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Investigation of Motivation Levels of National Team Athletes Competing During the COVID-19 Pandemic Crisis (Judo, Wrestling and Taekwondo Example): Descriptive Research

COVID-19 Salgın Krizinde Yarışan Millî Takım Sporcularının Güdülenme Düzeylerinin İncelenmesi (Judo, Güreş ve Taekwondo Örneği): Betimsel Araştırma

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This study was prepared based on the findings of Meltem NAZIROĞLU's master thesis study titled "During the Covid-19 pandemic crisis, athletes competing at the national team level; investigation of sports participation levels and reasons for participating in sports (the example of judo, wrestling and taekwondo" (Edirne: Trakya University; 2019).

ABSTRACT Objective: The aim of this study is to examine the levels of exercise orientation and motivation in sport among national team athletes in judo, wrestling and taekwondo, who have been away from competition and training for a time during the coronavirus disease-2019 pandemic period. **Material and Methods:** The study population consisted of a total of 1,472 athletes competing in the sports of judo, wrestling and taekwondo in 2021. To examine the participants' motivation levels, the "Sport Motivation Scale-II", was used. In order to examine the athletes' participation in exercise "Behavioural Regulation in Exercise Questionnaire-2" (BREQ-2), was used. The data were analysed with the SPSS 25 program. **Results:** According to the research findings, it was determined that judo athletes had higher scores in the "Internal regulation", "Integration" and "Identification" sub-dimensions than wrestling and taekwondo athletes. Wrestling and taekwondo athletes were found to have higher scores than judo players in the BREQ-2. **Conclusion:** It is important to have knowledge of situations in which athletes are motivated so that they can adapt quickly when they return to sport after being away from training for extraordinary reasons. It is recommended that the relevant subject be dealt with more frequently on elite athletes in terms of the challenging training conditions of combat sports, the rapid adaptation of the athletes to the competitions and the maintenance of their performance.

Keywords: COVID-19; motivation; wrestling; judo; taekwondo

ÖZET Amaç: Bu çalışmanın amacı, koronavirüs hastalığı-2019 pandemi döneminde eğitimlere verilen ara ile bir süre yarışmalardan ve antrenmanlardan uzak kalan judo, güreş ve taekwondo millî takım sporcularının egzersize yönelimleri ve sporda motivasyon düzeylerinin incelenmesi amacıyla yapılmıştır. **Gereç ve Yöntemler:** Araştırmanın evrenini 2021 yılı judo, güreş ve taekwondo branşlarında müsabık olan toplam 1.472 sporcu oluşturmaktadır. Katılımcıların güdülenme düzeylerinin incelenmesi için; Sporda Güdülenme Ölçeği-2 kullanılmıştır. Sporcuların egzersize katılımlarının incelemesi için ise "Egzersizde Davranışsal Düzenlemeler Ölçeği-2" kullanılmıştır. Veriler SPSS 25 programında analiz edilmiştir. **Bulgular:** Judo sporcularının "İçsel düzenleme", "Özümseme" ve "Özdeşim" alt boyutlarında güreş ve taekwondo sporcularına göre daha yüksek puana sahip oldukları belirlenmiştir. Egzersizde Davranışsal Düzenlemeler Ölçeği-2'de güreş ve taekwondo sporcularının judoculara göre daha yüksek puana sahip oldukları belirlenmiştir. Yarışma kategorisi ile "İçsel düzenleme", "Özümseme", "Özdeşim", "İçe atım", "Dışsal düzenleme" ve "Güdülenmeme" alt boyut puanlarında anlamlı bir fark görülmemiştir. Judo sporcularının ölçek alt boyutlarının çoğunluğunda güreş ve taekwondo branşlarındaki sporculardan daha yüksek puan aldıkları dikkat çekmektedir. **Sonuç:** Sporcular olağan dışı sebeplerden dolayı antrenmandan uzak kaldıktan sonra spora döndüklerinde hızlı uyum sağlayabilmeleri için motive oldukları durumların bilinmesi önemlidir. Mücadele sporlarının zorlayıcı antrenman koşulları, sporcuların müsabakalara hızlı uyumu ve performansı devam ettirmeleri açısından elit sporcular üzerinde ilgili konunun daha sık işlenmesi önerilmektedir.

