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Pamukkale J Sport Sci, 12(3), 1-20, 2021 Research Article

The Relationship Between Physical Activity and Quality of Life During the COVID-19 Pandemic: A Case of Female and Male Physical Education Teachers

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ABSTRACT

The aim of this study was to examine the relationship between the physical education teachers' leisure-time physical activity levels during the COVID-19 pandemic and the impact level of the COVID-19 pandemic on their quality of life. A total of 155 physical education teachers, with an average age of 42.39, participated in the research. To collect data, the Leisure-Time Physical Activity Questionnaire and the COVID-19 Impact on Quality of Life Scale were used in the study. The results obtained in the research showed that the mean score of COVID-19 impact on teachers' quality of life is 3.30 (minimum 1; maximum 5). This score on the scale showed that the COVID-19 pandemic negatively affected the quality of life of teachers, above the average. The research findings showed that there was statistically no significant difference between the leisure-time physical activity levels of male and female physical education teachers and the level of impact of COVID-19 on teachers' quality of life. It was also found that there was a negative significant relationship between teachers' leisure-time physical activity level during the COVID-19 pandemic and the impact level of COVID-19 on the teachers' quality of life and that as the teachers' leisure-time physical activity level increases, the negative impact of COVID-19 on their quality of life decreases. As a result, in this study, the associated role of physical activity in reducing the effects of factors that negatively affect the quality of life of individuals, including the COVID-19 pandemic, was revealed.

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INTRODUCTION

Spread the world from the city of Wuhan, China, which is the biggest and the most crowded country of continent Asia, and defined as a severe acute respiratory syndrome with symptoms like dry cough and temperature, Coronavirus was named as "COVID-19" by World Health Organization (WHO), considering the infection speed of the disease to the world, the COVID-19 was identified as a global pandemic (WHO, 2020). With this pandemic reaching a level that could affect the world in a short time, countries had to take measures that involved all areas of life to prevent the infection speed of the disease (Kalaycı et al., 2021). With these measures taken, people were aimed to interact with each other to the minimum, daily life activities and traveling were restricted, areas serving daily movement needs of people (gyms, fitness halls, stadiums, swimming pools, parks, etc.) were shut down, and additionally, lockdowns were applied all around the world (Theis et al., 2021). Social distance and movement restrictions aimed at the COVID-19 pandemic created a deeply damaging effect on the whole world by transforming the way individuals are physically active into a new form (Alfawaz et al., 2021), and that is why many individuals became unable to join regular individual or group physical activities outside their houses (Bas et al., 2020). Several studies conducted in this term put forward many proofs for the decrease in physical activity levels of individuals in process of lockdowns related to the COVID-19 pandemic (Caputo & Reichert, 2020; López-Valenciano et al., 2020; Puccinelli et al., 2021; Stockwell et al., 2021; Tison et al., 2020). In one of these studies, analyzing 48 studies presenting physical activity levels in the COVID-19 pandemic process, Caputo and Reichert (2020) reported that the measures taken related to keeping social distance led to the decrease of physical activity levels of individuals. In another study, 66 scientific studies stating the changes in physical activity levels before and during the COVID-19 pandemic were analyzed, and it was identified that the physical activity level of individuals from all ages and health groups decreased compared to before the pandemic (Stockwell et al., 2021). In a study in the U.S.A, it was presented that the measures put into action to decrease the infection number and protect the public health-related to the COVID-19 decreased the physical activity level of individuals who were physically active before by 32.3% (Meyer et al., 2020).

Defined as any kind of body movement by consuming energy using muscles and joints, physical activity, besides bringing many benefits like preventing non-infectious diseases such as cancer and diabetes, and like decreasing depression and anxiety symptoms, continues to be among the privileged topics to be popularized all around the world because of its positive

effect on healthy growth and development of children and young people (Ministry of National Health, 2014; WHO, 2021; Yıldırım et al., 2008). More specifically, the relationship between physical activity and quality of life, which is defined as the living standard that the individual perceives through his/her life expectancies and aims in the scope of the culture and values s/he is in, was presented with the previous studies, and it was seen in these studies that the quality of life level increases as physical activity level increases (Anokye et al., 2012; Gill et al., 2013; Pucci et al., 2012; Vagetti et al., 2014). In a study analyzing the studies between 1980-2010 about the physical activity and quality of life relationships in adult individuals, it was reported that there is a positive relationship between physical activity and quality of life and that there is an increase in quality of life with the increase of physical activity (Pucci et al., 2012). Studying 55 pieces of research in a systematic review study, Bize et al. (2007) also concluded that there is a positive relationship between physical activity in the general adult population and quality of life level. In a recent study reviewing the studies conducted between 2006-2018, Marquez et al. (2020) reached the finding that physical activity supports the quality of life positively, especially in individuals aged 18-65 and older. The findings obtained as a result of studying the relationship between physical activity level and quality of life in the COVID-19 pandemic process in a Tunisian sample put forward that physical activity is related to the endangered quality of life in restrictions during the COVID-19 pandemic, and that the quality of life levels of individuals increase as their physical activity levels increase (Slimani et al., 2020).

It was emphasized that the necessary physical activity quantity for the positive effects on human health to be seen is for children and young people at least 3 sessions/60 minutes/moderate level per week, 150-300 minutes/moderate level or 75-150 minutes/high-level activities for adults or activities of the same metabolic threshold level (Morphy & Goodwin, 2012; Ministry of National Health, 2014) but it was also reported that 80% of world teenager population is not sufficiently physically active. Already low before the COVID-19 pandemic, physical activity levels decreased more due to the pandemic and restrictions related to the pandemic. In this regard, it is crucial that, including the restrictions, physical activity applications are adapted in different environments (home, office, etc.), and those measures are taken to continue the physical activity which has many benefits on human life. Physical education teachers are classified as professionals who can provide guidance and monitoring of these applications to be done in every walk of life correctly and safely as they were educated to achieve physical activity and healthy life skills (Avalos-Ramos et al., 2020; Cheung, 2020; McKenzie & Lounsbery, 2013; Polet et al., 2019). Physical education teachers need to have knowledge and skill related to the physical activity, healthy and qualified life skills, and to

make this knowledge and skill a lifestyle for the guidance and monitoring duty mentioned above to be done efficiently (Bradford et al., 2014). However, physical education teachers also got affected by changing lifestyles during the COVID-19 pandemic, individuals being indoors in an isolated way, and increased motionless time. Most of the studies done on physical education were directed to physical education lesson applications, and studies related to at what level the physical activity and quality of life levels of physical education teachers were affected were limited (Cruickshank et al., 2021; Lu et al., 2020; Mercier et al., 2021; Varea et al., 2020). In a study in Turkey, physical activity levels of physical education and sports teachers in the COVID-19 pandemic were examined, and it was reported that the physical activity level of physical education teachers decreased during the COVID-19 compared to before the pandemic (Erdogan et al., 2021). In another study in Mexico, physical activity levels of physical education teachers were compared before and during the COVID-19 pandemic (Hall-López, 2020). As a result of the study, it was seen that because teachers did not design different physical activity applications during the COVID-19 pandemic, their physical activity levels decreased by 69.8%.

