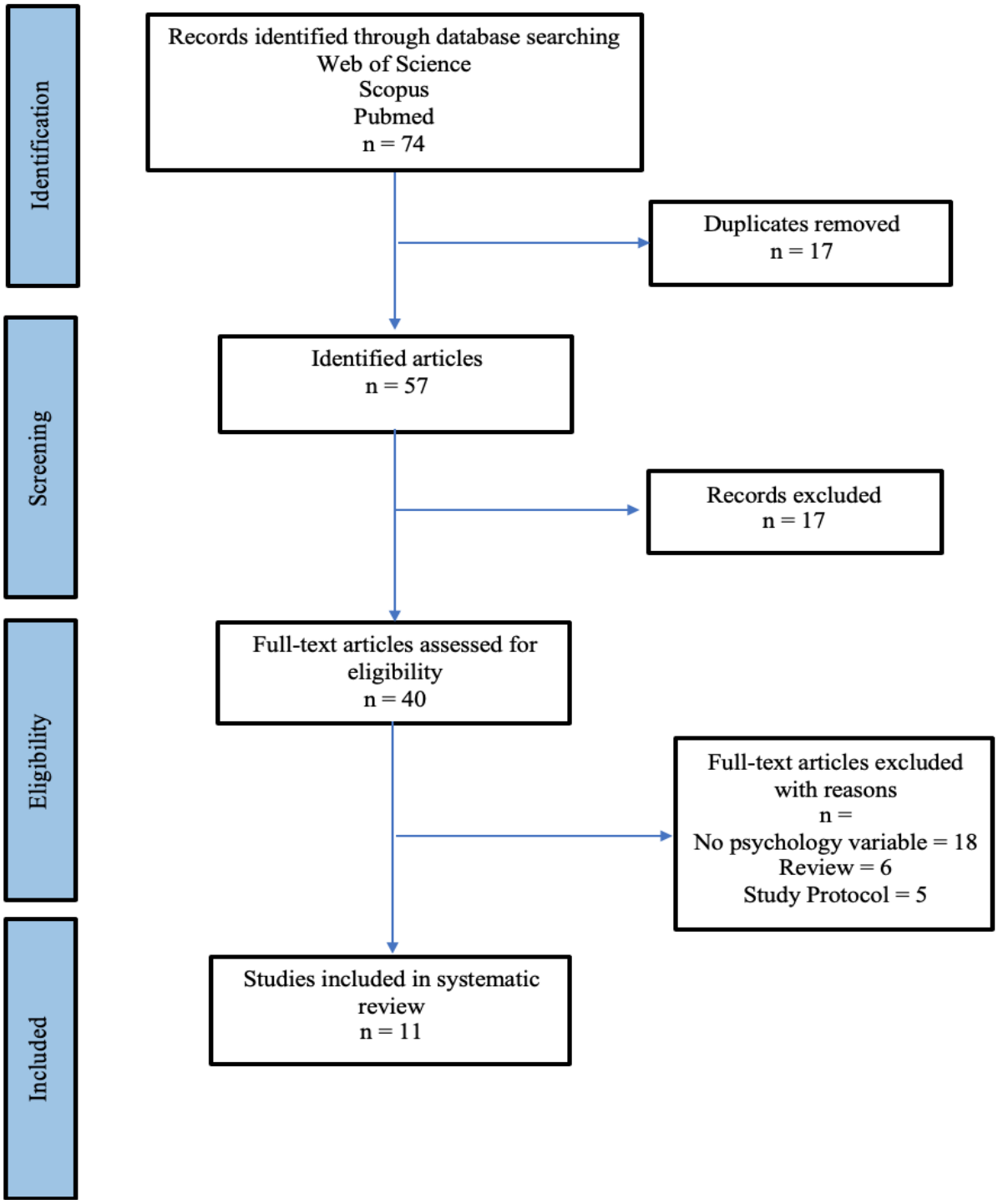

Figure 1. Study selection flowchart

Table 1. PICO Criteria

	Criteria
Population	Students
Intervention	School-Based Intervention
Comparison	School-Based Intervention on PF and psychological response
Results	PF (PA levels, body composition, fitness components, body fat percentage etc.) Psychology (psychology, anxiety, self-esteem, stress etc.)

