The Relationship between Leisure Attitude and Smartphone Addiction: Example of Sports Science Students

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ABSTRACT
The purpose of this study is to examine the relationship between leisure attitude and smartphone addiction of sports science students. Totaly 320 student (140 women and 180 men) were participated the study. The sampling method of study is convenient sampling method. In addition to the personal information form, the "Leisure Attitude Scale (LAS)" adapted into Turkish by Akgül and Gürbüz (2011) and developed by Ragheb and Beard (1982) and, and The "Smartphone Addiction Scale-Short Form (SAS-SF)" adapted into Turkish by Noyan et al., (2015) and developed by Kwon et al., (2013) were used as a data collection tool in the study. MANOVA, ANOVA, independent t-Test and pearson correlation analyses used for the analyse of the data. According to the results of analysis, the variables of "Gender", "Weekly Leisure" and "Daily Smartphone Usage" were significant among the sub-dimensions of LAS. ANOVA results, it was determined that there was a significant difference between smartphone addictions of individuals according to "Weekly Leisure" and "Daily Smartphone Usage". According to Pearson correlation analysis, there was a positive and moderate relationship between LAS and SAS. The levels of LAS and SAS differed with the socio-demographic data.
Keywords: Leisure Attitude, Smartphone Addiction, Sports Science Students

INTRODUCTION

Innovations in communication tools with the contribution of technological developments have an important role in increasing the ease of the life of human beings (Özdemir and Çetiner, 2021). Smartphones are mobile phones that can perform many of the functions of a computer can, typically having a touchscreen interface, internet access, and an operating system that can run downloaded applications (Oxford Dictionaries, 2016; Matar Boumosleh and Jaalouk, 2017). Smartphones are seen not only as mobile phones but also as portable computers. This is because the related devices provide various functions such as camera, multimedia player, internet browser, navigation system, and e-mail service, as well as providing various facilities for social networking and gaming (Chen et al, 2017). Smartphone use becomes problematic when users have difficulties controlling their use and as a result suffers impaired daily functioning (Busch and McCarthy, 2021; Ezoe et al., 2009; Horwood and Anglim, 2018). Smartphone addiction means "*a compulsive dependence on smartphone usage to the extent that physiological, mental, or emotional consequences occur*" (Kil et al., 2021). This may lead to problems such as stress and anxiety, sleep problems, unhealthy eating habits, and decreased physical fitness in individuals (Al Battashi et al., 2021; Alageel et al., 2021; Cho et al., 2017; Elhai et al., 2018; Wacks and Weinstein, 2021).

Leisure refers to the period when the individual does not have any obligations remaining from his/her physiological needs, home, family, and social responsibilities (Arslan, 2011). Briefly, leisure refers to the period that a person can use freely after his/her obligations (Broadhurst, 2001; Demirel & Harmandar, 2009). Besides, the activities that people do in their leisure have become one of the basic components of social life (Sevil et al., 2012; Demirel et al., 2017). In this context, leisure attitude refers to the positive or negative tendencies of people towards leisure, their feelings and thoughts, consisting of the knowledge, experience and skills they have gained in the participated activities (Teaff et al., 1975; Karadeniz et al., 2019). Ragheb and Beard (1982) discussed leisure in cognitive, affective, and behavioral contexts. (1) Cognitive component general knowledge and beliefs about leisure, its

characteristics and how it relates to the quality of the individual's life; (2) Affective component feelings in relation to leisure, the degree to which the individual likes or dislikes leisure activities and experiences; and (3) Behavioural component past, present and intended actions regarding leisure activities and experiences (Ragheb & Beard, 1982; Teixeira and Freire, 2013).

