http:// ijp.mums.ac.ir
Original Article (Pages: 16460-16468)

Attitudes of Young Adult athletes towards E-Learning and Playing Digital Games for Learning Sports

* Çetin Tan [1]

[1] Firat University, Faculty of Sport Sciences, Elazig, Turkey.

Abstract

Background: This study aimed at investigating the attitudes of young adults towards e-learning and playing digital games for learning sports.

Method: The research group consisted of 189 (77 female, 112 male) young volunteered athletes in the province of Elazig, turkey. A "Personal Information Form", "Attitude Scale Towards E-Learning in Sports" and the "Digital Gaming Attitude Scale" (DOOTÖ) were implemented to assess the attitudes of the athletes towards playing digital games with e-learning in sports.

Results: The findings revealed that the attitudes of the research sample towards e-learning in sports and playing digital games differed significantly according to their gender, and there was no significant difference in neither of the scales according to the years of exerience in sports and the type of their sport (individual and team sports) ($p>0.05$). Furthermore, the young adults' attitudes towards e-learning in sports and playing digital games were inversely correlated ($R=-.047$; $R2=.002$; $p<0.05$)

Conclusion: In general, a weak negative relationship was found between young adults' attitudes towards e-learning in sports and playing digital games.

Key Words: Digital Gaming, E-Learning, Youth.

* Please cite this article as: Tan C. Attitudes of Young Adult athletes towards E-Learning and Playing Digital Games for Learning Sports. Int J Pediatr 2022; 10 (8):16460-16468. DOI: **10.22038/ijp. 2022.63116.4818**

Corresponding Author:

Çetin Tan, Firat University, Faculty of Sport Sciences, Elazig, Turkey. Email: cettan889@hotmail.com

Received date: Jan.21,2022; Accepted date:Jun.07,2022

1- INTRODUCTİON

Today, along with the developments in technology, the use of technology by the young generation has affected all areas of life and is entered in every aspect of their lives. In particular, innovations and technological developments in digital environments affect the world of education (1, 2). communication Technologies provide institutional training activities in which learners, teachers and teaching materials in different places in open and distance learning are brought together (3). E-learning, as one of such technology-oriented faclities, is defined as an innovative method of teaching and learning in which teaching is facilitated by using the internet, extranet, intranet, hypertext, Web-based learning, internet-based education, and electronic environments through computer network technologies (4). E-learning has entered learning communities into a new era. It can be said that e-learning environments are cheaper and more effective than traditional teaching methods, thanks to the opportunities they provide to students. They can be easily used in every field of sports and education, since they provides the opportunity to access learning environments at any time and place (5). In this context, e-learning is important in sports as in the other fields of education.

Attitude towards e-learning in sport, programs based on the interests and needs of individuals, adolescent health, physical and mental well-being (6, 7), diversification of the learning environment with e-learning, appropriate learning (individual differences) and the possibility of unlimited repetition can contribute as key factors in learning a skill in sports (8).

Games have started to be used in the field of education as well as in many fields with technological developments. Games have taken their place in the field as motivating materials that can keep learners' interest and motivation high, and they have been effective in the emergence of the gamification approach (9). The attitudes declining individuals to play digital games, usually, include the desire of individuals to empty their minds, to be in search of entertainment, to get away from the social lifestyle, to escape from their environment, and to gain in the virtual world what they cannot reach in their actual life (10). Attitude consists of three sub-dimensions of cognitive, affective and psychomotor, and these sub-dimensions are in a dynamic and active state of being intertwined (11). In line with this information, it is aimed to examine the attitudes towards e-learning and playing digital games in sports in order to determine the interests of young adults in e-learning and digital games.

2- METHOD

The research group consisted of 189 (77 female, 112 male) volunteer athletes in Elazig, turkey. The descriptive survey method was used to determine the attitudes towards playing digital games and e-learning in sports. The participants first responded a "Personal Information Form" containing the demographic information of the athletes. Then, the “Attitude Scale Towards E-Learning in Sports” developed by Mutlu Bozkurt and Tamer (2020) was implemented to determine the attitudes of the athletes towards e-learning in sports. It consists of three parts. And finally, the “Digital Gaming Attitude Scale (DOOTÖ)” developed by Tekkursun Demir and Mutlu Bozkurt (2019) was used to determine the attitudes towards playing digital games (10, 11)

The ranking and score limits of the five-point Likert-type questionnaire entitled **“Attitude Scale Towards E-Learning in Sports”** are as follows:

a) Rating

Strongly disagree: 1.00–1.79

Disagree: 1.80–2.59

I'm between the two: 2.60–3.39

Agree: 3.40–4.19

Strongly agree: 4.20–5.00

b) Point limits

0–29 Very inadequate

30–49 Insufficient

50–69 Medium

70–89 Good

90–100 Very Good

The validity and reliability of the E-Learning Scale in Sports were confirmed indicating that the KMO (Kaiser-Meyer-Olkin Measure of Sampling Adequacy) value was determined as .937, Bartlett Test 2051, 413, and the Cronbach Alpha cofficient as $\alpha = 0.92$.

