



## THE EFFECT OF SPORTS ON PROBLEM-SOLVING AND AGGRESSION LEVELS IN SECONDARY EDUCATION STUDENTS

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### Abstract:

The study investigates the effect of doing sports on problem-solving and aggression levels in secondary school students. 501 students between the ages of 13-18 who are continuing their education in the city center of Şırnak in the 2018-2019 academic year have voluntarily participated in our research. The demographic information questionnaire, which was developed by the researcher and consisted of 5 questions, was applied to the participants, and then the Problem Solving Skills Inventory and Aggression Scale were applied. There has no effect of gender on aggression levels ( $p > 0.05$ ). It has been observed that gender affects the thinking approach ( $p = 0.011$ ) in problem-solving skills. It has been seen that doing sports did not affect aggression ( $p > 0.05$ ). While it has observed that doing sports affected the thinking approach ( $p = 0.019$ ) sub-dimension in problem-solving skills, it did not affect other sub-dimensions ( $p > 0.05$ ). As a result, it has been determined that gender does not affect aggression and problem-solving skills in secondary education students. While it was observed that doing sports did not affect aggression in secondary education students, it was found that the thinking approach in problem-solving skills did not affect the other sub-dimensions. Further development of students' problem-solving skills at the secondary level is recommended.

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## 1. Introduction

People struggle in different areas to survive and meet their needs. This situation puts people face to face with problems (Vierikko et al., 2003). The success in people's life depends on their ability to cope with the problems they encounter. Thus, having the ability to solve the encountered problems positively affects the lives of people. Bingham (2004) explained the problem as an obstacle to the strengths that the individual gains to achieve his desired goal. Morgan (1999), on the other hand, defined the problem as a conflict situation in which the individual faces obstacles during his efforts to achieve his goal and the individual faces frustration.

It is a problem-solving process throughout life. Human beings are faced with many problems from birth to death, regardless of quality or quantity. To solve these problems, the problem-solving methods developed by the person will play an active role in adapting to various situations in life and ensuring the balance of life (Burger, 2006). Problem-solving is the overcoming of the obstacle that prevents reaching the goal (Cüceloğlu, 2016). People may have different reactions to problems. Individual differences can be very effective in problem-solving (Ulupınar, 1997). There are various problems facing humanity today. One of these problems is aggression. None of the issues of interest among various human behaviors have caused a deeper concern than people's aggression (Kırman, 2018). Although the word aggression is generally perceived as a negative behavior, it basically means approaching a place or a person, starting something, but at the same time being thrown to attack. However, today, aggression is defined as behaviors that harm, hurt, even fatal to any living or non-living object (Kesen et al., 2007). Aggression has been defined in many different ways. The reason is that which behavior is considered as aggression is different according to society and culture. The reasons leading to aggression are defined differently. The emergence of aggression in different areas of life has ensured the continuity of studies on the subject. Aggression is a form of behavior that aims to hurt, injure, and torture oneself or others. Aggression is associated with psychoticism, distancing, anti-social behavior, and insensitive behavior towards other people (Koçyiğit, 2018). Aggression is expressed in different ways such as "*all kinds of behavior that hurts others, causes psychological and physiological harm*", "*any behavior to hurt others*" or "*behavior involving anger*". Aggression is divided into two groups, passive and active. Active aggression; There is a concrete action, passive aggression is inactivity but has the purpose of causing harm (Derwent, 2007).

Freedman et al. (1993) made a different classification of aggression as "*altruistic aggression*", "*permissible aggression*" and "*hostile aggression*" (Eroğlu, 2009). When aggression behavior occurs in sports, two different types of aggression can be mentioned. The first is instrumental aggression and the second is aggression involving hostility (Tiryaki, 1996). In sports, we also encounter the term assertiveness, which is the positive, ie constructive dimension of aggression, which is included in the term aggression. If the

rules impose some limitations on the use of physical power, and if the athlete uses his physical strength to the limit within these limits, we can talk about assertiveness here (Pekince, 2012). Regardless of how aggression is defined, it reveals a behavior pattern that harms the individual or someone else and describes an unacceptable negative social skill (Eliöz et al., 2019). The purpose of our study in light of this information, is the study of the effect of sports on problem-solving and aggression levels in secondary education students.

## 2. Methodology

The research is designed with the relational scanning model, which is one of the types of scanning model since it aims to determine the current situation. The relational screening model is a research model that aims to determine the existence and/or degree of change between two or more variables (Karasar, 2002). Before the study, permission was obtained from the Ondokuzmayıs University Clinical Research Ethics Committee, dated 17.04.2018, and numbered 1581. There are several practical rules for sample size in the literature. One of them has been taken into consideration that “*sample size in scale studies should be at least 5 times of each scale item*” (Tavřancıl, 2014).

501 students between the ages of 13-18, who have continued their education in the province of řırnak during the 2018-2019 Education period, voluntarily participated. In the free time of the participants, data collection has been carried out face to face. Demographic information consisting of 5 questions developed by the researcher, the Problem Solving Inventory (34) developed by Heppner and Petersen (1982), and the Aggression Inventory (30) developed by İpek İlter (Kiper) (1984) were applied to the participants.

