

# The Correlation between Social Appearance Anxiety and Exercise Addiction

N. ŞEYMA KARA<sup>1</sup>, MEHMET KARA<sup>2</sup>, AHMET DÖNMEZ<sup>3</sup>

<sup>1</sup>Hatay Mustafa Kemal University, High School of Physical Education and Sports, Hatay/Turkey

<sup>2</sup>Osmaniye Korkut Ata University, High School of Physical Education and Sports, Osmaniye/Turkey

<sup>3</sup>Sakarya University of Applied Sciences, Graduate Education Institute, Department of Physical Education and Sport Teaching, Sakarya/Turkey

Correspondence to: Dr N. Şeyma KARA, Email. nseymasar@gmail.com, Cell: 0530 901 25 43

## ABSTRACT

**Aim:** It was aimed to determine the correlation between social appearance anxiety and exercise addiction in this research. **Method:** In the research conducted with the correlational survey model, 119 female ( $\bar{X}$  age=28.64±8.42), 104 male ( $\bar{X}$  age=26.68±7.28), a total of 223 ( $\bar{X}$  age=27.73±7.94) adults aged between 19 and 52 doing fitness and pilates have participated. In the research, data were collected using the "Personal Information Form", "Social Appearance Anxiety Scale" and "Exercise Addiction Scale". Data were analyzed using descriptive statistics, independent groups t-test, and Pearson correlation analysis.

**Results:** When the research findings are examined; social appearance anxiety scores did not differ according to gender and type of exercise ( $p>.05$ ); It was negatively correlated with age and exercise year ( $p<.05$ ); on the other hand, it was revealed that it was not significantly related to weekly exercise frequency ( $p>.05$ ). When examined in terms of exercise addiction, it was found that the exercise addiction scores differed according to the type of exercise performed ( $p<.05$ ), but did not differ according to the gender ( $p>.05$ ); there is a significant positive correlation with weekly exercise frequency ( $p<.05$ ); It was found that there was no significant correlation with age and exercise year ( $p>.05$ ). On the other hand, there is a negative correlation between social appearance anxiety and excessive focus and emotional change; It was concluded that there are positive and significant correlations between the delay of individual-social needs and conflict ( $p<.05$ ).

**Conclusion:** As a result, significant correlations were found between social appearance anxiety and exercise addiction ( $p<.05$ ).

**Keywords:** social appearance anxiety, exercise addiction, fitness, plates

---

## INTRODUCTION

In the age we live in, the rapid progress of technological developments and the increase in the use of social media can change people's perceptions of their appearance. In this context, individuals attach more importance to their appearance and try every way to leave a more attractive and positive impression on others<sup>1</sup>. This can lead to various anxiety problems. When the most common anxiety problems that may arise are examined, social appearance anxiety is expressed as the tension experienced when people are evaluated by others regarding their physical appearance<sup>2</sup>. In other words, Gautreau and others<sup>3</sup> defined social appearance anxiety as the negative emotion that occurs when an individual feels the possibility of being negatively evaluated by others, especially with people they do not know or in new environments. According to Doğan<sup>4</sup>, social appearance anxiety is seen as an individual's negative perceptions of his own body, and the root of this situation is negative body image.

Negative body image occurs as a result of the individual's dissatisfaction with his own appearance and making negative evaluations<sup>5</sup>. In this context, negative body image can reveal the tendency of people to be satisfied with their bodies and to strive to reach the body they want<sup>6</sup>. It can be said that one of these efforts is exercise. As a matter of fact, exercise has an important contribution to achieving a healthy and beautiful body. Therefore, positive changes in body image as a result of regular exercises may cause the individual to make exercise regular and even become dependent on exercise.

Exercise addiction is the situation where the

individual's exercise activities get out of his control, and the exercise duration, frequency, and intensity are constantly increased in order to achieve the desired satisfaction and the individual adjusts his whole life according to exercise<sup>7-8</sup>. It is stated that the most important causes of exercise addiction are dissatisfaction with appearance, body image, and weight anxiety. These reasons can direct individuals to sports centers that will provide an opportunity to have a healthy, beautiful, attractive, and fit body<sup>9</sup>. Thus, sports branches such as fitness and pilates, which are effective in shaping the body, are preferred in sports centers that are the center of attention.

