

## The Role of Physical Activity on Psychological Well-Being and Inclination to Ethical Values\*

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### Research Article

Received: 19/09/2024

Accepted: 01/11/2024

Published: 31/01/2025

### Abstract

The aim of the study is to examine the role of pre-service teachers' participation in physical activity on psychological well-being and inclination to ethical values. The sample group of the research consisted of 606 pre-service teachers of Trabzon University in the 2021-2022 academic year. Data collection tools consist of "Personal Information Form", "Exercise Stages of Change Questionnaire", "Psychological Well-Being Scale" and "The Scale of the inclination to Ethical Values". In the research, which was designed with a quantitative research approach, the survey method was used. Descriptive statistics, t-test, ANOVA, correlation tests and Kruskal Wallis test were used as statistical methods in the evaluation of the data. As a result of the research it is seen that there is a significant difference between the passive, preparation and active phases of the exercise behavior change of the prospective teachers, and "inclination to ethical values" and "psychological well-being". In addition, it was found that the prospective teachers in the active phase of exercise behavior had higher psychological well-being scores, and the prospective teachers in the passive phase had lower predisposition to ethical values. Based on these results, it is recommended that pre-service teachers participate in physical activities so that the concepts of psychological well-being and inclination to ethical values, which are necessary for them to be well-equipped teachers, can be positively affected.

**Keywords:** Exercise, Ethics, Psychology, Sport, Well-being

## Fiziksel Aktivitenin Psikolojik İyi Oluş ve Etik Değerlere Yatkinlık Üzerindeki Rolü

### Öz

Araştırmanın amacı, öğretmen adaylarının fiziksel aktiviteye katılımının psikolojik iyi oluş ve etik değerlere yatkinlık üzerindeki rolünü incelemektir. Araştırmanın örneklem grubunu 2021-2022 eğitim öğretim yılında Trabzon Üniversitesi spor bilimleri fakültesi (N=157) ve eğitim fakültesinde (N=449) öğrenim gören toplam 606 öğretmen adayı oluşturmuştur. Öğretmen adayları basit rasgele örneklem yöntemi kullanılarak seçilmiştir. Araştırmada veri toplama araçları olarak, "Kişisel Bilgi Formu", "Egzersiz Davranışı Değişim Basamakları Ölçeği", "Psikolojik İyi Oluş Ölçeği" ve "Etik Değerlere Yatkinlık Ölçeği" kullanılmıştır. Nicel araştırma yaklaşımıyla tasarlanan araştırmada tarama yönteminden faydalanılmıştır. Verilerin analizinde, betimsel istatistikler, t testi, ANOVA, korelasyon testleri ve Kruskal Wallis testi kullanılmıştır. Araştırmanın sonucunda; öğretmen adaylarının egzersiz davranışı değişim basamaklarının pasif, hazırlık ve aktif evresi ile "etik değerlere yatkinlık" ve "psikolojik iyi oluş" arasında anlamlı bir farklılığın olduğu görülmektedir. Ayrıca egzersiz davranışının aktif evresinde olan öğretmen adaylarının daha yüksek psikolojik iyi oluş puanlarına sahip oldukları ve pasif evredeki öğretmen adaylarının ise etik değerlere yatkinlık puanlarının daha düşük olduğu bulunmuştur. Bu sonuçlardan hareketle, araştırmaya katılan öğretmen adaylarının, donanımlı bir öğretmen olmaları için gerekli olan psikolojik iyi oluş ve etik değerlere yatkinlık kavramlarının olumlu yönde etkilenebilmesi için öğretmen adaylarının fiziksel aktivitelere katılmaları önerilmektedir.

**Anahtar Kelimeler:** Egzersiz, Etik, İyi oluş, Psikoloji, Spor

\*This study is derived from the 2nd author's "The Role of Physical Activity on Psychological Well-Being and Inclination to Ethical Values" titled master thesis, completed under the supervision of the first author.