### 2.1. Statistical Analysis

The analysis of the data obtained in the study has made in the SPSS 21.0 V statistical package program. The normality assumption of the data obtained in the study has evaluated with the Kolmogorov-Smirnov test ( $p > 0.05$ ). Correlation, crosstab distribution, mean, standard deviation, One-way ANOVA analysis has been performed on the data.

## 3. Results

In the study, 280 males (1st grade; 71, 2nd grade; 70, 3rd grade; 71, 4 grade; 68) 221 girls (1st grade; 39, 2nd grade; 39, 3rd grade; 59, 4. Class; 84) participants attended. The place where the participants live has the village; 92, town; 46, district; 88 and 275 people in the province. Sports status, 328 (1st grade; 63, 2nd grade; 81, 3rd grade 96, 4th grade 88) yes, 173 (1st grade; 47, 2nd grade; 28, 3rd grade 34, 4th grade 64), on the other hand, answered no. The age distribution in the study consisted of 173 individuals aged 13-14, 190 aged 15-16, and 138 individuals aged 17-18.

**Table 1:** Descriptive information

Sex	Your class				Total
	1	2	3	4	
Boy	71	70	71	68	280
Girl	39	39	59	84	221
<b>Living Place</b>					
Village	33	13	14	32	92
Town	16	14	8	8	46
District	15	22	38	13	88
Province	46	60	70	99	275
<b>Spors status</b>					
Yes	63	81	96	88	328
No	47	28	34	64	173
<b>Age</b>					
13-14	85	51	19	18	173
15-16	18	50	95	27	190
17-18	7	8	16	107	138
<b>Total</b>	<b>110</b>	<b>109</b>	<b>130</b>	<b>152</b>	<b>501</b>

**Table 2:** Comparison of gender and aggression and problem-solving sub-dimensions

		Sex	n.	X	S.S	p.
Aggression	Devastating aggression	Boy	280	27.67	9.19	,823
		Girl	221	27.86	9.43	
	Assertiveness	Boy	280	39.46	9.05	,451
		Girl	221	38.77	10.87	
	Passive aggression	Boy	280	27.14	9.89	,191
		Girl	221	28.40	11.37	
Problem-solving	İmpulsive style	Boy	280	29.97	6.60	,772
		Girl	221	29.81	5.52	
	Reflective style	Boy	280	14.75	4.45	,011*
		Girl	221	15.80	4.73	
	Avoidant style	Boy	280	13.07	3.92	,901
		Girl	221	13.02	3.96	
	Monitoring	Boy	280	9.90	2.81	,892
		Girl	221	9.86	2.89	
	Problem-solving confidence	Boy	280	21.32	4.75	,684
		Girl	221	21.50	4.99	
	Planfulness	Boy	280	11.80	3.41	,074
		Girl	221	12.38	3.84	

There was no effect of gender on aggression levels ( $p > 0.05$ ). While it has observed that gender affected the reflective style ( $p = 0.011$ ) sub-dimension in problem-solving skills, it has found that it has not affected the other sub-dimensions ( $p > 0.05$ ; Table 2). It has been found that males (100.81) had lower problem-solving skills than female students (102.37) in terms of the total mean scores of problem-solving skills according to gender.

**Table 3:** Comparison of grade level with aggression and Problem Solving sub-dimensions

	Grade Level	n.	X	S.S.	p.	
Aggression	Devastating aggression	1st	110	28.76	9.21	,351
		2nd	109	27.85	10.07	
		3rd	130	28.01	8.97	
		4th	152	26.72	9.02	
		Total	501	27.75	9.29	
	Assertiveness	1st	110	38.15	10.18	,094
		2nd	109	37.71	10.12	
		3rd	130	40.46	9.17	
		4th	152	39.81	10.01	
		Total	501	39.16	9.90	
	Passive aggression	1st	110	28.76	10.24	,318
		2nd	109	28.61	9.91	
		3rd	130	27.11	11.45	
		4th	152	26.76	10.50	
		Total	501	27.69	10.58	
Problem-solving	İmpulsive style	1st	110	29.59	5.77	,029*
		2nd	109	31.34	6.69	
		3rd	130	29.93	6.07	
		4th	152	29.07	5.95	
		Total	501	29.90	6.15	
	Reflective style	1st	110	15.14	4.49	,321
		2nd	109	14.82	4.09	
		3rd	130	15.84	4.19	
		4th	152	15.02	5.32	
		Total	501	15.21	4.61	
	Avoidant style	1st	110	13.09	3.70	,001*
		2nd	109	14.24	4.08	
		3rd	130	12.89	4.03	
		4th	152	12.31	3.75	
		Total	501	13.05	3.94	
	Monitoring	1st	110	9.98	2.85	,672
		2nd	109	10.13	2.93	
		3rd	130	9.81	2.75	
		4th	152	9.72	2.87	
		Total	501	9.89	2.85	
	Problem-solving confidence	1st	110	21.08	4.58	,026*
		2nd	109	22.16	4.66	
		3rd	130	22.00	5.05	
		4th	152	20.60	4.93	
Total		501	21.41	4.86		
Planfulness	1st	110	11.85	3.74	,375	
	2nd	109	11.99	3.26		
	3rd	130	12.54	3.28		
	4th	152	11.86	4.03		
	Total	501	12.06	3.62		

There was no effect on the class to aggression levels ( $p > 0.05$ ). While class level and problem solving sub-dimensions have found to affect the impulsive style ( $p = 0.029$ ) and avoidant style ( $p = 0.001$ ) and problem\_solving confidence ( $p = 0.026$ ) sub-dimensions, it has found that reflective, monitoring and planfulness have not affect the sub-dimensions ( $p > 0.05$  Table 3).