Fitness is defined as suitability and health. In our language, the word fitness, which means physical fitness, has the meaning of being fit<sup>10</sup>. Today, the pilates method, which takes its place among fitness systems and popular exercises, has a significant effect on the shaping of the body. Pilates is a strengthening, firming and balancing exercise program that focuses on central muscle groups, supports the spine, provides the balance and healthy posture of the body in general terms<sup>11</sup>. Zumba, another fitness model, is being developed by 12 million people in 110,000 facilities in 125 countries around the world<sup>12</sup>. Zumba, an aerobic group fitness model that includes balance, endurance and strength, maximizes calorie efficiency<sup>13</sup>. Based on the definitions made, fitness models that people can choose to improve their social appearance can not only improve their physical appearance, but also make individuals dependent on exercise. In this case, individuals who become addicted to exercise may show symptoms such as not being able to stop themselves from

exercising, feeling the need to exercise more every day, and feeling anxiety and uneasiness in the absence of exercise<sup>14</sup>. In the context of this information given, it was aimed to determine the correlation between social appearance anxiety and exercise addiction in this research.

**METHOD**

**Research Model:** The research was carried out with the "correlational survey model", which is one of the quantitative methods. This model was defined by Karasar<sup>15</sup> as "research models aiming to determine the existence and/or degree of covariance between two or more variables".

**Research Group:** Adult individuals who exercise regularly were included in the research. The age scale of the World Health Organization (WHO) was taken into account in the determination of adult individuals. The WHO defines individuals between the ages of 19 and 65 as adults in the new age scale. In addition, the research was carried out on individuals doing fitness and pilates. The reason for this is that the density of participants in different types of exercise is low in sports centers due to the Covid-19 epidemic and it is possible to reach more participants from this exercise group. 119 female ( $\bar{x}$  age=28.64±8.42), 104 male ( $\bar{x}$  age=26.68±7.28), a total of 223 ( $\bar{x}$  age=27.73±7.94) adults aged between 19 and 52 doing fitness and pilates have participated in the research. In the determination of the sample, convenience sampling was used. Convenience sampling is "the shortest way to obtain data quickly and cheaply"<sup>16</sup>.

Table 1. Descriptive statistics of the research group

Gender	n	%	$\bar{X}_{age}$
Female	119	53,4	27.73±7.94
Male	104	46,6	

According to Table 1, 53.4% (n=119) of the participants were female; 46.6% (n=104) were male; the mean age was found to be 27.73±7.94 years.

**Data Collection Tools:** In the research, data were collected using the "Personal Information Form", "Social Appearance Anxiety Scale" and "Exercise Addiction Scale". The characteristics of the measurement tools are presented below.

**Personal Information Form:** In the research, the "Personal Information Form" created by the researchers was used to determine the gender, age, exercise type, weekly exercise frequency, and exercise year of the participants.

**Social Appearance Anxiety Scale:** The "Social Appearance Anxiety Scale" developed by Hart, Flora, Palyo, Fresco, Holle, and Heimberg<sup>17</sup> and adapted into Turkish by Doğan<sup>4</sup> was used to determine the social appearance anxiety levels of the research group. The measurement tool consists of 16 items, a 5-point Likert scale, and a single dimension. A high score indicates a high level of anxiety, and a low score indicates a low level of anxiety. The Cronbach Alpha internal consistency coefficient of the measurement tool was found to be .93<sup>4</sup>. As a result of the current research, the Cronbach Alpha internal consistency of the scale was determined as .94.