Anahtar Kelimeler: COVID-19; güdülenme; güreş; judo; taekwondo

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Motivation in sport is a field of psychology that initiates behaviour revealing the reasons for participation in sports, and enables people engaged in sporting activities to bring their needs and emotions up to the level of performance they target in order to achieve their goals.[1,2] From the point of view of sports science, it is possible to say that one of the key factors in the participation of individuals in sports is motivation.[3]

According to Deci and Ryan's self-determination theory, motivation can be divided into 3 types that operate sequentially: intrinsic motivation, extrinsic motivation, and amotivation.[4,5] Every individual displays the motivation to participate in sports for certain reasons. These may be intrinsic or extrinsic motivation. However, people may experience neither intrinsic nor extrinsic motivation. Amotivation is considered as another dimension of motivation.

Individuals' intrinsically motivated behaviors are intrinsic behaviors that are independent of physical rewards or external pressure. Intrinsic motivation is the behavior of individuals to participate in an activity of their own free will without another person or thing. Intrinsic motivation is the same as the drive to achieve.[6] Amotivation consists of behavior that cannot be regulated and is marked by a lack of intention to act. Thus, amotivation represents a lack of motivation, both extrinsic and intrinsic, and hence a complete lack of self-determination.[7,8]

Within the information obtained from the literature review, motivation is of great importance for the performance of the athletes. In addition, the coronavirus disease-2019 (COVID-19) quarantine may have created changes that can positively or negatively affect athletes and all sports communities.

Restrictions on physical activity and participation in sports to reduce the spread of COVID-19 were limiting training opportunities for professional athletes. Therefore, canceling or delaying sporting events emerges as a significant challenge. In the continuation of this process, it is possible to see motivational changes due to stress.[9]

Starting from here; the aim and importance of this study is to examine the participation levels and motivation levels of national team athletes in judo, wrestling and taekwondo combat sports. The main hypothesis of the research is that motivation in sports is a factor affecting sports performance and the outbreak of the epidemic crisis will affect sports performance and motivation.

MATERIAL AND METHODS

The research was carried out using a descriptive survey model. The descriptive survey model is a research approach that aims to examine a past or present situation as it is or was.[10]

PROCEDURE

The study population consisted of a total of 1,472 athletes competing in the sports of judo, wrestling and taekwondo in 2021. The sample number was calculated by Yazıcıoğlu and Erdoğan as 93 elements for a population of 2,500 elements at a 95% confidence interval and based on a ±0.5 sampling error.[11] In this study, 213 athletes were reached by us.

DATA COLLECTION TOOLS

The participants' demographic information was collected with the "Personal Information Form" prepared by the researchers. To examine the participants' motivation levels, the "Sport Motivation Scale-II" (SMS-II) developed by Pelletier et al., adapted into Turkish by Öcal and Sakallı, and consisting of 6 dimensions and a total of 18 items, was used.[12,13]

In order to examine the athletes' motivation levels during the pandemic period, the questionnaire developed by Mullen et al., modified by Markland and Tobin and named the "Behavioural Regulation in Exercise Questionnaire-2" (BREQ-2), and consisting of 4 dimensions and a total of 19 items, was used.[14,15] This study was carried out with the approval of the Trakya University Dean of Faculty of Medicine Scientific Research Ethics Committee (date: January 18, 2021, no: 2021/32). "Informed consent" was obtained from the study participants. The current study was conducted under the principles of the Declaration of Helsinki.

Before the analysis of the data set, it was tested whether the relevant variables conformed to the normal distribution in order to determine which statisti-

cal method to use. At this stage, the Kolmogorov-Smirnov and Shapiro-Wilk tests were used. Since the data set did not fit the normal distribution, the Kruskal-Wallis test, which is one of the non-parametric methods, was used for comparisons between groups. The data were analyzed using IBM SPSS v.25.0 for Windows (Armonk, NY: IBM Corp).

RESULTS

In this section, the results and interpretations of the analyses are included. Considering the competition category of the athletes, the results of the BREQ-2 total and sub-dimension scores are given in Table 1.

As can be seen in Table 1, there is a statistically significant difference in terms of the BREQ-2 "Intrinsic motivation" sub-dimension scores according to the athletes' competition categories ($p=0.043$; $p<0.05$). The mean value of athletes in the cadet category is significantly lower than the mean values of athletes in the junior and senior categories.

Competition categories are divided according to the age of the athletes. The cadet category is the group that precedes the junior and senior categories in judo and taekwondo, and is between the junior and senior categories in wrestling. According to this result, the age variable shows a difference in the intrinsic motivation levels of the athletes.

The results of the scores obtained by the athletes from the SMS-II according to their sports branch are given in Table 2.

Examining Table 2, a statistically significant difference can be seen in the athletes' SMS-II "Internal regulation" "Integration" "Identification" sub-dimension scores according to the sports branch in which they compete ($p<0.05$). The mean value of athletes competing in the judo branch is significantly higher than the mean values of athletes competing in the wrestling and taekwondo branches.