**Table 4:** Comparison of the state of doing sports and sub-dimensions of aggression and problem-solving

Sports status		n.	X	S.S	p.	
Aggression	Devastating aggression	Yes	328	27.98	8.95	,456
		No	173	27.32	9.91	
		Total	501	27.75	9.29	
	Assertiveness	Yes	328	39.39	9.61	,464
		No	173	38.71	10.43	
		Total	501	39.16	9.90	
	Passive aggression	Yes	328	27.76	10.31	,858
		No	173	27.58	11.10	
		Total	501	27.69	10.58	
Problem-solving	İmpulsive style	Yes	328	29.89	6.12	,940
		No	173	29.93	6.22	
		Total	501	29.90	6.15	
	Reflective style	Yes	328	14.86	4.20	,019*
		No	173	15.88	5.25	
		Total	501	15.21	4.61	
	Avoidant style	Yes	328	12.96	3.94	,460
		No	173	13.23	3.94	
		Total	501	13.05	3.94	
	Monitoring	Yes	328	9.92	2.80	,725
		No	173	9.83	2.94	
		Total	501	9.89	2.85	
	Problem-solving confidence	Yes	328	21.25	4.93	,310
		No	173	21.71	4.72	
		Total	501	21.41	4.86	
	Planfulness	Yes	328	11.94	3.51	,300
		No	173	12.29	3.82	
		Total	501	12.06	3.62	

It has been seen that doing sports did not affect aggression ( $p > 0.05$ ). While it has observed that doing sports affected the thinking approach ( $p = 0.019$ ) sub-dimension in problem-solving skills, it has not affected the other sub-dimensions. ( $p > 0,05$ ; Table 4).

**Table 5:** Comparison of aggression and Problem-Solving levels by place of residence

Living Place		n.	X	S.S.	p.	
Aggression	Devastating aggression	Village	92	28.25	9.48	,402
		Town	46	27.46	8.90	
		District	88	26.27	8.31	
		Province	275	28.11	9.58	
		Total	501	27.75	9.29	
	Assertiveness	Village	92	39.93	9.53	,236
		Town	46	41.28	6.82	
		District	88	39.49	9.29	
		Province	275	38.44	10.58	
		Total	501	39.16	9.90	
	Passive aggression	Village	92	27.07	9.20	,372
		Town	46	26.37	11.72	
		District	88	26.73	10.40	
		Province	275	28.44	10.87	
		Total	501	27.69	10.58	
Problem-solving	İmpulsive style	Village	92	29.11	5.51	,069
		Town	46	29.02	5.43	
		District	88	29.13	6.14	
		Province	275	30.56	6.41	
		Total	501	29.90	6.15	
	Reflective style	Village	92	15.39	4.96	,695
		Town	46	14.50	4.31	
		District	88	15.08	4.56	
		Province	275	15.32	4.56	
		Total	501	15.21	4.61	
	Avoidant style	Village	92	12.32	3.56	,105
		Town	46	12.50	3.66	
		District	88	13.06	4.02	
		Province	275	13.39	4.05	
		Total	501	13.05	3.94	
	Monitoring	Village	92	9.78	2.82	,936
		Town	46	10.11	2.63	
		District	88	9.85	2.66	
		Province	275	9.90	2.96	
		Total	501	9.89	2.85	
	Problem-solving confidence	Village	92	20.77	4.78	,071
		Town	46	20.43	3.94	
		District	88	21.00	4.82	
		Province	275	21.91	4.99	
Total		501	21.41	4.86		
Planfulness	Village	92	12.04	3.67	,648	
	Town	46	11.59	3.09		
	District	88	11.84	3.59		
	Province	275	12.22	3.70		
	Total	501	12.06	3.62		

The place of residence does not affect aggression levels and problem-solving skills ( $p>0,05$ ).

#### 4. Discussion

In adolescents, individuals who have developed problem-solving skills and who are confident about themselves; to be able to produce correct and realistic solutions by staying calm in the face of difficulties and obstacles, approaching instead of running away from the problem; it has been stated that individuals whose problem-solving skills are not sufficiently developed to engage in distracting impulsive behaviors such as anger and aggression to cover their deficiencies in this area and to escape from the problem (Gökbüzoğlu, 2008).

In the study, there was no effect of gender on aggression levels ( $p> 0.05$ ). While it was observed that gender affects the reflective style ( $p = 0.011$ ) sub-dimension in problem-solving skills, it has not been found to affect the other sub-dimensions. It was found that males (100,81) had lower problem-solving skills than female students (102,37) in terms of the total mean scores of problem-solving skills according to gender.

