

ORIGINAL RESEARCH

Online Social Network Sites Usage and Impression Management of Adolescents and Relationship with Emotional and Behavioral Problems

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Abstract

Objective: In recent years, almost all youths go online on social network sites (SNSs) practically every day. Online social networks may be considered a connection between the inner lives of adolescents and the outside world. On the other hand, how young people with mental difficulties use online social networks has attracted the attention of researchers in recent years. In this study, we aimed to investigate habits and durations of social network usage of adolescents, impression management on SNS and its relation to adolescent psychopathological features.

Methods: The population of our study consisted of 374 adolescents who were selected randomly from different neighborhoods in Istanbul that represent different socioeconomic levels. Participants were evaluated with Strengths and Difficulties Questionnaire and Online Social Networking Questionnaire.

Results: It was found that behavioral problems, attention deficit and hyperactivity disorder ($p < 0.001$) and peer problems ($p = 0.003$) increased with the time spent on SNS. Three quarter of adolescents have said that they care comments on their posts made by their friends. There is a relationship between behavioral and emotional problems and adolescents' impression on SNSs.

Conclusion: Our study found that adolescents' behavior on social networks is related to their psychopathological symptoms. The expression of young people's behaviors or thoughts/emotions at SNS and perception the impression of themselves may provide information on the mental states of them.

Keywords: Adolescents, Mental Health, Behavior, Social Network Sites

INTRODUCTION

Social network sites are the latest version of the media stream, which has become an increasingly integral part of life, allowing people to create their own profile and see someone else's (1). Recently, almost all adolescents are online. 95% of adolescents report that they have their own mobile phones and a significant part (%45) of them report that they are constantly online (2). Therefore, online

social networking sites (SNSs) should be considered as an extension of the life of adolescents. SNSs can be a tool for adolescents to manage their lives, to explain themselves and to disclose their feelings from developmental and relational perspectives (3-7). SNSs may, therefore, provide an opportunity in understanding adolescents' inner lives and in building relationships with them (4). The behavior of adolescents on online SNSs is also of interest due to the intensity of use and the ever-changing dynamic nature of the internet and online social networking sites (8,9). Becoming an extension of daily life, it is necessary to check up on the behavior of adolescents on online social networking sites. Many young people perceive social networks as the continuation of their daily lives and use them as their offline needs (1,3,10). On the other hand, SNSs can be negatively impacting for young people who already have psychosocial difficulties (7,11,12).

Considering adolescence as transition period in many

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aspects such as identity formation, biological changes, puberty etc., researchers focus on their attention to the connection of social networking usage with susceptibility to psychopathology, mental vulnerability, and a tendency to be traumatized. Social rank theorists have stated that impression management by individuals on social networks may be triggered by the development of psychopathology (13,14). Individuals with a mental predisposition may feel depressed by checking their own and others' posts (15). On the other side, researchers who had proposed the 'rich get richer' hypothesis, have stated that Social Networking deteriorated depression, social anxiety, and behavioral problems, while social capital may increase with social network usage for those who do not have emotional problems (16). Also, adolescents may express themselves more easily and may have depressive disclosure on SNSs (7,17). In this context, this hypothesis increases interest in the relationship between online social network sites use and predisposition towards psychopathology. At the same time, another area that we do not yet know but needs research is how social comparison affects young people. Previous studies indicate that social comparison can affect adolescents' self-perception and can deepen depressive thoughts (15,18).

There are very few studies addressing the online social network usage and psychopathology relationships in Turkey (7,9,17,19,20). These studies also emphasize that nearly three quarter of adolescents share their psychiatric symptoms on SNS, and they also have increased risk for psychiatric symptoms. However, information about the relationship between adolescents' behavior on online social network sites and their psychological characteristics needs to be elaborated. It is also crucial in terms of preventive mental health to be able to understand the behavior of adolescents on social networks.

In this study, in order to enhance our understanding regarding SNS usage among adolescent we investigate emotional and behavioral problems of adolescents, and their Online Social Network usage characteristics. We also investigate the effect on impression management on adolescents' psychological well-being. With the help of our results we aimed to determine the risk factor for SNS usage and psychopathological profiles.