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## INTRODUCTION

Today, it has become inevitable for societies to keep up with the development of technological activities, the occurrence of sociological changes and the conditions of the ever-developing information age. While trying to keep up with these changes and developments, societies live in more communication and interaction than before. In order to fully adapt to these developments and changes, individuals should understand the importance of high-level cognitive skills and increase their use (MNE, 2017). The qualifications we need in the current period are constantly differentiating. Education undoubtedly has an important place in the acquisition of these qualifications. Education is one of the important elements for a society to reach the criteria required by the age. It can be said that the quality of education is directly related to teacher qualifications (Shaturaev, 2021; Surur et al., 2020; Yalçın & Korkmaz, 2013). It is said that the teacher, one of the basic building blocks of educational activities, is one of the factors that determine the quality of the education system (Al Kadri, & Widiawati, 2020; Barlı et al., 2005; Dirsa et al., 2022). The teacher's willingness to work, motivation and psychological well-being affect the quality of education desired to be given. Because the individual with whom educators are in contact during the education process is one of the cornerstones of society (Bardach et al., 2022; Cantaş & Kavas, 2015; Zakaria et al., 2021). For this reason, teachers must have certain equipment in order to fulfill the responsibilities required by the teaching profession and to contribute to the development of society. These qualifications are included in the handbook on teacher competencies published by the Ministry of National Education in 2017. According to this book, some of the characteristics that a qualified teacher should have are as follows (MNE, 2017).

- To comply with professional ethical principles
- Taking care of personal care and health
- Based on empathy and tolerance in human relations
- To be a role model for students with their attitudes and behaviors
- Creating a positive learning climate

For all this to happen, teachers need to be psychologically well.

Psychological well-being, which is a comprehensive subject within positive psychology, focuses on the individual and the mental health of the individual. Psychological well-being is defined as the desire to feel good, to live a quality life and to do more positive activities (Nicolucci et al., 2022; Telef et al., 2013; Zhao et al., 2022). Demirtaş defines psychological well-being as an individual's ability to have a positive sense of self, to establish positive relationships with other individuals in the environment, to make free choices about anything or anyone, to organize his/her environment in a way that can reach his/her individual needs and desires, and to have a meaning in life (Demirtaş, 2016). Psychological well-being can be defined as a state of living a meaningful and engaging life, characterized by positive experiences and relationships, rather than just a positive self-perception. In their research, Myers and Diener proposed adaptation, goals, cultural and values approach as the basic concepts of well-being (Myers & Diener, 1995). Values are psychological elements that motivate behaviors, may affect subjective well-being and can be associated with various important outcomes (Bojanowska, & Urbańska, 2021; Brown & Kasser, 2005; Ponizovskiy et al., 2019). Ethical values can be determined as the principles that have been accepted by all

individuals in inter-societal relations, the principles that should be accepted by all individuals and the behavior of individuals in accordance with these principles (Coşkun, 2016; Pietilä et al., 2020).

Education has an important place for societies to internalize values and use them throughout their lives. From this point of view, educators help the construction of the moral structure that the society finds appropriate by transferring values or taking part in the shaping of the existing value scheme, rather than simply imposing knowledge on the people they raise. For this reason, it is important that educators first create their own system of moral values and behave accordingly. The obligation to set an example for the individuals we raise in teaching makes these moral behaviors even more important and reveals the importance of the moral values underlying these behaviors (Bleazby, 2020; İşgüden & Çabuk, 2006; Kaur, 2019). There are many competency indicators such as the teacher protects the rights of all individuals, young and old, respects individual and cultural diversity, gives importance to all students as human and individual, and sets an example to individuals with his/her attitudes and actions (MEB, 2017). It is stated that the educational process will be a more qualified process with educators who have internalized teaching work ethics and values, and who have adopted work ethics, values and morals (Asif et al., 2020; Ateş, 2012). Therefore, future teacher candidates should internalize these ethical values.