This may happen because girls at this age may have more physical and mental development than boys. There is an inverse proportion between the increase in the score obtained in the problem-solving scale (32-192) and problem-solving. We can say that the students in our working group have low-level problem-solving skills.

Studies in which gender affects aggression levels are indicating that women are more assertiveness and passive aggression (Eliöz et al., 2018; Yıldız, 2009; Bjorkqvist et al., 1992). There are also studies in which males are high in physical, impulsive, verbal, and all aggression dimensions (Bjorkqvist et al., 1992; Tiryaki, 1996, Giles and Heyman, 2005, Şahan, 2007; Yaşankul, 2007; Mutluoğlu, 2010; Arslan et al., 2010; Pekince, 2012; Yurttaş, 2016; Yalçın, 2016).

In the literature, there are studies with similar results to our study in comparing gender and problem solving skills (Heppner et al., 1983, Öztürk et al., 2000, Pehlivan and Konukman, 2004, Genç and Kalafat, 2007, Çağlayan, 2007, Kazu and Ersözülü, 2008, Demirtaş and Dönmez, 2008, Çınar et al., 2009, Özgül, 2009, Bilgin, 2010, Zeytun, 2011, Hoxha, 2011, Özdenk, 2011, Yıldız et al., 2011, Berkant and Eren, 2013, Öztaban ve Adana, 2015, Kasımoğlu, 2013, Ulusoy et al., 2012, Zincirli, 2014, Temel and Ayan, 2015, Bayrak et al., 2015, Karaca et al., 2016, Vatansever ve Özen, 2017, Şen, 2018, Kırman, 2018). In the studies, physical education teacher candidates (Yıldız et al., 2011) and pre-school teacher candidates (Zeytun, 2011) reported that they have inadequate problem-solving skills.

There was no influence of the class level on aggression levels ( $p> 0.05$ ). While the affected impulsive style ( $p = 0.029$ ) the sub-dimensions of the avoidant style ( $p = 0.001$ ) and problem-solving confidence ( $p = 0.026$ ) in class level and problem-solving sub-dimensions, it has found that reflective style, monitoring, and planfulness have not affected the sub-dimensions.



In the literature, there are studies (Menteř, 2007; Cengiz, 2010, Gümüř, 2011; Kırman, 2018), where the class level does not affect problem-solving and aggression levels (Efilti, 2006; Hotaman & Yüksel-řahin, 2009; Albayrak, 2008, Good morning, 2008). In this study, it has been observed that doing sports did not affect aggression ( $p > 0.05$ ). While it has observed that doing sports affected the reflective style ( $p = 0.019$ ) sub-dimension in problem-solving skills, it has not affected the other sub-dimensions. In a study conducted by Dilek et al. (2017), it has concluded that those who do sports have a lower aggression level. In the study conducted by Temel and Ayan (2015), no significant difference has been found in problem-solving sub-dimensions according to the teachers' active sports status ( $p > 0.05$ ). There is no effect of doing sports on aggression levels (Derwent, 2007; Kırımliođlu et al., 2008; Kabak, 2009; Yıldız, 2009; Fazel, 2011, Yurttaş, 2016) and also studies where it is effective (Tiryaki, 1996; Bostan & Kılıcđgil, 2008; Yıldız, 2009; Çetin et al., 2010) are available in the current literature.

In studies conducted between those who do and those who do not do sports, it has been found that those who do sports are more lively, outgoing, hard-working, more patient, more ready to establish social relations, easier to adapt to a new situation, and more emotionally balanced than those who do not (Tiryaki et al., 1991; Eliöz et al., 2019).

It is thought that sportsmen use their aggression levels to motivate them to increase their current performance and to show higher performance.

The place of residence does not affect aggression levels and problem-solving skills. There are studies with similar results for the aggression dimension of our study (Yalçın, 2016; Kırman, 2018) as well as studies with the effect of the place where we live (Erođlu, 2009; Ece, 2014). There are studies in which similar results were obtained in problem-solving skills (řen, 2018, Kırman, 2018). The similar socio-economic situation, culture, and geographical conditions are thought to have a common effect on aggression and problem-solving.

## 5. Conclusion and Suggestions

As a result, it has been determined that gender does not affect aggression and problem-solving skills in secondary school students. There has no effect on the class on aggression levels. While the class level and problem-solving sub-dimensions have been found to affect the impulsive style and avoidant style and problem-solving confidence sub-dimensions, it has found that reflective, monitoring and planfulness have not affected the sub-dimensions. It has been seen that doing sports did not affect aggression. While it has observed that doing sports affected the thinking approach sub-dimension in problem-solving skills, it has not affected the other sub-dimensions. The place of residence does not affect aggression levels and problem-solving skills. Further development of students' problem-solving skills at the secondary level is recommended.