3.1.3. Psychological Responses

When the studies on psychological responses were examined, Jin et al. (2018) evaluated the significant relationship between PA. They perceived general health and the enjoyment of PA in physical education classes for students aged 5-11 years with a PA level of at least 60 minutes per day and PA in recess for students aged 12-15 years. While the effect of enjoyment on students in physical education class was found to be greater, no effect was observed in children who did PA during recess. Similarly, Hatch et al. (2021) found that students enjoyed the Daily Mile exercises they applied to primary school students. However, Liang et al. (2020) stated that school-based practice did not positively affect enjoyment. In contrast to the studies (Pittman, 2020; Liang et al., 2020), which found no effect of school-based practices on self-efficacy, Murphy et al. (2022) stated that students who participated in school-based PA 2 or 3 days a week increased their self-efficacy levels. Sjöwall et al. (2017) reported that the stress levels of students exposed to a total of 120 minutes of PA per week at school decreased, while the stress levels of those exposed to 300 minutes of PA per week increased. Murphy et al. (2022) reported that while no difference in the group that practised PA one or three days a week, there was an increase in anxiety levels in the group that never practised or practised two days a week and in the same study, it was stated that participation in PA two days a week resulted in a decrease in depression. Kwasky and Serowoky (2018) stated that significant improvements were observed in the social sub-dimension of the scale applied to students four weeks after the end of school-based practices for eight weeks, while Liang et al. (2020) stated that there was no effect on any social support. Ha et al. (2020b) implemented SELF-FIT, a school-based practice, instead of typical physical education classes. They found that SELF-FIT strengthened students' competence, autonomy, and engagement compared to physical education classes. In another study (Ha et al., 2020a), the effects of the same SBI on genders were examined. It was found that the intervention effects were stronger in meeting girls' competence, autonomy needs, and autonomous motivation than boys. In addition, they noted that boys in physical education programs reported higher levels of need fulfilment and autonomous motivation, as well as being more active than girls.

4. DISCUSSION

This systematic review aimed to examine the effects of school-based PA interventions on PF and psychological responses. Studies (Sjöwall et al., 2017; Jin et al., 2018; Kwasky & Serowoky, 2018; Morano et al., 2020a; Morano et al., 2020b; Ha et al., 2020a; Ha et al., 2020b; Pittman et al., 2020; Liang et al., 2020; Hatch et al., 2021; Murphy et al., 2022) all showed that significant improvements were achieved in at least one variable. The content and details of the SBI programme are significant in these studies. As a result of classifying the programme details according to the PA focus, the number of studies directly including PA was 4 (Morano et al., 2020a; Morano et al., 2020b; Ha et al., 2020a; Liang et al., 2020), PF components were 8 (Sjöwall et al., 2017; Kwasky & Serowoky, 2018; Morano et al., 2020a; Morano et al., 2020b; Ha et al., 2020b; Pittman et al., 2020; Liang et al., 2020; Murphy et al., 2022) and all 11 studies included psychological responses.

Considering the variables examined, using PA interventions in schools generally positively affects PF and psychological health. These results highlight the importance of planning the time required for PA programmes in schools, especially in children and adolescents with disabilities (Jin et al., 2018) and obese or overweight (Morano et al., 2020a) groups. The success of school-based PA interventions is influenced by the prevalence of age-appropriate or more specific PA opportunities and content available to young people, whether linked to behaviour or health outcome change (Burns et al., 2017). The priority of lifelong PA and health programmes should be the preparation of appropriate learning environments. The goal of health-based physical education curriculum models targeting a physically active life is to maintain these appropriate learning environments (Haerens et al., 2011). Although evaluations related to different variables have been made in school-based PA studies, only PF and psychological dimensions have been addressed in this systematic research.