Pre-service teachers' psychological well-being and inclination of ethical values are necessary for future generations to receive a better education. Every individual may not be psychologically well at every moment of daily life and this may affect many situations. To mitigate the unwanted consequences of daily life, replenish their depleting mental vitality in work and social contexts, and feel invigorated and healthy, individuals often spend their free time engaging in physical activity, sports, and artistic endeavors (Granero-Jiménez et al., 2022; Malm, 2019; Mahindru, 2023). Physical activities have an important place among these activities. Physical activity is considered as the whole of physical activities organized to benefit people's psychological, physical, cultural and social progress (Bondár et al., 2020; Macniven et al., 2019; Shahidi et al., 2020). Some of the positive psychological effects of physical activity include establishing social relationships, sense of sharing, social cohesion, social benefits, mental health, feeling good, mental well-being, etc (Carraça et al., 2021; Kasap et al., 2021; Rodriguez-Ayllon et al., 2019). In addition to the benefits of regular physical activity and sports for physical health, they also have positive effects on psychological and social health. It helps the person to feel self-confidence and enjoy life. It increases the ability to stay away from negative thoughts and cope with stress (Ashdown-Franks et al., 2019; Singh et al., 2023). Considering these benefits, regular physical activities increase the general health level of individuals and societies (Alemdağ et al., 2016; Li et al., 2021; Saqib et al., 2020).

The literature review reveals that there are various studies on pre-service teachers and psychological well-being (Corcoran & Flaherty, 2022; Elmas et al., 2021). In addition, there are also studies on pre-service teachers' inclination to ethical values (Temel et al., 2022; Sarigül & Kana, 2018). However, there is no study addressing the relationship between these two issues and physical activity participation. In this context, it is thought that this study will make an important contribution to the literature.

This research aims to uncover the connections between physical activity, mental health, and ethical value orientation of teaching students, taking into account the faculty variable, and

to investigate the potential interconnections between physical activity participation, ethical value inclination, and psychological well-being. Therefore, the hypotheses of the study are as follows.

Hypothesis 1 (H1): The psychological well-being levels of pre-service teachers with high levels of physical activity participation are higher than pre-service teachers with low levels of physical activity participation.

Hypothesis 2 (H2): The predisposition to ethical values of pre-service teachers with high level of physical activity participation is higher than pre-service teachers with low level of physical activity participation.

## **METHOD**

### **Research Model**

In the study, the relational survey model was used within the framework of the quantitative paradigm (Karasar, 2005). This model is widely used in social sciences and education to determine the direction and strength of the relationship between two or more variables. Within the scope of the current study, the cause and effect relationships between physical activity participation and psychological well-being and predisposition to ethical values were examined. A questionnaire was used as the data collection technique.

### **Participants**

The research focuses on a group of prospective teachers who are undertaking their education at Trabzon University's Faculty of Sport Sciences and Faculty of Education during the 2021-2022 academic year. The pre-service teachers were selected through simple random sampling (random), where the same chance was used to select the sample (Büyüköztürk et al., 2024). The population of the study consists of prospective teachers studying at Trabzon University Faculty of Sport Sciences and Faculty of Education (~ 6000 pre-service teachers). The sample comprises 606 pre-service teachers, representing around 10% of the total population.

### **Ethical Approval**

Ethical permissions were obtained by Trabzon University Research Ethics Committee with the decision dated 09.03.2021 and numbered E-81614018-000-234.

### **Data Collection Tools**

The data collection tools employed in this study consisted of the demographic questions, Exercise Stage of Change Questionnaire (ESCQ), Psychological Well-Being Scale, and Inclination to Ethical Values Scale.

*The Exercise Stage of Change Questionnaire (ESCQ):* The Exercise Stage of Change Questionnaire was developed by Marcus and Lewis in 2003 to measure the exercise behavior levels of the participants (Marcus & Lewis, 2003). It's adaptation into Turkish was conducted

by Cengiz et al. (Cengiz et al., 2010). The questionnaire consists of 4 questions and is answered as Yes-No. The questionnaire consists of 5 dimensions according to the answers given. The survey dimensions are pre-contemplation, contemplation, preparation, movement and maintenance. People in the pre-contemplation and contemplation phase are physically passive, people in the preparation phase are preparing for physical activity, and people in the movement and maintenance phase are physically active. The questionnaire demonstrated a high level of internal consistency, with a score of .80, based on test-retest results conducted at 2-week intervals, which supports its validity and reliability (Cengiz et al., 2010).

***The Psychological Well-being Scale (PWBS):*** The Psychological Well-being Scale, developed by Diener to evaluate individual psychological well-being (Diener, developed by Diener to evaluate individual psychological well-being (Diener et al., 2009). The Turkish version of the PWBS, adapted by Telef in 2013, was employed to collect data. The scale comprises eight statements, each rated on a seven-point continuum from "Entirely Disagree" to "Entirely Agree". The scoring system is designed such that higher ratings correspond to enhanced psychological resilience. The PWBS has demonstrated excellent internal consistency, with a coefficient of .87, ensuring the reliability of the results.