Studies on the relationship between physical activity and health-related quality of life reveal a positive finding when participation in physical activity, even at a minimal level, is compared to non-participation, and it has been emphasized that there may be gender differences regarding this issue (Qi et al., 2020; Slimani et al., 2020). In one of these studies, Morimoto et al. (2006) revealed the positive effect of physical activity on the quality of life of both women and men and stated that this effect was more extensive in women than in men. Contrary to these findings, Gouveia et al. (2019) in a study examining the quality of life and related variables, reported that men's quality of life was higher compared to women and that the positive relationship between quality of life and physical activity was observed only in men. The relationship between physical activity and quality of life has also been affected by COVID-19 restrictions, as in all areas of life (Antoun et al., 2021; Khan et al., 2021). Examining the relationship between physical activity and quality of life of male and female adults during the COVID-19 restrictions, Slimani et al. (2020) revealed that there is a positive relationship between physical activity and quality of life levels of both women and men and that as the level of physical activity increases, the level of quality of life also increases. In another study, the healthy living behaviors and quality of life of adult individuals during the COVID-19 restrictions were examined from a relational perspective, and as a result of the research, it was revealed that participation in physical activity is associated with the quality of life of both men and women and that the quality of life of individuals increases as the level of physical activity

increases (Wang et al., 2020). These research findings show that the gender difference of the relationship between physical activity and quality of life during the COVID-19 pandemic has not been clarified and more research on the subject is needed.

In the light of the studies handled so far, it draws the attention that there are hardly any studies related to the physical activity and the quality of life of physical education teachers. In this regard, by thinking that it would contribute to the literature, this study aims to find out whether or not there is a relationship between physical activity during the COVID-19 and the COVID-19 itself on the quality of life of female and male physical education teachers.

METHODS

Study Groups

A total of 155 physical education teachers, 71 women, and 84 men, working in Mersin in the 2021-2022 academic year made up the population of this population. While the average age of women teachers is 41.92 (SD± 4.96), the average age of male teachers is 42.78 (SD± 5.85).

Data Collection Tools

Personal Information Form, Godin-Shephard Leisure-Time Physical Activity Questionnaire (GSLTPAQ), and Effect of COVID-19 on Quality of Life Scale (COV19-QoL$_{TR}$) were used in this study were data collection tools.

Personal Information Form

Prepared by researchers to identify the demographic characteristics of participant physical education teachers, there are questions related to gender (male, female) and age of participants in the Personal Information Form.

Godin-Shephard Leisure-Time Physical Activity Questionnaire (GSLTPAQ)

Developed by Godin and Shephard (1997) to put forward the physical activity levels of physical education teachers and adapted to Turkish culture by Yerlisu-Lapa and Yağar (2015), the first name of the questionnaire was Leisure-Time Exercise Questionnaire, and it was then published as Leisure-Time Physical Activity Questionnaire. While the questionnaire is a single factor, it is made up of a total of 3 questions, and the answers given to determine the leisure-time physical activity level as strenuous, moderate, and light. For calculating the total score, strenuous activities are multiplied by 9, moderate by 5, and light by 3, and the scores are added. GSLTPAQ is formalized as follows:

GSLTPAQ score = (9 x Strenuous) + (5 x Moderate) + (3 x Light)

The total score obtained shows the individual's activity level within their leisure time. Evaluation ranges are as "active" for 24 points and higher, "moderately active" for 14-23 points, "insufficiently active/sedentary" for 13 points and lower.

The COVID-19 Impact on Quality-of-life Scale (COV19-QoL$_{TR}$)

In order to determine the effect of COVID-19 on the quality of life of physical education teachers, COV19-QoL$_{TR}$, was developed by Repisti et al. (2020) and adapted to Turkish by Sümen and Adıbelli (2021), was used in the study. COV19-QoL$_{TR}$ is a 5 point Likert scale and scaled as "totally agree = 5, agree = 4, neutral = 3, disagree = 2, totally disagree = 1". The scale is single-dimensional and consists of 6 items. Items on the scale evaluate the feelings and ideas of the individuals within the last 7 days. The scale's total score is calculated by adding all points and dividing by the number of items on the scale. A higher score obtained from the scale shows that the COVID-19 pandemic has a significant effect on the quality of life of individuals. The reliability coefficient of the scale was calculated as .91. The calculated reliability coefficient in this study is .85.

Data Collection

Necessary official permissions were taken from the Ministry of National Education before the data collection process began. To eliminate infection due to COVID-19, Personal Information Form, GSLTPAQ, and COV19-QoL$_{TR}$ were transferred to digital media through an application to prepare digital data collection tools. Data collection tools were sent to various digital communication applications (email, message, etc.) of the physical education teachers by informing them about the study and taking their approvals to participate in the study. The participants were reminded twice to increase returns in the data collection process.

Data Analysis

At the first step of data analysis, it was analyzed whether data showed a normal distribution, and it was found that it did not. Mann-Whitney U test was used to determine whether there is a statistically significant difference between GSLTPAQ and COV19-QoL$_{TR}$ scores of participant female and male physical education teachers, and Spearman's Correlation Coefficient was used to determine whether there is a statistically significant relationship between GSLTPAQ and COV19-QoL$_{TR}$.

RESULTS

The results of the Mann-Whitney U Test applied to determine whether there is a statistically significant relationship between the GSLTPAQ scores of participant male and

female teachers showed that there is no statistically significant difference between the GSLTPAQ scores of female ($\bar{x}$ = 39.75, *SS* = 23.98) and male ($\bar{x}$ = 41.64, *SS* = 22.51) teachers U = 2722.00, p = .35 (Table 1). Additionally, the results of the Mann-Whitney U Test applied to determine whether there is a statistically significant difference between COV19-QoL$_{TR}$ scores of male and female physical education teachers also showed that there is no statistical difference between COV19-QoL$_{TR}$ scores of male and female teachers (Table 1).

Table 1. *Descriptive Statistics of GSLTPAQ and COV19-QoL$_{TR}$ Scores by Gender*

Gender	*n*	$\bar{x}$	*SD*	*Med.*	*U*	*p*
GSLTPAQ score						
Female	71	39.75	23.98	33.00	2722.00	.35
Male	84	41.64	22.51	37.00		
Total	155	40.77	23.14	34.00		
COV19-QoL$_{TR}$ score						
Female	71	3.37	.97	3.50	2713.50	.33
Male	84	3.23	.91	3.33		
Total	155	3.29	.94	3.33		

According to these findings, GSLTPAQ scores of female and male physical education teachers are similar and "active". In the research, it was revealed that 42.73% of 110 teachers in the "active" category were female, 52.27% were male, and of 45 teachers in the "moderately active "category, 53.33% were female and 46.67% male. It was observed that there was no physical education teacher in the "inactive" category among the participants. According to these findings, COV19-QoL$_{TR}$ scores of female and male physical education teachers are negative above average.

As GSLTPAQ and COV19-QoL$_{TR}$ scores of female and male teachers show similarity, Spearman's Correlation Coefficient analysis was applied to determine whether there is a statistically significant relationship between total scores obtained from GSLTPAQ and COV19-QoL$_{TR}$. The results obtained showed that there is a negatively significant but weak correlation between leisure-time physical activity of physical education teachers in the COVID-19 process and the level of effect of COVID-19 on the quality of their life (rs = -.22, p<.01), and that the negative effect of COVID-19 on their quality of life decreases as leisure-time physical activity levels of teachers' increase.

DISCUSSION

This research aims to study the relationship of leisure-time physical activity levels of physical education teachers in the COVID-19 process and the effect level of the COVID-19 on their quality of life, and it was found in pre-analysis that the physical activity levels of female and male physical education teachers and the effect level of the COVID-19 on the quality of life of teachers are similar. Results put forward that the physical activity level of female and male physical education teachers ranked in the "active" category, and that the COVID-19 affected the quality of life of teachers in a negative level above average. Besides, it was found that there is a significant but rather weak relationship between the physical activity levels of teachers and the level of effectiveness of the COVID-19 on quality of life and that the negative effect level of the COVID-19 on quality of life decreased as leisure-time physical activity levels of teachers increased.