METHODS

The Selection and Description of the Participants

This study was conducted by taking three volunteer

groups randomly selected from adolescents in three different socio-demographically distinct areas and 374 adolescents in the age range of 11-18. The adolescents who participated in the study were collected on a voluntary basis by informing the schools. Written consent form was collected from the families of the participants. The data of the study were collected between March and June 2018. Permission from ethics was obtained from ethics committee of Kartal Dr. Lutfi Kırdar Research and Training Hospital (2017/514/104/2 / 28.03.2017). Students who did not agree to participate in the study due to volunteerism have been left out of work. The information collection form including sociodemographic variables, online social network preferences and usage, and Strengths and Difficulties Questionnaire (SDQ) were completed by each participant. Incorrect and missing scales belonging to 15 adolescents were extracted. All the cases and their families will be informed about the method and purpose of the investigation.

Technical Information

The online social networking usage of the participants determined based on a survey created by the researchers in the information collection form. In this questionnaire, there are questions about the frequency and duration of online social network sites usage, the purpose of using SNSs, as well as the impression management that is left on SNSs. Impression management evaluated by the questions that 'Do you care about your number of followers?' 'Do you care about others comment or likes on your post' and 'How often do you check your followers, others' comments and likes?'. Frequency question of Online Social Networking Questionnaire is designed in five option as likert type (Less than 1-5 hours in a week, less than one hour a day, 1-3 hours a day, 4-5 hours a day, 6 hours or more). This questionnaire was prepared by using the APIINT (Addiction Profile Index-Internet Addiction Form) scale which is form by Ögel (2015) et al. and adding impression management-related items (21). At the same time, risky amount of use is taken as reference from previous studies (22).

The Strength Difficulties Questionnaire (SDQ) scale was developed in 1997 by British psychiatrist Robert Goodman to screen behavioral and emotional problems in children and adolescents (23). The SDQ contains 25 questions, some of which are positive and others, which question the negative emotional and behavioral symptoms. These questions were collected in five sub-dimensions, each with five questions, according to both the appropriate diagnostic criteria and the results of the

factor analysis; Attention Deficit Hyperactivity disorder (ADHD), Behavioral Problems, Emotional Symptoms, Peer Problems, and Prosocial Behaviors. The SDQ has been validated in a Turkish population study (24). The validity and reliability of the Turkish version of SDQ was found with an acceptable internal consistency (Cronbach's $\alpha = 0.73$) (24). In our study, Cronbach's α level of SDQ questionnaire is 0,654.

Statistics

Statistical analyzes was performed with SPSS-22 program. Sociodemographic and clinical categorical variables were evaluated with number and percentage values. The normal distribution fitness of the data was evaluated by the Kolmogorov-Smirnov (K-S) test. Chi-square test was used to compare categorical variables and Fisher's test was used if chi-square test was not available. The nonparametric test, Mann Whitney U test, was used for comparison because numerical variables did not show normal distribution. Values that are statistically $p \leq 0.05$ were considered significant and p values were written directly to indicate the level of significance in the findings.

RESULTS

Sociodemographic and The Online Social Networking Results

The mean age of participants was 14.3 year (± 1.88), while 54.3% of the adolescents were girls and 45.7% were boys. 97.5% of the adolescents have indicated that they use internet and 87.7% of them use online social networking sites. On SNSs, they have reported that they spent average of 1-3 hours on Facebook (79.1%) most frequently. It is observed that social network preferences are not statistically different per gender, only Facebook usage is found to be more common in boys ($P < 0.001$, $KS < 0.001$). (Table 1)

Adolescents stated that they use SNSs for connecting to friends (69%), playing games (39%), looking friends' profiles (37%), uploading photos (35%), and following groups (24%). Boys reported that they use social networks for playing games ($p < 0.001$) and uploading video ($p = 0.025$) more frequently than girls. In addition, the %48.2 of adolescents who participated in the study, indicated that they consider important the number of followers and %36.8 of them check number of followers at least once a week. They care about comments made by their friends (75.3%) and some of them check their

comments and likes almost every day (23.4%), and some others more than once a day (% 9.7). (Table 2).

