

# Dikkat Eksikliği ve Hiperaktivite Bozukluğu Tanılı Çocuk ve Ergenlerin Benlik Saygıları ve Yaşam Kaliteleri

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## ÖZET

**Amaç:** Bu çalışmada Dikkat Eksikliği Hiperaktivite Bozukluğu (DEHB) tanısı konan 7-15 yaş aralığındaki çocuk ve ergenlerin benlik saygıları ve yaşam kalitelerinin değerlendirilmesi amaçlanmıştır.

**Yöntem:** Çalışmaya DEHB tanısı konulan, 50 çocuk, ergen ile anne, babaları alınmıştır. Kontrol grubu olarak yaş ve cinsiyet açısından eşleştirilmiş 30 çocuk, ergen ile bunların anne, babaları alınmıştır. Rosenberg Benlik Saygısı Ölçeği ve Çocuklar için Yaşam Kalitesi Ölçeği (ÇLYKÖ) kullanılmıştır.

**Bulgular:** DEHB'li grupta benlik saygısının kontrol grubuna göre anlamlı düzeyde yüksek olmadığı saptanmıştır. Anne-babaların doldurdukları yaşam kalitesi ölçeğine göre DEHB'li çocukların yaşamlarının tüm kesitlerinde düşük yaşam kalitesine sahip oldukları bulunmuştur. DEHB'li çocuk ve ergenlerde babanın eğitim düzeyinin yüksekliğinin benlik saygısının yüksekliğini yordadığı tesbit edilmiştir.

**Tartışma ve Sonuç:** Çalışmamızda DEHB'li çocuk ve ergenlerin benlik saygılarının anlamlı düzeyde yüksek olmadığı ve yaşam kalitelerinin anlamlı düzeyde düşük olduğu tesbit edildi. Bu sonuç, DEHB'li çocukların klinik değerlendirmesinde psikososyal boyutun da göz önünde bulundurulması açısından dikkat çekicidir.

**Anahtar kelimeler:** dikkat eksikliği hiperaktivite bozukluğu, benlik saygısı, yaşam kalitesi

## ABSTRACT

### Self-esteem and Quality of Life in Children and Adolescents with Attention Deficit Hyperactivity Disorder

**Objective:** The study aims at discussing self-esteem and quality of life in children and adolescents with the ages of 7-15 who are diagnosed with Attention Deficit Hyperactivity Disorder (ADHD).

**Method:** 50 children and adolescents with ADHD diagnosis and their parents are examined and matched 30 children and adolescents who as control group and their parents. Rosenberg Self-Esteem Scale and Children's Quality of Life Scale are used.

**Findings:** The results obtained are such that the self-esteem value in the group with ADHD is not significant in relation to the control group. According to the quality of life scale forms filled by their parents, it is found out that the children with ADHD diagnosis experience lowness in quality of life with respect to all domains of their lives. In children and adolescents with ADHD diagnosis, it is observed that the highness of the level of education of the father predicts highness in the self-esteem.

**Discussion and Conclusion:** The results of this study suggest that self-esteem in the children and adolescents with ADHD is not significantly high and that their quality of life is significantly low. This is noticeable for it draws attention to the psycho-social dimension in the clinical evaluation of the children with ADHD.

**Keywords:** attention deficit hyperactivity disorder, self-esteem, quality of life

## INTRODUCTION

Attention Deficit Hyperactivity Disorder (ADHD) is a disorder which starts before the age of seven, requires observation at least every six months and it is marked by permanent and continuous shortage of attention span causing deterioration of academic and social functions as well as impetuosity and unrest or both due to lack of prevention-oriented control. ADHD results in serious social, academic and psychological inadequacy in all domains of children's and adolescents' life. Due to the inadequacy experienced in all domains of life, decrease in self-esteem or quality of life may occur (Schachar and Tannock 2002).