According to Klopfer and Squire (2008), smartphones have become a determining, if not norm-setting (Floros et al, 2021) phenomenon of the digital era thanks to the ability to bring together the following characteristics: portability, social interactivity, context sensitivity, connectivity, and individuality (Irimiás et al, 2021). On the other hand, smartphones have become a ubiquitous element of daily life for many individuals, allowing us to stay connected to friends and family, conduct business, and engage in leisure activities (West et al., 2021). Within the scope of leisure time, smartphones may have a feature that supports leisure, where they are used to plan new activities, to learn about them, and to share experiences before, during and after participating in non-technological leisure activities (Karapanos et al, 2016; Allaby and Shannon, 2020). Also, there is limited research on smartphone usage in particular and its effects on leisure, predominantly conducted with college students (Lepp, 2014; Lepp et al, 2015; Son and Chen, 2018). In this context, the purpose of this study is to examine the relationship between university students' leisure attitudes and smartphone addiction in terms of various variables.

METHOD

Research Model

The screening model was used following the aim of the study. In order to reach a general opinion about the universe, the screening model is expressed as the scanning model, which allows the research to be conducted in a sample group that is assumed to represent the entire universe or (İslamoğlu & Alnıaçık, 2014). The relational screening model, on the other hand, is explained as two or more variables determining the presence, direction, and severity of change together (Karasar, 2014).

Research Sample

The sample group of the research consisted of a total of 320 people, 180 males ($Mean_{age}$= 21.77±3.19) and 140 females ($Mean_{age}$ = 20.17±3.01), who were studying in sports sciences faculties of different universities in Turkey and selected by convenience sampling method. Besides, it was determined that 32.2% of the participants in the study "2. grade", 35.0% of them have leisure between "6-10 hours" weekly, 53.1% used smartphones between 4-7 days, while 74.7% of them have "Normal" welfare status.

Data Collection Tools

Personal Information Form: "Personal Information Form" prepared by the researcher. The form consisted of questions such as gender, age, weekly leisure, daily smartphone usage and welfare status to gather information about the individuals who participated in the study.

Leisure Attitude Scale (LAS): The Leisure Attitude Scale (LAS), which was developed by Ragheb and Beard (1982) and adapted into Turkish by Akgül and Gürbüz (2011), was used to determine the leisure attitude levels of the participants. The scale consisted of 36 items and "Cognitive", "Affective" and "Behavioral" sub-dimensions. The internal consistency coefficients of the scale sub-dimensions were calculated as .81 in the "Cognitive" sub-dimension, .92 in the "Affective" sub-dimension, and .91 in the "Behavioral" sub-dimension. In this study, the internal consistency coefficients were determined as .92, .92, and .91 respectively.

Smartphone Addiction Scale- Short Form (SAS-SF): Smartphone Addiction Scale-Short Form (Smartphone Addiction Scale), which was developed by Kwon et al., (2013) and adapted into Turkish by Noyan et al., (2015) to determine the smartphone addiction of the participants, was used. The scale consisted of one dimension and 10 items. The reliability coefficient of the scale was determined as. 92. In this study, the reliability coefficient of the scale was determined as .92.

Data Analysis

Skewness and kurtosis tests were used to determine the distribution of the data. It was determined that the data had a normal distribution. In this context, in the analysis of the data; independent t-Test, ANOVA, MANOVA, and Pearson Correlation analyzes were used. Finally, Cronbach Alpha coefficients were calculated to determine the reliability of the scales.

FINDING

Table 1. Distribution of scale scores

	Sub Dimensions	Number of Articles	n	Mean	Sd.	Skewness	Kurtosis
LAS	Cognitive	12	320	4.88	0.93	-1.20	1.30
	Affective	12	320	4.78	0.97	-0.99	0.40
	Behavioral	12	320	3.69	1.05	-0.23	-0.67
SAS-SF	Smartphone Addiction	10	320	4.82	1.03	-1.11	0.74

When the mean scores of the participants participating in the study from the scale sub-factors were evaluated in Table 1; In the sub-factors of LAS, the highest mean score was found in the "Cognitive" (4.88) sub-factor, and the lowest mean score was in the Behavioral (3.69) sub-factor. The mean score of the participants' SAS was determined as 4.82.

