

Evaluation of Quality of Life and Psychiatric Comorbidity in Adolescents with Social Media Addiction

Ergenlerde Sosyal Medya Bağımlılığında Yaşam Kalitesi ve Psikiyatrik Komorbiditenin Değerlendirilmesi

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ABSTRACT

Objective: The time spent on social media and smartphones by children and adolescents has increased in recent times. The problematic use of social media can be the cause or result of many problems such as depression, anxiety disorder, academic failure, and social phobia. Despite its close relationship with psychopathologies, the problematic use of social media is often not evaluated during a psychiatric interview. In this study, we aimed to evaluate the quality of life and psychiatric comorbidities in adolescents with social media addiction.

Methods: This study included 30 adolescents who received a score of 5 or higher from the Social Media Addiction Scale for Adolescents-Short Form. The Quality of Life Scale for Children was applied to adolescents and their parents in both the groups. In the analysis of the data, number, percentage, mean, standard deviation, Mann-Whitney *U* test, and Spearman's correlation test were used in the Statistical Package for the Social Sciences version 20.0 program.

Results: The mean ages of the adolescents with social media addiction and control group were 13.5 ± 1.8 and 13.4 ± 1.73 years, respectively. When the adolescents with and without social media addiction were compared in terms of quality of life, physical health, psychosocial, and total scores, there were significant differences according to both parental and self-reports ($P < .05$). Psychiatric diagnoses were also found higher in adolescents with social media addiction ($P < .001$).

Conclusion: Our research can be a guide for identifying the risks and problems that may arise from problematic social media use and for the preventive and treatment medicine studies in this field.

Keywords: Media addiction, quality of life, psychiatric comorbidity, adolescents

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Received: January 7, 2021

Accepted: June 30, 2021

Cite this article as: Hamidi F, Tahılloğlu A, Bilaç Ö, Önder A. Evaluation of quality of life and psychiatric comorbidity in adolescents with social media addiction. *Neuropsychiatr Invest.* 2021;59(2):31-37.



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ÖZ

Amaç: Günümüzde çocuk ve ergenlerin sosyal medya ve akıllı telefon başında geçen süreleri artmıştır. Problemlili sosyal medya kullanımı depresyon, anksiyete bozukluğu, sosyal fobi okul başarısızlığı gibi birçok sorunun sebebi veya sonucu olabilir. Psikopatoloji ile yoğun ilişkisine rağmen problemlili sosyal medya kullanımı çoğu zaman psikiyatrik görüşme sırasında değerlendirilmemektedir. Çalışmamızda sosyal medya bağımlılığı saptanan çocuk ve ergenlerde yaşam kalitesi ve psikiyatrik komorbiditeyi değerlendirmek amaçlanmıştır.

Yöntemler: Ergenler İçin Sosyal Medya Bağımlılığı Ölçeği Kısa Formu'dan 5 veya üzeri puan alan 30 ergen. Her iki gruptaki ergenlere ve ailelerine Çocuklar İçin Yaşam Kalitesi Ölçeği uygulandı. Verilerin analizinde SPSS 20.0 programında sayı, yüzde, ortalama, standart sapma, Mann-Whitney U testi ve Spearman korelasyon testi kullanıldı.

Bulgular: Çalışmada medya bağımlılığı olan grubun ve kontrol grubunun sırasıyla yaş ortalaması $13,5 \pm 1,8$ ve $13,4 \pm 1,73$ yıl idi. Bu çalışmaya katılan sosyal medya bağımlılığı olan gruptaki ergenlerle kontrol grubunun yaşam kalitesi fiziksel sağlık, psikososyal ve toplam puan karşılaştırmalarında hem ebeveyn değerlendirmesi hem de öz bildirim ölçeklerinde anlamlı olarak farklılık olduğu saptandı ($P < ,05$). Sosyal medya kullanımı yüksek olan grupta eşlik eden psikiyatrik tanının olduğu görüldü ($P < ,001$).

Sonuç: Problemlili sosyal medya kullanımı oluşturabileceği risklerin ve sorunların belirlenmesi ve bu alanda tedavi ve koruyucu hekimlik çalışmalarının yapılması için araştırmamız yol gösterici olabilir.

