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Original article

EVALUATION OF RELATIONSHIP BETWEEN RESILIENCE AND PHYSICAL ACTIVITY LEVELS OF NATIONAL SPORTS

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Abstract*

Aim. This study was conducted to evaluate the relationship between the national sportsmen's physical activity levels and resilience

Methods. The study is planned in a descriptive relational type. The research was conducted with national sportsmen who are interested in Taekwondo sports. The universe of the research was national sportsmen who played Taekwondo in all over Turkey and were over 18 years old. There were 165 sportsmen who agreed to participate in the research of the research sample and returned with the questionnaires. In gathering the data; Information form prepared by researchers questioning socio-demographic information of sportsman and "International Physical Activity Questionnaire" and "Resilience Scale for Adults" were used.

Results: When the socio-demographic characteristics of the sportsmen are examined, 56.97% of them are male, 44.23% are students, 67.89% are high school and above graduates and 41.23% are 16 years and over. When the physical activity level of the sportsmen was examined, it was determined that 23.04% of them had minimal activity and 76.96% had very active physical activity. The score average of the resilience score of the sportsmen was calculated as 134.24 ± 6.48 . When the demographic characteristics of the sportsmen were compared with the resilience score averages, it was found that male ($p < 0.05$), students ($p < 0.05$), high school and above education level ($p < 0.050.05$) and those who were very active in terms of physical activity ($p < 0.05$) were found to have higher resilience scores.

Conclusions. In terms of resilience, women, self-employed and primary school graduates are at risk. Resilience is less risky for doing sports and having minimal physical activity. Regular and long-term Taekwondo sports have been shown to positively influence psychological well-being. When physical activity increased resilience level has also increased in the positive direction.

Key words: National sportsmen, physical activity, psychological resilience

Introduction

Psychological resilience, described as challenging or difficult to overcome the situation (Ross, Holliman, Dixon 2003). Another definition is defined as psychological resilience process in which an individual withdraws from a distressing situation and continues to his / her life (Dyer, McGuinness 1996). Fraser, Richman and Galinsky (1999) describe psychological resilience in their work as the ability to acquire positive and unexpected achievements under difficult circumstances and adapt to unusual conditions and situations. Adverse life events directly affect psychological resilience. Stressful situations in which an individual is experiencing are risk factors for the development of psychosocial and physical symptoms in the individual. The individual experiences clashes with the cause of stress and then tries to use his or her individual strength to gain strength, which is considered psychological resilience. The numbers of events that are perceived as bad by the individual, but not the changes that

occur in life in general, affect the individual's level of psychological resilience (Tusaie, Dyer, 2004).

Psychological resilience is a concept that expresses the positive adaptation that an individual has shown despite significant risk or trauma experiences. Psychological resilience is the protective factor that leads to the development of the attitudes and skills that enable individuals to succeed in the face of challenging life events, reducing the existing effects of environmental risk factors (Masten and Gewirtz, 2006). Psychological resilience is the most important element of self-restraint when encountering stressful life situations. Individuals with high levels of psychological resilience use social support resources and active coping strategies (Terzi, 2008). For this reason, it is important to evaluate and develop psychological resilience levels so that individuals can effectively cope with the difficulties they experience. It is stated that physical activity is effective in developing psychological resilience (Gizir, 2016; Southwick et al., 2005).

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Physical activity has positive effects on physical, mental health and psychological well-being. Regular physical activity supports quality of life by strengthening physical well-being and physical functioning (Haskell, 2007). Studies showing the relationship between psychological well-being and physical activity indicate that physical activity reduces symptoms of depression (Brown et al., 2005; Strawbridge et al., 2002; van Gool et al., 2007). Similarly, in another study, it is stated that physical activity increases in self-esteem, decrease in anxiety, increase in strength, increase in appetite quality and increase in psychological resilience (Fox, 1999). A similar study was conducted by Moljord et al., (2014) and it was found that physical activity was significant in reducing psychological resilience and depressive symptoms. When studies on physical activity in our country are examined, no study evaluating the relation with psychological resilience has been found. For this reason, the study was conducted to evaluate the relationship between physical activity levels of national sportsmen and psychological resilience.