Table 2. Results of LAS and SAS-SF Scores According to Participants' Gender Analysis

	Male (n=180)		***Female (n=140)***	
Scales	**Mean**	**Sd.**	**Mean**	**Sd.**
LAS				
Cognitive	4.78	0.97	5.00	0.87
Affective	4.70	1.01	4.87	0.91
Behavioral	3.68	1.04	3.71	1.06
SAS-SF	3.55	1.02	3.80	0.95

In Table 2, the results of the analysis according to the gender of the participants in the research were given. MANOVA analysis results; It was found that the primary effect of the genders of the participants on the sub-dimensions of LAS was not significant [λ= 0.984, $F_{(3,316)}$ =1.714; p>0.05]. At the sub-dimensions level, there was a statistically significant difference only in the "Cognitive" sub-dimension [$F_{(1-318)}$ =4.641; p<0.05]. Female's mean scores were higher than male's scores. Independent t-Test results; It was found that there was no significant difference between smartphone addictions of individuals according to their gender (t=-1.825; p>0.05).

Table 3. Results of LAS and SAS-SF Scores According to the Weekly Leisure of the Participants Analysis

	1-5 Hour (n=34)		***6-10 Hour (n=112)***		***11-15 Hour (n=78)***		***16 Hour or more (n=96)***	
Scales	**Mean**	**Sd.**	**Mean**	**Sd.**	**Mean**	**Sd.**	**Mean**	**Sd.**
LAS								
Cognitive	5.14	0.78	4.78	1.10	4.64	0.84	5.08	0.77
Affective	4.90	0.82	4.76	1.04	4.52	0.97	4.96	0.90
Behavioral	3.31	1.22	3.42	1.10	4.15	0.96	3.78	0.83
SAS-SF	5.16	0.82	4.72	1.20	4.58	0.96	5.01	0.87

In Table 3, the results of the analysis according to the weekly leisure of the participants in the research were given. MANOVA analysis results; It was found that the primary effect of the participants' weekly leisure time on the sub-dimensions of LAS was significant [λ= 0.858, $F_{(9,764)}$ =5.534; p<0.05]. At the sub-dimensions level, “Cognitive” [$F_{(3-316)}$ =4.572; p<0.05], “Affective” [$F_{(3-316)}$ =3.167; p<0.05] and “Behavioral” [$F_{(3-316)}$ =10.00; p<0.05] a statistically significant difference was found in sub-dimensions. According to ANOVA analysis; it was found that there was a significant difference between smartphone addictions according to the weekly leisure of the participants. (f=4.154; p<0.05).

Table 4. Results of LAS and SAS-SF Scores According to the Daily Smart phone Usage of the Participants Analysis

	3 hours or less (n=43)		***4-7 hours (n=170)***		***8-11 hours (n=67)***		***12 hours and more (n=40)***	
Scales	**Mean**	**Sd.**	**Mean**	**Sd.**	**Mean**	**Sd.**	**Mean**	**Sd.**
LAS								
Cognitive	4.79	1.21	4.99	0.89	4.64	0.86	4.86	0.84
Affective	4.46	1.25	4.88	0.94	4.65	0.86	4.79	0.86

Behavioral	3.04	0.95	3.52	1.04	4.36	0.75	4.02	0.96
SAS -SF	4.70	1.26	4.95	1.03	4.54	0.92	4.87	0.84

In Table 4, the analysis results according to the daily smartphone usage of the participants in the research were given. As a result of the MANOVA analysis, it was determined that the main effect of the participants' daily smartphone usage on the sub-dimensions of LAS was significant [λ= 0.802, $F_{(9,764)}$ =8.057; p<0.05]. At the sub-dimensions level, "Affective" [$F_{(3\text{-}316)}$ =2.853; p<0.05] and "Behavioral" [$F_{(3\text{-}316)}$ =20.563; p<0.05] sub-dimensions were statistically significant. As a result of the ANOVA analysis; it was determined that there was a significant difference between the smartphone addictions of the participants according to the duration of smartphone usage (f=2.722; p<0.05).