Anahtar Kelimeler: Medya bağımlılığı, yaşam kalitesi, psikiyatrik komorbidite, adolesan

INTRODUCTION

The use of technology makes our daily lives easier. Computers, internet, and smartphones have become an important part of daily life. However, excessive use of technology can affect people adversely.¹ Existing evidence shows that children and adolescents use the internet, social media, smartphones, and digital games intensively.² Using these tools beyond their intended purpose can lead to major problems. Studies have shown that addiction to technology has increased within the last 10 years, and smartphone addiction has been found to be associated with depression and anxiety disorders.³ In another study, smartphone addiction was found to be associated with depression, anxiety disorder, obsessive-compulsive disorder, and impulsivity.⁴ Excessive use of social media reduces people's physical activities. In a study conducted in China, the number of daily steps taken was found to be lower in people who used smartphones excessively than those in the control group. In addition, it was determined that body mass index, adipose tissue, and amount of muscle tissue detected were significantly different from the control group.⁵ Social media and game addiction negatively affect the quality of people's mutual social relationships. In addition, social isolation and loneliness have been linked to social media and game addiction.⁶ In children with smartphone addiction, academic failure and refusal to go to school may occur more frequently.⁷ Nowadays, the time spent on social media and smartphones by children and adolescents has increased. Intensive and extreme social media use can be the cause or the result of many problems such as depression, anxiety disorder, social phobia, and school failure. Despite its close relationship with psychopathologies, excessive social media use is not often evaluated in psychiatric interviews. Hence, in our study, we aimed to evaluate the quality of life and psychiatric comorbidity in children and adolescents with social media addiction.

METHODS

The power analysis for the case and control groups revealed that each group should include a minimum of 29 participants when *d*

(effect size) and α measures were determined as 75%, *d* (effect size) = 0.70 and $\alpha = 0.05$. Therefore, the sample consisted of 30 adolescents aged 12-18 years, who scored 5 points or more in the Social Media Addiction Scale for Adolescents-Short Form (SMASA-SF) and 30 healthy controls who matched the patient group in terms of age and sex and who scored less than 5 in the SMASA-SF. The adolescents with social media addiction and their parents were selected from the patients who applied to the Child and Adolescent Psychiatry outpatient clinic between October 2019 and February 2020. The healthy controls were healthy children and adolescents of hospital personnel who did not present to the Child and Adolescent Psychiatry clinic because of a psychiatric problem. Sociodemographic Data Form, SMASA-SF, Quality of Life Scale for Children (QLSC), and Schedule for Affective Disorders and Schizophrenia for School-Aged Children, Present and Lifetime Version (K-SADS-PL) were applied to both adolescent groups. Furthermore, the QLSC-Parent form was applied to the parents of both groups. Adolescents who did not have any neurologic or any other medical disease, intellectual disability (verbal, performance, and/or total IQ score less than 80 in the Wechsler Intelligence Scale for Children-Revised (WISC-R)), and autism spectrum disorder were included in the study.

The Sociodemographic Data Form was created by the authors to determine the sociodemographic characteristics of the adolescents in the study. The questions were in Likert type.

Social Media Addiction Scale for Adolescents-Short Form was developed by Van den Eijnden et al⁸ The validity and reliability study of the scale was conducted by Taş⁹ in 2017. Social Media Addiction Scale for Adolescents-Short Form is a 9-item scale and coded as yes and no. If 5 or more items are coded as yes, the score indicates that the individual has social media addiction.

Quality of Life Scale for Children is a quality of life scale developed by Varni et al¹⁰ in 1999 to measure the health-related quality of life of children and adolescents aged between 2 and 18 years. The validity and reliability of the Turkish version of the scale was performed

by Çakın Memik et al^{11,12} in 2007 and 2008. In our study, the forms were filled by both parents and adolescents. The scale consisted of 23 items. The items were scored between 0 and 100. The answer is 100 points if it is marked "never," 75 if it is marked "rarely," 50 if it is marked "sometimes," 25 if it is marked "often," and 0 if it is marked "almost always." The physical health total score (PhyHTS) is calculated by dividing the total score of the first 8 items by 8, the psychosocial health total score (PsyHTS) by dividing the total score of the next 15 items by 15, and the total scale score (TSS) by dividing the total score of 23 items by 23. A higher QLSC score indicates a better perceived health-related quality of life.