The concept of self-esteem can be defined as the self-knowledge and self-evaluation of the individual in terms of his/her mental and physical features. The totality of all the thoughts an individual has about himself/herself is how he perceives and evaluates himself/herself in addition to the schema he/she has in his/her mind about how his/her environment perceives him/her (Rosenberg 1986). There are publications in which the results obtained suggest that self-esteem is low (Slomkowski et al. 1995, Dumas and Pelletier 1999, Shaw-Zirt et al. 2005, Barber et al. 2005, Edbom et al. 2006), medium (Bussing et al. 2000) or not different (Hoza et al. 1993, Wilson and Marcotte 1993, Ek et al. 2008) in ADHD patients.

Quality of life is defined as the way an individual conceives his/her state in the context of the cultural structure and value system in which he/she lives; and it is expressed as the totality of the content one derives from life itself and from the condition which is called personal well-being (Mezzich and Ustun, 2005). The increasing awareness with respect to children and adolescents who are undergoing chronic health problems brought about more studies and research on the measurement of the quality of life in such individuals (Harding 2001). It is observed that children who experience inadequacy in almost all domains of life due to ADHD suffer from decreases in self-confidence, unhappiness and failure which in turn result in a decrease in the quality of life, deterioration of interpersonal and family relationships, and negative influence on mental well-being. Hence, it is argued that the "psycho-social dimension" is becoming more and more significant, and the adequacy or inadequacy with respect to this dimension can be explained by the most proper "quality of life" notion (Kendall 1997, Landgraf et al. 2002, Bulinger 1995). It is stated in various publications that quality of life decreases with ADHD (Sawyer et al. 2002, DeVauugh-Geiss et al. 2002, Topolski et al. 2004, Klassen et al. 2004, Klassen et al. 2006, Yang et al. 2007).

The aim of this research is determining whether there is a difference between a) the self-esteem and quality of life in the children and adolescents with ADHD diagnoses who comprise the sample group, and b) the self-esteem and quality of life in healthy children and adolescents; and if there is a difference, what factors affect this difference. In accordance with this goal, answers to the following questions are searched for. Is there a difference between healthy children and adolescents and their ADHD diagnosed peers in terms of their self-esteem and quality of life? What are the factors that affect the self-esteem of the children and adolescents with ADHD? Is there a relation between self-esteem and quality of life? What are the predictors of high level self-esteem in the group with ADHD?

## METHOD

### Sample Size and Method

Included in the study are 50 cases who are diagnosed with attention deficit hyperactivity disorder (according to the diagnosis criteria stated in the American Psychiatric Association's Diagnostic and Statistical Manual (DSM-IV) (Amerikan Psikiyatri Birliđi 2001) after the clinical interviews carried out by a child psychiatrist on individuals who applied to KTU Medical Faculty Children-Adolescent Mental Health and Disorders Polyclinic in the time period between April 1st, 2008 and March 31st, 2009. Their parents are also included in the study.

The control group consists of students from schools run by Trabzon Provincial Directorate for National Education who are matched with the sample group in terms of age and sex, applied voluntarily, are not diagnosed with any physical or mental disorder and directed to our polyclinic by the psychological counseling and guidance departments of their respective schools.

Criteria for exclusion from both groups are determined as the following: uneducated parents, inadequate mental capacity to fulfill the scale and presence of any medical disorder such as accompanying epilepsy. Children and adolescents whose total intelligence segment points are equal or above 90 according to the Revised Wechsler Intelligence Scale for Children (WISC-R) form and who are evaluated as normal after physical and neurological examinations, laboratory work and Electroencephalography (EEG) are included in the study. The subject of research is presented to the ethics committee of KTU Medical Faculty. The study is conducted after receiving confirmation from the committee. The informed consent is presented to the children, adolescents and their parents who are planned to be taken in the patient group or control group

by the medical doctor. Those who agree to take part in the study are included in the study.