Table 5. Correlation Analysis between LAS and SAS-SF Scale Scores

	Cognitive	**Affective**	**Behavioral**	**SAS-SF**
Cognitive	1			
Affective	.846**	1		
Behavioral	.739**	.627**	1	
SAS-SF	.861**	.783**	.562**	1

**(p<0.01)*

In Table 5, Pearson Correlation analysis performed to determine the relationship between LAS and SAS. Analysis results, It was determined that there was a positive and moderate relationship between the sub-factors of LAS and SAS.

DISCUSSION

According to the results the primary effect of the genders of the individuals on the leisure attitude levels was not meaningful but the cognitive sub-dimension scores of female participants in the sub-dimensions were higher than male. This situation can be explained by the fact that women had higher knowledge and beliefs about the benefits of leisure time than men. In other words, it can be said that women had a positive leisure time attitude compared to men. When the studies in the literature on the subject were examined, it was seen that the results of the study by Kesici (2019) the results of this study did not show parallelism with this study, but the results of the studies conducted by Karadeniz et al., (2019), Karakullukçu (2020), Yaşartürk (2016), Uygurtaş (2017) and Akyüz and Türkmen (2016) showed parallelism with the results of this study. Moreover, it was found that there was no significant difference between smart phone addictions of individuals according to their genders. In other words, although female's smart phone addiction levels were higher than male, this difference was not statistically significant. When the studies in the literature were evaluated, the results of the study by Güngör and Koçak (2020), and Göldağ (2019) showed parallelism with the results of this study.

In the cognitive sub-dimension, it was found that the mean scores of the participants who had 1-5 hours of leisure per week were higher than the mean scores of the individuals in the other group. In other words, it can be interpreted that individuals who had 1-5 hours of leisure per week exhibit more cognitively positive attitudes. In the affective subscales, it was found that the sub-dimension scores of the individuals with a weekly leisure time of 16 hours or more were higher than the mean scores of the individuals in the other group. In the behavioural sub-dimension, it was found that the mean scores of the individuals who have a weekly leisure time of 11-15 hours were higher than the scores of the individuals in the other group. In other words, this situation can be explained as individuals who have 16 hours or more of leisure time per week have a more positive attitude emotionally, while individuals who have leisure time between 11-15 hours a week have more positive attitudes behaviorally. When the studies in the literature on the subject were examined; In the study conducted by Çelik (2014), examining the attitudes of Ankara police college students towards leisure activities, it was found that there was no meaningful difference between the leisure time attitude levels of individuals according to their weekly leisure time. It was found that the smart phone addiction levels of the individuals who have 1-5 hours of leisure time per week were higher than the mean scores of the individuals in the other group. This situation can be interpreted as individuals who have 1-5 hours of leisure time per week, use their smart phones to spend their leisure time and in this case, it was increased their addiction level. It was found that the primary effect of individuals' daily smart phone use on their leisure attitudes was significant. At the level of sub-dimensions, it was found that there was a significant difference in affective and behavioural sub-dimensions. In other words, it was found that the affective sub-dimension scores of the individuals who use a smart phone between 4-7 hours a day were higher than the mean scores of the individuals in the other group. It was found the mean scores of the behavioural sub-dimensions of the individuals who use smart phones between 8-11 hours a day were higher than the mean scores of the participants in the other group. This situation can be explained by the fact that the leisure time attitude levels of individuals differ according to the daily use of smart phone. It was found that the levels of smart phone addiction

differ statistically according to the duration of smart phone use between 4-7 hours per day. In other words, it can be stated that as the time of smart phone use of individuals increased in their daily lives, their smart phone addiction levels also increased. Besides, it was found that there was a positive and moderate relationship between the leisure time attitude levels of the participants and their smart phone addiction levels. In other words, it can be explained that as individuals' positive attitudes towards leisure time increased, their smart phone addiction levels increased.

CONCLUSION

Although women' smartphone addiction levels were higher than male, this difference was not significant. Moreover, it was understood that female participants showed a more positive attitude towards leisure time than male only in terms of cognitive. It was found that individuals who had leisure time between 1-5 hours a week have a more positive attitude towards leisure time in terms of cognitive, while these individuals have a higher smart phone addiction than other individuals. It was found that individuals who use smartphones for 4-7 hours a day had a more positive attitude towards leisure time in terms of cognitive and affective and their smart phone addiction levels were higher. Finally, it can be said that as individuals' attitudes towards leisure time increased, their smart phone addiction also increased.