In this study, although the leisure-time physical activity levels of male and female physical education teachers were similar and in the active category during the COVID-19 process, in many studies conducted in different countries, contrary to these research findings, there was a decrease in the level of physical activity mostly due to COVID-19 restrictions (Amini et al., 2021; Atakan et al., 2021; Dunton et al., 2020; Ghozy et al. 2021; Puccinelli et al., 2021; Rahman et al., 2020). Physical activity levels of adults in Spain aged 18-64 in the COVID-19 process were studied, and it was reported that the physical activity level of especially young people, students, and those in highly active groups before the COVID-19 pandemic decreased (Castañeda-Babarro et al., 2020). Similarly, in Spain sampling, in a study examining the changes of adult individuals in participation in physical activity in early periods COVID-19 pandemic restrictions started, López-Bueno et al. (2020) stated a 20% decrease in physical activity level in the first week of the restrictions. In the same study, it was identified that 60.6% of the participants were at a level to meet the physical activity suggestions of WHO before the COVID-19 restrictions, but the level of participants meeting these suggestions decreased to 48.9% in the restrictions process. In another study made in Spain sampling, it was stated that physical activity levels of individuals decreased significantly because of restrictions due to the COVID-19 pandemic again and that the rate of individuals doing physical activity for more than an hour decreased from 26.6% to 14.7% (Sánchez-Sánchez et al., 2020). Examining the effect of the COVID-19 pandemic and restrictions related to the pandemic on physical activity level through an application calculating daily step numbers worldwide, Tison et al. (2020) identified that although there are differences between the countries, the number of steps

decreased 5.5% within the first 10 days after the announcement of the pandemic, and 27.3% within the first 30 days. Furthermore, in the study, it was identified that also in countries with low pandemic levels and so with more flexible about the restrictions, there is a decrease in the physical activity level defined with several steps. Again, by the data obtained from participants of different countries, Ammar et al. (2020) detected that due to the restrictions related to the COVID-19 pandemic, there was a decrease in the physical activity level of individuals at every level (advanced, medium, walking, etc.). Besides, it was identified in the same study that the daily sitting time of participants increased to 8 hours from 5 hours. It is thought that the main reasons for the decrease in participation in physical activities during the COVID-19 process that was put forward in studies in the literature are the unmatched global COVID-19 pandemic, restriction of daily activities of people with regard to country policies in order to prevent the infection of this disease and to provide people to keep in safety, and to make people spend most of (sometimes all of) their times at home, and keeping the participation to various social and movement activities (walking, running, cycling, dog walking, activities in sports fields, etc.) to a minimum level to keep the social distance (Giuntella et al., 2021; Haleem et al., 2020; Jadoo, 2020; McCarthy et al., 2021). It was seen that there are studies in literature examining the effect of the COVID-19 restrictions on physical activity levels of individuals from all walks of life, but that there is a limited number of studies focusing this point on physical education and sports field. In one of these limited studies that did not come across findings parallel to these research findings, Hall-López (2020) compared the physical activity level of physical education teachers before and during the COVID-19 pandemic in Mexico sampling and reported that the participation of physical education teachers in physical activities is 25.2% in a low level, 37.8% in medium and 37% in high level, but that in the restrictions process related to the COVID-19, the level of teachers doing physical activity in a low level increased by 49.8%, but that those in a low level decreased by 25.5%, and high level by 24.7%. In another study reviewing the studies for the effect of the COVID-19 pandemic on physical activity levels of university students, López-Valenciano et al. (2020) stated a decrease in physical activity levels of students with different levels (low, medium, and high level) depending on COVID-19 pandemic restrictions, but that students who do physical activities on a level suitable to the physical activity suggestions of WHO continued their physical activities in the same level during restrictions. Examining the effect of the quarantine process related to the COVID-19 pandemic on the physical activity level of individuals, Raiola et al. (2020) described that the physical activity level of athletes doing active sports was not affected by restrictions of the COVID-19 and that athletes got adapted to this process in a short

time, that they continued physical activity in a home environment, but that they hope to turn back to before the COVID-19 pandemic process. These findings in the literature are in quality to support the results obtained towards physical education teachers who are in an expert and model position to all walks of life about physical activity, physical fitness, and healthy life (Cheung, 2020; Hall-López, 2020). It is thought that female and male physical education teachers' ranking in the "active" category in the COVID-19 pandemic process depends on their having knowledge and skills about the mentioned points and that they continue the physical activity by adapting this knowledge and skill according to the limited environment. When the findings of gender difference in participation in physical activity during the COVID-19 pandemic restrictions, which are also included in these research findings, are examined in comparison with the literature, it is striking that there are parallel and non-parallel research findings. In one of these studies, Orlandi et al. (2021) examined physical activity habits comparatively by gender during the COVID-19 restrictions. As a result of the research, it was stated that 56% of the participants in the study meet the WHO physical activity recommendations before the COVID-19 pandemic, but this rate was lower in women. In addition, it was stated that 52.1% of the female and male participants in the same study were sufficiently active during the COVID-19 restrictions, but this rate decreased in men. In another study, Castañeda-Babarro et al. (2020) stated that male and female participants participating in the research decreased in the duration of walking activity during the COVID-19 process, and the participation levels of male participants in vigorous physical activity decreased more than female participants. It has also been reported in the same study that sedentary time increased more in men than women, and accordingly, men reduced moderate physical activities by 8.8%, but women increased these activities by 11%. However, from these studies in the literature, which reveal contradictory findings, it is not clear how individuals from the field of physical education and sports are affected in terms of participation in physical activity during the COVID-19 process.

Turning into a global health crisis, the COVID-19 pandemic and restrictions taken as measures related to the pandemic affected the quality of life of individuals, together with physical activities stated in this study negatively in all the world (Bulguroğlu et al., 2021; Cihan & Şahbaz Pirinççi, 2020; Epifanio et al., 2021; Guillasper et al., 2021; Ravens-Sieberer et al., 2021; Kasar & Karaman, 2021). In a study with a large scope putting forward this negative effect, Al Dhaheri et al. (2021) studied the quality of life of individuals in the Middle East and Northern Africa in the process of restrictions in the COVID-19 and stated that the quality of life was influenced negatively in this process. Studying the quality of life of individuals in the

quarantine process of the COVID-19 process in Portuguese sampling, Ferreira et al. (2021) reported that the quarantine process has a negative effect especially on the quality of life of women and old individuals. Examining the quality of life of individuals in Moroccan sampling following the 2nd month of quarantine application of the COVID-19 pandemic, Samlani et al. (2020) found out that the quality of life of individuals is affected seriously negatively. In a study done in the Philippines with the participation of teachers, Rabacal et al. (2020) studied the effect of the COVID-19 on the quality of life and detected that it has a negative effect above average. Studying the quality of life of healthy adult individuals in Israel in an isolation process of the COVID-19 pandemic, Lipskaya-Velikovsky (2021) emphasized that the level of quality of life of all individuals, especially of women, young adults, and unemployed individuals, was affected negatively from this process and showed a decrease. The effect of the COVID-19 on the quality of life of individuals was examined in Africa, North America, Asia, Australia, Europe, and South Africa, and the negative effect of the COVID-19 on the quality of life of individuals was found as high in this study with a comprehensive scope, regardless of the area lived (Khodami et al., 2021). Similar to the findings of this study, studies both in Turkey and in other parts of the world put forward that the quality of life of individuals got affected negatively in the restrictions process of the COVID-19 pandemic. It is thought that the main reason for the COVID-19 pandemic in social, economic, and political areas all over the world (Ferreira et al., 2021; Melo-Oliveira et al., 2021; Mertens et al., 2020; Vitorino et al., 2021). In this study, although the level of quality of life of individuals in the COVID-19 process did not differ significantly according to gender, studies in the literature support and do not support this finding. In one of these studies, Ferreira et al. (2021) examined the quality of life of individuals during the COVID-19 process in terms of gender. They stated that the quality of life of women participating in the study during the COVID-19 quarantine was lower than men. In another study, Epifanio et al. (2021) examined the quality of life of individuals in the restrictions due to the COVID-19 pandemic. They revealed that female participants had a lower rate of life than men. These findings show that the difference in the quality of life due to COVID-19 restrictions by gender is not clear and prospective studies are needed.