#### **Data Collection Means**

##### **Semi-configured Interview Form**

In this study, the semi-configured interview form of Children-Adolescent Mental Health and Disorders Polyclinic is used to collect socio-demographic information regarding children and parents. This form includes information about the age and education level of the child or the adolescent, the number of children in the family and their sequence, parents' education levels and occupations. This form is filled by the doctor conducting the study.

##### **Scanning and Evaluation Scale based on DSM-IV for Destructive Behavior Disorders**

In order to confirm the ADHD diagnosis, scanning and evaluation scale based on DSM-IV for destructive behavior disorders is applied to the parents and teachers of the cases. This scale is developed by Turgay (1995) in order that destructive behavior disorders are scanned based on the diagnosis criteria established by DSM-IV. Its validity and reliability in Turkey is confirmed by Ercan and his colleagues (2001).

The first section of the scale consists of 9 articles that question attention deficit and 9 articles that question activity-impulsivity; the second section consists of 8 articles that question opposition-objection disorder and the third section consists of 15 articles that question behavior disorder. In the scale that is graded as 0, 1, 2 and 3; 0 and 1 indicates normal condition and behavior. 2 and 3 indicates clinically important situations.

##### **WISC-R Intelligence Test**

The intelligence level of the sample is evaluated using the WISC-R test. The Wechsler Intelligence scale for children is developed by Wechsler in 1949. It was revised by Wechsler (1974), thus becoming eligible to be applied to the age group 6-16. The standardization work for WISC-R was carried out by Savaşır and Şahin (1995); and it was adapted to the Turkish culture based on a sample consisting of 1639 children. WISC-R consists of 6 verbal and 6 performance sub-tests with one reserve for each group of sub-tests. In addition to the standard points related to these sub-tests; verbal intelligence, performance intelligence and total test intelligence coefficients are also obtained.

##### **Rosenberg Self-Esteem Scale**

In order to evaluate self-esteem in children and adolescents, Rosenberg Self-Esteem Scale is adopted. This scale is developed by Rosenberg (1963). In our country, the scale's validity and reliability is tested by Çuhadaroglu (1986). It is observed that the validity co-

efficient and reliability coefficient of the scale are respectively 0.71 and 0.75. Experimental subjects must fulfill the scale which consists of multiple choice questions by themselves. The scale consists of 63 articles and includes 12 sub-test. The first 10 articles are used to evaluate self-esteem. The numeric levels of self-esteem are considered to be as follows; 0 to 1 points high, 2 to 4 points middle and 5 to 6 points low. In our study, the first section related to self-esteem and consisting of 10 articles is used.

##### **Children's Quality of Life Scale (CQLS)**

In order to evaluate the quality of life of the sample and the control group, CQLS forms related to the child age groups 5 to 7, 8 to 12, 13 to 18 and parents is applied (Varni et al. 1999, Üneri 2005, Memik 2005). Children younger than 8 are accompanied and given clarifying explanations about the articles as they give answers for the scale related to children's quality of life and self-esteem.

CQLS is a general quality of life scale that evaluates the psycho-social and physical lives of children aged between 2 and 18 independent of any disorder. It is developed by Varni and his colleagues in 1999. CQLS's adaptation to Turkish for the age groups 2-7 and 8-18 is developed by Üneri and his colleagues (2005) and Memik and his colleagues (2005), respectively. It is observed that the Cronbach alpha coefficients vary between 0.80 and 0.88.

The scale consists of 23 articles. The articles are graded by the points 0 to 100. When the answer "never", "rarely", "sometimes", "often" and "always" is chosen, it is graded by 100, 75, 50, 25 and 0 points respectively. Grading is carried out in 3 areas. First; the scale total grade, second; physical health total grade, third; psychosocial health total grade (points taken in the articles related to emotional, social and school functionality) is calculated. The higher the CQLS total grade is, the better the quality of life related to health is conceived.