Table 1. Sociodemographic variables of the participants

Sociodemographic Variables		n /mean	%/Sd
Sex	Female	195	54.3
	Male	164	45.7
Age		14.3	± 1.88
Maternal Age		42.4	± 6.11
Paternal Age		44.9	± 5.3
Chronic Medical Disease	Yes	62	17.3
	No	297	82.7
Psychiatric Disorder in Personal History	Yes	15	4.2
	No	344	95.8
Psychiatric Disorder in Family History	Yes	12	3.3
	No	347	96.6
Mothers' Occupation	Employed	155	31.7
	Unemployed	244	68.3
Fathers' Occupation	Employed	330	91.8
	Unemployed	29	8.2
Average Income	1300-3300 TL	179	30.4
	3300 – TL	65	18.1
	1300-3300 TL	110	49.3

Table 2. Online Social Network Sites Preferences and Purposes of Adolescents according to gender

SNS Preference		%	p	Phi Coef.
Facebook	Female	77.9	<0.001	0.217
	Male	93.5		
Instagram	Female	58.0	.063	-0.103
	Male	47.7		
Twitter	Female	25.4	.272	0.066
	Male	31.4		
Snapchat	Female	29.4	.21	-0.129
	Male	18.3		
Skype	Female	17.7	.003	0.167
	Male	32.0		
Wine	Female	10,5	1.0	-0.001
	Male	10,5		
Ask.me	Female	7,7	.561	0.037
	Male	9,8		
Foursquare	Female	5,0	.586	-0,042
	Male	3,3		

Chi Square test was performed. SNS: Social Network Sites

Strengths and Difficulties Questionnaire (SDQ)

According to SDQ, we have seen that the 13.4% of adolescents have emotional and behavioral problems and 15.6% of them are at the border. In addition, 9.3% of participants had emotional issues, 10.1% of them had behavioral problems, 15% of participants had attention deficit and hyperactivity problems and 7.4% of adolescents had peer problems. In terms of prosocial behaviors, the pathology range was found to 3.7%.

While comparing behavioral emotional difficulties with the use of SNS, non-parametric tests were applied since the data was not normally distributed (Kolmogorov-Smirnov $p < 0.001$).

In our study, it was found that ADHD and behavioral problems were associated with the frequency of social network use ($p < 0.001$). It was observed that young people who had emotional ($p = 0.019$) and behavioral issues check others' comments and control own profiles statistically more frequently. While young people with peer problems prefer chatting on social networks, young people with more prosocial behaviors do less risky behaviors like meeting with strangers ($p = 0.003$).

Another interesting data in our study is that prosocial behaviors are statistically more prevalent among adolescents who prefer using Twitter ($p = 0.034$). (Table 3,4,5)

Table 3. Online Social Network Sites Usage Purposes of Adolescents according to Gender

Usage Purposes		%	p	Phi Coef.
Online chatting	Female	71.1	.076	.101
	Male	79.9		
Gaming	Female	28.3	<.001	.304
	Male	58.4		
Status update	Female	27.8	.205	-.073
	Male	21.4		
Photo upload	Female	43.3	.090	-.097
	Male	33.8		
Looking friends' activity	Female	43.3	.316	-.058
	Male	37.7		
Having new friend	Female	13.4	.059	.106
	Male	21.4		
Video upload	Female	12.3	.027	.123
	Male	21.4		
Following groups	Female	27.0	.803	-.019
	Male	25.3		

Chi Square test was performed.

Table 4. Relationship between SNS Usages and SDQ scores of adolescents-1

Social Media usage		SDQ scores	Median (min.-max)	p	Z
SNS use frequencies	ADH problems	Normal	2(1-5)	.004	-2.8
		Abnormal	2(1-5)		
	Behavioral problems	Normal	2(1-5)	< .001	-3.8
		Abnormal	2(1-5)		
	Emotional Problems	Normal	2(1-5)	.704	-.38
		Abnormal	2(1-5)		
	Peer Problems	Normal	2(1-5)	.605	-.517
		Abnormal	2(1-5)		
	Prosocial Behaviors	Normal	2(1-5)	.949	-.073
		Abnormal	2(1-5)		
Control comments frequencies	ADH problems	Normal	2(1-5)	.029	-2.180
		Abnormal	2(1-5)		
	Behavioral problems	Normal	2(1-5)	<.001	-4.98
		Abnormal	2(1-5)		
	Emotional Problems	Normal	2(1-5)	.019	-2.35
		Abnormal	2(1-5)		
	Peer Problems	Normal	2(1-5)	.179	-1.69
		Abnormal	2(1-5)		
	Prosocial Behaviors	Normal	2(1-5)	.279	-1.08
		Abnormal	2(1-5)		

