Investigating the Relationship among Internet Addiction, Positive and Negative Affects, and Life Satisfaction in Turkish Adolescents*

Bülent Baki Telef*
Çanakkale Onsekiz Mart University

Abstract
This study investigates the relationships between Internet addiction and the areas of life satisfaction and positive or negative affects in Turkish adolescents. The research sample comprised 358 students studying in the sixth, seventh and eighth grades at four different middle schools in Canakkale city centre during the 2012–2013 academic year, of which 189 (52.8%) were females and 169 (48.2%) were males. Of the participants, 131 (37%) were sixth graders, 90 (25%) were seventh graders and 137 (38%) were eighth graders. The Internet Addiction Scale, the Multidimensional Student's Life Satisfaction Scale and the Scale of Positive and Negative Experience were used as data collection instruments in the study. Research data was analysed using Pearson's product-moment correlation technique and multiple linear regression. The results indicated that there was a significant negative correlation between Internet addiction and school and family satisfaction, and a significant positive relationship between Internet addiction and negative affects. The regression analysis results indicated that school satisfaction and negative affects are important predictors of Internet addiction. The results suggested that increasing adolescents' school satisfaction and developing their ability to regulate their emotions might be useful in decreasing Internet addiction.

Keywords: adolescent, internet addiction, life satisfaction, positive affects, negative affects

---

* This study was presented at the 12th Psychological Counselling and Guidance Congress as an oral presentation, 8–11 September, İstanbul, 2013.

* Bülent Baki Telef is an assistant professor at the Department of Guidance and Counselling in Canakkale Onsekiz Mart University, Turkey.

Correspondence: bakitelef@gmail.com

Introduction

The Internet has created a new platform for social interaction, which has been widely recognised for its importance and increasing influence. The Internet is now a major part of people's lives and has proven to be an irresistible attraction for some users. With the increasing importance of the Internet and its increased use, pathological Internet use has become more widespread in society (Nalwa and Anand, 2003). The concept of Internet addiction is defined as the uncontrolled and devastating use of Internet technology (Beard and Wolf, 2001). LaRose, Lin and Eastin (2003) state that Internet addiction may also be re-defined as deficient self-regulation. Internet addiction is widespread across both Western and Eastern societies, and may therefore be considered a global disorder (Ko et al., 2012). The prevalence of Internet addiction was found to be 10.8% in China (Lam et al., 2009*)*, 18.8% in Taiwan (Ko et al., 2009), 8.2% in Greece (Siomas et al., 2008), 3.1% in Finland (Kaltiala-Heino et al., 2004) and 11.6% in Turkey (Canan et al., 2010).

Adolescents who do not live with their biological parents or those who do not receive attention from their parents, as well as those whose parents are unemployed, are faced with the risks of both pathological and maladaptive Internet use (Durke et al., 2012). The characteristics of online games may increase the potential for Internet addiction (Ko et al., 2005). Adolescents who have a computer in their homes have a higher tendency towards Internet addiction (Ak et al., 2013). The amount of Internet use appears to be an important symptom of Internet addiction (Andreou and Svoli, 2012; Ceyhan, 2011). It was ascertained that mental health problems may arise when Internet use exceeded two hours a day (Kelleci et al., 2009).

Internet use is indispensable for adolescents for useful purposes such as schoolwork, information gathering and communication (Eryaman, 2007; Subrahmanyam & Lin, 2007). Adolescents use the Internet as a socialization tool; however, excessive Internet use may lead to family problems, malnutrition, self-negligence, social withdrawal and spending most of one's time on online activities (Cao et al., 2011). Problematic Internet use by adolescents is related to psycho-social and emotional problems (Kormas et al., 2011). Studies have ascertained that psychological symptoms are considerably related to Internet addiction (Cao et al., 2011; Kelleci et al., 2009; Ko et al., 2012; Yang, 2001).