REFERENCES

Akgül, B.M. & Gürbüz, B. (2011). Boş Zaman Tutumu Ölçeği: Geçerlik ve Güvenirlik Çalışması. *Gazi Beden Eğitimi ve Spor Bilimleri Dergisi.* XVI(1), 37-43.

Akyüz, H. & Türkmen, M. (2016). Üniversite Öğrencilerinin Boş Zaman Faaliyetlerine Yönelik Tutumlarının İncelenmesi: Bartın Üniversitesi Örneği. *İnternational Journal of Science Culture and Sport*. 4(SI 1), 340-357.

Al Battashi, N., Al Omari, O., Sawalha, M., Al Maktoumi, S., Alsuleitini, A. & Al Qadire, M. (2021). The Relationship Between Smart phone Use, Insomnia, Stress, and Anxiety Among University Students: A Cross-Sectional Study. *Clinical Nursing Research*, *30*(6), 734–740. https://doi.org/10.1177/1054773820983161

Alageel, A. A., Alyahya, R. A., A. Bahatheq, Y., Alzunaydi, N. A., Alghamdi, R. A., Alrahili, N. M., McIntyre, R. S. & Iacobucci, M. (2021). Smart phone Addiction and Associated Factors Among Postgraduate Students In An Arabic Sample: A Cross-Sectional Study. *BMC Psychiatry*, *21*(1), 1–10. https://doi.org/10.1186/s12888-021-03285-0

Allaby, M. & Shannon, C. S. (2020). "I Just Want to Keep in Touch": Adolescents' Experiences With Leisure-Related Smart phone Use. *Journal of Leisure Research*, *51*(3), 245–263. https://doi.org/10.1080/00222216.2019.1672506

Arslan, S. (2011). Serbest Zaman Kullanımı: Sıradan Serbest Zaman Etkinlikleri ve Sistemli Serbest Zaman Etkinlikleri. *Erzincan Üniversitesi Eğitim Fakültesi Dergisi*, 13(2), 1-10.

Broadhurst, R. (2001). Managing Environments For Leisure And Recreation. London, GBR: Routledge.

Busch, P. A. & McCarthy, S. (2021). Antecedents and Consequences of Problematic Smart phone Use: A Systematic Literature Review of an Emerging Research Area. *Computers in Human Behavior*, 114, 106414.

Chen, B., Liu, F., Ding, S., Ying, X., Wang, L., & Wen, Y. (2017). Gender Differences in Factors Associated with Smartphone Addiction: A Cross-Sectional Study Among Medical College Students. *BMC Psychiatry*, 17(1), 1-9.

Cho, H. Y., Kim, D. J. & Park, J. W. (2017). Stress and Adult Smart phone Addiction: Mediation by Self-Control, Neuroticism, and Extraversion. *Stress and Health*, *33*(5), 624–630. https://doi.org/10.1002/smi.2749

Çelik, Z. (2014). Ankara Polis Koleji Öğrencilerinin Boş Zaman Aktivitelerine Yönelik Tutumlarının İncelenmesi. Gazi Üniversitesi Sağlık Bilimleri Enstitüsü, Ankara.

Demirel, D. H., Demirel, M. & Serdar, E. (2017). University students' Opinions of The Meaning of Leisure and Their Perceived Freedom in Leisure. *Journal of Human Sciences*, *14*(1), 796-802.

Demirel, M. & Harmandar, D. (2009). Üniversite Öğrencilerinin Rekreasyonel Etkinliklere Katılımlarında Engel Oluşturabilecek Faktörlerin Belirlenmesi. *Uluslararası İnsan Bilimleri Dergisi*, 6(1), 838-846.