Just like in this study, a negative relationship between the effect of the COVID-19 on physical activity and especially on the quality of life, in other words, that the level of quality of life increases as physical activity level increases, was put forward in different studies in the literature (Ciddi & Yazgan, 2020; Tunç et al., 2020; Tural, 2020). In one of these studies, Ozdemir et al. (2020) examined the level of quality of life in the COVID-19 pandemic process and the effect of physical activity on the quality of life in Turkish sampling. They put forward

as a result of the study that only 6.9% of participants are physically active, and that the level of quality of life increases as participation to the physical activity level in the COVID-19 pandemic process increases. Studying the difference between the level of quality of life of individuals exercising and not exercising in the COVID-19 pandemic process, Berk et al. (2021) put forward that the number of people not exercising before the pandemic increased to 513 from 133, that the number of people exercising 1-2 days weekly increased to 233 from 183, that the number of people exercising 3-4 days weekly decreased to 108 from 341, and that the number of those exercising 5-6 days weekly decreased to 53 from 250, and found that the level of quality of life of exercising participants higher compared to those not exercising. In another study examining physical activity level and quality of life in the COVID-19 pandemic process, Alzahrani et al. (2021) put forward that the level of quality of life of adult individuals feeling the medium and high-level negative effect of COVID-19 is at a lower level compared to the individuals feeling the negative effect of the COVID-19 in a low level. Additionally, in this study, no matter what the level (low, medium, high) is, the level of quality of life of individuals showing participation in physical activity is found higher compared to non-participants. Studying the physical activity and the level of quality of life of adult individuals in China in the restriction process of the COVID-19 pandemic, Wang et al. (2020) stated that the physical activity level of 52% of participants decreased in this process, that the sitting time of 67% and the lying/sleeping time of 61% increased, and reported that there is a significant relationship between physical activity level and quality of life, and that quality of life increases as physical activity level increases. Studies on the relationship between physical activity and the quality of life of women and men during the COVID-19 restrictions have also reached various results. For example, examining the relationship between physical activity and quality of life during the COVID-19 related restrictions, Slimani et al. (2020) showed that there is a positive correlation between physical activity and quality of life in both women and men, and that quality of life improves with increased physical activity. Another study investigated the healthy lifestyle and quality of life of adults under COVID-19 restrictions from a relationship perspective, and as a result of the study, participation in physical activity was associated with quality of life for both men and women and the quality of life of an individual increase with increasing physical activity (Wang et al., 2020). These findings derived from the literature also indicate that gender differences in the relationship between physical activity and quality of life in the COVID-19 restrictions are not clear, and further research is needed on this topic.

Several limitations need to be taken into account when interpreting the findings of this study. First, the analysis of the study was limited to the variables evaluated using the two data

collection instruments (GSLTPAQ, COV19-QoL$_{TR}$). In addition, the sample was relatively small and taken from a limited geographical area (Mersin) and it is unclear how the study findings will be applied to other regions.

CONCLUSION

As a result, female and male physical education teachers' physical activity levels are in the "active" category in the COVID-19 process, and the COVID-19 has a negative effect above average on the quality of life of female and male physical education teachers. Additionally, the negative impact of the COVID-19 on the quality of life decreases as the physical activity level of physical education teachers increases. Based on these results, future studies are suggested to be designed in a way to include teachers of other fields and allow interdisciplinary comparisons. Further studies are advised to be done to include different other variables that would possibly affect physical activity and the quality of life. It is advised that just as in physical education teachers, projects towards developing and popularizing various digital applications that would enable the society to do physical activity in a home environment by increasing the quality of life of individuals and information and hardware for physical activity that can be applied in different environments of society (house, gym, nature, stadium, swimming pool, etc.) are developed and actualized. In addition, an in-depth and comprehensive examination of the factors influencing physical education and sports teachers' physical activity levels during the COVID-19 restrictions in the "active" category with qualitative research methods is recommended for future research.

Authors' contributions

The first and the corresponding author designed the research. The first author collected the data and the corresponding author analyzed the data and interpreted the results. Both authors contributed equally to the introduction and discussion sections. The authors read and approved the final manuscript.

Declaration of conflict interest

The authors of this manuscript declare that there is no conflict of interest with any financial or non-financial organization regarding the subject matter or materials discussed in the manuscript.

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Pamukkale J Sport Sci, 12(3), 21-40, 2021 Research Article

Health-Related Physical Activity Report Card Applications: An Initial Examination of Physical Education Teachers' Views

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ABSTRACT

The purpose of this study was to reveal whether physical education teachers' views on health-related Physical Activity Report Card Applications differ according to gender and teaching experience variables. The participants were 33 female and 58 male teachers. The mean age of teachers was 36.96 (SD± 5.75), and the mean teaching experience was 10.74 (SD± 5.64). The Physical Activity Report Card Applications Assessment Scale [PARCAAS] was used to gather data. The results of the study revealed that the scores obtained from the sub-dimensions of "Enforcement", "Competence" and "Support" differed significantly between gender of teachers. It was also revealed that the scores obtained by female and male teachers in the sub-dimensions of "Applicability", "Impact" and "Difficulties" were similar. No significant differences were found in teaching experience on the scores obtained from the sub-dimensions of PARCAAS. Also, significant differences in "Enforcement", "Competence" and "Support" subdimensions were found; but no difference was found in "Applicability", "Impact", and "Difficulties" subdimensions between female and male physical education teachers. Both male and female physical education teachers had similar views on the "Applicability", "Impact," and "Difficulties" sub-dimensions of the PARCAAS, and it was concluded that they had difficulties during the report card application. Still, they thought that PARCAAS was applicable and practical. It was supposed that physical education teachers with teaching experience of 10 years or less and 11 years and above had difficulties applying for the report card, considered themselves moderately competent, received sufficient support, and thought that report card applications were applicable and practical.

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INTRODUCTION

Lifestyles due to modernization, technological developments, and the fact that many jobs in daily life become easier make people less active day by day (Bulut, 2010). It has been reported that a significant part of the population in Turkey do not participate in regular physical activity (Ministry of National Health [MoNH], 2019a), and similarly, the physical activity levels of children and adolescents are low both in Turkey and in many countries (Doolan, 2012; Grasten et al., 2014; Kann et al., 2016). Studies have shown that low physical activity level is one of the most important risk factors for obesity (Altunkaynak & Özbek, 2006; Biddle et al., 2004; Erdoğan et al., 2011; World Health Organization [WHO], 2018). The WHO (2021) reported that 1.9 billion people worldwide are overweight, and 650 million are obese. Studies have also revealed that overweight and obesity were seen in individuals in childhood and adolescence causes cardiovascular diseases, diabetes, musculoskeletal system disorders, psychosocial problems, school failure, and low self-esteem (Han et al., 2010; WHO, 2010).