##### **Statistical Analysis**

The statistics software SPSS 13.0 is utilized in this study. The data obtained through measurement is indicated as arithmetic mean (X) and standard deviation (SD); the data obtained through census is indicated as percentages (%). The significance level in the evaluations is determined as  $p < 0.05$ . The grading differences between the groups (children-adolescents with ADHD diagnoses and healthy children-adolescents) are compared by using the "Student t test" for the measuremental variables that conform to the normal distribution and "Mann Whitney-U test" for the measuremental variables that do not conform to the normal distribution. Ordinal data such as sex,

parent education, self-esteem are examined through the "X2 test". Self-esteem and quality of life results are compared to the independent variables (age, sex etc.) and it is observed whether there is significant difference exists between the groups. Multivariate logistic regression analysis is conducted in order to determine the independent risk factors that predict self-esteem.

## FINDINGS

The age distributions of the sample are determined homogenically ( $z:-0.299$ ,  $p=0.765$ ), being 10.3 for the patient group and 10.2 for the control group. In the sample, the 80.0% of the children and adolescents with ADHD diagnoses are male ( $n=40$ ) and 20.0% of them are female ( $n=10$ ). In the healthy control group, the 73.3% of the children and adolescents are male ( $n=22$ ) and the 26.7% of them are female ( $n=8$ ). The distribution of sex between the groups have been homogenic ( $X^2=0.478$ ,  $p=0.678$ ). Socio-demographic characteristics of the patient group are indicated in Table 1.

It is observed that 30.0% of the children and adolescents in the group with ADHD diagnosis have "high", 62.0% of them have "middle", and 8.0% of them have "low" self-esteem. The children and adolescents in the control group have been observed to be such that the 56.7% of them have "high" and 43.3% have middle level of self-esteem. There were no "low" self-esteemed individual in the control group.

In order to analyze the hypothesis "the level of self-esteem in children and adolescents with ADHD is different from their peers", the middle and low self-esteemed individuals and high self-esteemed individuals are sub-grouped as "non high self-esteemed" and "high self-esteemed" respectively. Then, the groups are compared to each other in terms of the distribution of these variables in them (Table 2). That the 70.0% of the children and adolescents in the sample group have non-high self-esteem level is statistically significant when compared to the control group.

It is observed that children with ADHD and between the ages 7 and 11, male children and adolescents with ADHD, children with ADHD who are in their primary education (first five years of schooling) and children with ADHD who has no pre-schooling education do not have statistically significant high level self-esteem. The distribution and comparison of self-esteem and related variables is indicated in Table 3.

When the quality of life scale filled by the parents of the children and adolescents who are in the sample group is analyzed in terms of the average distributions of the variables, the low grades with respect to all the variables (Physical health total score (PHTS), emotional functionality score (EFS), social functionality score (SFS), school functionality score (SCFS), psycho-social health total score (PHTS), scale total score (STS)) in this group is observed to be statistically significant in comparison to the results

**Table 1. Socio-demographic characteristics of the children with ADHD**

Variables		ADHD Patients (n=50)	
		Mean	SD
Child-adolescents age (year)		10.3	2.0
Mother age (year)		36.1	5.7
Father age (year)		41.2	7.0
Patients' education levels		n	%
The first 5 years		33	66.0
6th-8th years		16	32.0
High school		1	2.0
Parents' education levels		n	%
Mother	Primary school	29	58.0
	Secondary-high school	19	38.0
	Beyond high school	2	4.0
Father	Primary school	17	34.0
	Secondary-high school	16	32.0
	Beyond high school	17	34.0
Occupational status		n	%
Mother	Working	6	12.0
	Housewife	44	88.0
Father	Unemployed	1	2.0
	Servant	18	36.0
	Employee	14	28.0
	Tradesman	15	30.0
	Retired	2	4.0

**Table 2. Self-esteem levels as "high", "not high" in between the groups**

Self-esteem levels	Patients (n=50)	Control (n=30)	Significance
Self-esteem is not high	35 (70.0%)	13 (43.3%)	X <sup>2</sup> =4.500, p=0.034* *p<0.05
Self-esteem is high	15 (30.0%)	17 (56.7%)	