## References

- Albayrak-Sargin, Y. (2008). *Ergenlik donemindeki ogrencilerin saldırgan davranıř ile ofke ve sosyal problem cözme becerileri arasındaki iliřkinin incelenmesi*. Karadeniz Teknik University. Master Thesis
- Arenofsky, J. (2001). Developing Your Problem Solving Skills. *Career World*.
- Bayrak E., İnan H., Kartal M. (2015). Beden eđitimi ve spor yuksekokulu ogretmen adayları ile sınıf ogretmenliđi bolumu ogretmen adaylarının problem cözme becerilerinin incelenmesi. *Sosyal Bilimler Dergisi*, 2(5), 308-317.
- Bezci ř. (2010). *Taekwondo Antrenorlerinin Stresle Bařa Cıkma ve Problem Cözme Becerileri Arasındaki İliřkinin İncelenmesi*. Gazi University, Master Thesis.
- Berkant H. G., Eren İ. (2013). İlkogretim matematik ogretmenliđi bolumu ogrencilerinin problem cözme becerilerinin bazı deđiřkenler aasından incelenmesi. *International Journal of Social Science*, 6(3),1021-1041.
- Bilgin A. (2010). *Universite ogrencilerinin cęřitli deđiřkenlere ve denetim odađına gore problem cözme beceri algıları*. Marmara University. Master Thesis.
- Bingham, P. (2004). Cocuklarda Problem Cözme Yeteneklerinin Geliřtirilmesi (Cev:A. Ferhan Ođuzkan), Milli Eđitim Bakanlıđı Yayınları, İstanbul.
- Bjorkqvist, Kaj, Kirsti M. J. Lagerspetz ve Ari Kaukiainen (1992). "Do girls manipulate and boys fight?. developmental trends in regard to direct and indirect aggression". *Aggressive Behavior*. 18: 117-127.
- Bostan, G., Kılıcigil, E. (2008). Beden Eđitimi Ve Spor Yuksekokulu ogrencisi Olan Ve Olmayan Ankara Universitesi ogrencilerinin Saldırganlık Boyutları. *Spormetre, Beden Eđitimi Ve Spor Bilimleri Dergisi*, 3: 133-140.
- Burger J. M. (2006). Kiřilik (ceviri: İnan D, Sarıođlu E). İstanbul, Kaknus Yayınları pp:13-89.
- Cengiz S. (2010). *Ergenlerde saldırganlık ve problem cözme*. Gazi University. Master Thesis.
- Cucelođlu D. (2016). İnsan ve davranıřı: psikolojinin temel kavramları. İstanbul, Remzi Kitabevi.
- ađlayan H. S. (2007). *Beden eđitimi ve spor yuksekokulu ogrencilerinin ogrenme biimleri ile problem cözme becerileri arasındaki iliřkinin incelenmesi*. Gazi University, PhD Thesis.
- ađlayan H. S., Tařđın ., Yıldız . (2008). Spor yapan lise ogrencilerinin problem cözme becerilerinin cęřitli deđiřkenler aasından incelenmesi. *Niđe Universitesi Beden Eđitimi ve Spor Yuksekokulu Dergisi*, 2(1). 62-77.
- etin, M. ., Yıldırım,Y., Gezer, E. (2010). Beden Eđitimi Ve Spor Ve Eđitim Fakultesindeki ogretmen Adaylarının Saldırganlık Tutumlarının Karřılařtırılması. 11. Uluslararası Spor Bilimleri Kongresi, 10-12 Kasım 2010, Antalya.
- Cınar O., Hatunođlu A., Hatunođlu Y. (2009). ogretmenlerin problem cözme becerileri. *Erzincan Eđitim Fakultesi Dergisi*, 11(2), 215-226.