**Exercise Addiction Scale (EAS):** The Exercise Addiction Scale (EAS) developed by Tekkurşun-Demir, Hazar and Cicioğlu<sup>18</sup> was used to determine the exercise addiction levels of the research group. The measurement tool, which consists of 17 items, is in the 5-point Likert type. In addition, the measurement tool consists of 3 sub-dimensions: "Extreme Focus and Emotion Change", "Postponing Individual-Social Needs and Conflict" and "Development of Tolerance and Passion". The Cronbach Alpha internal consistency coefficient of the measurement tool was .83 for the first sub-dimension; .79 for the second sub-dimension; .77 for the third sub-dimension and .88 for the overall scale<sup>18</sup>. As a result of the current research, the Cronbach Alpha internal consistency coefficient of the scale was found to be .75 for extreme focus and emotion change; postponing individual-social needs and conflict .68; .74 for development of tolerance and passion and .82 for the overall scale.

**Data Collection:** Due to the Covid-19 epidemic surrounding the whole world, the online environment was preferred for data collection in order to comply with the social distance rules. The questions planned to be used in the research were made ready by transferring them to the online environment. Then, the researchers contacted the trainers in the sports centers and the individuals who were members of these centers were gathered on the online platform. In this platform, detailed information about the purpose and importance of the research was presented and it was emphasized that the research was based on volunteerism. After the written explanation, data were collected from individuals who agreed to participate in the research.

**Data Analysis:** The data collected in the online environment were checked and transferred to the SPSS program with the help of Excel and coded here. First, descriptive statistics were applied to the data. Before deciding on the statistical analysis to be made, whether the data provided the assumption of normality was checked with skewness and kurtosis values. According to George and Mallery<sup>19</sup>, the resulting values are in the range of -2>....<+2, which can be considered appropriate for normal distribution. For this reason, independent groups t-test and Pearson correlation analyzes were used when analyzing the data.

**RESULTS**

Table 2. The comparison results of social appearance anxiety scores of the research group by gender

	Gender	n	$\bar{X}$	ss	t	P
Social Appearance Anxiety	Female	119	28,68	10,84	-1,70	,09
	Male	104	31,71	15,04		

As a result of the independent groups t-test in Table 2, it was determined that the social appearance anxiety scores of the research group did not differ significantly according to gender (p>.05).

As a result of the independent groups t-test in Table 3, it was determined that the social appearance anxiety scores of the research group did not differ significantly according to the exercise type (p>.05).

Table 3. The comparison results of the social appearance anxiety scores of the research group according to the type of exercise performed

	Exercise Type	n	$\bar{X}$	ss	t	p
Social Appearance Anxiety	Fitness	183	30,24	13,35	,36	,72
	Pilates	40	29,43	11,54		

Table 4. The results of the correlation between the social appearance anxiety scores of the research group and age, weekly exercise frequency and exercise year

		Social Appearance Anxiety
Age	r	-,15
	p	,03*
Weekly exercise frequency	r	-,01
	p	,83
Exercise year	r	-,18
	p	,01**

As a result of the Pearson correlation analysis in Table 4, a low and significant negative correlation was found between age and exercise year and social appearance anxiety ( $p < .05$ ).

Table 5. The comparison results of exercise addiction scores of the research group by gender

	Gender	n	$\bar{X}$	ss	t	p
Extreme Focus and Emotion Change	Female	119	27,16	4,63	-1,15	,25
	Male	104	27,85	4,27		
Individual-Social Needs and Conflict	Female	119	14,68	4,29	-1,53	,13
	Male	104	15,63	5,02		
Tolerance Development and Passion	Female	119	12,44	3,50	-,75	,45
	Male	104	12,80	3,65		
Exercise Addiction Total	Female	119	54,28	9,34	-1,52	,13
	Male	104	56,28	10,31		

As a result of the independent groups t-test in Table 5, it was determined that the exercise addiction scores of the research group did not differ significantly according to gender ( $p > .05$ ).

Table 6. The comparison results of exercise addiction scores of the research group according to the type of exercise performed

	Exercise Type	n	$\bar{X}$	ss	t	p
Extreme Focus and Emotion	Fitness	183	27,34	4,59	-1,01	,31
	Pilates	40	28,13	3,85		
Individual-Social Needs	Fitness	183	15,54	4,79	3,51	,00
	Pilates	40	13,25	3,45		
Tolerance Development and Passion	Fitness	183	12,59	3,59	-,14	,89
	Pilates	40	12,68	3,52		
Exercise Addiction Total	Fitness	183	55,46	10,20	,82	,41
	Pilates	40	54,05	7,90		

As a result of the independent groups t-test in Table 6, it was determined that the sub-dimensions of individual-social needs and conflict, which are among the sub-dimensions of exercise addiction of the research group, differed significantly according to the type of exercise performed ( $p < .05$ ).