***The Inclination to Ethical Values Scale (IEVS):*** The Inclination to Ethical Values Scale, introduced by Kaya, is a comprehensive tool consisting of 16 items that gauge an individual's moral fibre (Kaya, 2015). The assessment utilizes a 5-point ordinal scale, with respondents indicating their level of concurrence ranging from "Strong Rejection" to "Unwavering Endorsement". The IEVS encompasses three core components: altruism, moral rectitude, and collaborative spirit. The total score on the scale spans from 16 to 80, with elevated scores signifying a more pronounced inclination towards virtuous conduct. The scale's internal consistency coefficient, reported as .90, attests to its robust reliability.

### **Data Collection**

Before the application of the research, some information about the research was given to the participants. In this process, help was received from the lecturers determined in the departments. It takes approximately one minute to fill in the data collection tool. The data collection process was conducted on a voluntary basis, with students participating at their own discretion. To ensure data quality, forms that were incomplete or incorrectly filled out were excluded from the study. The valid scales were then transferred to Excel and subjected to statistical analysis using SPSS, allowing for a thorough examination of the data.

### **Analysis of Data**

The data analysis involved a range of statistical techniques. Descriptive statistics, including standard deviation, mean, maximum, minimum, kurtosis, and skewness, were calculated to summarize the data. Skewness and Kurtosis tests were applied for the data that met the normality assumptions (ESCQ - skewness -2.15, kurtosis 8.46). According to Kline (2005), kurtosis and skewness values should not exceed 13.01 and 110.01 (Kline, 2005). Based on these values, it can be said that the data obtained from the ESCQ meet the assumption of normal distribution. Inferential statistics, such as one-way ANOVA and independent samples

t-test, were used to compare groups. Additionally, correlation tests were employed to examine the relationships between variables.

## FINDINGS

Various statistical findings between pre-service teachers' participation in physical activity, their predisposition to ethical values and psychological well-being scale scores and their faculties are discussed below.

### Demographic Characteristics of Pre-service Teachers

The descriptive statistics revealed that the majority of pre-service teachers participating in the study (74.1%, N = 449) were students of the Faculty of Education, while 25.9% (N = 157) were students of the Faculty of Sport Sciences.

### Analysis of the Inclination to Ethical Values Scale Scores (IEVS)

The pre-service teachers' scores on the Scale of Inclination to Ethical Values (IEVS) had a mean of 4.19 and a standard deviation of 0.49.

The IEVS scores of the pre-service teachers in the study were analyzed according to their faculty membership, with the results displayed in Table 1.

**Table 1.** T-test results for IEVS scores by faculty

	Faculty	N	$\bar{X}$	Ss	SD	t	p
IEVS	Sport Sciences	157	4.25	0.55	604	1.8	0.072
	Education Faculty	449	4.16	0.47			

There is no significant difference between pre-service teachers' predisposition to ethical values and faculty,  $t(604)=1.8$ ,  $p>.05$ . Sports sciences faculty students' predisposition to ethical values ( $\bar{X} = 4,25$ ) is higher than education faculty students ( $\bar{X} = 4,1$ ). However, this difference is not statistically significant.

The ANOVA analysis of the IEVS scores of the pre-service teachers, grouped by their ESCQ stages, is presented in Table 2.

**Table 2.** ANOVA Test results of IEVS scores according to ESCQ

ESCQ	N	$\bar{X}$	Ss	F	p	Difference (Tukey)
Passive	276	4.15	0.02	1.11	0.32	
Preparation	111	4.19	0.04			
Active	219	4.22	0.03			

The analysis revealed that the mean inclination to ethical values of pre-service teachers at the 'passive' exercise behavior change stage was 4.15, while those at the 'preparation' stage had a mean of 4.19, and those at the 'active' stage had a mean of 4.22. Although the averages of pre-service teachers in the passive, preparatory and active phases differed, this difference was not statistically significant,  $F(2,603) = 1.11, p > .32$ .