Schedule for Affective Disorders and Schizophrenia for School-Aged Children, Present and Lifetime Version DSM-5 November 2016-Turkish Version: The validity and reliability study of the Turkish version of this semi-structured interview chart, which was updated according to the *Diagnostic and Statistical Manual of Mental Disorders, fifth edition (DSM-5)* diagnostic criteria by Kaufman et al¹³ in 2016, was conducted by Ünal et al¹⁴ in 2018.

The ethics committee approval of the study was obtained from the Akdeniz University Ethics Committee (Date: September 11, 2019, approval code: 839). Consent form was obtained from the parents of children and adolescents.

Statistical Analysis

The Statistical Package for the Social Sciences (IBM SPSS Corp., Armonk, NY, USA) version 20.0 program was used for statistical analysis. Descriptive statistics of the data was calculated as values of mean, standard deviation, minimum, maximum, and percentage. To compare categorical variables, the chi-square test was performed. Independent *t* test was conducted in the groups that fulfilled the parametric assumption for continuous variables, and the Mann-Whitney

U test analysis in the groups that could not fulfill the parametric assumption for continuous variables. Considering the distribution of variables, the correlation among quantitative measures was evaluated with Spearman's test. The statistical significance level was set as $P < .05$.

RESULTS

Sociodemographic Features

The mean age of the adolescents with media addiction was 13.5 ± 1.8 years. The average education level was 6.86 ± 2.58 years, and 43.3% were boys and 56.7% were girls; 86.7% ($n = 26$) of the patient group were living with their families, the parents of 6.7% ($n = 2$) of the patients were living separately, the fathers of 3.3% ($n = 1$) were dead, and the parents of 3.3% ($n = 1$) were divorced. The sociodemographic features are summarized in Table 1.

The mean age of the control group was 13.4 ± 1.73 years. The average education level was 6.2 ± 2.6 years; 46.7% were men and 53.3% women. Of the control group, 93.3% ($n = 28$) were living with their families, the fathers of 3.3% ($n = 1$) were dead, and the parents of 3.3% ($n = 1$) were divorced. When the monthly income of the participants in the control group was examined, 3.3% ($n = 1$) were found to have an income level below 2000 Turkish Lira (TL), 70% ($n = 21$) between 2000 TL and 5000 TL, and 26.7% ($n = 8$) of them to have income levels more than 5000 TL. Detailed sociodemographic features of the participants are shown in Table 1.

When the participants with and without social media addiction were compared in terms of family pattern, no significant differences were detected ($\chi^2 = 2.074$, $P > .05$). However, the comparison of monthly income levels between the 2 groups demonstrated that participants with social media addiction were significantly more in families with lower income levels ($\chi^2 = 15.055$, $P < .05$).

Table 1. Sociodemographic Features of the Participants

Sociodemographic Features	Case Group		Control Group	
	Frequency (n)	%	Frequency (n)	%
Age (years)				
10	0	0	1	3.3
12	12	40.0	11	36.7
13	6	20.0	5	16.7
14	5	16.7	6	20.0
15	2	6.7	4	13.3
16	1	3.3	1	3.3
17	3	10.0	1	3.3
18	1	3.3	1	3.3
Sex				
Boy	13	43.3	14	46.7
Girl	17	56.7	16	53.3
Family structure				
Together	26	86.7	28	93.3
Living separately	2	6.7	0	0
Divorced	1	3.3	1	3.3
Father dead	1	3.3	1	3.3
Monthly income				
Below 2000 TL	14	46.7	1	3.3
Between 2000 and 5000 TL	12	40.0	21	70.0
Above 5000 TL	4	13.3	8	26.7

TL, Turkish Lira.