It has been noted that the increasing prevalence of obesity among children and adolescents is becoming a concern for the future adult population (Edginton et al., 2010; Coşkun-Özyol & Asma, 2020; Tremblay et al., 2014; WHO, 2021) and is also costing the health system a lot (Cechinni et al., 2010; Turkish Society of Endocrinology and Metabolism, 2018). Considering this threat, the acquisition of healthy living habits by societies has been one of the most important education and health policy priorities of many countries in recent years (Hacettepe University Faculty of Medicine, 2017; İnce & Hünük, 2013; Ministry of National Education [MoNE], 2007; Tremblay et al., 2014). According to the statistics released by the Ministry of National Health (MoNH), it has been determined that 30% of children between the ages of 10-14 and approximately 21% of adolescents between the ages of 15-18 in Turkey are overweight and obese (MoNH, 2019b). It has also been reported by the MoNH (2014) that 55% of children aged 12-14 and 58% of adolescents aged 15-18 in Turkey do not engage in physical activity. It is emphasized that schools are ideal places to increase physical activity among children and youth. That school physical education is a lesson that significantly impacts increasing physical activity (Lonsdale et al., 2013).

The issue of health-related physical fitness has started to be discussed more within the scope of physical education lessons in many countries. An important place has been allocated to health-related physical fitness knowledge and practices under the "Active Participation and Healthy Life" learning area in Turkey's physical education curriculum updated in 2007 (İnce & Hünük, 2013; MoNE, 2007). In this context, the Health-Related Physical Fitness Report Card

Application was implemented for the first time in Turkey in the 2016-2017 academic year in cooperation with the MoNH and the MoNE to promote physical activity and to increase awareness of healthy nutrition and physical activity in students (MoNH/MoNE, 2017). Within the scope of this application, which was started to increase the knowledge level of the society within the scope of the fight against obesity, to ensure adequate and balanced nutrition and to gain regular physical activity habits, physical education teachers' were requested to measure the students' sit-ups, push-ups, sit and reach flexibility, body weight, and height twice a year (at the beginning and end of the academic year) (MoNE, 2018). Again, in this context, physical education and sports teachers are expected to increase student knowledge and competencies about health-related physical fitness parameters and prepare a learning environment suitable for students' needs (İnce & Hünük, 2013). Studies show that it is not easy for physical education teachers to transition to a program that prioritizes health-related physical fitness goals (Castelli & Williams, 2007; Haerens et al., 2011; İnce & Hünük, 2013; Yılmaz, 2019).

In studies conducted on Physical Activity Report Card Applications; it has been revealed that physical education teachers have time, space, and material problems when making these physical fitness measurements. Teachers have difficulties in making measurements following the standards. It was stated that some of the teachers and school administrators believed that this practice would not benefit the students and the society in achieving the goals set for health-related physical fitness (Salman & Sarı, 2020; Salman et al., 2018). In their study, Haerens et al. (2011) found that although many health-related programs were implemented in physical education and sports classes, physical education teachers were unsuccessful in implementing these programs, and they thought that they could not get enough support to increase their knowledge and skills. In studies examining the knowledge levels of physical education teachers and teacher candidates on health-related physical fitness, it was stated that health-related physical fitness knowledge level was insufficient (İnce & Hünük, 2013; Santiago et al., 2016; Yılmaz, 2019). However, studies have also reported that students' health-related physical activity knowledge is insufficient or inaccurate and that children's levels of physical activity are alarmingly low in many countries around the world (Aubert et al., 2018; Grasten et al., 2014; Keating et al., 2009; Placek et al., 2001; Sukys et al., 2019; Tremblay et al., 2014; Wilkie et al., 2016). Yılmaz and Hünük (2018) observed in their study that students with a high level of health-related physical fitness knowledge did not acquire this knowledge from physical education teachers. The review of the available literature suggests that due to the inadequacy of physical education teachers' knowledge and skills on health-related physical fitness, they do not reflect these practices effectively in their

physical education lessons. The fact that the Hünük et al. (2013) found that as physical education teachers' health-related physical fitness knowledge increased, so did their students' health-related physical fitness knowledge, shows that teachers play a key role in the results to be obtained in the applications of physical activity report cards. It has been determined that there are hardly any studies on this subject in the literature, especially in Turkey. For physical education teachers to create a learning environment in which health-related physical activity is encouraged in their classes, it is important to first identify the problems encountered in the learning environment. Therefore, this study aimed to determine whether physical education teachers' assessment of physical activity report card applications differs according to gender (female, male) and teaching experience (10 years or less, 11 years or more).

METHODS

Study Groups

Data were collected from physical education teachers working in the public lower secondary and upper secondary in 2019. A total of 91 physical education teachers, 33 females and 58 males, working in Adana and recruited by the convenience sampling method, participated in this study. Due to the difficulty of obtaining a random sample of participants, convenience sampling was used, and no prior sample size calculation was made (Fraenkel, Wallen, & Hyun, 2012). The average age of the physical education teachers participating in the research was 36.96±5.75, and the average years of teaching experience were 10.74±5.64. Table 1 shows the means and standard deviations of age and years of teaching experience by gender.

Data Collection Tools

In the current study, the Physical Activity Report Card Applications Assessment Scale [PARCAAS] developed by Özgül et al. (2018) was used to reveal the views of physical education teachers on the practices of health-related physical activity reports cards. The scale consists of 38 items and 6 sub-scales assessing "Applicability", "Impact", "Difficulties", "Enforcement", "Competence", and "Support". Items 12, 18, and 27 on the scale are reverse scored. Each item was measured using a 5-point Likert-type scale ranging from 1 point for "Strongly disagree" to 5 "Strongly agree". The statements in the "Applicability" sub-dimension were prepared to reveal the the level of teachers' ability to apply the physical activity report cards (Sample item: I was able to apply physical activity report card measurements during class hours); in the "Impact" sub-dimension were prepared to reveal the impact level of their application (Sample item: I believe that physical activity report cards will be effective in

combating obesity.); in the "Difficulties" sub-dimension were prepared to reveal the level of difficulty they experienced while performing the applications (Sample item: The time given was limited for the physical activity report card measurements and the transfer of the data to the system.); in the "Enforcement" sub-dimension were prepared to reveal the level of challenges they experienced during the practices (Sample item: In some physical activity report applications, students are reluctant. This reluctance makes the practice of physical education teachers difficult.); in the "Competence" sub-dimension were prepared to reveal the level of their ability to perform the activities (Sample item: Before applying the physical activity report card, I gave information to the students about the purpose and benefits of the measurements.); and the statements in the "Support" sub-dimension were prepared to reveal the level of support they received while doing the activities (Sample item: The school administration assisted in the providing the measuring instruments.). Scores for the sub-dimensions are between 12 and 60 for "Applicability", 9 and 45 for "Impact", 6 and 30 for "Difficulties", 3 and 15 for "Enforcement", 4 and 20 for "Competence", 4 and 20 for "Support". The high scores of physical education teachers in the sub-dimensions of "Applicability", "Impact", "Competence" and "Support" indicate that the physical activity report card applications are applicable and effective, that physical education teachers are competent in these practices, and that they are supported by the administrators and other teachers for the practices. The high scores obtained from the "Difficulties" and "Enforcement" sub-dimensions are evaluated as physical education teachers having difficulties and challenges in applying the physical activity report card applications. The Cronbach's alpha reliability coefficient obtained during the development of the scale was found to be .83, and the reliability coefficient obtained within the scope of this study was found to be .83, which was considered satisfactory for the study.