**Table 3. The distribution and comparison of self-esteem and related variables**

Variables	Self-esteem is high		Self-esteem is not high						p
	ADHD (n=15)		Control (n=17)		ADHD (n=35)		Control (n=13)		
	(n)	(%)	(n)	(%)	(n)	(%)	(n)	(%)	
Child (7-11 years)	10	27.8	14	58.3	26	72.2	10	41.7	0.018*
Adolescent (12-15 years)	5	35.7	3	50.0	9	64.3	3	50.0	0.550
Female sex	2	20.0	4	50.0	8	80.0	4	50.0	0.180
Male sex	13	32.5	13	59.1	27	67.5	9	40.9	0.042*
Education the first 5 years	8	24.2	12	57.1	25	75.8	9	42.9	0.015*
Education 6th-8th years	7	43.8	5	55.6	9	56.3	4	44.4	0.571
Education high school	1	100.0	0	0.0	0	0.0	0	0.0	-
Preschool education no	6	21.4	15	55.6	22	78.6	12	44.4	0.009*
Preschool education yes	9	40.9	2	66.7	13	59.1	1	33.3	0.399
Mother primary school	15	31.3	11	52.4	33	68.7	10	47.6	0.096
Mother secondary-high	8	42.1	8	61.5	11	57.9	5	38.5	0.280
Mother beyond high school	0	0.0	6	66.7	2	100.0	3	33.3	0.087
Father primary school	2	11.8	1	20.0	15	88.2	4	80.0	0.637
Father secondary-high	5	31.3	5	62.5	11	68.8	3	37.5	0.143
Father beyond high school	8	47.1	11	64.7	9	52.9	6	35.3	0.456
Mother working	2	33.3	7	70.0	4	66.7	3	30.0	0.152
Mother not working	13	29.5	10	50.0	31	70.5	10	50.0	0.114
One-single child	2	28.6	2	100.0	5	71.4	0	0.0	0.073
Not one-single child	13	30.2	15	53.6	30	69.8	13	46.4	0.049
The first child	5	21.7	8	57.1	18	78.3	6	42.9	0.029
No the first child	10	37.0	9	56.3	17	63.0	7	43.7	0.220

\*p&lt;0.05

pertaining to the control group. The distribution of the quality of life sub-scale grades with respect to the scales filled by the parents is shown in table 4.

The low levels of school functionality grades of the ADHD diagnosed children and adolescents in the quality of life scale filled by them are observed to be statistically significant. Other variables were homogenic in both groups. The distribution of the quality of life sub-scale grades with respect to the scales filled by the children and adolescents is shown in table 5.

The low levels of social functionality, school functionality, psycho-social health and scale total grades of the ADHD diagnosed children who have non-high level of self-esteem are observed to be statistically significant. A comparison of self-esteem scores and children's quality of life scale scores is provided in Table 6.

The predictors of the highness in self-esteem with respect to the ADHD group are indicated in table 7. Among the variables of age, sex, father's level of edu-

cation and pre-schooling education; only the highness of the father's level of education is observed to be significant.

## DISCUSSION

Self-esteem develops in accordance with experience and the interactivity of the child with his/her environment. In order that the self-esteem of a child is developed in the positive direction, he/she must be awarded, appreciated, and accepted for his/her positive behavior. However, children with ADHD are frequently exposed to substantial criticism and punishment at home, at school and in other environments due to their destructive behaviour or due to their having difficulties in social relationships. According to Barkley, children with ADHD get confused when they are not acclaimed or accepted among peers as they attempt to learn proper social skills (Barkley 1998). This most of the time results in their developing negative self-conceptions (Şenol et al. 2005). In his