While favourable results were observed in four studies regarding the PF factor, no effect was observed in two studies. One study reported improvements in fitness tests and increases in anthropometric measures (such as body fat percentage, BMI). The main goal of school-based PA programmes is to improve health-related PF and to ensure that this is long-lasting. Therefore, in this review study, health-related (Ortega et al., 2008) PF components (anthropometrics, muscular strength, muscular endurance, flexibility, etc.) were assessed. In some studies, there are results showing that SBIs are effective in improving PF (Lu et al., 2018; Janssen & LeBlanc, 2010; Bogataj et al., 2021). Unlike typical PE lessons, SELF-FIT practice improves students' competence, autonomy and relatedness skills. Guthold et al. (2020) reported that low PF among adolescents is relatively high, and the global prevalence of inadequate PA is 78.4% for boys and 84.4% for girls aged 11-17.

Table 2. A Detailed Overview of the Work

Reference	Sample	Study design	Protocols	Measurements	Results
Jin et al., 2018	Children and adolescent students with disabilities N=241 (age: 5-15 years)	Three key concerns were noted in order to address the study questions. a) Days spent engaging in 60 minutes of PA (b) enjoyment with school-based PE programs (such as recess and physical education); (c) general health.	The number of days the PA attended for at least 60 minutes each week provided as a measure for their involvement. Children between the ages of 5 and 11 were asked how much they enjoyed recess, while children between the ages of 12 and 15 were asked how much they enjoyed physical education. A five-point scale from "excellent" to "poor" was used to rate participants' perceptions of their general	-Psychological Response (Perceived general health, Enjoyment)	The perception of overall health among children with disabilities is correlated with the enjoyment of school-based PA programs, primarily through daily PA involvement. For older children receiving physical education, but not for younger children receiving recess, enjoyment impacted PA and perceived general health.

			health and pleasure.		
Morano et al., 2020a	Obese or overweight student N=18 (Age: 11.3±0.4)	Participants followed a 6-month obesity programme that included nutrition counselling and exercise training. The exercise programme consisted of two sessions, two hours per week, and took place in the school gym after school hours.	Weekly 30-minute interactive group sessions were provided to educate children on the importance of PA and fitness. These included reviewing PA diaries, goal setting, self-monitoring and self-empowerment activities, and basic concepts of body functioning and healthy behaviour. Nutrition counselling was provided at the programme's beginning, middle and end. Children were invited to keep an exercise diary	-Anthropometrics -PA Questionnaire -Fıtness tests (VJ, MBT, SR, Harre) - Psychological Response (Perceived Physical Ability Scale, Body image)	Body mass index, body fat percentage, arm and waist circumference and skinfold thickness decreased. Actual and perceived physical abilities, body image and PA improved.

			outside the programme.		
Pittman, 2020	Secondary school students N=650 Age: 11-15	Children were assigned to 3 different groups. 1- Activity Tracker group (AT) 2- Text Messaging group (TM) 3- AT + TM	In the AT group, people followed the activities. In the TM group, people were also sent reminders and motivational messages. In the AT+TM group, people practised both. The study took place from September to December 2016.	-Anthropometrics -Fitness Test (FITNESSGRAM TEST) -Psychological Response (SE)	There was no effect of PA on self-efficacy in AT, TM and AT+TM groups. While positive improvements were observed in fitness tests in AT group, no difference was observed in AT+TM and TM groups. In anthropometric measurements in AT, TM and AT+TM groups, negative results were observed.