Data Collection

Teachers who participated in the study were conducted outside of their working hours and during their free time (outside working hours, recess, lunchtime), informed about the study. The data collection instruments were used following their consent to participate. Only physical education teachers who volunteered to participate were included in the study, and informed consent was obtained from each participant before the study began. It took approximately 10 minutes to complete the data collection instrument. According to the Declaration of Helsinki (World Medical Association, 2001).

Table 1. Means and standard deviations of female and male teachers' age and years of teaching experience

	Female (n = 33)		Male (n = 58)	
	n		**n**	
10 years or fewer years of teaching experience	21		28	
11 years and more years of teaching experience	12		30	
	$\bar{x}$	**SD**	$\bar{x}$	**SD**
Age	35.45	5.25	37.82	5.89
Years of Teaching Experience	9.46	4.32	11.47	6.19

Data Analysis

The statistical package IBM SPSS, version 20, was used to perform a quantitative analysis of the collected data. Descriptive analysis and a non-parametric test were used to analyze data, as the score was not normally distributed. The *Mann-Whitney U* test was used to determine whether the scores obtained by female and male physical education teachers from sub-dimensions of the scale differ and whether the scores obtained from the scale's sub-dimensions differ according to years of teaching experiences of physical education teachers.

RESULTS

The *Mann-Whitney U* test was applied to examine whether there is a statistically significant difference between the scores of male and female physical education teachers participating in the study on the subdimensions of the PARCAAS. The results of the analysis revealed that there is a statistically significant difference between the scores obtained from the sub-dimensions of "Enforcement" (U = 645.50, p = .01), "Competence" (U = 635.50, p = .01) and "Support" (U = 630.00, p = .01). These findings revealed that female physical education teachers' scores on the sub-dimensions of "Enforcement" ($Mdn._{female}$ = 8.00, $Mdn._{male}$ = 10.00), "Competence" ($Mdn._{female}$ = 12.00, $Mdn._{male}$ = 13.00), and "Support" ($Mdn._{female}$ = 13.00, $Mdn._{male}$ = 15.00) were lower than male physical education teachers. However, the results of the analysis revealed statistically no significant difference between the "Applicability" (U = 758.50, p = .10), "Impact" (U = 920.00, p = .76), and "Difficulties" (U = 772.00, p = .13) scores of male and female physical education teachers. These findings showed that the female and male physical education teachers' scores obtained from sub-scales of "Applicability" ($Mdn._{female}$ = 44.00, $Mdn._{male}$ = 47.36), "Impact" ($Mdn._{female}$ = 30.00, $Mdn._{male}$ = 31.00) and "Difficulties" ($Mdn._{female}$ = 19.00, $Mdn._{male}$ = 22.00) were similar. The mean, standard deviation, and median values of the sub-dimensions obtained by the male and female physical education teachers from PARCAAS are shown in Table 2.

Table 2. Descriptive statistics (mean, standard deviation, median) of female and male teachers' PARCAAS scores

	Female (n = 33)			Male (n = 58)		
	$\bar{x}$	*SD*	*Mdn.*	$\bar{x}$	*SD*	*Mdn.*
Applicability	44.44	5.64	44.00	46.35	4.90	47.36
Impact	30.74	4.13	30.00	30.76	4.32	31.00
Difficulties	18.99	4.30	19.00	20.41	4.39	22.00
Enforcement	8.15	2.37	8.00	9.67	2.56	10.00
Competence	11.32	3.57	12.00	13.36	2.95	13.00
Support	12.82	3.29	13.00	14.74	3.21	15.00

The Mann-Whitney U test was applied to examine whether the scores obtained from the "Enforcement", "Competence" and "Support" sub-dimensions of female physical education differ according to the years of teaching experience of female physical education teachers. The teaching experience was calculated separately for male and female teachers since the scores they obtained from the sub-dimensions of "Enforcement", "Competence", and "Support" were different. The results of the analysis revealed statistically no significant difference obtained from the sub-dimensions of "Enforcement" (U = 103.50, p = .95), "Competence" (U = 99.50, p = .82), and "Support" (U = 104.00, p = .97) by female physical education teachers with 10 years or fewer and 11 years and more years of teaching experience. According to these findings, the scores obtained from the sub-dimensions of "Enforcement" ($Mdn._{10yearsorless}$ = 8.00, $Mdn._{11yearsormore}$ = 9.06), "Competence" ($Mdn._{10yearsorless}$ = 12.00, $Mdn._{11yearsormore}$ = 12.31) and "Support" ($Mdn._{10yearsorless}$ = 12.00, $Mdn._{11yearsormore}$ = 13.52) were similar for the female physical education teachers with 10 years or fewer experience and 11 years or more (Table 3).

The Mann-Whitney U test was applied to examine whether the scores obtained from the "Enforcement", "Competence" and "Support" sub-dimensions of male physical education differ according to the years of teaching experience of male physical education teachers. The results of the analysis revealed statistically no significant difference between the score obtained from the sub-dimensions of "Enforcement" (U = 294.00, p = .05), "Competence" (U = 387.00, p = .60), and "Support" (U = 414.00, p = .93) by male physical education teachers with 10 years or fewer and 11 years and more years of teaching experience. According to these findings, it was observed that the scores obtained from the sub-dimensions of "Enforcement" ($Mdn._{10\ yearsorless}$ = 11.00, $Mdn._{11yearsormore}$ = 9.06), "Competence" ($Mdn._{10yearsorless}$ = 13.50, $Mdn._{11yearsormore}$ = 13.00), and "Support" ($Mdn._{10yearsorless}$ = 15.00, $Mdn._{11yearsormore}$ = 14.52) were

similar for the male physical education teachers with 10 years or fewer experience and 11 years or more (Table 3).

Table 3. Descriptive statistics (mean, standard deviation, median) for teachers' PARCAAS scores by years of teaching experience

	Female					
	Years of Teaching Experience					
	10 years or fewer (n = 21)			11 years or more (n = 12)		
	$\bar{x}$	*SD*	*Mdn.*	$\bar{x}$	*SD*	*Mdn.*
Enforcement	7.99	2.41	8.00	8.43	2.38	9.06
Competence	11.03	3.17	12.00	11.82	4.27	12.31
Support	12.72	3.48	12.00	13.01	3.05	13.52
	Male					
	Years of Teaching Experience					
	10 years or fewer (n = 28)			11 years or more (n = 30)		
	$\bar{x}$	*SD*	*Mdn.*	$\bar{x}$	*SD*	*Mdn.*
Enforcement	10.46	2.52	11.00	8.94	2.41	9.06
Competence	13.52	3.22	13.50	13.21	2.72	13.00
Support	14.61	3.59	15.00	14.86	2.86	14.52

The *Mann-Whitney U* test was applied to determine whether there was a statistically significant difference between the scores obtained from the "Applicability", "Impact", and "Difficulties" sub-dimensions of PARCAAS, which did not differ according to gender, according to the years of teaching experience. The results of the analysis showed that there was no statistically significant difference between physical education teachers with 10 years or fewer of teaching experience and 10 years or more in scores they obtained from the "Applicability" (U = 1002.50, p = .83), "Impact" (U = 1007.50, p = .86) and "Difficulties" (U = 1015.00, p = .91) sub-dimensions of PARCAAS. These findings showed that physical education teachers with 10 years or fewer of teaching experience and 11 years or more in terms of "Applicability" (U = 1002.50, p = .83), "Impact" (U = 1007.50, p = .86), and "Difficulties" (U = 1015.00, p = .91) sub-dimension scores were similar. These findings showed that physical education teachers with 10 years or fewer of teaching experience and 11 years or more in terms of "Applicability" ($Mdn._{10yearsorless}$ = 47.00, $Mdn._{11yearsormore}$ = 46.00), "Impact" ($Mdn._{10yearsorless}$ = 30.00, $Mdn._{11yearsormore}$ = 30.50), and "Difficulties" ($Mdn._{10yearsorless}$ = 20.00, $Mdn._{11yearsormore}$ = 20.50) sub-dimension scores were similar (Table 4).