- Demirtař H., Dönmez B. (2008). Ortaöğretimde görev yapan öğretmenlerin problem çözme becerilerine ilişkin algıları. *İnönü Üniversitesi Eğitim Fakültesi Dergisi*, 9(16), 177-198.
- Dervent F. (2000). *Lise öğrencilerinin saldırganlık düzeyleri ve sportif aktivitelere katılımı ilişkisi*. Gazi University, Master Thesis.
- Dilek A. N., İmamođlu O., Erkin A. (2017). Agression Levels of Spectators in Terms of Stages of Behavior Change and Gender. *International journal of Cultural and Social Studies*,(3):73-82.
- Düzakın S. (2004). *Lise öğrencilerinin problem çözme becerilerinin bazı değişkenler açısından incelenmesi*. Gazi University, Master Thesis.
- Duyar D. (2011). *Futbol seyircisinde saldırganlık davranışlarının incelenmesi*. Selçuk Üniversitesi Master Thesis.
- Efilti, E. (2008). Orta Öğretim Kurumlarında Okuyan Öğrencilerin Saldırganlık Ve Denetim Odağının Karşılaştırmalı Olarak İncelenmesi. *Selçuk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 19 : 213-230.
- Eliöz M., Çebi M., İmamođlu O., İslamođlu İ., Yamak B. (2019). Patience and Aggression Levels of University Students. *The Journal of International Social Research*, 12(65), 775-779., doi: <http://dx.doi.org/10.17719/jisr.2019.3489>
- Erođlu S. (2009). Saldırganlık davranışının boyutları ve ilişkili olduđu faktörler: lise ve üniversite öğrencileri üzerine karşılaştırmalı bir çalışma. *Selçuk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 21: 206- 221.
- Fazel, K. A. (2011). The comparison of five Personality traits between male and female athletes and non-athletes. *Growth and Sporting-Motion Learning*.
- Fromm E. İnsandaki yıkıcılığın kökenleri. 1. baskı. (Çev. Şükrü Alpagut). İstanbul: Payel Yayınları 1993:21-87.
- Giles, J., Heyman, G. D. (2005). Young Children's Beliefs About The Relationship Between Gender and Aggressive Behavior. *Child Development*, 76(1):107 –12.
- Gültekin F. (2008). *Saldırganlık ve öfke azaltma programının İlköğretim ikinci kademe öğrencilerin öfke ve saldırganlık düzeylerine etkisi*. Hacettepe üniversitesi. PhD Thesis.
- Gültekin F. (2011). İlköğretim ikinci kademe öğrencilerin öfke ve saldırganlık düzeylerinin azaltılması. *Hacettepe üniversitesi Eğitim Fakültesi Dergisi*, 41:180-191.
- Günaydın, S. (2008). *Ortaöğretim kurumları öğrencilerinin saldırganlık düzeylerinin aile ortamı ve benlik imgesi ile ilişkisi (Trabzon ili Örneđi)*. Karadeniz Teknik University, Master Thesis.
- Güner İ. (2007). *Çatışma çözme becerilerini geliştirmeye yönelik grup rehberliğinin lise öğrencilerinin saldırganlık ve problem çözme becerileri üzerine etkisi*. İnönü Üniversitesi, PhD Thesis.
- Gümüş S. Y. (2011). *Saldırganlık ile Aile İçi Şiddet Arasındaki İlişkinin İncelenmesi*. İstanbul Arel University, Master Thesis.
- Gökbüzöđlu B. (2008). Ergenlerin Saldırganlık Düzeyleri İle Problem Çözme Becerileri Arasındaki İlişkinin İncelenmesi. Marmara University, Master Thesis.

- Heppner P. P., Petersen C. H. (1982). The development and implications of a personal problem solving inventory. *Journal of Counseling Psychology*, 29, 66-79.
- Heppner P. P., Reeder B. L., Larson L. M. (1983). Cognitive variables associated with personal problemsolving appraisal: implications of counseling. *Journal of Counseling Psychology*, 30(6):537-545.
- Hogo M. A., Vaughan G. M. (2006). Sosyal psikoloji. (Çev. İbrahim Yıldız, Aydın Gelmez). Ankara: Ütopya Yayınları. Ss: 36-111.
- Hoxha G. (2011). *Arnavutluk ve Türkiye'deki üniversite öğrencilerinin kişiler arası ilişki ile problem çözme becerilerinin karşılaştırılması*. Selçuk University, Master Thesis.
- Hotaman, D. ve Yüksel-Şahin, F. (2009). Okulun öğelerine ve bazı değişkenlere göre ilköğretim öğrencilerinin saldırganlık düzeylerinin incelenmesi. *Yıldız Teknik Üniversitesi Dergisi*, 4(3), 833-858.
- İskender D., Yaman E., Albayrak G. (2004). İlköğretim okullarında etkin yöneticiler için bir gösterge: problem çözme becerisi. *M.Ü. Atatürk Eğitim Fakültesi Eğitim Bilimleri Dergisi*, 20: 73-84.
- Kabak, F. (2009). *Ergenlerde Spora Katılımın Saldırgan Davranışlar Üzerine Etkilerinin İncelenmesi*. Çukurova University, Master Thesis.
- Kağıtçıbaşı, Ç. Yeni insan ve insanlar. İstanbul: Evrim. 1999: 29-78
- Karaca N. H., Akyol T., Karaca L., Can Yaşar M. (2016). Okul öncesi öğretmen adaylarının problem çözme becerileri ve benlik saygılarının bazı değişkenlere göre incelenmesi. *Afyon Kocatepe Üniversitesi Sosyal Bilimler Dergisi*, 18(1), 199-220.
- Karasar, N. Bilimsel araştırma yöntemi. Ankara: Nobel Yayın Dağıtım. 2006: 17-72.
- Kasımoğlu T. (2013). *Öğretmen adaylarında eleştirel düşünme, mantıksal düşünme ve problem çözme becerilerinin çeşitli değişkenler açısından değerlendirilmesi*. Gazi University, Master Thesis.
- Kaynak A. (2013). *Eğitim fakültesi öğrencilerinin duygusal zeka düzeyleri ile saldırganlık düzeyleri arasındaki ilişkinin bazı değişkenler açısından incelenmesi*. Gaziantep University, Master Thesis.
- Kazu H., Ersözlü Z. N. (2008). Öğretmen adaylarının problem çözme becerilerinin cinsiyet, bölüm ve ÖSS puan türüne göre incelenmesi. *Abant İzzet Baysal Üniversitesi Eğitim Fakültesi Dergisi*, 8(1), 161-172.
- Kesen, N. F., Deniz, M. E., Durmuşoğlu, N. (2007). Ergenlerde saldırganlık ve öfke düzeyleri arasındaki ilişki: Yetiştirme yurtları üzerinde bir araştırma. *SÜ. Sosyal Bilimler Enstitüsü Dergisi*, 17: 353-64,
- Kılıçarslan, S. (2009). *İlköğretim 7. ve 8. sınıf öğrencilerinin akılcı olmayan inançları ile saldırganlık düzeyleri arasındaki ilişkinin incelenmesi*. Çukurova University. Master Thesis.
- Kılıç E. (2012). Genel Lise 9. Sınıf Öğrencilerinin Bazı Değişkenlere ve Sürekli Kaygı Düzeylerine Göre Saldırganlık Düzeylerinin İncelenmesi. *Gaziantep Üniversitesi Sosyal Bilimler Dergisi*, 11(3):835 -853.