Research Questions

1. What is the level of physical activity of national sportsmen who play taekwondo?
2. Is there a relationship between socio-demographic characteristics and physical activity levels of Taekwondo sports sportsmen?
3. Is there a relationship between the sociodemographic characteristics of Taekwondo sporting sportsmen and psychological resilience?
4. Is there a relationship between the physical activity levels of the sportsmen and psychological resilience?

Methods

Research is planned in a descriptive relational type. The research was conducted with national sportsmen who are interested in Taekwondo sports. The universe of the research was national sportsmen who played Taekwondo in all over Turkey and were over 18 years old. There were 165 sportsmen who agreed to participate in the research of the research sample and returned with the questionnaires. In gathering the data; Information form prepared by researchers questioning socio-demographic information of sportsmen and "International Physical Activity Questionnaire" and "Psychological Resilience Scale for Adults" were used.

International Physical Activity Questionnaire

In this study, the short form of the International Physical Activity Questionnaire (IPAQ) was used to determine the physical activity

levels of the individuals. International validity and reliability studies For this questionnaire by Craig et al., The validity and reliability studies in Turkey were made by university students to Öztürk. There are 7 questions in the questionnaire. Questions 1 and 2 are violent activities, questions 3 and 4 are moderate violent activities, questions 5 and 6 are gait, and question 7 is the time when the individual is spending time with the resident. In the evaluation of all activities, the criterion is that each activity is done at least 10 minutes at a time. A score of "MET-minute / week" is obtained by multiplying the minutes, days and MET values (times of resting oxygen consumption). Physical activity levels were found to be significantly higher (> 3000 MET-min / week) than physically inactive (<600 MET / week), low level of physical activity (600-3000 MET- Min / week). The calculation of energy expenditure for physical activity is multiplied by the weekly duration (min) of each activity and the MET energy values for the International Physical Activity Questionnaire. Thus, for each individual, energy expenditures related to violent, moderate, walking, sitting and total physical activities were obtained in MET-dk / Week unit (Şahin, 2010).

Psychological Resilience Scale for Adults

A 33-item Resilience Scale for Adults was used by Friborg and colleagues (2003) to determine the level of psychological resilience of the workforce and adapted to Turkish by Basım ve Çetin (2011). The reliability of the scale (Cronbach Alpha) was found to be 0.89. Internal consistency coefficients of the scale subscales ranged from 0.66 to 0.81 and test-retest reliability ranged from 0.68 to 0.81. The evaluation of the scales was released as it was in the original study. Before evaluating the questionnaire, please apply to the participant, and as the result of the evaluation, make the evaluation of the answers yourself. You can evaluate it in any way you want by thinking in the 5-box Likert format, which is prepared to get rid of the acquaintance bias and is in front of the answers. If increasing psychological scores are required, the answer boxes should be evaluated as 12345 from left to right. If this opinion is taken into account, 1-3-4-8-11-12-13- 14-15-16-23-24-25-27-31-33 will be asked in reverse (if the psychological endurance is required to increase as the scores decrease, the answer boxes will be evaluated as 54321 And the reverse questions will be in this case 2-5-6-7-9-10-17-18-19-20-21-22-26-28-29-30-32). As the scores increased, the psychological resilience increased. The Cronbach's alpha coefficient of the original scale was 0.86 and it was 0.90 in this study.

Collection of data

The data of this study were collected from national sportsmen who played Taekwondo in Turkey and over 18 years old. It started after the

ethics approval for the search. At the time of data collection, the sportsmen who accepted to participate in the survey were informed by the researchers that the form was signed and the form was signed by those who agreed to participate in the survey by providing the meaning of the purpose and extent of the research. Before the forms to be used in the research were given, necessary explanations were made orally and care was taken to create a silent environment with little stimulation during application.

Evaluation of Data

After the data were collected, the option that each individual indicated for each item on the scales was entered into the SPSS program by the researchers and the total scores of the individuals from the scales were calculated. Mann-Whitney U and Kruskal Wallis test were used to assess the relationship between socio-demographic characteristics and the Psychological Resilience Scale for Adults, Pearson's correlation analysis was used to assess the relationship between physical activity and psychological resilience, as well as the

number and percentage distributions of the study's demographic data. The results were evaluated at 95% confidence interval and $p < 0.05$ significance level.

Limitations of the Study

This research; In Turkey, over 18 taekwondo is limited to national sportsmen who are engaged in sports, open to communication and who agree to participate in the research.