Table 7. The results of the correlation between the exercise addiction scores of the research group and age, weekly exercise frequency and exercise year

		Extreme Focus	Postponing Individual-Social Needs and Conflict	Tolerance Development and Passion	Exercise Addiction Total
Age	r	-,17	-,13	-,06	-,16
	p	,01*	,05	,40	,02*
Weekly exercise frequency	r	,13	,26	,17	,24
	p	,05	,00**	,01**	,00**
Exercise year	r	,05	,09	,12	,11
	p	,47	,20	,07	,11

As a result of the Pearson correlation analysis in Table 7, there was a low negative level between age and extreme focus and emotional change and exercise addiction total score; A low level of positive correlation was found between weekly exercise frequency and postponement of individual-social needs and conflict, tolerance development, and total scores of passion and exercise addiction.

Table 8. The results of the correlation between the social appearance anxiety scores of the research group and exercise addictions

		Extreme Focus	Postponing Individual-Social Needs and Conflict	Tolerance Development and Passion	Exercise Addiction Total
Social Appearance Anxiety	r	-,16	,23	,07	,06
	p	,02*	,00**	,28	,36

As a result of the Pearson correlation analysis in Table 8, a negative correlation was found between extreme focus and emotion change and social appearance anxiety, and a low-level positive correlation between social appearance anxiety and postponing individual-social needs and conflict ( $p < .05$ ).

## DISCUSSION AND CONCLUSION

It was aimed to determine the correlation between social appearance anxiety and exercise addiction in this research. Within the scope of this aim, the current research has been shaped by taking into account the personal characteristics of individuals who do pilates and fitness. It is aimed to discuss the results of individuals' social appearance anxiety and exercise addiction levels and the correlations between dependent variables, taking into account the age, gender, exercise type, exercise frequency, and exercise year in the personal information form created by the researchers.

As a result of the research, it was determined that there was no significant difference in social appearance anxiety scores according to gender. In relation to the result, Özcan<sup>20</sup> stated that gaining dignity and respectability of

people comes out of physiological needs and is included in the need for dignity, so it may be important to gain these needs for both females and males. As a matter of fact, Maslow<sup>21</sup> states that social needs, which are called the need for appreciation and prestige, and which include the needs for admiration, dignity, appreciation, respect, and value, should be met regardless of gender. Because the step of respectability, which is a step that the individual must take in the direction of self-realization, also includes the appreciation of the individual. In this context, there may not be a significant difference in social appearance anxiety scores according to gender. Similar to the result, Korkmaz and Uslu<sup>9</sup> determined that social appearance anxiety did not differ significantly according to gender. In a research conducted on students, it was reported that social appearance anxiety did not differ according to gender<sup>22</sup>. In research conducted on adult individuals, it was revealed that social appearance anxiety does not differ according to gender, which supports the current research results<sup>23</sup>. Unlike the results of the research, in a research conducted on teacher candidates, there are studies stating that social appearance anxiety differs according to gender<sup>24</sup>.

It was concluded that social appearance anxiety scores did not differ significantly according to the type of exercise performed. In relation to the result, it can be said that the exercise methods generally improve the human body, and in this respect, there is no significant difference in the social appearance anxiety scores of the individuals regardless of the exercise type. Similar to the result, Korkmaz and Uslu<sup>9</sup> found that there was no significant difference in social appearance anxiety scores according to sport type.