Comparison Between Case and Control Groups in Terms of Quality of Life Scores

We examined the case and the control groups according to QLSC. Although the mean scores of parent-reported PhyHTS, PsyHTS, and TSS of the participants with social media addiction were 21.67, 20.90, and 20.13, respectively, the mean scores of parent-reported PhyHTS, PsyHTS, and TSS of the controls were 39.33, 40.10, and 40.87, respectively. The mean scores in parent-reported QLSC were found to be significantly lower in all areas in participants with social media addiction than those of the controls (all $P < .001$) (Table 2).

We also investigated the quality of life self-report scores of those with and without social media addiction. Although the mean scores of self-reported PhyHTS, PsyHTS, and TSS of the participants with social media addiction were 28.02, 27.22, and 26.77, respectively, the mean scores of self-reported PhyHTS, PsyHTS, and TSS of the controls were 32.98, 33.78, and 34.23, respectively. The mean scores in self-reported QLSC were found to be significantly lower in all areas in the participants with social media addiction than those in the controls (all $P < .001$) (Table 2).

Evaluation of the Case and Control Groups in Terms of Social Media Use

When the case and control groups were evaluated in terms of social media use, it was determined that the mean social media usage scores of the case and the control groups were 45.5 and 15.5, respectively. This difference was statistically significant ($P < .001$).

Psychiatric Comorbidities in the Case and the Control Groups

It was determined that 76.7% ($n = 23$) of the case group had a psychiatric disorder (23.3% [$n = 7$] had attention-deficit hyperactivity disorder [ADHD], 13.3% [$n = 4$] had generalized anxiety disorder, 13.3% [$n = 4$] had major depressive disorder, 6.7% [$n = 2$] had ADHD + oppositional defiant disorder, 6.7% [$n = 2$] had specific phobia, 3.3% [$n = 1$] had social phobia, 3.3% [$n = 1$] had separation anxiety disorder, and 3.3% [$n = 1$] had obsessive-compulsive disorder), whereas 23.3% ($n = 7$) did not have any comorbidity. None of the controls had any psychopathology ($P < .001$) (Table 3).

Correlation Among Social Media Use Levels and Quality of Life Levels Perceived by Adolescents

Adolescent-rated PhyHTS was found to be unassociated with social media use level ($P = .842$). Adolescent-rated PsyHTS was found to be unassociated with social media use level ($P = .409$). Adolescent-rated TSS was not associated with social media use level ($P = .523$) (Table 4).

DISCUSSION

In *DSM-5*, internet addiction is included as an undetermined disorder in the supplementary section 3. However, a diagnosis of social media addiction has not yet been specified. This situation makes it difficult to determine the addiction level of social media use.⁸ As the use of social media became widespread, social media use in adolescents and social network site contents have been handled in many

Table 2. Comparison of the Case and Control Groups in Terms of Subscale and Total Scores in the Quality of Life Scale

		N	Mean	U	z	P
Parent-rated PhyHTS	Case	30	21.67	185	-3.926	.000
	Control	30	39.33			
Parent-rated PsyHTS	Case	30	20.90	162	-4.265	.000
	Control	30	40.10			
Parent-rated TSS	Case	30	20.13	139	-4.602	.000
	Control	30	40.87			
Adolescent-rated PhyHTS	Case	30	28.02	375.5	-1.107	.268
	Control	30	32.98			
Adolescent-rated PsyHTS	Case	30	27.22	351.5	-1.458	.145
	Control	30	33.78			
Adolescent-rated TSS	Case	30	26.77	338	-1.658	.097
	Control	30	34.23			

N, number; U, U value; z, Z score; PhyHTS, physical health total score; PsyHTS, psychosocial health total score; TSS, total scale score.

Table 3. Presence and Distribution of Psychiatric Comorbidities in Patients with Social Media Addiction

Presence and Distribution of Psychiatric Comorbidities	Case Group	
	Frequency (n)	%
Attention-deficit hyperactivity disorder	7	23.3
Generalized anxiety disorder	4	13.3
Major depressive disorder	4	13.3
Attention-deficit hyperactivity disorder + oppositional defiant disorder	2	6.7
Specific phobia	2	6.7
Social phobia	1	3.3
Separation anxiety disorder	1	3.3
Obsessive-compulsive disorder	1	3.3
No diagnosis	7	23.3

Table 4. Associations Among Social Media Use Levels and Quality of Life Levels Perceived by Adolescents and Their Parents