Mann Whitney U test was performed. SNS: Social Network Sites ADH: Attention Deficiency and Hyperactivity, SDQ: Strengths and Difficulties Questionnaire

Table 5. Relationship between SNS Usages and SDQ scores of adolescents-2

Social Media Usage		SDQ scores	%	p	Phi Coef.	
Video Upload	ADH problems	Normal	51.9	0.043	.116	
		Abnormal	48.1			
	Behavioral Problems	Normal	68.5	0.040	.124	
		Abnormal	31.5			
	Emotional Problems	Normal	80.0	0.568	.035	
		Abnormal	20.0			
Peer Problems	Normal	60.4	0.641	.029		
	Abnormal	39.6				
Prosocial Behaviors	Normal	86.8	.295	.062		
	Abnormal	13.2				
Status Update	ADHD	Normal	59.8	.35	.056	
		Abnormal	40.2			
	Behavioral Problems	Normal	70.7	.026	.130	
		Abnormal	29.3			
	Emotional Problems	Normal	79.3	.312	.057	
		Abnormal	20.7			
	Peer Problems	Normal	61.7	.691	.024	
		Abnormal	38.3			
	Prosocial Behaviors	Normal	85.2	.047	.114	
		Abnormal	14.8			
	Online chatting	ADHD	Normal	64.6	.895	.007
			Abnormal	35.4		
Behavioral Problems		Normal	79.1	.638	.030	
		Abnormal	20.9			
Emotional Problems		Normal	83.7	.505	-.035	
		Abnormal	16.3			
Peer Problems		Normal	66.8	.059	-.112	
		Abnormal	33.2			
Prosocial Behaviors		Normal	91.1	.826	-.013	
		Abnormal	8.9			
Having more than one profile	ADH problems	Normal	66.1	.767	-.018	
		Abnormal	33.9			
	Behavioral Problems	Normal	80.0	.949	-.004	
		Abnormal	20.0			
	Emotional Problems	Normal	83.1	.986	.001	
		Abnormal	16.9			
	Peer Problems	Normal	59.3	.458	.042	
		Abnormal	40.7			
	Prosocial Behaviors	Normal	85.0	.063	.103	
		Abnormal	15.0			

Chi Square test was performed. SNS: Social Network Sites ADH: Attention Deficiency and Hyperactivity, SDQ: Strengths and Difficulties Questionnaire

DISCUSSION

In our study, relationship between SNSs use, impression management and psychiatric symptoms were examined. It is found that adolescents have emotional and behavioral problems tend to spend more time on SNSs and, care

about and control impressions on social networking sites. It was seen that adolescents actually use social networks to serve their existing social ties and needs. In addition, playing games in social networks is more preferred by boys and that Facebook use is more common in boys. Another noteworthy finding is that young people with ADHD and behavioral difficulties according to SDQ spend longer periods in social networks. Another data that looks different is that children with better social skills prefer Twitter more.

In this study, it was observed that a large majority of adolescents use SNS and their main reason for being online was online chatting. Furthermore, we can say that social networking preferences are also affected by prosocial behaviors. Teenagers states that Twitter is close to natural and real life and mostly uses it for gathering and spreading the information, so socially active adolescents may prefer to use Twitter (10). The duration and form of use of online social network sites by adolescents also seems to be affected by their mental state (26-29). Many studies on problematic internet use have reported that other psychopathologies are frequently accompanied by impulse control disorders (30,31). Hormes, Kearns and Timko (2014) mentioned that intense SNSs users have more problems related to emotion regulation, including poor impulse control (32). ADHD, OCD, anxiety disorders, and depressive disorders were found to be associated with social media dependence in a comprehensive study of 23,533 adults with social media addiction (29). In another study adolescent social media use was found correlated with inattention, hyperactivity/impulsivity, ODD, anxiety, and depressive symptoms (33). Ra et al. was reported that there is a significant correlation between subsequent symptoms of ADHD and higher frequency of Digital Media Use (34). Our findings also show that emotional and behavioral problems are related to online social network sites usage in adolescents. Many studies have reported that adolescents with behavioral problems are at risk for internet addiction and in our study adolescents with behavioral problems are also exposed to online content for a longer period (30,35,36,37). However, young people without behavioral problems can act in a disciplined fashion to decrease their exposure to harmful content of online interaction. In our study, adolescents with psychosocial problems may spend more time at online social network sites than peers. That supports the findings in the literature that online interaction is less threatening than face-to-face interaction for people who have emotional and social problems (7,33,34).