As a result of the analysis of the correlation between social appearance anxiety and age, weekly exercise frequency, and exercise year, it was concluded that there was a negative significant correlation between age and exercise year and social appearance anxiety. According to the result, social appearance anxiety decreases as age and exercise year increase. This result may be due to the fact that the person may become more cognitively mature as the age increases, and that the individual's social appearance improves as the years of exercise increase, making the exercise continuous. Similar to the result, Telli and Ünal<sup>22</sup> concluded that there is a significant difference in social appearance anxiety scores according to age. In another research, it was determined that there was no significant difference in social appearance anxiety scores according to age<sup>25</sup>. Similar to the result regarding the exercise year, Doğan<sup>26</sup> concluded that there was a significant difference in the social appearance anxiety scores of the folk dancers according to their years of experience. In another research, Yağan<sup>27</sup> concluded that there was no significant difference in social appearance anxiety scores according to the duration of going to the fitness center.

As a result of the research, it was concluded that there was no significant difference in exercise addiction scores according to gender. Regarding the result, the increase in exercise frequency and dependence on exercise as a result of the benefits of exercising on people can be seen in both females and males, regardless of gender. In this respect, it can be said that exercise

addiction does not differ according to gender. Similar to the result, Di Lodovico and others<sup>28</sup> found that exercise addiction did not differ according to gender. Similarly, in the research of Costa and others<sup>29</sup>, it was concluded that there was no significant difference according to gender in the comparison results of the level of exercise addiction. On the other hand, unlike the result obtained, Cicioğlu and others<sup>30</sup> concluded that male's exercise addiction levels were significantly higher than female's.

In the comparison results of the exercise addiction scores according to the type of exercise performed, it was concluded that there was a significant difference according to the type of exercise performed in the sub-dimension of postponing individual-social needs and conflict. According to this difference, it was concluded that the postponing needs and conflict scores of those who do fitness are higher than those who do pilates. Regarding the result achieved, fitness includes muscle groups that are predominantly used in the body as content. Fitness is preferred for conditioning these muscle groups (as cited in<sup>31</sup>). Therefore, it can be said that it is one of the most effective sports on the muscles. The Pilates method, on the other hand, supports the use of the mind on the muscles and aims to achieve a strong mental structure and thus to provide all the physical control of the body<sup>32</sup>. In this sense, it can be said that fitness can be effective in increasing muscle mass and achieving a more pronounced muscle structure, and in this sense, exercise addiction scores of those who do fitness may be higher. Polat and Şimsek<sup>33</sup> concluded that there were changes in the sub-dimensions of loss of control, tolerance, intention effect, and time depending on the exercise type, similar to the results obtained in their research. Unlike the result, Uzun<sup>34</sup> found that exercise addiction did not differ according to the type of exercise most attended.

As a result of the analysis carried out to determine the correlation between exercise addiction and age, weekly exercise frequency and exercise year, it was determined that there was a negative significant correlation between age and extreme focus and emotion change and total exercise addiction scores. According to the result, as the age increases, the total scores of extreme focus and emotion change and exercise addiction decrease. In this way, it may be effective to use executive functions such as people's ability to control their emotions and reasoning more healthily as a result of the increase in the number of experiences and experiences gained with age. Considering the researches showing similar results with the results, Paksoy<sup>35</sup> concluded that there is a significant difference between the sub-dimensions of extreme focus and emotion change, which are among the sub-dimensions of exercise addiction, according to the age variable. Hale and others<sup>36</sup> concluded that age does not affect exercise addiction. On the other hand, Szabo<sup>37</sup> suggested in his research that exercise addiction decreases with increasing age. In addition, unlike the results of the research, it has been reported in the literature that being involved in exercise manifests itself clearly in the later stages of life. As one gets older, the individual may seek new challenges through physical activity and it has been demonstrated in research that one can participate in the exercise in order to become physically competent<sup>38-39</sup>.

It was determined that there was a positive correlation between the weekly exercise frequency and the postponement of individual social needs and the development of conflict, tolerance, and passion, and exercise addiction total scores. In other words, as the weekly exercise frequency increases, the delay of individual social needs and conflict, tolerance development and passion, and exercise addiction increase. Regarding the result, it is known that the release of serotonin and dopamine increases with exercise. The increase in these neurotransmitters, which activate the feeling of happiness and pleasure, can ensure that the action of the individual becomes continuous. Therefore, the increase in these neurotransmitters with exercise can make the individual addicted to exercise. Considering the researches that are similar to the results, Orhan and others<sup>40</sup> concluded that there is a significant difference in the mean scores of exercise addiction according to exercise frequency. In another research, Yeltepe and İkişler<sup>41</sup> concluded that there is a positive and significant correlation between exercise frequency and exercise addiction. As a matter of fact, when the literature is examined, exercise frequency has been pointed out as the most important determinant of exercise addiction<sup>42-43</sup>.