Subjective well-being is described as a person's own cognitive and emotional assessment of life (Diener, 1984). Cognitive assessment includes judgments of life satisfaction, while emotional assessment includes satisfactory and unsatisfactory emotional reactions (Diener and Diener, 1996). Researchers investigating the effect of Internet use on well-being have attained different results from those of the studies cited above. Chen (2012) states that social Internet use may enable students to be psychologically healthier. It has been found that the quality of friends on the Internet and the time spent with such friends are positively related with the well-being of adolescents (Valkenburg and Peter, 2007). Communicating with friends online has a positive impact on subjective well-being (Wang and Wang, 2011). Positive feedback received from friend networks increases adolescent subjective well-being (Valkenburg et al., 2006). Despite these findings, other studies have found a negative relationship between Internet addiction and subjective well-being or life satisfaction (Cao et al., 2011; Chen, 2012; Ko et al., 2005).

Although the relationship between subjective well-being and Internet addiction has been studied, there are only a limited number of studies focusing on the relationship of areas of life satisfaction and positive or negative affects that constitute the sub-dimensions of subjective well-being with Internet addiction. This study aims to investigate the relationships between areas of life satisfaction, positive or negative affects and Internet addiction in Turkish adolescents. The present study is of importance due to its contribution to future studies on the prevention of Internet addiction.

Method

Participants

The research study group comprised 358 students who studied in the sixth, seventh and eighth grades in four different middle schools in Çanakkale city centre during the 2012–2013 academic year,

of which 189 (53%) were female and 169 (47%) were male. Of the participants, 131 (37%) were sixth graders, 90 (25%) were seventh graders and 137 (38%) were eighth graders. When the distribution of the students by age are investigated, 22 (6%) were 11, 95 (27%) were 12, 103 (29%) were 13, 127 (35%) were 14 and 11 (3%) were 15-years old. The participants ranged from 11 to 15 years of age. Students had a mean age of 13 (Sd=0.99).

Measures

Multidimensional Student's Life Satisfaction Scale (MSLSS). Multidimensional Student's Life Satisfaction Scale was developed by Huebner (1994) and adapted into Turkish by Çivitci (2007). The original scale is a four-point Likert-type scale (1-Never, 2-Sometimes, 3-Often and 4-Always) comprising 40 items with the five sub-dimensions of family, friend, school, environment and self. The construct validity of the Turkish version of the scale was tested using factor analysis conducted with data obtained from 516 students. The Turkish version of the scale comprised five factors with factor loadings ranging from .34 to .81 and had a total of 36 items. The total variance explained collectively by the five factors was 44.50%. The internal consistency coefficients of the scale were found to be .92 in 'total' score, .82 in the 'family' sub-scale, .85 in the 'school' sub-scale, .85 in the 'friend' sub-scale, .82 in the 'self' sub-scale and .83 in the 'environment' sub-scale.

Internet Addiction Scale (IAS). The Internet Addiction Scale was a 20-item Likert-type scale developed by Young (1998), with each item being assigned 1 to 6 points. The score range was 20 to 180. High scores indicated high Internet addiction. The adaptation of the scale into Turkish was completed by Bayraktar (2001), and its Cronbach's alpha internal consistency coefficient was .90.

Positive and Negative Experience Scale (PNES). The Positive and Negative Experience Scale was a short instrument designed by Deiner et al. (2010) for assessing positive and negative affects and well-being. The scale's adaptation into Turkish with adolescents was conducted by Telef. The validity study conducted by Telef (2013) with an adolescent sampling resulted in factor loadings of scale items ranging from .54 to .76. Fit indices calculated in the confirmatory factor analysis were found to be RMSEA = 0.04, SRMR = 0.03, GFI = 0.96, NFI = 0.97, RFI = 0.96, CFI = 0.99 and IFI = 0.99. The Cronbach's alpha coefficient attained in the reliability study of the scale was .84 for the positive experience dimension and .75 for the negative experience dimension. Each item of the Positive and Negative Experience Scale was scored on a scale between 1 and 5, where 1 represented 'very rarely or never' and 5 represented 'very often or always.' The parts of the scale were scored separately as they measure independent feelings, or two types of feelings. The total positive or negative affect scores ranged from 6 to 30.

Statistical Analysis

The research data was analysed using correlation and multiple linear regression via the SPSS 16.0 software program. The relationship between life satisfaction areas, positive or negative affects and Internet addiction were identified using Pearson's product-moment correlation analysis. Multiple regression analysis was used to identify whether life satisfaction areas and positive or negative affects predicted Internet addiction.