The results of the analysis regarding the scores obtained by the athletes from the BREQ-2 according to their sports branch are given in Table 3.

As can be seen in Table 3, there is a statistically significant difference in the athletes' BREQ-2 "Intrinsic motivation" sub-dimension scores according to their sports branch ($p<0.05$).

The mean value of athletes competing in the judo branch is significantly higher than the mean values of athletes competing in the wrestling and taekwondo branches.

TABLE 1: Kruskal-Wallis test results for the comparison of the total and sub-dimension scores of the "BREQ-2" according to competition category.

Competition category		n	$\bar{X}$	SD	Minimum	Maximum	Chi-square	p value	Diff
Intrinsic motivation (BREQ-2)	Cadet	62	21.03	6.33	4	28	**4.967**	**0.043***	**1-2**
	Junior	71	22.35	6.78	2	28			**1-3**
	Senior	77	22.01	7.19	0	28			
Extrinsic motivation (BREQ-2)	Cadet	62	10.11	4.65	0	16	0.325	0.85	-
	Junior	71	9.61	4.76	0	16			
	Senior	77	9.64	4.63	0	16			
Introjection (BREQ-2)	Cadet	62	2.47	3.74	0	14	0.135	0.935	-
	Junior	71	1.82	3.11	0	15			
	Senior	77	1.68	2.81	0	11			
Amotivation (BREQ-2)	Cadet	62	1.61	3.32	0	14	2.224	0.329	-
	Junior	71	1.08	3.04	0	16			
	Senior	77	1.21	2.72	0	12			
BREQ-2 (Total)	Cadet	62	35.23	10.27	9	57	0.06	0.971	-
	Junior	71	34.86	11.00	7	64			
	Senior	77	34.53	11.31	0	60			

*p<0.05. SD: Standart deviation; BREQ-2: Behavioural Regulation in Exercise Questionnaire-2.

TABLE 2: Kruskal-Wallis test results for the comparison of the total and sub-dimension scores of the "SMS-II" according to sport branch.

Sports branch		n	$\bar{X}$	SD	Minimum	Maximum	Chi-square	p value	Diff
Intrinsic regulation (SMS-II)	Wrestling	16	14.38	6.18	4	21	**6.784**	**0.034***	**2-1**
	Judo	158	17.66	4.80	3	21			**2-3**
	Taekwondo	39	15.41	6.02	3	21			
Integration (SMS-II)	Wrestling	16	15.25	5.57	3	21	**7.228**	**0.027***	**2-1**
	Judo	158	17.56	4.61	3	21			**2-3**
	Taekwondo	39	15.15	5.80	6	21			
Identification (SMS-II)	Wrestling	16	14.94	6.44	3	21	**7.136**	**0.028***	**2-1**
	Judo	158	17.60	4.75	3	21			**2-3**
	Taekwondo	39	15.23	5.48	7	21			
Introjection (SMS-II)	Wrestling	16	13.69	6.77	3	21	3.917	0.141	-
	Judo	158	15.30	4.49	3	21			
	Taekwondo	39	13.23	5.47	5	21			
External regulation (SMS-II)	Wrestling	16	9.63	4.51	3	21	1.959	0.375	-
	Judo	158	8.37	4.74	3	21			
	Taekwondo	39	9.38	5.73	3	21			
Amotivation (SMS-II)	Wrestling	16	7.94	6.01	3	21	4.181	0.124	-
	Judo	158	5.53	4.17	3	21			
	Taekwondo	39	7.15	5.40	3	21			
SMS-II (Total)	Wrestling	16	75.81	24.82	30	103	1.58	0.454	-
	Judo	158	82.04	19.09	19	116			
	Taekwondo	39	75.56	26.30	31	126			

*p<0.05. SD: Standart deviation; SMS-II: Sport Motivation Scale-II.

TABLE 3: Kruskal-Wallis test results for the comparison of the total and sub-dimension scores of the "BREQ-2" according to sport branch.