The ranking and score limits of the five-point Likert-type **"Digital Gaming Attitude Scale (DOOTS)"** are as follows:

a) Rating

Strongly Disagree: 1.00–1.79,

Disagree: 1.80–2.59,

I'm undecided: 2.60–3.39,

Agree: 3.40–4.19,

Strongly Agree: 4.20–5.00

b) Point limits:

0–29 Very inadequate,

30–49 Insufficient

50–69 Medium

70–89 Good

90–100 Very Good

The validity and reliability of the Digital Gaming Attitude Scale were also investigated by the researchers, based on which the KMO (Kaiser-Meyer-Olkin Measure of Sampling Adequacy) value was found to be .894, Bartlett Test 2101, 908 and the Cronbach Alpha coefficient as $\alpha = 0.82$.

2-1. Data Analysis

SPSS statistical program was used for the analysis of the data. The demographic information of the participants, and the attitudes towards e-learning in sports and playing digital games were summarized as descriptive statistics with percentage, frequency, arithmetic mean and standard deviation statistics. After it was determined that the data showed normal distribution, Independent Samples t-test and One-Way ANOVA were applied for in-group comparisons. Correlation analysis was performed to determine the direction of the relationship between the variables, and regression analysis was conducted to determine the effect of the attitude towards e-learning in sports on digital game playing. The significance level was considered at $p < 0.05$.

3- RESULTS

According to **Table 1**, 40.7% of the participants were female, 59.3% were male, 49.7% were in the age range of 16-20, 38.1% were in the age range of 21-25, and 23% aged 25 and over. It was observed that 63% of the participants took part in individual sports, 37% in team sports. 39.2% of the participants had high income levels, 31.7% were in a good income level and 29.1% in a low income level. It was determined that 32.3% of the participants had 4-7 years, 22.2% had 1-3 years, 22.8% had 8-10 years and 12 years or more experience in sports.

According to **Table 2**, it has been determined that there is a statistically significant difference between the gendersin the mean scores of attitude towards e-learning and playing digital games in sports according to the gender variable of the participants ($p<0.05$). It was determined that there was no statistically significant difference between the mean scores of attitude towards e-learning in sports and playing digital games according to the type of sport ($p>0,05$).

Table-1: Demographic information of the participants

Variable		Frequency	Percent (%)
Gender	Female	77	40.7
	Male	112	59,3
Age	16-20 age	94	49.7
	21-25 age	72	38.1
	25 years and older	23	23
Type of Sport Done	Team sports	70	37
	Individual sports	119	63
Perceived Income Level	Low	55	29.1
	Middle	74	39,2
	High	60	31.7
Sports Year	1-3 year	42	22.2
	4-7 year	61	32.3
	8-11 year	43	22.8
	12 years and above	43	22.8

Table-2: T-test analysis of the participants according to their demographic ınformation

Variable		E-Learning in Sports		t	p	Digital Game Playing		t	p
		$\overline{X}$	Sd			$\overline{X}$	sd		
Gender	Female	39.66	13.14	-3.335	0.00*	48.10	13,43	3.591	0.00*
	Male	33.33	12.56			54.82	12,05		
Type of Sport Done	Team sports	33.65	14.17	-1.822	0.07	50.87	9.92	-0.982	0.32
	Individual sports	37.24	12.37			52.79	14.54		

P < 0.05

According to **Table 3**, it has been determined that there is a statistically significant difference between the participants of different age ranges and perceived income levels in the mean score of attitude towards e-learning in sports ($p<0.05$), while It was determined that there was no statistically significant difference in the mean scores of attitude towards e-learning and digital game playing in sports between the athletes with different years of experience in sports ($p>0.05$). It was determined that there was not any significant difference in the attitudes towards playing digital games between the participants in different age ranges, perceived income levels and with different years of sport experience ($p>0.05$).