Physical Education = PE; Active Video Games = AVG; Physical Activity = PA; Moderate-to-vigorous physical activity MVPA; Vigorous Physical Activity = VPA; Light Physical Activity = LPA; Moderate Physical Activity = ; MPA; Counts Per Minute = CPM; Beck Depression Inventory = BDI; Beck Anxiety Inventory = BAI; Self-efficacy = SE; Warwick Edinburgh Mental Wellbeing Scale = WEMWS; Cardiorespiratory Endurance = CRE; Standing Long Jump = SLJ; Shuttle-Run = SR; Medicine Ball Throw = MBT; Vertical Jump VJ; Self-determined Exercise and Learning For FITness = SELF-FIT; PA Questionnaire = PAQ-C; The Self-Efficacy Questionnaire for Children = SEQ-C

Table 2. Continue

Reference	Sample	Study design	Protocols	Measurements	Results
Liang et al., 2020	Volunteer primary school students n=80 (Age: 9-12)	Children were assigned to 2 different groups. Intervention Group=29 Control Group=51	The intervention group participated in after-school AVG classes for eight weeks for 1 hour twice a week. Before the games started, a 15-minute warm-up was performed. Children chose their preferred game partner. Children who played AVGs on the television were to play AVGs on the projector in the next lesson. They were told to wear accelerometers only on school days.	- Anthropometrics -Accelerometers (Sedentary time, MVPA, LPA, MPA, VPA, CPM) - Psychological Response (Enjoyment, Social support, SE)	The average amount of time spent in MPA and VPA and the daily time spent in sedentary behavior did not show any discernible changes, although LPA and CPM did. Psychological responses and anthropometric data showed no significant changes.
Ha et al., 2020a	Secondary school students n=667 age:14.4	Students were randomly assigned to 2 groups.	While students in the control group attended their lessons as normal, those in the experimental	-Accelerometers (MVPA, LPA, MPA, VPA) - Psychological Response (Perceived	The SELF-FIT intervention effectively improved students' PA outcomes as

		Intervention Group=311 Control Group=356	group participated in the school-based SELF-FIT intervention, which was created to include fitness and game-like components into PE using the concepts of self-determination theory.	autonomy support, Competence, Autonomy, Relatedness, Autonomous motivation, Controlled motivation, psychological well-being, Intention)	measured by accelerometery, regardless of students' gender. Compared to students who did not receive SELF-FIT instruction, intervention group students spent less time inactive and more time performing light, moderate, and vigorous exercises. The intervention effects were stronger for girls in terms of meeting participants' competence and autonomy needs, and autonomous motivation. During physical education sessions, boys were more active than females and reported higher need satisfaction and autonomy motivation.

Morano et al., 2020b	Secondary school students N=64 Age:11.3±0.5	Students were randomly assigned to 2 groups. Intervention Group=35 Control Group=29	In addition to physical education lessons, the clinical intervention group engaged in a 7-month after-school program, whereas the control group attended regular curriculum sessions.	- Anthropometrics -PA Questionnaire -Fitness Tests (SLJ, MBT, SR) - Psychological Response (Perceived Physical Ability Scale)	In contrast to their peers in the control group, clinical group members showed improvements in PA levels, perceived physical ability, and physical test performance.

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Table 2. Continue

Reference	Sample	Study design	Protocols	Measurements	Results
Murphy et al., 2022	Secondary School Adolescent female students N=85 Age:13±0.7	Twenty-four students participated in the study once a week, 22 students participated twice a week, and eighteen students participated three times a week to form the intervention group. Twenty-one students acted as the control group.	The students were offered two activities to play at each lunchtime. Students were free to choose any of them. The intervention consisted of lunchtime games three days a week for 40 minutes. The intervention lasted ten weeks. The control group had their lunch in their classrooms.	-PF (SR, Muscular Strength, Endurance, SLJ, sit and reach) - Psychological Response (BDI, BAI, SE, WEMWS)	There was an increase in depression in the control group, a decrease in those who applied the activity for two days and no difference in those who applied it for 1 or 3 days. While there was an increase in anxiety in the control group and those who applied the activity for two days, there was no difference in those who applied it for 1 or 3 days. For WEMWS and SE, there was no difference in the control group and those who applied the activity for one day, while an