Elhai, J. D., Levine, J. C., O'Brien, K. D. & Armour, C. (2018). Distress Tolerance and Mindfulness Mediate Relations Between Depression and Anxiety Sensitivity with Problematic Smart phone Use. *Computers in Human Behavior*, *84*, 477–484. https://doi.org/10.1016/j.chb.2018.03.026

Ezoe, S., Toda, M., Yoshimura, K., Naritomi, A., Den, R., & Morimoto, K. (2009). Relationships of Personality and Lifestyle with Mobile Phone Dependence Among Female Nursing Students. Social Behavior and Personality, 37(2), 231–238. https://doi. org/10.2224/sbp.2009.37.2.231

Floros, C., Cai, W., McKenna, B. & Ajeeb, D. (2021). Imagine Being off-the-grid: Millennials' Perceptions of Digital-Free Travel. Journal of Sustainable Tourism. 29(5), 751–766.

Göldağ, B. (2019). Akıllı Telefon Bağımlılığı ile Algılanan Stres ve Yaşam Doyumu Arasındaki İlişkinin

İncelenmesi. *Turkish Studies İnformation Technologies and Applied Sciences.* 14(2), 193-212.
Güngör, A. B. & Koçak, O. (2020). Üniversite Öğrencilerinin Akıllı Telefon Bağımlılığı ve Akademik Erteleme Davranışları Arasındaki İlişkinin İncelenmesi. *Eğitim ve Toplum Araştırmaları Dergisi.* 7(2), 397-419.
Horwood, S., & Anglim, J. (2018). Personality and Problematic Smartphone Use: A facetlevel Analysis Using the Five Factor Model and HEXACO Frameworks. Computers in Human Behavior, 85, 349–359. https://doi.org/10.1016/j.chb.2018.04.013.
Irimiás, A., Csordás, T., Kiss, K. & Michalkó, G. (2021). Aggregated Roles of Smart phones in Young Adults' Leisure and Well-Being: A Diary Study. *Sustainability, 13,* 4133. https://doi.org/10.3390/SU13084133
İslamoğlu, A. H. & Alnıaçık, Ü. (2014). Sosyal Bilimlerde Araştırma Yöntemleri. (4. Baskı) İstanbul: Beta Basım Yayım Dağıtım A.Ş.
Karadeniz, F., Müftüler, M. & Gülbeyaz, K. (2019). Üniversite Öğrencilerinin Serbest Zaman Aktivitelerine Yönelik Tutum ve Engellerinin İncelenmesi (Muğla Sıtkı Koçman Üniversitesi Örneği). *Spor ve Rekreasyon Araştırmaları Dergisi*, 1(2), 21-36.
Karakullukçu, Ö.F. (2020). Öğretmen Adaylarının Boş Zaman Tutumlarının İncelenmesi. *SPORMETRE Beden Eğitimi ve Spor Bilimleri Dergisi.* 18(1), 264-272.
Karapanos, E., Teixeira, P., & Gouveia, R. (2016). Need Fulfillment and Experiences on Social Media: A Case on Facebook and WhatsApp. *Computers in Human Behavior, 55*, 888–897.
Karasar, N. (2014). Bilimsel Araştırma Yöntemi. 27 Basım. Ankara: Nobel Yayıncılık.
Kesici, M. (2019). Relationship Between Leisure Attitudes and Participation Obstacles in Leisure Activities of Food and Beverage Managers. *GSI Journals Serie A: Advancements in Tourism, Recreation and Sports Sciences (ATRSS)*, 2(1), 76-94.
Kil, N., Kim, J., McDaniel, J. T., Kim, J. & Kensinger, K. (2021). Examining Associations Between Smart phone Use, Smart phone Addiction, and Mental Health Outcomes: A Cross-Sectional Study Of College Students. *Health Promotion Perspectives*, *11*(1), 36–44. https://doi.org/10.34172/hpp.2021.06
Klopfer, E. & Squire, K. (2008). Environmental Detectives-The Development of an Augmented Reality Platform for Environmental Simulations. Educational Technology Research and Development. 56, 203–228.