Results

The results of Pearson's product-moment correlation analysis indicating the relationships between Internet addiction and life satisfaction areas and positive or negative affects are provided in Table 1.

Table 1. *Relationships between Internet addiction and life satisfaction areas, and positive-negative affects.*

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) Internet addiction	1							
(2) Friend satisfaction	-.6	1						
(3) School satisfaction	-.22**	.34**	1					
(4) Environment satisfaction	-.09	.41**	.37**	1				
(5) Family satisfaction	-.16**	.43**	.43**	.41**	1			
(6) Self -satisfaction	.05	.57**	.40**	.42**	.49**	1		
(7) Positive affects	-.06	.39**	.40**	.30**	.35*	.47*	1	
(8) Negative affects	.24**	-.31**	-.30**	.18*	-.29**	-.35**	-.49**	1
Mean	28.32	26.54	23.80	21.25	24.02	19.33	23.43	13.96
Standard deviation	22.06	4.69	4.98	5.20	4.17	3.59	5.35	5.44

*p<.05

**p<.01

Correlation analysis indicated that there was a significant negative relationship between Internet addiction, school satisfaction (r = -.22, p < .01) and family satisfaction (r = -.16, p < .01); there was also a significant negative relation between Internet addiction and negative affects (r = .24, p < .01). No significant relationship was observed between Internet addiction and friend satisfaction, environment satisfaction, self-satisfaction or positive affects.

Multiple regression analysis results for life satisfaction areas and positive or negative affects predicting Internet addiction are provided in Table 2.

Table 2. *Multiple regression analysis results for life satisfaction areas and positive-negative affects as predictor of Internet addictions*.

Variable	B	Standard Error	β	*t*	*p*
Constant	22.45	10.98		2.04	.04
Friend satisfaction	.18	.30	.04	.60	.55
School satisfaction	.84	.26	-.19	3.17	**.00**
Environment satisfaction	.08	.25	-.02	.32	.75
Family satisfaction	.56	.33	-.11	1.68	.09
Self-satisfaction	.57	.43	.9	1.33	.18
Positive affects	.48	.27	.12	1.81	.07
Negative affects	1.01	.24	.25	4.19	**.00**

R= 0.33, R^2= .11, $F_{(8,349)}$= 9.73, P= .00

The results of multiple linear regression analysis indicated that school, family, friends, environment, self-satisfaction and positive and negative affects explained 11% of Internet addiction. School satisfaction (β= -.19, p < .05) and negative affects (β = .25, *p* < .05) significantly predicted Internet addiction. However, family satisfaction (β = -.11 *p* > .05), friend satisfaction (β = .04, *p* > .05), environment satisfaction (β = -.02, *p* > .05), self-satisfaction (β = .9, *p* > .05) and positive affects (β = .12, *p* > .05) did not significantly predict Internet addiction.

Discussion

This study investigated relationships between Internet addiction, areas of life satisfaction and positive or negative affects in adolescents. Results indicate a significant negative correlation between Internet addiction and school and family satisfaction, and a significant positive relationship between Internet addiction and negative affects. School satisfaction and negative affects were observed as important predictors of Internet addiction.

When the literature was reviewed, a negative relationship was found between Internet addiction and life satisfaction (Cao et al., 2011; Ko et al., 2005). Cao et al. (2011) state that all life satisfaction areas of adolescents with problematic Internet use were low. Daily Internet use was indirectly related to the well-being of adolescents through compulsive Internet use (Van Der Aa, 2009). Online communication in lieu of face-to-face or real communication was characterized by poor social bonding, which threatens well-being (Subrahmanyam and Lin, 2007).