					increase was seen in those who applied it for 2 or 3 days. PA had little or no effect on the components of PF.
Kwasky & Serowoky, 2018	Secondary School Adolescent female students N=14 Age: 12.21±1.47	All participants were assigned to the intervention group. Measurements were applied as pre-test and post-test.	The intervention was implemented twice a week for eight weeks. Participants completed the SEQ-C test 4 weeks after the completion of the intervention.	- Anthropometrics -Fitness test (flexibility) - Psychological Response (SEQ-C)	Improvements were observed in the social sub-dimension of the SEQ-C Scale. There was a significant decrease in waist circumference in the participants. They also achieved improvement in flexibility.
Sjöwall et al., 2017	Students from 1st to 6th grade N=270 Age:(6-13)	Active school (n = 228) Control school (n = 242) Each school was mandatorily exposed to PA for 120 minutes per week, while	The study was conducted in 2 schools for two years. PA was varied to be fun for the students and consisted of aerobics classes, an obstacle course, boxing, jumping rope,	-PF (SR) -Psychological Response (Stress)	PA levels and PF levels improved by almost 50 per cent in the active school, while the control school remained at a constant level. While stress decreased in the

		the active school was exposed to PA for an additional 180 minutes since the start of the study.	running and various high-intensity games. PA was compulsory. Students in both the active and control school were assessed four times over two years: at the beginning of each autumn and at the end of each spring.		control school, stress increased in the active school.
Physical Education = PE; Active Video Games = AVG; Physical Activity = PA; Moderate-to-vigorous physical activity MVPA; Vigorous Physical Activity = VPA; Light Physical Activity = LPA; Moderate Physical Activity = ; MPA; Counts Per Minute = CPM; Beck Depression Inventory = BDI; Beck Anxiety Inventory = BAI; Self-efficacy = SE; Warwick Edinburgh Mental Wellbeing Scale = WEMWS; Cardiorespiratory Endurance = CRE; Standing Long Jump = SLJ; Shuttle-Run = SR; Medicine Ball Throw = MBT; Vertical Jump VJ; Self-determined Exercise and Learning For FITness = SELF-FIT; PA Questionnaire = PAQ-C; The Self-Efficacy Questionnaire for Children = SEQ-C					

Table 2. Continue

Reference	Sample	Study design	Protocols	Measurements	Results
Ha et al., 2020b	Secondary school students N=75 age=14.4 ±0.9	All of the participants participated in the experimental group. Eleven teachers were assigned to the students to implement the intervention.	The focus group and teacher interviews average 25-32 minutes. Specific to SELF-FIT implementation, a typical class includes a series of warm-ups (usually running), stretching, fitness activities, teaching sports-related skills and free play. The content was varied but generally included games such as basketball, volleyball, badminton, gymnastics, etc. Teachers were asked about students' perceptions of the differences between competence, autonomy and	- Psychological Response (Competence, Autonomy, Relatedness)	Unlike typical PE lessons, SELF-FIT practice improves students' competence, autonomy and relatedness skills.

			relatedness during SELF-FIT sessions and regular PE lessons.		
Hatch et al., 2021	Primary school students N=87 Age:10.4±0.7	The study included a familiarisation trial seven days before the first experimental trial. Participants then completed two experimental trials, again separated by seven days. 1-Intervention (Daily Mile) 2-Control (rest) completed.	The children practised a school-based Daily Mile PA involving 15-20 minutes of self-paced exercise. The study utilised focus groups to explore children's perceptions and enjoyment of participation in The Daily Mile. In the focus group, open-ended questions were asked of the children.	- Psychological Response (Enjoyment)	Children enjoyed participating in The Daily Mile.

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For this reason, the importance of school-based PA interventions to increase overall PF is emphasised in terms of public health (Kriemler et al., 2011). In addition, there are studies suggesting that improved PF may have beneficial effects on cardiovascular disease risk factors in children (Andersen et al., 2011). The results of the present systematic review suggest that, although SBIs vary, PA generally has positive effects on PF. However, in order for PA interventions to be entirely successful, it is seen that the programmes and the target group should be well evaluated and analysed. In addition, systematic review studies have revealed that low PF is associated with psychological parameters such as depressive symptoms, psychological distress, impaired psychological well-being and perceived quality of life (Carson et al., 2016; Hoare et al., 2016; Suchert et al., 2015).