According to **Table 4**, according to the results of the Pearson correlation analysis, there is a non-significant and negative relationship between the particcipants' attitudes towards e-learning in sports and digital game playing attitudes ($r = -0.047$, $p<0.05$).

According to **Table 5**, there was a negative and low level relationship between the participants' e-learning in sports and digital game playing attitudes ($R=-0.047$; $R2=.002$; $p<0.05$).

Table-3: ANOVA results comparing the attitudes of Athletes by Demographic Information

Variable		E-Learning in Sports		F	Sig	Digital Game Playing		F	Sig
		$\overline{X}$	Sd			$\overline{X}$	sd		
Age	16-20 age	35.11	13.70	3.123	0.04*	52.55	11.27	.206	0.81
	21-25 age	34.93	12.58			51.30	14.79		
	25 years and older	42.26	11.17			52.60	14.27		
Perceived Income Level	Low	32.63	15.15	6.325	0.00*	53.00	13.01	.795	0.45
	Middle	34.52	10.82			52.82	13.79		
	High	40.63	12.66			50.33	12.08		
Sports Year	1-3 year	37.07	14.55	1.059	0.36	56.50	12.80	2.264	0.08
	4-7 year	35.72	13.60			51.32	12.94		
	8-11 year	33.31	12.58			49.69	12.02		
	12 years and above	37.83	11.44			52.08	13.02		

$P < 0.05$

Table-4: The Correlation between the Attitudes to E-Learning in Sports and Playing Digital Games

Variable		Digital Game Playing
E-Learning in Sports	r	-,047*
	p	,520
	N	189

$P < 0.05$*

Table-5: Regression Analysis on the Prediction of Attitudes to E-Learning and Digital Gaming in Sports

Independent Variable	Dependent Variable	B	Std. Error	β	t	p	R	R2	F	P
E-Learning in Sports	Digital Game Playing	38.839	3.957	-0.047	9.701	0.00	0.047	0.002	0.415	0.00

4- DISCUSSION

This study aimed to examine the relationship between young adults' attitudes towards e-learning in sports and their attitudes towards playing digital games. The research group consisted of 189 (77 female, 112 male) volunteer university students. The relationship between the attitudes towards e-learning in sports and their attitudes towards playing digital games was analyzed considering the variables of gender, age, type of sport, perceived income level and years of sport experience. No study has been found in the literature on the same subject. However, sources that separately mention digital gaming, e-learning, technology and attitude in different studies have been instructive.

As a result of the first analysis, it was determined that the attitudes of the research sample towards e-learning in sports and playing digital games differed significantly according to their gender, and there was no significant difference in neither of the scales according to the years

of exerience in sports and the type of their sport (individual and team sports). In the light of this information, it can be stated that male students are more interested in e-learning and digital games in sports, which are among the technological learning environments. Similar to this study, in the research conducted by Mutlu Bozkurt et al. in 2019 and the Media Analysis Laboratory results, it was determined that men spend more time on games and that the preferred games are adventure, fighting, racing and sports, which are the areas that men are more interested in (12,13). In addition, Aras (2019) conducted a study on university students receiving sports education, similarly, finding significant differences between the male and female students in this regard (14). In the same line, Tekinarslan (2008) stated that male students showed more tendencies towards internet-based learning than female students. Nonetheless, some other studies have reported contrary results, in this regard (15). Demir (2013) revealed that gender does not have a significant effect on teacher candidates' acceptance levels of e-learning tools. In other words, he revealed that men and women are similar in the use of e-learning tools (16). Akuratiya and Meddage (2020) determined that the majority of students have positive general perceptions towards e-learning and they see e-learning as an effective teaching method (17). Kurnaz and Ergun (2019) examined the relationship between e-learning and academic success in their study, and it was found that participation in online classes, watching video recordings at a later time, active and independent learning styles predicted academic success. They stated that there is a low and positive relationship between e-learning and academic achievement (18). Yaseen and Eryilmaz (2021), in their study assessing the effect of e-learning on academic achievement in high school students, revealed that e-learning oriented academic success was higher in female students than the males (19). Reyhan and Dagli (2021), in their study on students' perception of e-learning during the pandemic period, determined that more than half of the students, with no difference between the genders, did not find e-learning effective in terms of increasing knowledge and participation in the course (20).