	Parent-Rated PhyHTS	Parent-Rated PsyHTS	Parent-Rated TSS	Adolescent-Rated PhyHTS	Adolescent- Rated PsyHTS	Adolescent-Rated TSS	Social Media Use
Parent-rated PhyHTS		0.000	0.000	0.126	0.019	0.012	0.011
Parent-rated PsyHTS	0.000		0.000	0.027	0.003	0.002	0.000
Parent-rated TSS	0.000	0.000		0.065	0.003	0.003	0.000
Adolescent-rated PhyHTS	0.126	0.027	0.065		0.002	0.000	0.842
Adolescent-rated PsyHTS	0.019	0.003	0.003	0.002		0.000	0.409
Adolescent-rated TSS	0.012	0.002	0.003	0.000	0.000		0.523
Social media use	0.011	0.000	0.000	0.842	0.409	0.523	

PhyHTS, physical health total score; PsyHTS, psychosocial health total score; TSS, total scale score.

different aspects, and hundreds of studies have been conducted on this topic.¹⁵ However, there are very few studies on “social media addiction” in adolescents.

The findings of our study support the recent studies, which show that social media addiction causes not only mental but also psychological problems. Previous studies have found a significant relationship between overuse of social media and depression in adolescents.^{16,17} In our study, it was found that 13.3% of the cases with social media addiction were diagnosed with depression.

In a study conducted with 5961 Hungarian adolescents with a mean age of 16 years, it was found that 4.5% were at risk for social network addiction.¹⁸ In a study conducted with young people from 6 European countries (Greece, Spain, Poland, Netherlands, Romania, and Iceland), it was found that the internalization problems were higher and academic performances were lower in young people who spend time on 2 or more social networking sites a day.¹⁹ The studies done so far show that social media and social networking sites cause similar symptoms and consequences of concepts such as use without problematic behavior, use at a level that leads to problematic behavior, or use at a level of addiction as in substance use disorder.¹⁵

In the last decade, research on “addictive technological behaviors” has increased significantly. In a study conducted with the adult age group, comorbid psychiatric disorders most frequently associated with the symptoms of addictive technology use were identified as ADHD, obsessive–compulsive disorder, anxiety, and depression. In the same study, being a man was significantly associated with addictive use of video games, whereas being a woman was found to be significantly associated with addictive use of social media. In addition, being single has been positively associated with both addictive social networks and video games.¹⁷ In our study, it was remarkable that ADHD, depression, generalized anxiety disorders (which are the most frequently observed diagnoses), ADHD + oppositional defiant disorder, specific phobia, social phobia, separation anxiety disorder, and obsessive–compulsive disorder were the accompanying psychiatric diagnoses.

In a study conducted with 920 young people in China, it was concluded that adolescents with extroverted and neurotic personality traits were more associated with social media addiction.²⁰ To examine the relationship between internet addiction and quality of life, a meta-analysis study involving 89 281 participants from 7 continents and 31 countries was conducted. This meta-analysis examined all empirical studies from 1996 to 2012 in which the “Diagnostic Assessment Scale or Internet Addiction Test in Youth”

had been used. The results show that the prevalence of internet addiction is inversely proportional to both subjective (life satisfaction) and objective (quality of environmental conditions) quality of life indicators.²¹

With the ever-increasing use of social media recently, social media addiction may be considered as a disorder of the modern digital and virtual society. We believe that we should evaluate it together with the no mobile phone phobia (nomophobia), which means discomfort, anxiety, tension, or anguish caused by not having access to mobile phone connectivity or a computer and which is also known as the pathological fear of staying out of contact with technology.^{22,23} Although social networking sites offer an opportunity to provide Maslow’s basic humanitarian and social needs such as being liked, appreciated, and respected, in today’s society, the issue of which level of excessive preoccupation with technology and social media is a need and which level is a problematic behavior or addiction continues to be debated.^{15,24}

There are many studies showing that negative consequences triggered by excessive use of social media among adolescents can have harmful effects on the users’ personal, social, academic, and/or professional lives; our study supports these results.²⁵⁻²⁸

The relationship between life satisfaction and the increase of social media use in adolescence was examined.²⁹⁻³² However, the results of the studies investigating the effects of social media use on life satisfaction in youth are inconsistent. Some studies indicated a positive association between social media use and mental health and claimed that social media use may be beneficial for individuals with low self-esteem.^{33,34} Conversely, some other studies concluded that social media use caused negative consequences in terms of life satisfaction in adolescents.³⁵⁻³⁷ In the literature, there is no existing study examining the association between social media use and quality of life in the adolescent age group as in our study. Therefore, the outcomes of our study are important as it presents relevant data for the first time.