- Kırımliođlu, H. ve ark. (2008). Lise Öđrencilerinin Saldırganlık Düzeylerinin Spor Yapıp Yapmama Durumlarına Göre İncelenmesi. *Niđe Üniversitesi Beden Eđitimi Ve Spor Bilimleri Dergisi*, Cilt 2, Sayı 2.
- Kırman S. (2018). *Sađlık meslek yüksekokulu öđrencilerinin problem çözme becerileri ile saldırganlık eğilimleri arasındaki ilişkinin incelenmesi*. Okan University, Master Thesis.
- Kiper, İ. (1984). *Saldırganlık Türlerinin Çeřitleri Ekonomik, Sosyal ve Akademik Deđişkenlerle İliřkisi*, Ankara, Master Thesis.
- Korkut F. (2002). Lise öđrencilerinin problem çözme becerileri. *Hacettepe Üniversitesi Eđitim Fakültesi Dergisi*, 22:177-184.
- Koçyiđit, M. (2018). *Etkili İletişim ve Duygusal Zekâ*. (3.Baskı). Konya: Eđitim Yayınevi.
- Menteř, A. (2007). *Lise Öđrencilerinin Atılganlık Düzeyine Sporun Etkisi*. Gazi University, Master Thesis.
- Mutluođlu, S. (2010). İlkokul 5.Sınıf Öđrencilerinin Saldırganlık Özelliklerinin Bazı Sosyo Demografik Özellikler Açısından İncelenmesi. *International Conference On New Trends İn Education And Their İmplications*, 11-13 November 2010, Antalya.
- Morgan, C. T. (1995). *Psikolojiye Giriř*. (Ed.Ç.S. Karakař). Ankara: Meteksan Yayıncılık. 1995:21-78.
- Omay, H. (2008). *İlköđretim Okulları Öđrencilerinin Okul İklimi Algıları İle Saldırganlık Ölçeđi Puanları Arasındaki İliřkinin İncelenmesi*. Yeditepe University, Master Thesis.
- Öğülmüş S. (2006). *Kiřilerarası sorun çözme becerileri ve eđitimi*. Ankara, Nobel Yayın Dađıtım. ss:71-112.
- Özdenk S. (2011). *Düzenli egzersizin Fırat Üniversitesi Beden Eđitimi ve Spor Yüksek Okulu öđrencilerinin problem çözme becerileri üzerine etkisi*. Fırat University, Master Thesis.
- Özgül E. (2009). *Okul öncesi öđretmenlerinin problem çözme becerileri ile öđretmenlik tutumları arasındaki ilişkinin incelenmesi*. Abant İzzet Baysal University, Master Thesis.
- Öztaban ř, Adana Ö. (2015). Lise Öđrencisi erkek ergenlerde problem çözme eđitiminin problem çözme becerisi kiřilerarası iliřki tarzı ve öfke kontrolü üzerinde etkisi. *Hemřirelikte Arařtırma Geliřtirme Dergisi*, 17 (1):21-36.
- Sarıca A. K. (2008). *Sosyal beceri programının ergenlerin saldırganlık düzeyine etkisi*. Mersin Üniversitesi, Master Thesis.
- Solak N. (2011). *Spor Yapan Ve Yapmayan Ortaöđretim Öđrencilerinin Saldırganlık Düzeyleri İle Empatik Eğilim Düzeyleri Arasındaki İliřkinin İncelenmesi (Çorum İli Örneđi)*, Gazi University, Master Thesis.
- Solso R. L., Maclin M. K., Maclin O. H. *Biliřsel psikoloji* (çeviren: Ayçiçeđi Dinn A). İstanbul, Biliřsel Psikoloji Kitapevi 2011:30-67.
- řahan, M. (2007). *Lise Öđrencilerinde Saldırganlıđı Yordayan Bazı Deđişkenlerin İncelenmesi*. Gazi University. Master Thesis.
- řen A. (2018). *Beden eđitimi ve spor yüksekokulu öđrencilerinin problem çözme becerilerinin çeřitli deđişkenler açısından incelenmesi*, Selçuk University, Master Thesis.
- Pakkal F. U. (2007). *Okul Öncesi Eđitim Alan Ergenlerin Sosyal Benlik Deđerlerinin Problem Çözme Becerisine Etkisi*. Maltepe University, Master Thesis.