Secondly, the present stydy revealed that there was not a statistically significant difference between the attitudes of the young athletes of different age ranges towards e-learning in sports and playing digital games. Accordingly, it can be interpreted that in line with the increase in age, the young people acquire more positive attitudes towards e-learning in sports, while the attitude towards playing digital games does not change according to age. Similarly, İsbulan (2008) found a significant difference in the age variable in the study he conducted on university students (21). Yildiz (2016), in a study on the students who received Pedagogical Formation education, found a significant difference in the attitudes towards distance education between the participants of different age ranges (22). Unlike the results of this research, Kilinc (2015), measuring the effectiveness of e-learning, found that there was no significant difference in the results of the pretest and posttest (23). Korkmaz et al. (2015) reported that the students' personal characteristics are determing factore in their success in e-learning education and their attitudes towards it (24). Demir Ozturk and Eren (2021), in their study examining the satisfaction levels of university students regarding the online learning environment, showed that the level of the students' online satisfaction increased in line with the increase in their age (25).

Finally, the results of the present study revealed that the participants with different perceived income levels were significantly

different in their attitudes towards e-learning in sports. Since the the participants with high perceived income levels had more positive attitudes towards e-learning in sports, it can be interpreted that the good income of the athletes brings them closer to technology and affects their attitudes. Similar to this finding, Muilenburg and Berge (2005) concluded that the students' not having good access to internet connections and devices for e-learning in order to participate in online education platforms can also affect their attitudes towards e-learning, and can influence their success (26). It can be hypothesized that the mentioned difference can be due to the convenience in having access to the devices required by e-learning systems and the costs of internet usage, as the family income level increases. Unlike the results of this research, Cetin (2018) found that there was no significant difference in the attitudes of maritime high school students towards e-learning according to their computer use experience (27). Mutlu Bozkurt and Erdogan (2022) examined the relationship between e-learning in sports and academic success of physical education and sports teacher candidates in the distance education process, the preferred learning method of the students, e-learning success for theoretical and practical courses and the total score of e-learning in sports. They found that there is a significant difference between the averages of the sports done, the level of perceived income, the type of learning. And the total mean score of e-learning in sports (28). In another study, Cakit and Karadeniz (2020) examined the effect of blended learning environments on the development of basic skills in handball. They stated that classical sports education contributes to the development of handball skills of athletes through blended training studies carried out by supporting internet-based, synchronous or asynchronous web pages such as Facebook, Youtube, and Blog (29).

5- CONCLUSİON

Overall, it was revealed that the attitudes of the research participants towards e-learning and playing digital games in sports significantly differed according to their gender, age and perceived income level; however, no significant difference was found between the type of sport and the years of experience in sports. Finally, It has been determined that there is a weak negative relationship between the young adults' attitudes towards e-learning in sports and playing digital games.

6- REFERENCES

1. Savaş S, Güler O, Kaya K, Çoban G, Güzel, MS. Digital Games in Education and Learning through Games. International Journal of Active Learning, 2021; 6 (2), 117-140.

2. Tel M. Examination of student's digital gaming habits at secondary school level in Elazig Province of Turkey. Educational Research and Reviews, 2015; 10(8), 1300-1310.

3. Simonson M, Smaldino S, Zvacek S.M. (Eds.). Teaching and learning at a distance: Foundations of distance education. IAP, 2014.

4. Moore MG, Kearsley G. Distance education: A systems view of online learning. Belmont, CA: Wadsworth, Cengage Learning, 2012.

5. Doğan D, Duman D, Seferoğlu SS. E-öğrenme ortamlarında toplumsal buradalığın arttırılması için kullanılabilecek iletişim araçları. Akademik Bilişim Konferansı, 2011; 2(4), 1-9.

6. Fairclough SJ, Stratton G. Physical education makes you fit and healthy, Physical education contribution to young people's physical activity levels. Health Education Research, 2005; 20, 14-23.

7. Welk GJ, Maduro PF, Laurson KR, Brown, DD. Field evaluation of the new FITNESSGRAM® criterion-referenced standards. American Journal of Preventive Medicine, 2011; 41, 131– 142.

8. Mutlu Bozkurt T. Tamer K. The Scale of Attitude to E-Learning in Sports. International Social Mentality and Researcher Thinkers Journal, 2020; 6(36): 1761-1771.

9. Yıldırım, İ, Demir S. Gamification and education. Journal of Human Sciences, 2014; 11(1), 655-670.

10. Demir, GT, Bozkurt TM. The Digital Gaming Attitude Scale (DGAS): A Reliability and Validity Study. Sportive Sight: Journal of Sports and Education, 2019; 6(1), 1-18.