**Table 4. The distribution of the quality of life sub-scale grades with respect to the scales filled by the parents**

PedsQL subscores	Patients (n=50) Mean±SD	Control (n=30) Mean±SD	Significance
Physical health total score	63.8±18.6	76.9±20.6	0.004*
Emotional functionality score	53.6±21.2	68.6±21.9	0.003*
Social functionality score	59.2±26.2	86.3±16.9	0.0001*
School functionality score	50.4±19.4	75.7±18.4	0.0001*
Psychosocial health total score	54.4±17.1	76.9±16.5	0.0001*
Scale total score	56.7±15.6	76.9±16.3	0.0001*

\*p<0.05

study, Coleman (2008), pointed out that ADHD diagnosed adolescents have problematic friendship relations (making friends, maintaining friendships, sustaining successful interaction with peers and adults) which are the key to social development as an adolescent, receive negative feedback due to problems pertaining to social skills and are labeled because of situations resulting from problems such as linguistic problems and learning problems. It is emphasized in the study that the self-image-conception and self-esteem of the children-adolescents are affected negatively if an effective intervention is not carried out. In 5 studies conducted abroad, the results suggest that the self-esteem of ADHD diagnosed children and adolescents are affected in a negative direction and that this effect is significant (Slomkowski et al. 1995, Dumas and Pelletier 1999, Shaw-Zirt et al. 2005, Barber et al. 2005, Edbom et al. 2006). The fact that the results of the Rosenberg Self-Esteem Scale we have used in this study are not for measurement but categorical (high-low-middle) makes it impossible to make a comparison with the results of the studies conducted abroad. However, through a definition of self-esteem in terms of 'high'ness and 'non-high'ness, the results suggest that the 2/3 of the ADHD group has non-high self-esteem and that this is

significant when compared to the control group.

Apart from these, the non-high self-esteem observed in male participants is considered to be statistically significant. In the study conducted by Ek and colleagues (2008) on the effect of sex on self-esteem in ADHD patients, Pier Harris self-concept scale is utilized and lower self-esteem is observed in girls. In this study, self-esteem in children with ADHD and in children with below threshold symptoms and/or learning problems is evaluated. The cause of the contradictory findings of the 2 study which are related to sex may be the difference between their respective study patterns.

In our study, it is observed that the education level of the father is determinant. Self-esteem in the children and adolescents with ADHD whose father has undergone higher education is observed to be 4 times the self-esteem in those whose father has not undergone higher education. In general, it is stated that mothers with high levels of education can communicate with their children more adequately and notice the changes in the development of the child earlier, thus being able to seek help if necessary. Early recognition of ADHD symptoms and early application for a treatment can be related with the education levels of the fathers too (Barkley 1998, Cole-

**Table 5. The distribution of the quality of life sub-scale grades with respect to the scales filled by the children and adolescents**

PedsQL subscores (Mean ± SD)	Patients (n=50) Mean±SD	Control (n=30) Mean±SD	Significance
Physical health total score	75.2±18.6	78.7±14.3	0.360
Emotional functionality score	71.0±22.9	72.8±16.0	0.476
Social functionality score	83.3±18.2	88.0±11.8	0.522
School functionality score	71.1±19.3	78.9±13.8	0.039*
Psychosocial health total score	75.1±17.0	79.9±10.7	0.129
Scale total score	75.1±15.8	79.6 ± 10.5	0.137

\*p<0.05

**Table 6. A comparison of self-esteem scores and children's quality of life scale scores**

	Self-esteem is high			Self-esteem is not high		
	ADHD (n=15)	Control (n=17)	p	ADHD (n=35)	Control (n=13)	p
Patients PedsQL scores						
Physical health total score	77.0±16.1	79.4±16.0	0.680	74.5±19.8	77.7±12.5	0.583
Emotional functionality score	78.6±18.0	72.0±16.5	0.289	67.7±24.1	73.8±15.9	0.316
Social functionality score	88.3±14.5	86.4±14.6	0.722	81.1±19.3	90.0±6.7	0.023*
School functionality score	77.3±18.6	79.4±16.7	0.742	68.4±19.2	78.2±9.5	0.024*
Psychosocial health total score	81.7±14.9	79.3±12.9	0.669	72.4±17.4	80.6±7.5	0.027*
Scale total score	80.3±14.5	79.3±12.7	0.836	72.9±16.1	79.9±7.1	0.043*

\*p&lt;0.05

man 2008). Studies are needed on this subject.