Table 4. Descriptive statistics (mean, standard deviation, median) for teachers' PARCAAS sub-dimensions scores by years of teaching experience

	Years of Teaching Experience					
	10 years and fewer (n = 49)			**11 years and more (n = 42)**		
	$\bar{x}$	***SD***	***Mdn.***	$\bar{x}$	***SD***	***Mdn.***
Applicability	45.81	5.20	47.00	45.49	5.33	46.00
Impact	30.82	4.59	30.00	30.68	3.81	30.50
Difficulties	19.88	4.50	20.00	19.93	4.32	20.50

DISCUSSION

It was found in the current study that physical education teachers' "Enforcement", "Competence" and "Support" sub-dimension scores differed according to gender, and the scores of female physical education teachers were lower than male physical education teachers. In physical education and sports, sportive activity, sportive performance, superior physical characteristics, talent, success, ambition, etc., are associated with men, and all these have a place in society as a male-specific activity. It is also emphasized that the gender-specific behaviors that society expects men and women to exhibit in childhood and are reinforced with educational life and gain legitimacy in social life (Aslan, 2015; Kağıtçıbaşı, 1981; Koca, 2006). All these reasons from the effect of traditional gender roles may have caused female physical education teachers to feel more inadequate in applying for physical activity report cards than male physical education teachers. Aydın (2019) found that the professional competencies of male physical education teachers were significantly higher than that of female physical education teachers in his study examining the professional competencies of physical education teachers. This supports the fact that male physical education teachers scored significantly higher than female teachers in the "Competence" sub-dimension.

On the other hand, although the scores of female physical education teachers in the "Competence" sub-dimension are relatively lower than male teachers and the level of both female and male physical education teachers was not at the expected level. In contrast, male and female physical education teachers are expected to score close to the maximum for the "Competence" sub-dimension. The fact that the knowledge levels of both female and male physical education teachers on health-related physical activity were found to be quite low in the studies carried out supports this finding (Castelli & Williams, 2007; İnce & Hünük, 2013; Santiago et al., 2009; Yılmaz, 2019).

The fact that female physical education teachers scored lower than male teachers in the "Enforcement" sub-dimension indicates that women have less difficulty applying the physical activity report card applications than men. Studies have revealed that physical education teachers do not fully implement health-related physical education activities in their classes and spend more time on performance-oriented activities (Armour & Harris, 2013; Cale et al., 2014; Castelli & Williams, 2007; Yılmaz, 2019). From this point of view, it is thought that the fact that male physical education teachers, who are influenced by traditional gender roles, are more focused on being strong or winning in their lessons causes them to have difficulty in applying health-related physical activity report cards that do not have these qualifications (Koca, 2006).

Supporting the findings related to the "Support" sub-dimension obtained in this study, it has been determined in the studies conducted that school administrators and other branch teachers in the school do not care about physical education lessons, and school administrators do not support physical education teachers (Demirhan et al., 2014; Haerens et al., 2011; Ulucan et al., 2012). However, one of the reasons for the findings of male physical education teachers being relatively more supported than female physical education teachers may be that female physical education teachers have more problems with school administration than male teachers (Göktaş et al., 2011). In addition, the fact that school administrators see physical education teachers as teachers who provide discipline and safety at school and that they attribute this mission to male physical education teachers may have been effective in supporting male physical education teachers more (Demirhan et al., 2008; Mirzeoğlu et al., 2019).

It was determined that the scores obtained by physical education teachers from the sub-dimensions of "Applicability", "Impact" and "Difficulties" did not differ according to gender, and the scores of female and male physical education teachers were similar. It has also been determined that the scores of female and male physical education teachers in the "Applicability" sub-dimension are above the average and high. This finding shows that physical education teachers have positive views towards the applicability of the health-related physical activity report card. These positive views of physical education teachers can be explained by the fact that the health-related physical activity report card applications directed students to move. The increase in the physical activity of the students was reported, the students turned this situation into behavior and started to make conscious weight control (Salman & Sarı, 2020; Salman et al., 2018).

It was determined that the scores of female and male physical education teachers in the sub-dimension of "Impact" did not differ and were above the average. This finding is in line with the results revealed in the literature that the application of the health-related physical activity report card increases the self-confidence of the students, encourages the students to move, makes the students aware of the physical activity related to health, makes the students healthy and happy, ensures that the students are directed to a sports branch, increases the prestige of the physical education lesson, provide data to physical education teachers about talent identification (Salman & Sarı, 2020; Salman et al., 2018). In addition, students' use of health-related physical activity report card practices they experience at school in their daily lives and sharing this information with people around them is another indicator of the effectiveness of this practice (Yılmaz, 2019).

This study determined that the scores of female and male physical education teachers in the "Difficulties" sub-dimension of PARCAAS were above the average and similar. This finding shows that both female and male physical education teachers have difficulties applying for the health-related physical activity report card. The main reasons for these difficulties might be the measurement tools are not provided by the authorized institutions to the physical education teachers, the measurement material and measurement area in the schools is insufficient, the use of the lesson time for measurement and no extracurricular time is provided, the problems experienced in the process of transferring the measurements to the system, the exam-oriented students seeing the application unnecessary and their reluctance about measurements, and the high number of students in the classrooms (Demirhan et al., 2008; Demirhan et al., 2014; Salman & Sarı, 2020; Salman et al., 2018).

The scores of physical education teachers in the sub-dimensions of "Applicability", "Impact", "Difficulties", "Enforcement", "Competence", and "Support" did not differ according to their years of teaching experience. The scores of teachers with fewer than 10 years and more than 10 years of teaching experience were similar. Teachers in both teaching experience groups had similar and above-average scores in the sub-dimensions of "Enforcement" and "Difficulties" indicates that teachers have difficulties and experience challenges in applying for the physical activity report card. This may be because physical education teachers stated that they had time, space, and material problems when measuring physical fitness, that they could not make the measurements following certain standards, and that some of the teachers and school administrators believed that this practice was not beneficial (Demirhan et al., 2014; Gülüm & Bilir, 2011; Salman & Sarı, 2020; Salman et al., 2018). Another factor that stimulates this situation may be that physical education teachers have insufficient health-related physical fitness knowledge and that although they know that they are unsuccessful in the implementation of health-related programs (Hünük et al., 2013; İnce & Hünük, 2013; Santiago et al., 2016; Uğraş, 2018; Yılmaz, 2019) and get lack of sufficient support from the administrators to eliminate the deficiencies on the subject (Haerens et al., 2011). In addition, the lack of a standard in the measurements, the problems experienced in the process of entering the data into the system, the students not wanting to be measured in front of teachers of different genders, the unwillingness of thin or overweight students to have their measurements taken, the hygiene problem, the crowded classrooms, the uncontrollable behavior of other students while measuring a student, limited time for data entrance gives an idea about the result (Demirhan et al., 2014; Salman & Sarı, 2020; Salman et al., 2018). Studies have shown that physical education teachers are directly affected by the attitudes and

behaviors of experienced teachers in the teaching practice course they have taken during their university education (CoHE, 2018; İnce & Ok, 2005). In this study, teachers with different teaching experiences had similar scores in the "Enforcement" and "Difficulties" sub-dimensions of the PARCAAS may have resulted from this situation.