No significant correlation was found between exercise year and exercise addiction sub-dimensions. Regarding the result, it can be said that exercise addiction does not occur due to the satisfaction of the person depending on the exercise year. Yeltepe and İkişler<sup>41</sup> concluded that there is a positive correlation between the year of participation in exercise and exercise addiction. In another research, Bavlı and others<sup>44</sup> concluded that there is a significant difference in the total scores of exercise addiction according to exercise age.

As a result of the analysis performed to determine the correlation between social appearance anxiety and exercise addiction scores, it was concluded that there was a negative correlation between extreme focus and emotion change and social appearance anxiety, and a positive correlation between social appearance anxiety and postponing individual-social needs and conflict. According to this result, social appearance anxiety decreases as extreme focus and emotion change increase. In other words, an individual's extreme focus on the movement he has done during exercise can reduce the thought developed about social appearance anxiety. Regarding the other result, as the social appearance anxiety increases, the delay of individual-social needs and the level of conflict also increase. Related to this result, individuals with social appearance anxiety may spend a lot of time exercising to improve their appearance. In this case, individuals who can spare more time for exercise may delay their individual-social needs and have high conflict levels. Because one of the most important motivational factors for them can improve the appearance. In this case, they may compromise their entire social life. No research has been found in the literature that directly examines the correlation between exercise addiction and social appearance anxiety. Considering similar researches, it was found that there is a negative correlation between exercise change steps and social appearance anxiety in the research reports of Senna and Ünlü<sup>45</sup>. In addition, Alemdağ and Öncü<sup>24</sup> concluded

that there is a negative significant correlation between participation in physical activity and social appearance anxiety.

As a result, significant correlations were found between social appearance anxiety and exercise addiction. In addition, social appearance anxiety scores did not differ according to gender and type of exercise; It has been revealed that there is a significant negative correlation with age and exercise year, but not with weekly exercise frequency. When examined in terms of exercise addiction, it was found that the exercise addiction scores differed according to the type of exercise performed, but not according to gender; there is a positive significant correlation with weekly exercise frequency; In this research, it was revealed that there was no significant correlation between age and exercise year. The fact that this research was conducted during the covid-19 epidemic period can be considered as a variable affecting the research result. For this reason, it may be useful to carry out post-epidemic researches in future researches and to plan researches by increasing the number of samples to generalize the results.

## REFERENCES

1. Yousefi, B., Hassani, Z., & Shokri O. Reliability and factor validity of the 7-item of social physique anxiety scale (SPAS-7) among university students in Iran. *World Journal of Sport Sciences*, 2009; 2(3), 201-204.
2. Hart, E. A., Leary, M. R., & Rejeski, W. J. Tie measurement of social physique anxiety. *Journal of Sport and exercise Psychology*, 1989; 11(1), 94-104.
3. Gautreau, C. M., Sherry, S. B., Mushquash, A. R., & Stewart, S. H. Is self-critical perfectionism an antecedent of or a consequence of social anxiety, or both? A 12-month, three-wave longitudinal study. *Personality and Individual Differences*, 2015; 82, 125-130.
4. Doğan, T. Adaptation of the social appearance anxiety scale (SAAS) to Turkish: A Validity and Reliability Study. *Hacettepe University Journal of Education*, 2010; 39, 151-159.
5. Jung, J., & Lennon, S. J. Body image, appearance self-schema, and media images. *Family and Consumer Sciences Research Journal*, 2003; 32(1), 27-51.
6. Grogan, S. *Body image: Understanding body dissatisfaction in men, women and children* (1st ed.). New York: Routledge. 1999.
7. Adams, J., & Kirkby, R. J. Excessive exercise as an addiction: A review. *Addiction Research & Theory*, 2002; 10(5), 415-437.
8. Zmijewski, C. F., & Howard, M. O. Exercise dependence and attitudes toward eating among young adults. *Eating Behaviors*, 2003; 4(2), 181-195.
9. Korkmaz, M., & Uslu, T. Researching relationships between socialization levels, social appearance anxiety and self-esteem of individuals who doing fitness. *Journal of Sports Education*, 2020; 4(3), 1-18.
10. Güleşçe, Investigation of the satisfactions of the services provided to the individuals exercising at the fitness centers (Sample of East Anatolian). (Master's thesis). Van Yüzüncü Yıl University. (Institute of Education Sciences). Van. 2020.
11. Karakaş, M.M. Examination of the effects of apparatus pilates on joint movement width and certain flexibility parameters of sedentary women aged between 30-60. (Master's thesis). Istanbul Gelisim University. (Health Sciences Institute). Istanbul. 2017.