The present study found that the life satisfaction areas of family and school satisfaction had a negative relationship with Internet addiction. Additionally, school satisfaction was found to be an important predictor of Internet addiction. The negative relationship between Internet addiction and family satisfaction has been supported by previous studies (Cao et al., 2011; Lam et al., 2009; Li et al., 2014). Internet addiction negatively influences family relationships (Tsitsika et al., 2011). Conflict with family is a risk factor for Internet addiction (Wang et al., 2011; Yen et al., 2009). Good family function was found to have a negative relationship with Internet addiction (Yu and Shek, 2013), while poor family function was found to have a positive relationship in the same context (Ko et al., 2007; Yen et al., 2007). Ayas and Horzum (2013) state that families with negligent attitudes toward the Internet played an important role in Internet addiction. Adolescents who received low social support from their families tended to exhibit high Internet addiction (Gunuç and Doğan, 2013). Adolescents who received less support from their families were more likely to make online friends (Subrahmanyam and Lin, 2007). Adolescents used the Internet to overcome their lack of family support. This phenomenon may increase risky and pathological behaviours (Durke et al., 2012).

The research indicated that excessive Internet use was related to poor school performance (Ko et al., 2005; Mythily et al., 2008; Stavropoulos et al., 2013; Wang et al., 2011), inadequate commitment to school (Yen et al., 2009), alienation from school (Huang and Leung, 2009) and dropping out from school (Tsitsika et al., 2011). Wang et al. (2011) state that adolescents who experienced stress in school studies and had poor relationships with classmates had a higher risk of Internet addiction.

Negative affects were found to be an important predictor of Internet addiction. These results are consistent with the studies in the literature (Douglas et al., 2008; Spada et al., 2008; Şenol-Durak and Durak, 2011). The emotional aspects of subjective well-being play an important role in Internet addiction (Şenol-Durak and Durak, 2011). Negative affects, such as attention deficit and hyperactivity disorder, hostility, social phobia and depression, were important predictors of Internet addiction (Ko et al., 2009; Ko et al., 2012). Adolescents who played online games at risk levels demonstrated less emotional efficacy than other users (Seo et al., 2012). Individuals also used the Internet to self-regulate (Spada et al., 2008) or cope with negative experiences (Douglas et al., 2008).

Conclusions

This study investigates the relationships between Internet addiction, areas of life satisfaction and positive or negative affects in Turkish adolescents. The results indicate that there was a significant negative correlation between Internet addiction and school and family satisfaction, and that there was a significant positive relationship between Internet addiction and negative affects. The results showed that increasing adolescents' communication with their families and positive family functions and school satisfaction, as well as interventions for developing their ability to regulate their emotions may be useful in decreasing Internet addiction. In this respect, it will prove useful for school psychological counsellors to include skills for increasing good family functions, school satisfaction and for regulating negative affects or emotions in their intervention programmes aimed at preventing Internet addiction among adolescents. The most important limitation of the present study is that it was conducted only among sixth, seventh and eighth grade students in Canakkale province in Turkey. The study measures were self-report. In future studies, the use of multiple methods of assessment would enhance the meaningfulness of the findings.

References

Ak, Ş., Koruklu, N., & Yılmaz, Y. (2012). Study on Turkish adolescent's Internet use: Possible predictors of Internet addiction. *CyberPsychology, Behavior & Social Networking, 16*, 205-209.

Andreou, E., & Svoli, H. (2013). The association between Internet user characteristics and dimensions of Internet addiction among Greek adolescents. *International Journal of Mental Health Addiction, 11*, 139-148.

Ayas, T., & Horzum, M. B. (2013). Internet addiction and Internet parental style of primary school students. *Türk Psikolojik Danışma ve Rehberlik Dergisi, 4*, 46-57.

Beard, K. W., & Wolf, E. M. (2001). Modification in the proposed diagnostic criteria for Internet addiction. *Cyberpsychology & Behavior, 4*, 377-383.

Bayraktar, F. (2001). Role in the development of adolescent use of the Internet. Unpublished Master Thesis, Ege University, Turkey.

Canan, F., Ataoglu, A., Nichols, L. A., Yildirim, T., & Ozturk, O. (2010) Evaluation of psychometric properties of the Internet addiction scale in a sample of Turkish high school students. *Cyberpsychology & Behavior, 13*, 1-4.

Cao, H., Sun, Y., Wan, Y., Hao, J., & Tao, F. (2011). Problematic Internet use in Chinese adolescents and its relation to psychosomatic symptoms and life satisfaction. *BMC Public Health*, *11*, 802.