For adolescents, what their peers think about them, how they see them and whether they care about them is very important because of their developmental characteristics. In our study, the majority of the youth stated that it is important that their peers like and comments on their posts. On the other hand, it is noteworthy that young people with mental difficulties find the comments and likes of others significantly more important. In this study it is found that adolescents who have emotional and behavioral issues tend to care about and control impressions on social networking sites. This finding supports previous findings of social rank theorists (13,14,15). Young people with emotional and social problems and low self-esteem may tend to control others behavior and pay greater attention to their impression on others at SNSs. On the other hand, Park et al. have mentioned that individuals who have severely depressed, may lose interest in people's activity at SNSs too as it is on everything (40).

However, several limitations of the study should be noted. The greatest limitation of our study is that there is no actual diagnostic procedure. Because of SDQ is a screening inventory, detailed evaluation is needed to be able to talk about the diagnosis. Also, the Online Social Networking Questionnaire was prepared by the researchers and validity and reliability study is required. Another limitation was that the results achieved were based on adolescent reporting. The results need to be expanded.

In conclusion, our study found that adolescents' behaviors on online social networks are related to their behavioral and emotional problems. Adolescents with mental and social problems and difficulties in peer relationships may be at risk of being exposed to the adverse effects of the online world. In light of this information, it is recommended that specialists working in this field should consider social networking activities in addition to the daily life of the adolescent.

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REFERENCES

- [1] Ellison NB, Steinfield C, Lampe C. The benefits of Facebook "Friends": Social capital and college students' use of online social network sites. *Journal of Computer-Mediated Communication* 2007; 12(4): 1143-168. <https://doi.org/10.1111/j.1083-6101.2007.00367.x>
- [2] Anderson M, Jiang J. Teens, social media & technology 2018. Pew Research Center [Internet], May 2018 [Cited 2019 Aug 25]; 1-10. Available from: <https://www.pewresearch.org/internet/2018/05/31/teens-social-media-technology-2018/>
- [3] Francomano JA, & Harpin SB. Utilizing social networking sites to promote adolescents' health: a pragmatic review of the literature. *CIN: Computers, Informatics, Nursing* 2015;33(1): 10-20. doi: 10.1097/CIN.000.000.0000000113
- [4] Subrahmanyam K, Garcia E, Harsono LS, Li JS, Lipana L. In their words: Connecting online weblogs to developmental processes. *British Journal of Developmental Psychology* 2009;27(1): 219-245. <https://doi.org/10.1348/026151008X345979>
- [5] Siriaraya P, Tang C, Ang CS, Pfeil U, and Zaphiris PA. Comparison of empathic communication pattern for teenagers and older people in online support communities. *Behaviour and Information Technology* 2011;30(5): 617-628. <https://doi.org/10.1080/0144929X.2011.582146>
- [6] Jordán-Conde Z, Mennecke B, and Townsend A. Late Adolescent identity definition and intimate disclosure on Facebook. *Computers in Human Behavior* 2014;33: 356-366. <https://doi.org/10.1016/j.chb.2013.07.015>
- [7] AkkınGürbüz HG, Demir T, Gökalp Özcan B, Kadak MT, Poyraz BÇ. Use of social network sites among depressed adolescents. *Behaviour and Information Technology* 2016;36(5): 517-523. <https://doi.org/10.1080/0144929X.2016.126.2898>
- [8] Settanni M, Marengo D, Fabris MA, Longobardi C. The interplay between ADHD symptoms and time perspective in addictive social media use: a study on adolescent Facebook users. *Children and Youth Services Review* 2018;89: 165-170. <https://doi.org/10.1016/j.childyouth.2018.04.031>
- [9] Gul H, Yurumez Solmaz E, Gul A, Oner O. Facebook overuse and addiction among Turkish adolescents: are ADHD and ADHD-related problems risk factors?. *Psychiatry and Clinical Psychopharmacology* 2018;28(1): 80-90. <https://doi.org/10.1080/24750.573.2017.1383706>
- [10] Lenhart A, Madden M. Social networking web sites and teens: An Overview. Pew internet and American life project. January 2007 [Cited 2015 Jan 12]. Available from <http://www.pewinternet.org/2007/01/07/social-networking-websites-and-teens/>.
- [11] Lee SJ. Online communication and adolescent social ties: Who benefits more from internet use?. *Journal of Computer-Mediated Communication* 2009;14(3): 509-531. <https://doi.org/10.1111/j.1083-6101.2009.01451.x>
- [12] Reinecke L, Trepte S. Authenticity and well-being on social network sites: A two-wave longitudinal study on the effects of online authenticity and the positivity bias in SNS communication. *Computers in Human Behavior* 2014;30: 95-102. <https://doi.org/10.1016/j.chb.2013.07.030>
- [13] Tsai CW, Shen PD, Chiang YC. Meeting ex-partners on Facebook: users' anxiety and severity of depression. *Behaviour and Information Technology* 2015;34(7): 668-677. <https://doi.org/10.1080/0144929X.2014.981585>
- [14] Tandoc EC, Ferrucci P, Duffy M. Facebook use, envy, and depression among college students: Is facebooking depressing?. *Computers in Human Behavior* 2015;43: 139-146. <https://doi.org/10.1016/j.chb.2014.10.053>
- [15] Chou HT, Edge N. They are happier and having better lives than I am: the impact of using Facebook on perceptions of others'