Sports branch		n	$\bar{X}$	SD	Minimum	Maximum	Chi-square	p value	Diff
Intrinsic motivation (BREQ-2)	Wrestling	16	19.38	8.83	0	28	**5.855**	**0.05***	**2-1**
	Judo	158	22.71	6.13	0	28			**2-3**
	Taekwondo	39	19.41	7.50	4	28			
Extrinsic motivation (BREQ-2)	Wrestling	16	8.94	4.89	0	16	4.618	0.099	-
	Judo	158	10.13	4.59	0	16			
	Taekwondo	39	8.56	4.56	1	16			
Introjection (BREQ-2)	Wrestling	16	3.06	3.57	0	10	**11.517**	**0.003***	**2-1**
	Judo	158	1.58	2.86	0	12			**2-3**
	Taekwondo	39	3.31	4.09	0	15			
Amotivation (BREQ-2)	Wrestling	16	2.44	4.19	0	13	**14.446**	**0.001***	**2-1**
	Judo	158	0.89	2.54	0	14			**2-3**
	Taekwondo	39	2.69	4.05	0	16			
BREQ-2 (Total)	Wrestling	16	33.81	14.98	0	55	0.719	0.698	-
	Judo	158	35.30	10.16	0	60			
	Taekwondo	39	33.97	12.01	11	64			

*p<0.05. SD: Standart deviation; BREQ-2: Behavioural Regulation in Exercise Questionnaire-2.

There is a statistically significant difference in terms of the athletes' BREQ-2 "Introjection" and "Amotivation" sub-dimension scores according to the sports branch in which they compete ($p<0.01$). The mean value of athletes competing in the judo branch is significantly lower than the mean values of athletes competing in the wrestling and taekwondo branches.

DISCUSSION

The findings confirm the hypothesis of the study. In addiction, in the comparison of the athletes' sub-dimension scores between the sports branches, it is striking that the mean values of athletes competing in the judo branch are higher than the mean values for the wrestling and taekwondo branches.

According to Malchrowicz-Mosko et al. there is a relationship between the years of experience in judo training and the motivation of judoka; however, the motivations of the judoka do not differ according to their gender or age.[16] The competition category changes depending on age and since the year of experience will increase in parallel with the category, the different motivation levels of the athletes competing in the higher category can be seen as a result of this situation.

According to Ingledew and Markland, motives affect participation in exercise by influencing behavioral regulation, and motives themselves are affected by personal characteristics, but behavioral regulation may not be directly affected by personal characteristics.[17]

Examining the individual sources of motivation of 4 judo athletes who continued to compete actively in a judo club in Slovakia, Gorner et al. stated that judokas did not regard financial conditions as a source of motivation in sports.[18]

On the contrary, according to Szemes et al., a supportive attitude shown by coaches increases athletes' motivation for preparation and competition, as it can meet the basic psychological needs of athletes specific to their age, and these aspects are very important in the context of extrinsic motivation.[19]

According to Roberts et al., the athlete can discover his/her own ability and competence through the motivational climates created by coaches.[20] The goals that the athlete will set according to his/her own perception of ability and competence can determine the path that he/she will follow in the process of achieving success, because, thanks to the goals they have adopted, athletes give meaning, direction and importance to their achievement behaviours in sports environments.

Social changes can affect the motivational structure in judokas. In training, individual differences should be taken into account in order to meet the special needs of athletes, so that they can function well in and outside the sport environment.[21]

CONCLUSION

According to the athletes' sports branches, in terms of the "Introjection" and "Amotivation" sub-dimension scores, it was seen that the mean score was lower in favour of judo athletes compared to wrestling and taekwondo athletes.

The low "Introjection" and "Amotivation" values in judo athletes can be regarded as the reason for their high mean scores in the "Internal regulation", "Identification" and "Integration" sub-dimensions explained above. The conclusion to be drawn from this is that judo athletes were more intrinsically motivated in this challenging period than wrestling and taekwondo athletes. The fact that the difficulty levels of these 3 combat sports are different from each other can be seen as a reason for this situation.

Assuming that the motives affecting individuals' participation in sports activities will affect the continuity of participation and the termination of participation, knowing what these motives are will be an important factor in ensuring the continuity of participation.[22,23]

Therefore, it is very important for coaches to analyse and know their athletes' motivational orientations well, in order to maintain and increase athletes' motivation even in extraordinary situations that they may encounter, such as the COVID-19 pandemic.

Source of Finance

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Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

Authorship Contributions

Idea/Concept: *Şengül Demiral;* ***Design:*** *Meltem Nazıroğlu, Şengül Demiral, Nurper Özbar;* ***Control/Supervision:*** *Meltem Nazıroğlu, Şengül Demiral;* ***Data Collection and/or Processing:*** *Meltem Nazıroğlu, Şengül Demiral, Nurper Özbar;* ***Analysis and/or Interpretation:*** *Meltem Nazıroğlu, Şengül Demiral, Nurper Özbar;* ***Literature Review:*** *Meltem Nazıroğlu;* ***Writing the Article:*** *Meltem Nazıroğlu, Şengül Demiral, Nurper Özbar;* ***Critical Review:*** *Nurper Özbar;* ***References and Fundings:*** *Şengül Demiral, Nurper Özbar.*

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