Ceyhan, A. A. (2011). Predictors of adolescents' problematic Internet use levels. *Çocuk ve Gençlik Ruh Sağlığı Dergisi, 18*, 85-94.

Çivitci, A. (2007). The adaptation of multidimensional students' life satisfaction scale into Turkish: Validity and reliability studies. *Eurasian Journal of Educational Research, 26*, 51-60.

Chen, S. K. (2012). Internet use and psychological well-being among college students: A latent profile approach. *Computers in Human Behavior, 28*, 2219–2226.

Diener, E. (1984). Subjective well-being. *Psychological Bulletin, 95*, 542-575.

Diener, E., & Diener, C. (1996). Most people are happy. *Psychological Science,* 7, 181-185.

Diener, E., Wirtz, D., Tov, W., Kim-Prieto, C., Choi, D., & Oishi, S., et al. (2010). New well-being measures: Short scales to assess flourishing and positive and negative feelings. *Social Indicators Research, 97*, 143-156.

Durkee, T., Kaess, M., Carli, V., Parzer, P., Wasserman, C., & Floderus, B., et al. (2012). Prevalence of pathological Internet use among adolescents in Europe: demographic and social factors. *Addiction, 107*, 2210-2222.

Douglas, A. C., Mills, J. E., Niang, M., Stepchenkova, S., Byun, S., & Ruffini, C., et al. (2008). Internet addiction: Meta-synthesis of qualitative research for the decade 1996–2006. *Computers in Human Behavior, 24*, 3027–3044.

Eryaman, M. Y. (2007). Examining the characteristics of literacy practices in a technology-rich sixth grade classroom. *The Turkish Online Journal of Educational Technology (TOJET) 6*(2), 26-41.

Gunuc, S., & Dogan, A. (2013). The relationships between Turkish adolescents' Internet addiction, their perceived social support and family activities. *Computers in Human Behavior, 29*, 2197–2207.

Huang, H., & Leung, L. (2009). Instant messaging addiction among teenagers in China: shyness, alienation, and academic performance decrement. *CyberPsychology & Behavior*, *12*, 675-679.

Huebner, E. S. (1994). Preliminary development and validation of a multidimensional life satisfaction scale for children. *Psychological Assessment, 6*, 149-158.

Kaltiala-Heino, R., Lintonen, T., & Rimpela, A. (2004). Internet addiction? Potentially problematic use of the Internet in a population of 12–18-year-old adolescents. *Addict Res Theory, 12*, 89-96.

Kelleci, M., Güler, N., Sezer, H., & Gölbaşı, Z. (2009). Relationships gender and psychiatric symptoms with duration of ınternet use among high school students. *TAF Preventive Medicine Bulletin, 8*, 223-230.

Ko, C. H., Yen, J. Y., Chen, C. C., Chen, S. H., & Yen, C. F. (2005). Proposed diagnostic criteria of Internet addiction for adolescents. *The Journal of Nervous and Mental Disease, 193*, 728–33.

Ko, C. H., Yen, J. Y., Yen, C. F., Lin, H. C., & Yang, M. J. (2007). Factors predictive for incidence and remission of Internet addiction in young adolescents: a prospective study. *CyberPsychology & Behavior, 10*, 545–51.

Ko, C. H., Yen, J. Y., Liua, S. C., Huanga, C. F., & Yen, C. F. (2009). The associations between aggressive behaviors and Internet addiction and online activities in Adolescents. *Journal of Adolescent Health, 44*, 598-605.

Ko, C. H., Yen, J. Y., Yen, C. F., Chen, C. S., & Chen, C. C. (2012). The association between Internet addiction and psychiatric disorder: a review of the literature. *European Psychiatry, 27*(1), 1-8.

Kormas, G., Critselis, E., Janikian, M., Kafetzis, D., Tsitsika, A. (2011). Risk factors and psychosocial characteristics of potential problematic and problematic Internet use among adolescents: a cross-sectional study. *BMC Public Health, 11*, 595.

Lam, L. T., Peng, Z. W., Mai, J. C., & Jing, J. (2009). Factors associated with Internet addiction among adolescents. *CyberPsychology & Behavior, 12*, 551-5.