11. Tavşancıl E. Tutumların Ölçülmesi ve SPSS İle Veri Analizi (5. Baskı). Ankara: Nobel Yayınevi, 2014.

12. Mutlu Bozkurt T, Dursun M, Arı Ç. Examination of attitudes of students of sports sciences towards digital game play. Journal of Human Sciences, 2019; 16(4), 1217-1227.

13. Media Analysis Laboratory, Simon Fraser University, B.C. (1998). Video game culture: Leisure and play of B.C. teens.http://www.media-awareness. ca/ english/ resources/ research_documents/ studies/ video_games/ video_ game_ culture .cfm.

14. Aras E, Karakaya YE. Opinions of Academic Staff Who Work at Sport Training Institutions towards Distance Education: A Qualitative Study. Spormetre the Journal of Physical Education and Sport Sciences, 2020; 18(2), 1-12.

15. Tekinarslan E. A Validity and Reliability Study of the Basıc Technology Competencıes Scale for Educators. Electronic Journal of Social Sciences, 2008; 7(26), 186-205.

16. Demir M. Investigating Education Faculty Learners' Acceptence Level of E-learning Tools from Different Variable Perspectives. Master's thesis, Sakarya University, 2013.

17. Akuratiya DA, Meddage DN. Students' Perception of Online Learning during COVID-19 Pandemic: A Survey Study of IT Students. International Journal of Research and Innovation in Social Science (IJRISS), 2020; 4(9), 755-8.

18. Kurnaz, F. B., & Ergün, E. E-öğrenme ortamlarında öğrenme stilleri ve akademik başarı arasındaki ilişkinin incelenmesi. Kuramsal Eğitimbilim Dergisi [Journal of Theoretical Educational Science], 2019; 12(2), 532-549.

19. Yaseen, H., & Eryılmaz, S. Lise Öğrencilerinde E-Öğrenme Kullanımının Akademik Başarıya Etkisi: Filistin Örneği. Türkiye Eğitim Dergisi, 2021; 6(2), 412-426.

20. Reyhan, F. & Dağlı, E. Covıd-19 Pandemisinde Ebelik Bölümü Öğrencilerinin E-Öğrenme Algısı. Ebelik ve Sağlık Bilimleri Dergisi, 2021; 4(3), 213-221.

21. İşbulan O. The Usability Level of Distance Education's Web Site (SAU Sample). Master's thesis, Sakarya University, 2008.

22. Yıldız S. The Attitudes of the Students Having Pedagogical Formation Training towards Distance Education. Bolu Abant İzzet Baysal University Journal of Graduate School of Social Sciences, 2016; 16(1), 301-329.

23. Kılınç M. The effectiveness of distance education a research on "İnönü University Distance Education Centre of Theology Degree Completion Program Example", Doctoral Thesis, İnönü University, 2015.

24. Korkmaz, Ö, Çakır, R. & Tan, S. Öğrencilerin E-Öğrenmeye Hazır Bulunuşluk ve Memnuniyet Düzeylerinin

Akademik Başarıya Etkisi. Ahi Evran Üniversitesi Kırşehir Eğitim Fakültesi Dergisi, 2015; 16 (3), 219-241.

25. Demir Öztürk, S. & Eren, E. Üniversite Öğrencilerinin Çevrimiçi Öğrenme Ortamına İlişkin Memnuniyet Düzeylerinin Bazı Değişkenlere Göre İncelenmesi. Uluslararası Bilim ve Eğitim Dergisi, 2021; 4(2), 67-84.

26. Muilenburg LY, Berge ZL. Student barriers to online learning: A factor analytic study, Distance Education, 2005; 26:1, 29-48.

27. Çetin U. An investigation about the attitudes of maritime high school students' toward e-learning in terms of different variables. Master Thesis, Bahçeşehir University 2018.

28. Bozkurt, T. M., & Erdogan, R. Investigation of the Relationship between the Attitudes of Physical Education and Sports Teacher Candidates towards E-Learning in Sports and Academic Success in the Distance Education Process. Turkish Online Journal of Educational Technology, 2022; 21(2), 47.

29. Çakıt, İ. & Karadeniz, Ş. (2020). Harmanlanmış Öğrenme Ortamlarının, Hentbolda Temel Becerilerin Gelişimine Etkisi. Çanakkale Onsekiz Mart Üniversitesi Spor Bilimleri Dergisi, 3(3), 34-52.