The outcomes of the Psychological Well-Being Scale (PWBS) score analysis are summarized as follows. The PWBS scores of the pre-service teachers in the study averaged 5.46, with a standard deviation of 0.76. In addition, the kurtosis and skewness coefficients of the scores of the students from the PBI scale were calculated, and the kurtosis was 3.38 and the skewness was -1.38. These values show that the data meet the assumption of normal distribution.

Table 3 presents the results of the PWBS scores obtained by the pre-service teachers in the study sample, differentiated by faculty affiliation.

**Table 3.** T-test results of PWB scores by faculty

	Faculty	N	$\bar{X}$	Ss	SD	t	p
PWB	Sport Science	157	5.58	0.72	604	2.4	0.015*
	Education Faculty	449	5.41	0.77			

\* $p < 0.05$ , PWB: Psychological Well Being

There is a significant difference between the psychological well-being of pre-service teachers and the faculty variable,  $t(604) = 2.4, p < .05$ . The psychological well-being of the students of the faculty of sport sciences ( $\bar{X} = 5.58$ ) is higher than that of the students of the faculty of education ( $\bar{X} = 5.41$ ). This difference is statistically significant.

The ANOVA results for the relationship between exercise stage of change questionnaire (ESCQ) scores and psychological well-being scale (PWBS) scores are displayed in Table 4.

**Table 4.** ANOVA results of PWB scores according to ESCQ

ESCQ	N	$\bar{X}$	Ss	F	p	Difference (Tukey)
Passive	276	5.37	0.04	3.32	0.03*	Passive - active
Preparation	111	5.47	0.06			
Active	219	5.55	0.05			

\* $p < 0.05$ , ESCQ: Exercise Stage of Change Questionnaire, PWB: Psychological Well Being

The analysis revealed significant differences in mean psychological well-being scores among pre-service teachers across different exercise stages of change. Specifically, the mean scores were 5.37 for the 'passive' stage, 5.47 for the 'preparation' stage, and 5.55 for the 'active' stage. These differences were found to be statistically significant,  $F(2, 603) = 3.32, p < .05$ .

The correlation analysis results, displayed in Table 5, investigate the associations between students' physical activity participation, psychological well-being, and inclination to ethical values.

**Table 5.** Correlation results between PWB and ESCQ according to inclination to ethical values

PA	Variable		PWB
Passive	IEVS	r	0.398**
		p	0.00
		n	276
Preparation	IEVS	r	0.380**
		p	0.00
		n	111
Active	IEVS	r	0.324**
		p	0.00
		n	219

\*\* p<.001, PA: Physical Activity, IEVS: Inclination to ethical Values Scale

As seen in Table 5, the correlation coefficient between psychological well-being and predisposition to ethical values and the passive, preparatory and active phase of exercise behavior was in the range of  $r = 0.324^{**}$  to  $r = 0.398^{**}$ . Controlling for the 'passive' exercise stage of change revealed a significant positive association between inclination to ethical values (IEV) and psychological well-being (PWB), with a correlation coefficient of 0.398 ( $p < .05$ ). When the scores for the 'preparation' phase were controlled, a significant positive association was found between IEV and PWB, with a correlation coefficient of 0.380 ( $p < .05$ ). A similar positive and significant relationship was observed when controlling for the 'active' phase scores, with a correlation coefficient of 0.324 ( $p < .05$ ).

An examination of Tables 2 and 4 reveals a trend of increasing scores for PWB and IEV as exercise behavior progresses from the passive phase to the preparation and active phases. These findings suggest that engaging in exercise is likely to have a positive impact on pre-service teachers' psychological well-being and sensitivity to ethical values.

## DISCUSSION AND CONCLUSION

The results of this study show that pre-service teachers in the Faculty of Sport Sciences were more physically active, whereas those in the Faculty of Education had lower levels of physical activity. Moreover, the study found a disparity in the inclination towards ethical values between the two faculties, with students in the Faculty of Sport Sciences exhibiting a higher inclination. Sport has gained a contemporary meaning and has an important place in directing the relations between countries and in the progress of friendship relations between countries. Thanks to sports, countries have become a means of organizing their commercial, cultural, economic and social relations, helping to solve international problems and enabling them to establish positive relations with each other (Johnson, 1984). Today's Olympic Games are the best example of this. It can be inferred that the higher inclination towards ethical values among pre-service teachers at the Faculty of Sport Sciences may be attributed to their awareness of ethical values in sports, which is deeply ingrained in their educational curriculum. This integration of sports and ethics in their education likely contributes to their higher inclination to ethical values compared to students from other faculties.