Another essential variable of the systematic review is the relationship between school-based PA practices and psychological responses. All 11 studies examined in this study dealt with the psychological dimension of PA. The studies evaluated included enjoyment (Jin et al., 2018; Liang et al., 2020; Hatch et al., 2020), depression-anxiety-stress (Murphy et al., 2022; Sjöwall et al., 2017), self-efficacy (Pittman et al., 2020; Liang et al., 2020; Murphy et al., 2022; Kwasky & Serowoky, 2018), perceived physical ability and perceived general health (Morano et al., 2020a; Morano et al., 2020b; Jin et al., 2018) and self-determination (Ha et al., 2020a; Ha et al., 2020b). The studies showed that PA positively affected the parameters of enjoyment and perceived physical ability. However, there were inconsistent results with significant differences in depression-anxiety-stress parameters, self-efficacy and self-determination. In this context, it is essential to know that there are many reasons besides PA programmes to combat children's physical inactivity. Studies have investigated which factors affect the PA levels of children and adolescents, and one of the main factors identified was the enjoyment of activity (Burns et al., 2017). One study investigated whether a high-intensity intervention targeting cardiovascular and musculoskeletal health influenced psychological factors related to children's participation in regular PA and whether these factors were associated with the health outcomes of the intervention. Team sports involving high-intensity activities did not negatively affect children's perceptions of enjoyment and adaptation to PA; on the contrary, individual exercises were found to be disadvantageous for the development of enjoyment and adaptation (Elbe et al., 2017). In a study focusing on gender differences and conducted with 667 secondary school students, it was concluded that boys were more active than girls and reported high levels of need satisfaction and autonomous motivation during physical education classes (Ha et al., 2020a). In addition, Póvoas et al. (2018) reported that males reported less enjoyment in mixed games in an application in which both genders played small-sided games in football. These results provide significant evidence that gender should be considered in psychological responses during PA and should be considered when designing SBI programmes.

Regular PA can have many positive effects on children that are not only related to their fitness levels. For example, it positively affects children's well-being and mental health, such as showing higher feelings of self-worth and vitality and reporting fewer depressive symptoms (Brown et al., 2013; Liu et al., 2015). However, the impact of children's PA on mental health outcomes has been examined, and

increased PA levels have significantly reduced depression, anxiety, psychological distress and emotional disturbances in children (Ahn & Fedewa, 2011). Murphy et al. (2022) emphasised that doing PA resulted in significant differences in depression and anxiety levels. Duncan et al. (2018) stated that the movement skills of children with a low perception of competence would be low in parallel. Contrary to these results, there are also studies showing that PA does not affect self-efficacy (Pittman et al., 2020; Liang et al., 2020). Compared to other psychological concepts, the literature on self-efficacy needs to be clarified, and more precise evidence is needed. Research shows that physical education (PE) and school sports provide an appropriate and practical framework for transferring and teaching skills and strategies to reduce health-risk behaviours and increase psychological well-being (Piñeiro-Cossio et al., 2021; Opstoel et al., 2020).

5. CONCLUSION

The results of this systematic review showed that adjusting the physical education curriculum in schools can result in consistent PA and student motivation changes, with positive effects on quality of life and other biomarkers. Children's adequate participation in PA during their developmental process can lead to improved PF for older age and, consequently, to healthy lifestyles. Therefore, schools are appropriate for PA interventions and should help students acquire and develop skills and strategies to achieve high levels of physical and psychological well-being and healthy living activities. Popular play-based methods and different types of subject-specific warm-ups in physical education classes can diversify school-based PA interventions further to improve PF and psychological responses and more positive feedback.

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