- lives. *Cyberpsychology, Behavior and Social Networking* 2012;15:117–121. <https://doi.org/10.1089/cyber.2011.0324>
- [16] Kraut R, Kiesler S, Boneva B, Cummings J, Helgeson V, Crawford A. Internet paradox revisited. *Journal of social issues*. 2002;58(1): 49-74. <https://doi.org/10.1111/1540-4560.00248>
- [17] Uçar HN, Eray Ş, Kocael Ö, Uçar L, Kaymak M, Lettieri E, Vural AP. Big data in adolescent psychiatry: Do patients share their psychiatric symptoms on social networking sites?. *Psichiatria Danubina* 2018;30(4): 395-403. <https://doi.org/10.24869/psyd.2018.395>
- [18] Uzun Ö, Yıldırım V, Uzun E. Habit of using the social media and correlation of social media addiction, self Esteem, perceived social support in adolescent with attention deficit hyperactivity disorder. *Turkish Journal of Family Medicine and Primary Care* 2016;10(3): 142-147. <https://doi.org/10.21763/tjfm.16425>. [Turkish]
- [19] Shapiro LA S, Margolin G. Growing up wired: Social networking sites and adolescent psychosocial development. *Clinical child and family psychology review* 2014; 17(1): 1-18. <https://doi.org/10.1007/s10567.013.0135-1>
- [20] Dogan U. The effect of high school students' use of social networking sites on happiness, psychological well-being and life satisfaction: Facebook and Twitter example. *Education and Science* 2016;41(183): 217-231. <http://dx.doi.org/10.15390/EB.2016.4616>. [Turkish]
- [21] Ogel K, Karadag F, Satgan D, Koc C. Development of the Addiction Profile Index Internet Addiction Form (APIINT): Validity and Reliability. *Dusunen Adam: Journal of Psychiatry & Neurological Sciences* 2015;28(4): 337-343. <https://dx.doi.org/10.5350/DAJPN201.528.0405>. [Turkish]
- [22] Ko CH, Yen JY, Yen CF, Chen CS, Chen CC. The association between Internet addiction and psychiatric disorder: A review of the literature. *European Psychiatry* 2012;27(1): 1-8. <https://doi.org/10.1016/j.eurpsy.2010.04.011>
- [23] Goodman R. Psychometric properties of the strengths and difficulties questionnaire. *Journal of the American Academy of Child & Adolescent Psychiatry* 2001;40(11):1337-45. <https://doi.org/10.1097/00004.583.200111000-00015>
- [24] Güvenir T, Özbek A, Baykara B, Arkar H, Şentürk B, İncekaş S. The psychometric properties of the Turkish adaptation of the Strengths and Difficulties Questionnaire (SDQ). *Turkish Journal of Child and Adolescent Mental Health*. 2008;15(2): 65-74. [Turkish]
- [25] Madden M, Lenhart A, Cortesi S, Gasser U, Duggan M, Smith A et al. Teens, social media and privacy. *Pew Internet and American Life Project*. [Internet] 2013 May [Cited 2015 February 2]. Available from <http://www.pewinternet.org/2013/05/21/teens-social-media-and-privacy/>.
- [26] Moreau A, Laconi S, Delfour M, Chabrol H. Psychopathological profiles of adolescent and young adult problematic Facebook users. *Computers in Human Behavior* 2015;44: 64-69. <https://doi.org/10.1016/j.chb.2014.11.045>
- [27] Lemola S, Perkinson-Gloor N, Brand S, Dewald-Kaufmann JF, Grob A. Adolescents' electronic media use at night, sleep disturbance, and depressive symptoms in the smartphone age. *Journal of Youth and Adolescence* 2015;44(2): 405-418. <https://doi.org/10.1007/s10964.014.0176-x>