12. Ljubojević, A., Jakovljević, V., & Popržen, M. Effects of Zumba fitness program on body composition of women. *SportLogia*, 2014; 10(1), 29-33.
13. Donath, L., Roth, R., Hohn, Y., Zahner, L., & Faude, O. The effects of Zumba training on cardiovascular and neuromuscular function in female college students. *European Journal of Sport Science*, 2014; 14(6), 569-577.
14. Tekkurşun-Demir, G., & Türkeli, A. Examination of exercise addiction and mental strength levels of students of sport sciences faculty. *Journal of Sport Sciences Research*, 2018; 4(1), 9-24.
15. Karasar, N. *Scientific research methods: Concepts, principles and techniques*. (32. Baskı). Ankara: Nobel Publication Distribution. 2018.
16. Karagöz, H. *Spss and Amos applied qualitative-quantitative-mixed scientific research methods and publication ethics*, (1. Baskı). İstanbul: Nobel Bookstore. 2017.
17. Hart, T. A., Flora, D. B., Palyo, S. A., Fresco, D. M., Holle, C., & Heimberg, R. G. Development and examination of the social appearance anxiety scale. *Assessment*, 2008; 15(1), 48-59.
18. Tekkurşun-Demir, G., Hazar, Z., & Cicioğlu, H. İ. Exercise addiction scale (EAS): A study of validity and reliability. *Kastamonu Journal of Education*, 2018; 26(3), 865-874.
19. George, D., & Mallery, P. *SPSS for windows step by step: A simple guide and reference 10.0 update*. (3. Baskı). Baston: Allyn and Bacon, 2001.
20. Özcan, B. Postmodern consumption approach based on hedonism and identity. *Sociology Conferences*, 2015; (35), 119-130.
21. Maslow, A. H. A theory of human motivation. *Psychological Review*, 1943; 50(4), 370.
22. Telli, E., & Ünal, Z. Social appearance anxiety of university students according to sosyo-demographic characteristics: A field study. *Mehmet Akif Ersoy University Journal of Social Sciences Institute*, 2016; 8(15), 134-146.
23. Ürün, Ö. D., & Şafak- Öztürk, C. The relationships between social appearance anxiety and social anxiety, self-esteem and life satisfaction in adults. *Adnan Menderes University Faculty of Health Sciences Journal*, 2020; 4(1), 37-45.
24. Alemdağ, S., & Öncü, E. The investigation of participation physical activity and social appearance anxiety at the preservice teachers. *International Journal of Science Culture and Sport (IntJSCS)*, 2015; 3(3), 287-300.
25. Göksel, A. G., Caz, Ç., Yazıcı, Ö. F., & Zorba, E. Investigation of individuals who use sports service' social appearance anxiety and subjective happiness. *Gaziantep University Journal of Sport Sciences*, 2018; 3(3), 88-101.
26. Doğan, P. K. Examining the relation between the fear of negative evaluation and the anxiety for social appearance in folk dancers. *Journal of Education and Training Studies*, 2018; 6(3), 59-65.
27. Yağan, K. Scrutiny on the social appearance anxiety and self-confidence levels of the individuals attending fitness center. (Master's thesis). Karamanoğlu Mehmetbey University, Social Sciences Institute, Karaman. 2019.
28. Di Lodovico, L., Poulmais, S., & Gorwood, P. (2019). Which sports are more at risk of physical exercise addiction: A systematic review. *Addictive behaviors*, 93, 257-262.
29. Costa, S., Cuzzocrea, F., Hausenblas, H. A., Larcán, R., & Oliva, P. Psychometric examination and factorial validity of the Exercise Dependence Scale-Revised in Italian exercisers. *Journal of Behavioral Addictions*, 2012; 1(4), 186-190.