Study Limitations

Some studies also indicate that life satisfaction level in adolescents depends on familial characteristics such as familial components, harmony, functionality, and family environment.³⁸⁻⁴¹ It was stated that there is a negative association between social media use in adolescents and sufficient and fine intra-familial social relationships. A study reported that internet use was negatively associated with close relationships within the family, but positively associated with intra-familial conflicts. Another study indicated a negative association between the amount of time that adolescents are online and

the interactions of adolescents with their parents.⁴²⁻⁴⁴ Given these findings, when examining the relationship between social media use and life satisfaction, intra-familial social support which should have been considered as a predictor was ignored in our study. This would qualify as a limitation.

The low sample size should be considered another limitation. Only the adolescents and their parents who applied to the Child and Adolescent Psychiatry outpatient clinic were included in the study. As this study was cross-sectional, generalizing its outcomes may not be appropriate. Hence, longer follow-up studies with community samples are needed to generalize the results of our study.

In conclusion, we found that excessive use of social media, which is increasingly becoming an important problem, negatively affects the quality of life of adolescents and that social media use is often accompanied by psychopathology. Comprehensive studies are needed to address different aspects of social media use by adolescents. Our research can be a guide for determining the risks and problems that may arise from problematic social media use and conducting treatment and preventive medicine studies in this field.

Ethics Committee Approval: Ethics committee approval was received for this study from the ethics committee of Akdeniz University (Date: September 11, 2019, No: 839).

Informed Consent: Written informed consent was obtained from patients and the parents of the patients who participated in this study.

Peer Review: Externally peer-reviewed.

Author Contributions: Concept – F.T.; Design – F.T., A.T.; Supervision – Ö.B., A.Ö.; Resources – F.T., A.T., Ö.B., A.Ö.; Materials – F.T., A.T., Ö.B., A.Ö.; Data Collection and/or Processing – F.T., A.T., Ö.B., A.Ö.; Analysis and/or Interpretation – F.T., A.T., Ö.B., A.Ö.; Literature Search – F.T., A.T., Ö.B.; Writing Manuscript – F.T., A.T.; Critical Review – Ö.B., A.Ö.; Other – F.T., A.T., Ö.B., A.Ö.

Conflict of Interest: The authors have no conflicts of interest to declare.

Financial Disclosure: The authors declared that this study has received no financial support.

Etik Komite Onayı: Bu çalışma için etik komite onayı Akdeniz Üniversitesi'nden (Tarih: 11 Eylül 2019, No: 839) alınmıştır.

Hasta Onamı: Yazılı hasta onamı bu çalışmaya katılan hastalardan ve hastaların ailelerinden alınmıştır.

Hakem Değerlendirmesi: Dış bağımsız.

Yazar Katkıları: Fikir – F.T.; Tasarım – F.T., A.T.; Denetleme – Ö.B., A.Ö.; Kaynaklar – F.T., A.T., Ö.B., A.Ö.; Malzemeler – F.T., A.T., Ö.B., A.Ö.; Veri Toplanması ve/veya İşlemesi – F.T., A.T., Ö.B., A.Ö.; Analiz ve/veya Yorum – F.T., A.T., Ö.B., A.Ö.;

Literatür Taraması – F.T., A.T., Ö.B.; Yazıyı Yazan – F.T., A.T.; Eleştirel İnceleme – Ö.B., A.Ö.; Diğer – F.T., A.T., Ö.B., A.Ö.

Çıkar Çatışması: Yazarlar çıkar çatışması bildirmemişlerdir.

Finansal Destek: Yazarlar bu çalışma için finansal destek almadıklarını beyan etmişlerdir.

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