- [28] Sampasa-Kanyinga H, Hamilton HA. Social networking sites and mental health problems in adolescents: The mediating role of cyberbullying victimization. *European Psychiatry* 2015;30(8): 1021-1027. <https://doi.org/10.1016/j.eurpsy.2015.09.011>
- [29] Schou-Andreassen C, Billieux J, Griffiths MD, Kuss D, Demetrovics Z, Mazzoni E et al. The relationship between addictive use of social media and video games and symptoms of psychiatric disorders: A large-scale cross-sectional study. *Psychology of Addictive Behaviors* 2016;30(2): 252. <http://dx.doi.org/10.1037/adb0000160>
- [30] Shapira NA, Lessig MC, Goldsmith TD, Szabo ST, Lazoritz M, Gold MS et al. Problematic internet use: proposed classification and diagnostic criteria. *Depression and Anxiety* 2003;17(4): 207-216. <https://doi.org/10.1002/da.10094>
- [31] Yoo HJ, Cho SC, Ha J, Yune SK, Kim SJ, Hwang J, Chung A, Sun YH, Lyoo LK. Attention deficit hyperactivity symptoms and internet addiction. *Psychiatry and Clinical Neuroscience* 2004;58: 487–494. <https://doi.org/10.1111/j.1440-1819.2004.01290.x>
- [32] Hormes JM, Kearns B, Timko CA. Craving Facebook? Behavioral addiction to online social networking and its association with emotion regulation deficits. *Addiction* 2009;109(12): 2079-2088. <https://doi.org/10.1111/add.12713>
- [33] Barry CT, Sidoti CL, Briggs SM, Reiter SR, Lindsey RA. Adolescent social media use and mental health from adolescent and parent perspectives. *Journal of Adolescence* 2017; 61: 1-11. <https://doi.org/10.1016/j.adolescence.2017.08.005>
- [34] Ra CK, Cho J, Stone MD, De La Cerda J, Goldenson NI, Moroney E, et al. Association of digital media use with subsequent symptoms of attention-deficit/hyperactivity disorder among adolescents. *JAMA* 2018; 320(3): 255-263. doi:10.1001/jama.2018.8931
- [35] Greenfield DN. Psychological characteristics of compulsive Internet use: A preliminary analysis. *Cyberpsychology & Behavior* 1999;2(5): 403-412. <https://doi.org/10.1089/cpb.1999.2.403>
- [36] Young JF, Berenson K, Cohen P, Garcia J. The role of parent and peer support in predicting adolescent depression: A longitudinal community study. *Journal of Research on Adolescence* 2005;15(4): 407-423. <https://doi.org/10.1111/j.1532-7795.2005.00105.x>
- [37] Cao F, Su L, Li T, Gao X. The relationship between impulsivity and Internet addiction in a sample of Chinese adolescents. *European Psychiatry* 2007;22(7): 466-471. <https://doi.org/10.1016/j.eurpsy.2007.05.004>
- [38] Davis RA. A cognitive-behavioral model of pathological Internet use. *Computers in Human Behavior* 2001;17(2): 187-195. [https://doi.org/10.1016/S0747-5632\(00\)00041-8](https://doi.org/10.1016/S0747-5632(00)00041-8)
- [39] Caplan SE. Preference for online social interaction a theory of problematic Internet use and psychosocial well-being. *Communication Research* 2003;30(6): 625-648. <https://doi.org/10.1177/0893319203257842>
- [40] Park S, Lee SW, Kwak J, Cha M, Jeong B. Activities on Facebook reveal the depressive state of users. *Journal of Medical Internet Research* 2013;15(10): e217. <http://doi.org/10.2196/jmir.2718>