Kwon, M., Lee, J.Y., Won, W.Y., Park, J.W., Min, J.A., Hahn, C., Gu, X., Choi, J.H. & Kim, D.J. (2013). Development and Validation of a Smartphone Addiction Scale (SAS). *PLOSone.* 8(2), e56936.
Lepp, A. (2014). Exploring the Relationship between Cell Phone Use and Leisure: An Empirical Analysis and İmplications for Management. Managing Leisure, 19(6), 381–389. doi:10.1080/ 13606719.2014.909998
Lepp, A., Li, J., Barkley, J. E., & Salehi-Esfahani, S. (2015). Exploring the Relationships between College Students' Cell Phone Use, Personality and Leisure. Computers in Human Behavior, 43, 210–219. doi:10.1080/01490400.2016.1160807
Matar Boumosleh, J., & Jaalouk, D. (2017). Depression, Anxiety, and Smart phone Addiction in University Students-A Cross Sectional Study. *PloS One,* 12(8), e0182239.
Noyan, C.O., Darçın, A.E., Nurmedov, S., Yılmaz, O. & Dilbaz, N. (2015). Akıllı Telefon Bağımlılığı Ölçeğinin Kısa Formunun Üniversite Öğrencilerinde Türkçe Geçerlilik ve Güvenirlik Çalışması. *Anadolu Psikiyatri Dergisi.* 16(Özel Sayı:1), 73-81.
Oxford Dictionaries. [Online]. http://www.oxforddictionaries.com/definition/english/ smartphone. (Cited August 2016).
Özdemir, M. & Çetiner, N. (2021). Akıllı Telefon Bağımlılığının Çalışanların Iş Tatminleri Üzerine Etkisi. *İşletme Araştırmaları Dergisi*, 13(2), 1679-1694.
Ragheb, M. G. & Beard, J. G. (1982). Measuring Leisure Attitude. *Journal of leisure Research.* 14(2), 155-167.
Sevil,T., Şimşek,Y.K., Katırcı,H., Çelik,O.V. & Çeliksoy,A. M. (2012). Boş Zaman ve Rekreasyon Yönetimi. Editör: Kocaekşi S., T.C. Anadolu Üniversitesi Yayını, No:2497
Son, J. S. & Chen, C. C. (2018). Does Using A Smartphone for Work Purposes "Ruin" Your Leisure? Examining The Role of Smartphone Use in Work–Leisure Conflict and Life Satisfaction. *Journal of Leisure Research*, *49*(3–5), 236–257. https://doi.org/10.1080/00222216.2018.1534074
Teaff, J.E., Ernst, N.W. & Ernst. M. (1975). An Elderly Leisure Attitude Schedule. 28th Annual Meeting of the Gerontological Society, Louisville, Kentucky.
Teixeira, A. & Freire, T. (2013). The Leisure Attitude Scale: Psychometrics Properties of a Short Version for Adolescents and Young Adults, Leisure/Loisir, 37:1, 57-67, DOI: 10.1080/14927713.2013.776748
Uygurtaş, M. (2017). Sağlıklı Yaşam ve Spor Merkezlerine Katılan Bireylerin Serbest Zaman Etkinliklerine Yönelik Tutumları ve Karşılaştıkları Problem: Ankara İli Örneği. Gazi Üniversitesi Sağlık Bilimleri Enstitüsü, Ankara.
Wacks, Y. & Weinstein, A. M. (2021). Excessive Smart phone Use Is Associated With Health Problems in Adolescents and Young Adults. Içinde *Frontiers in Psychiatry* (C.12, s.762). Frontiers. https://doi.org/10.3389/fpsyt.2021.669042
West, R., Ash, C., Dapore, A., Kirby, B., Malley, K. & Zhu, S. (2021). Problematic Smartphone Use: The Role of Reward Processing, Depressive Symptoms and Self-Control. *Addictive Behaviors, 122*, 107015.

https://doi.org/10.1016/j.addbeh.2021.107015
Yaşartürk, F. (2016). Elit Düzeydeki Sporcuların Rekreatif Etkinlik Tercihlerinde Tutum, Sıkılma Algısı ile Yaşam Doyumlarının İncelenmesi. Sakarya Üniversitesi Eğitim Bilimleri Enstitüsü, Sakarya.