In their study, Hill and Brodin (2004) stated that physical education teachers had difficulties planning the lesson and classroom management in the first years of their profession. These problems stemmed from the physical and the social structure of the school. The views of teachers with fewer years of teaching experience on the implementation of health-related physical activity report cards may have been affected by this situation. According to the physical education curriculum reconsidered with a constructivist approach, physical education teachers are expected to plan and implement the lesson student-centered (MoNE, 2007). Although it is emphasized that in learning environments prepared under the constructivist approach, the student should participate in learning activities by doing and experiencing, not be dependent on the teacher for learning and that the teacher should carry out the activities by using student-centered styles planned under the content of the lesson (İnce & Hünük; 2010; MoNE, 2007; Saraç & Muştu, 2013), the researches carried out showed that physical education teachers use teacher-centered teaching approaches, devote a significant part of their lessons to the administrative activities and keep students mostly inactive during physical education classes, regardless of their professional experience (Hasty, 1997; Parker & Curtner-Smith, 2012; Parsak & Saraç, 2019; Saraç, 2003; SueSee & Edwards, 2011). Within the scope of the implementation of the health-related physical activity report card, physical education teachers with 10 years or fewer teaching experience and 11 years or more have followed a teacher-centered path and devoted a significant part of the lesson to administrative activities, while the other students in the class are standing still or undisciplined while measuring a single student and these problems might have made the implementation of health-related physical activity report card difficult (Ünlü & Aydos, 2008).

The "Support" sub-dimension showed that teachers with 10 years or fewer of experience and 11 years or more of teaching experience scored above the average and high. This situation reveals that physical education teachers are supported by the administrators and teachers in other branches in their schools in terms of supplying materials, providing a practice area, and their belief in the necessity of applying physical activity card applications. It is thought that the fact that school administrators and other field teachers in the school see physical education teachers as teachers who provide discipline and safety at school may have affected the support they give to physical education teachers (Demirhan et al., 2008).

In the sub-dimension of "Competence", it was observed that teachers with 10 years or fewer and 11 years or more teaching experience got an average score. It is thought-provoking that physical education teachers got a score close to the average, while teachers are expected to get close to the maximum score from this subdimension, based on the fact that they play a key role in students' acquisition of lifelong physical activity participation, and this dimension, which consists of information that overlaps with the field of physical education. Previously published findings show that the physical education teachers' level of health-related physical activity knowledge is low (Castelli & Williams, 2007; İnce & Hünük, 2013; Santiago et al., 2009; Yılmaz, 2019). While physical education teachers attribute their low proficiency on this subject to their insufficient English language knowledge and limited access to relevant articles; Researchers emphasize that this is because health-based lessons are challenging, physical education teachers do not prepare enough for health-based physical education lessons, and they want to teach physical education lesson more performance-oriented (Armour, 2010; Armour & Harris, 2013; Cale et al., 2014; Yılmaz, 2019). All these reasons may be the reason why teachers' proficiency is not very high.

In the sub-dimensions of "Applicability" and "Impact", it was determined that teachers with 10 years or fewer and 11 years or more of teaching experience scored above the average. According to physical education teachers, it can be said that the applicability and effect of physical activity report cards are relatively high. It can be said that physical education teachers think that the applicability and effect of physical activity report cards are relatively high. In recent years, the increasing concern about the low level of physical activity of children and youth and the increase in the number of obese students due to inactivity has made the role of physical education in promoting health more prominent (Cale et al., 2014). Physical education teachers are expected to contribute to public health by promoting healthy living habits of individuals in society and increasing physical activity. Based on all this information, it can be interpreted that physical education teachers think that their students' physical activity levels can be increased through health-related physical activity report card applications and develop healthy living habits in students with these applications.

CONCLUSIONS

The results of the research showed that the scores for the sub-dimensions of "Enforcement", "Competence" and "Support" differ between male and female physical education teachers; however, the scores for the sub-dimensions of "Applicability", "Impact" and "Difficulties" did not differ between male and female physical education teachers. It was

also determined that male physical education teachers had more difficulties during the health-related physical activity report card applications than females. Female teachers considered themselves less competent, and female teachers received less support from school administrators than men in health-related physical activity report card applications. It was found that both male and female physical education teachers had similar views on the "Applicability", "Impact," and "Difficulties" sub-dimensions and concluded that they had difficulties during the health-related physical activity report card applications but thought that the scale was applicable and effective. It was also concluded that physical education teachers with teaching experience of 10 years or fewer and 11 years or more had difficulties in report card applications, regarded themselves as moderately competent, received sufficient support from school administrators, and thought that the activity was applicable and effective. The relatively small number of participants in this study is one of the study's limitations. Despite this, the fact that there are almost no studies on the subject in the literature and the determination of the problems faced by physical education teachers in the application of the scale in this study is the strength of this research. The results of this research revealed the functioning and failing sides of the health-related physical activity report card applications implemented by the MoNE to increase students' awareness of physical activity and to encourage physical activity participation of students. School principals and physical education teachers taking responsibility for the implementation of the health-related physical activity report card applications put into practice by the MoNE will undoubtedly play an important role in making the students habit of physical activity for a healthy life.

Practical Implications

In order for physical education teachers to carry out the health-related physical activity report card applications in accordance with their purpose, the school administrators should be provided with resources, and MoNE should hold informative meetings on these issues in terms of providing the necessary materials, providing the appropriate space and making the practices carefully. Also, physical education and all field teachers should be provided with necessary training and practices at the national level to instill that one of the prerequisites for society to be healthy throughout life is to be physically active. It is thought that planning in-school and out-of-school activities will be effective so that participation in physical activity for lifelong health becomes a habit in students. In matters where physical education teachers do not consider themselves competent, local level National Education administrators can cooperate with universities to eliminate the deficiencies of teachers in related subjects. To

ensure the active participation of the students in the practices, it is recommended that the places where the measurement is made are hygienic, that the teachers should avoid statements that will damage the self-confidence of the students who are measured during the measurements of the very thin or overweight students and practices in which the whole class will be active to prevent the undisciplined behavior of the students during the measurement. In the light of the findings obtained, it is recommended that physical fitness and health-based pedagogical lessons, courses, and seminars are provided to physical education teacher candidates and in-service teachers. Moreover, for physical education teachers to be able to implement health-related physical activity report card applications successfully, the time can be extended to a wider period to reduce problems in the practices, materials, and equipment should be provided by authorized institutions. Necessary support should be provided for teachers to enter the collected data of health-related physical activity report card. It is recommended that future research should examine health-related physical activity report card practices from the eyes of students or school administrators, compare secondary and high school teachers' views on health-related physical activity report card practices, and study health-related physical activity report card practices with a larger sample of physical education teachers.

Authors' contributions

Two authors conceived the study idea and designed the methodology of the study. The data were collected by the first author and analyzed and interpreted by the corresponding author. Both authors reviewed the results, drafted the manuscript, and approved the final version of the manuscript.

Declaration of conflict interest

The authors have no relevant financial or non-financial competing interests to declare in relation to this manuscript.

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