In one of Varni's studies published in 2006, CQLS is used on the ADHD group and the children with chronic disorders are compared to the healthy control group. As a result, it is stated that the deterioration of the psycho-social functionality of the children with ADHD is comparable to the newly diagnosed children with cancer and cerebral palsy, being significantly lower than healthy children. It is emphasized that the chronic disorder ADHD affects the quality of life of children as much as other chronic disorders and that life quality evaluation is very important for ADHD patients (Toros 2002).

In the literature on this issue, it is generally stated that parent forms have certain problems since there is a possibility that the parents be affected by other children (of themselves or of other people), by their hopes and expectations and by their mental states or stress at the moment of filling the form (Çuhadaroğlu 1986, Eiser 2000). When parent forms and children forms are evalu-

ated synchronically, it is observed that children conceive the disorder in a more positive and optimistic manner when compared to the parents (Üneri ve ark. 2007). Klassen and colleagues (2006) have conducted researches during their studies on whether the quality of life scales filled by the parents are more negative than those filled by the children and whether there is a relation between these scales (filled by parents) and demographic, socio-economic and clinical factors. The results of the researchers suggest that children provide better feedback in four domains and worse feedback in one domain when compared to the parents' feedback. It is observed that the differences between the feedbacks of the parents and the children are significantly high in the presence of oppositional defiant disorder (Rebok et al. 2001). As a result, it is reported that the use of life quality scale in ADHD diagnosed children do enable an average quality of life evaluation despite the differences between the feedbacks provided by the parents and the children (Klassen et al. 2004). In our study, the quality of life scales filled by the parents of the children-adolescents in the ADHD group are observed to be significantly low in terms of all sub-scale grades whereas the scales filled by the children-adolescents in the ADHD group suggest that the quality of life scale grades are low only in the school functionality field, which is in line with the literature mentioned above.

In our study, it is observed that ADHD diagnosed children with non-high self-esteem have lower social functionality, school functionality, psycho-social health and total scale points in the children quality of life scale. The lowness of self-esteem in ADHD patients can affect different domains of life quality. A research which evaluates self-esteem and quality of life in ADHD together and which compares these to healthy control groups were not available at the time of the present study. Detailed studies are needed in this field.

**Table 7. The predictors of the highness in self-esteem with respect to the ADHD group**

	OR	95%CI	p
Age			
7-11 years	1.43	0.32-6.33	0.631
12-15 years	1		
Sex			
Male	0.80	0.11-5.41	0.822
Female	1		
Father's education level			
Beyond high school	4.06	1.02-16.10	0.046*
Primary to high school	1		
Preschool education			
Absent	0.26	0.06-1.10	0.068
Present	1		

\*p&lt;0.05

## CONCLUSION

ADHD is a chronic psychiatric disorder that is observed frequently in children and adolescents and which may cause problems with respect to learning, behavior and social interaction in childhood and problems due to further deterioration in adolescence and early adulthood. The disorder can influence negatively the quality of life related to health and the self-esteem to a considerable extent in addition to its possibility of negative influence on the social and academic domain. In our study, it is observed that the ADHD diagnosed group do not have significantly higher self-esteem and do have significantly lower quality of life. These results are in accordance with the current literature. The measurement of the effect ADHD has on self-esteem and on the quality of life with further studies can ease the evaluation of the psycho-social dimension of this disorder, the completion of its prognosis, the revision of social interventions and the revision of national health policies.

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