Results

When the socio-demographic characteristics of the sportsmen are examined, 56.97% of them are male, 44.23% of them are students, 67.89% of them are high school and above graduates and 41.23% are 16 years or more.

When the physical activity level of the sportsmen was examined, it was found that 23.04% of them had a minimal activity and 76.96% had a very active physical activity (Table 1). The score average of the psychological endurance score of the players was calculated as 134.24 ± 6.48 (Table 2).

Table 1. Physical Activity Levels of Sportsmen

Physical Activity Levels	n	%
Minimal Active (600-3000 MET-min/week)	38	23.04
Hyper Active (>3000 MET-min/week)	127	76.96
Totals	165	100,0

Table 2. Score of Psychological Resilience Score of Sportsmen

	$\bar{X} \pm SD$	Min-Max
Psychological Resilience Scale	134.24 ± 6.48	1-165

When the socio-demographic characteristics of the sportsmen were compared with the scores of psychological resilience scale, it was found that male ($p < 0.05$), students ($p < 0.05$),

those with high school and above education level ($p < 0.05$) and those who were very active in terms of physical activity ($p < 0.05$) had higher mean psychological resilience scores (Table 3).

Table 3. Comparison of the socio-demographic characteristics of the sportsmen with the psychological resilience scale Score averages

socio-demographic characteristics	N (%)	psychological resilience
Gender		
Female	71 (43.03)	125.23 ± 4.52
Male	94 (56.97)	143.25 ± 5.37
Test and p value	U: 12.500, $p = 0.00^*$	
Job status		
Student	73 (44.23)	137.42 ± 6.74
Officer	58 (35.14)	136.23 ± 5.05
Self-Employment	34 (20.63)	129.07 ± 6.24
Test and p value	KW: 3.186, $p = 0.01^*$	
Education status		
Primary school	53 (32.11)	119.25 ± 6.8
High school and upper	112 (67.89)	149.23 ± 5.08

Test and p value	U:4.750, p=0.00*	
Duration of sports		
1 -10 year	38 (23.02)	126.04±6.12
11-15 year	59 (35.75)	136.75±4.84
16 year and upper	40 (41.23)	151.24±3.42
Test and p value	KW:1.457, p=0.00*	
Physical Activity Level		
Minimal active	38 (23.04)	118.40±6.24
Hyper active	127 (76.96)	150.08±7.65
Test and p value	U:12.500, p=0.01*	

U: Mann Whitney U test, KW: Kruskal Wallis Test, p<0.05

When the relationship between the physical activity levels of the participants and the levels of psychological resilience were examined, it was found that there was a strong correlation in the

positive direction ($r = 2.457$, $p < 0.05$) and the psychological resilience of the level of physical activity was also increased.

Table 4. Relationship between Physical Activity Levels and Psychological Durability (r, p)

	X ± SD	r , p
Physical Activity	3500,67 ±141,07	2,457
Psychological Resilience	134.24±6.48	0,000*

R: Pearson correlation analysis, $p < 0,05$ *

Discussion

According to the findings obtained from this study, being male, being in high school and above education level, being active in terms of physical activity and playing sport for over 16 years increase psychological resilience significantly. Hegberg and Tone (2015) found that physical activity is a protective effect of mental health and promotes psychological resilience in the same way that they do. Physical activity has also been shown to increase psychological resilience in studies conducted with students participating in the school's physical activity program (Back, 2015). Similarly, another study reported that physical activity increased self-esteem, decreased anxiety, increased stress tolerance, increased appetite, and increased psychological resilience (Fox, 1999). According to findings obtained from our studies and other studies, physical activity increases psychological resilience.

When the spocals participating in my study were evaluated according to the sex, male sportsmen were found to have a significantly higher level of picnic resilience than females. Similarly, Schaal et al., (2011) reported that sporadic mental disorders were similar to spouses in the general population, and that female sportsmen had more mental illnesses than males. This can be explained by the low psychological resilience of women.

Conclusion

In terms of psychological endurance, being a woman, being a self-employed person and being a primary school graduate is a risk group. Having less

physical activity (1-10 years) and having minimal physical activity is a risk factor for psychological endurance. As a result, regular and long-term Taekwondo sports have been shown to positively influence psychological well-being. Psychological endurance of the level of physical activity has also increased in the positive direction.

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