- Pehlivan Z., Konukman F. (2004). Beden eđitimi ođretmenleri ile diđer branř ođretmenlerinin problem özme becerisi aısından karřılařtırılması. *Sportmetre Beden Eđitimi ve Spor Bilimleri Dergisi*, 2(2), 55-60.
- Pekince H. (2012). *Ergenlerin saldırganlık düzeyleri ile sosyal aktivitelere katılımları arasındaki iliřkinin incelenmesi*. İnönü University, Master Thesis.
- Ulusoy O. (2008). *Ergenlerde biliřim teknolojileri kullanımı ve saldırganlık iliřkisi*. Yüksek lisans tezi. ukurova University, Master Thesis.
- Ulupınar S. (1997). *Hemřirelik eđitiminin ođrencilerin sorun özme becerilerine etkisi*. İstanbul University, PhD Thesis.
- Ustabař S. (2011). *İlköđretim 8. Sınıf ođrencilerinin saldırganlık ve algılanan sosyal destek düzeylerinin bazı deđiřkenlere göre incelenmesi*. Gazi University, Master Thesis.
- Tavřancıl E. (2014). Tutumların ölçülmesi ve SPSS ile veri analizi: 1 ölçme ve ölçme gereksinimi, 2. Güvenirlik, 3. Geçerlilik. 5. Baskı, Nobel Yayıncılık, Ankara. ISBN 978-605-133-740-1.
- Taylan S. (1990). *Heppner'in problem özme envanterinin uygulama, güvenlik ve geçerlilik alıřmaları*. Ankara University, Master Thesis.
- Tekeli, G. (2010). *Lise son sınıf ođrencileri ile üniversite ođrencileri arasında bir karřılařtırma: akademik benlik yeterliđi, denetim odađı, stresle bařa ıkma ve problem özme becerisi*. Ankara University, Master Thesis.
- Temel V., Ayan V. (2015). Beden eđitimi ve spor ođretmenlerinin problem özme becerileri. *KMÜ Sosyal ve Ekonomik Arařtırmalar Dergisi*, 17(29), 70-76.
- Tiryaki, ř. (1996). *Spor Yapan Bireylerin Saldırganlık Düzeylerinin Belirlenmesi:(Takım ve Bireysel Sporlar Aısından Bir İnceleme)*.Mersin University, Master Thesis.
- Tiryaki, ř., Erdil, G., Acar, M., Emlek, Y. (1991). Sporcu ve Sporcu Olmayan Gençlerin Kiřilik Özellikleri. *SHD*, 26; 19-23.
- Topalođlu Z. . (2013). *4-5 Yař ocuklarının sosyal yetkinlik, saldırganlık, kayđı düzeyleri ile anne babalarının ebeveyn özyeterliđi algısı arasındaki iliřkilerin incelenmesi*. Pamukkale University, Master Thesis.
- Vatansever ř, Özen G. (2017). Tenis eđitiminin üniversite ođrencilerinin problem özme becerisi üzerine etkisi. *Jurnal of Human Sciences*, 14(1):1-9.
- Vierikko E., Lea P., Jaakko K., Richard V., Richard R. (2003). *Sex Differences in Genetic and Environmental Effects on Aggression*. *Aggressive Behavior*, 29: 55-68.
- Yalın R. Ü. (2016). *Üniversite Öđrencilerinin Saldırganlık Ve Mutluluk Düzeyleri Arasındaki İliřkinin İncelenmesi*. Atatürk University. Master Thesis.
- Yařankul, N. (2007). *İlköđretim 4. ve 5. sınıf ođrencilerinin saldırganlık eđilimleri ve eđitim algıları arasındaki iliřkinin incelenmesi*. Marmara University, Master Thesis.
- Yazıcı T. (2013). *Problem özme Becerisinin Müzik Eđitimine Etkisi*. Dicle Üniversitesi, Diyarbakır.
- Yiđiter K. (2012). *Rekreatif etkinliklerin üniversite ođrencilerinde algılanan problem özme becerisi ve benlik saygısı düzeylerine etkisi*, Kocaeli University, PhD Thesis.

- Yıldız, S. (2009). *Spor Yapan ve Spor Yapmayan Ortaöđretim Öđrencilerinin Saldırganlık Düzeylerinin İncelenmesi*. Selçuk University, Master Thesis.
- Yıldız L., Zırhlıođlu G., Yalçınkaya M., Güven ř. (2011). Beden eđitimi öđretmen adaylarının yaratıcılık ve problem çözmeye becerileri. *Van Yüzüncü Yıl Üniversitesi Eđitim Fakültesi Dergisi, Özel Sayı*, 18-36.
- Yurttaş H. (2016). *Spor Yapan Ve Yapmayan Üniversite Öđrencilerinin Saldırganlık Düzeylerinin İncelenmesi*. Atatürk University, Master Thesis.
- Zeytun S. (2010). *Okul öncesi öđretmenliđi öđrencilerinin yaratıcılık ve problem çözmeye düzeyleri arasındaki ilişkinin incelenmesi*. Dokuz Eylül University, Master Thesis.
- Zincirli Ö. (2014). *Okul öncesi öđretmen adaylarının anne baba tutum algısı, eleřtirel düşünme ve problem çözmeye becerileri arasındaki ilişki*. Fırat University, Master Thesis.

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