The findings indicate that pre-service teachers who were in the passive phase of exercise behavior had lower levels of ethical values compared to those in the more advanced stages of preparation and action. This implies that increased physical activity is associated with higher ethical values among pre-service teachers. With physical activity and participation in sports, people learn to find solutions to moral conflicts, sportsmanship, cooperation, fairness, fair play, and honesty (Kleiber & Roberts, 1981; Rudd, 2005). Therefore, it is possible to say that these topics, which include ethical values, can develop with participation in sports. This situation supports the results of the current research. A comparison of the psychological well-being of students from the Faculty of Sport Sciences and the Faculty of Education revealed that the former group exhibited higher levels of psychological well-being. However, it is worth noting that the literature on this topic is not conclusive, with similar studies yielding varying results. A study by Dikmen on the psychological well-being of university students reported no significant difference between faculty affiliation and psychological well-being, which diverges from the current study's results and highlights the need for further investigation into this topic (Dikmen, 2019). However, in this study, education faculty and science and literature faculty students were evaluated as faculties. The reason for the difference in the results may be the presence of students from the Faculty of Sports Sciences in the sample group of the current study. It is seen in the literature review that regular exercise and sports have a positive effect on depression, happiness and psychological well-being (Başar, 2018; Elmas et al., 2021; Yavuz & İlhan, 2023). It is possible to say that the reason why the psychological well-being averages of the students of the Faculty of Sports Sciences (people who are highly interested in sports) are higher than the averages of the students of the Faculty of Education is due to the positive effect of sports on human psychology through certain hormones. The psychological well-being of pre-service teachers in the active phase of the exercise behavior change stages is higher than the pre-service teachers in the preparatory and passive phases. When the literature is examined, it is possible to reach multiple studies that support this research. Başar (2018) concluded that regular physical activity positively affects psychological well-being (Başar, 2018). Demirer and Erol concluded that being physically active at a certain level increases psychological well-being (Demirer & Erol, 2020). Again, McAuley et al., stated that physical activities can increase psychological well-being (McAuley et al., 2000). Mahon et al., stated in their study that there is a positive correlation between doing regular sports and subjective well-being (Mahon et al., 2005). Therefore, considering the health, social and psychological benefits of physical activities and sports, it can be considered as an expected result that it positively affects psychological well-being in individuals.

As individuals progress from the passive to the active stage of exercise behavior, their inclination towards ethical values and psychological well-being tends to increase. This suggests that engaging in physical activity has a positive impact on both ethical values and psychological well-being. The most significant limitation of this research lies in the data being collected from a single specific university or region, which may restrict the generalizability of the findings to diverse cultural or demographic groups. Additionally, if participants' individual backgrounds, social environments, and other psychological factors are not adequately considered, they may exert a considerable influence on the results.

## RECOMMENDATIONS

- Given the positive impact of physical activity on ethical values and psychological well-being, it is recommended that pre-service teachers from the faculty of education be provided with opportunities to engage in physical activity. This could be achieved by incorporating more elective physical education and sports courses into their curriculum or encouraging their participation in sports activities outside of school.
- Future research could explore the effectiveness of specific physical activity interventions or programs on pre-service teachers' psychological well-being and inclination towards ethical values.
- The study's findings could be replicated in different contexts or with larger, more diverse samples to increase generalizability.
- Teacher education programs could consider incorporating physical activity components or promoting physical activity among pre-service teachers as a way to support their development and well-being.

**Acknowledgements:** The authors would like to thank all students who participated in the study.

**Conflict of Interest:** The statement that there is no personal or financial conflict of interest within the scope of the study.

**Researchers' Statement of Contribution Rate:** Research Design by SA and MET, Statistical analysis by SA; Manuscript preparation by SA and MET; Data Collection by MET.

## Ethical Approval

**Board Name:** Trabzon University Research Ethics Committee

**Date:** 09.03.2021

**Issue/Decision Number:** E-81614018-000-234

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