30. Cicioğlu, H. İ., Tekkurşun-Demir, G., Bulğay, C., & Çetin, E. Exercise addiction levels among elite level athletes and students of sports sciences faculty. *Journal of Dependence*, 2019; 20(1), 12-20.
31. Kaya, E. A research on the reasons why sedantary individuals engage in fitness activities and their physical conditions. (Master's thesis). İstanbul Gelisim University. (Health Sciences Institute). İstanbul. 2019.
32. Bulguroğlu, H.B. Comparison of the effect of mat pilates and instrumental pilates on balance, strength, mobility, fatigue and quality of life in patients with multiple sclerosis. (Master's thesis). Gazi University, Health Sciences Institute, Ankara. 2015.
33. Polat, C., & Şimşek, K. E. The study of individuals' exercise addiction levels at sports centres: Eskişehir Sample. *The Journal of Academic Social Sciences*, 2015; 15 (3): 354-69.
34. Uzun, U. Examination of students' exercise addiction studying at physical education and sports school. (Master's thesis). Trakya University, Social Sciences Institute, Edirne. 2019.
35. Paksoy, S.M. Investigation of exercise addiction levels of university students studying in sports sciences: The case of Kahramanmaraş province. (Master's thesis). Kahramanmaraş Sütçü İmam University, Health Sciences Institute, Kahramanmaraş. 2021.
36. Hale, B. D., Roth, A. D., DeLong, R. E., & Briggs, M. S. Exercise dependence and the drive for muscularity in male bodybuilders, power lifters, and fitness lifters. *Body image*, 2010; 7(3), 234-239.
37. Szabo, A. Physical activity as a source of psychological dysfunction. In *Physical activity and psychological well-being* (pp. 142-165). Routledge. 2003.
38. Beck, F., Gillison, F., & Standage, M. A theoretical investigation of the development of physical activity habits in retirement. *British journal of health psychology*, 2010; 15(3), 663-679.
39. Reboussin, B. A., Rejeski, W. J., Martin, K. A., Callahan, K., Dunn, A. L., King, A. C., & Sallis, J. F. (Correlates of satisfaction with body function and body appearance in middle-and older aged adults: The Activity Counseling Trial (ACT). *Psychology and Health*, 2000; 15(2), 239-254.
40. Orhan, S., Yücel, A. S., Gür, E., & Karadağ, M. Investigation of the exercise dependence in sports centers. *Electronic Turkish Studies*, 2019; 14(2).
41. Yeltepe, H., & İkizler, H. Validation and reliability study of exercise dependence scale-21 in Turkish. *Journal of Dependence*, 2007; 8(1), 29-35.
42. Costa, S., Hausenblas, H. A., Oliva, P., Cuzzocrea, F., & Larcán, R. The role of age, gender, mood states and exercise frequency on exercise dependence. *Journal of Behavioral Addictions*, 2013; 2(4), 216-223.
43. Brunet, J., & Sabiston, C. M. Exploring motivation for physical activity across the adult lifespan. *Psychology of sport and exercise*, 2011; 12(2), 99-105.
44. Bavlı, Ö., Kozanoğlu, M. E., & Doğanay, A. Investigation the effects of participation regular exercise on exercise dependence. *Selçuk University Journal of Physical Education and Sport Science*, 2011; 13(2), 150-153.
45. Senna, Y. E., & Ünlü, H. Investigation of the relationship of high school students' exercise stages of change, social appearance anxiety and self-efficacy. *Türkiye Klinikleri Journal of Sports Sciences*, 2021; 13(1).