Li, W., Garland, E. L., & Howard, M. O. (2014). Family factors in Internet addiction among Chinese youth: a review of English- and Chinese-language studies. *Computers in Human Behavior, 31*, 393–411.

LaRose, R., Lin, C. A., & Eastin, M. S. (2003). Unregulated Internet usage: addiction, habit, or deficient self-regulation? *Media Psychology*, 5, 225–253.

Mythily, S., Qiu, S., & Winslow, M. (2008). Prevalence and correlates of excessive Internet use among youth in Singapore. *Academy of Medicine Singapore, 37*, 9-14.

Nalwa, K., & Anand, A. P. (2003). Internet addiction in students: a cause of concern. *Cyberpsychology and Behavior, 6*, 653-656.

Seo, M., Kang, H. S., & Chae, S. M. (2012). Emotional competence and online game use in adolescents. *Computers, Informatics, Nursing*, *30*, 640–646.

Spada, M. M., Langston, B., Nikcevic, A. V., & Moneta, G. B. (2008). The role of metacognitions in problematic Internet use. *Computers in Human Behavior, 24*, 2325–2335.

Subrahmanyam, K., & Lin, G. (2007). Adolescents on the net: Internet use an well-being. *Adolescence, 42*, 659-677.

Stavropoulos, V., Alexandraki, K., & Motti-Stefanidi, F. (2013). Recognizing Internet addiction: Prevalence and relationship to academic achievement in adolescents enrolled in urban and rural Greek high schools. *Journal of Adolescence, 36*, 565–576.

Senol-Durak, E., & Durak, M. (2011). The Mediator roles of life satisfaction and self-esteem between the affective components of psychological well-being and the cognitive symptoms of problematic Internet use. *Social Indicators Research, 103*, 23–32.

Telef, B. B. (2013). The Scale of positive and negative experience: a validity and reliability study for adolescents. *Anatolian Journal of Psychiatry, 14*, 62-68.

Tsitsika, A,, Critselis, E., Louizou, A., Janikian, M., Freskou, A., & Marangou, E., et al. (2011). Determinants of Internet addiction among adolescents: a case-control study. *Scientific World Journal, 11*, 866-874.

Wang, J., & Wang, H. (2011). The predictive effects of online communication on well-being among Chinese adolescents. *Psychology, 2*, 359-362.

Wang, H., Zhou, X., Lu, C., Wu, J., & Hong, L. D. (2011). Problematic Internet use in high school students in Guangdong Province, China. *PLoS ONE, 6*, 1-8.

Valkenburg, P. M., Peter, J., & Schouten, A. P. (2006). Friend networking sites and their relationship to adolescents' well-being and social self-esteem. *CyberPsychology & Behavior, 9*, 584–590.

Valkenburg, P. M., & Peter, J. (2007). Online communication and adolescent well-being: Testing the stimulation versus the displacement hypothesis. *Journal of Computer-Mediated Communication, 12*, 1169–1182.

Van Der Aa, N., Overbeek, G., Engels, R. C. M. E., Scholte, R. H. J., Meerkerk, G. J., & Van den Eijnden, R. J. J. M. (2009). Daily and compulsive Internet use and well-being in adolescence: A diathesis-stress model based on big five personality traits. *Journal of Youth and Adolescence, 38*, 765-776.

Yang, C. (2001). Sociopsychiatric characteristics of adolescents who use computers to excess. *Acta Psychiatrica Scandinavica, 104*, 217-222.

Yen J. Y., Yen C. F., Chen C. C., Chen S. H., & Ko, C. H. (2007). Family factors of Internet addiction and substance use experience in Taiwanese adolescents. *Cyberpsychology and Behavior, 10*, 323–9.

Yen, C. F., Ko, C. H., Yen, J. Y., Chang, Y. P., & Cheng, C. P. (2009). Multi-dimensional discriminative factors for Internet addiction among adolescents regarding gender and age. *Psychiatry and Clinical Neurosciences, 63*, 357–364.

Young, K. S. (1998). Caught in the net: How to recognize the signs of Internet addiction and a winning strategy for recover. John Wiley, New York.

Yu, L., & Shek, D. T. L. (2013). Internet addiction in Hong Kong adolescents: a three-year longitudinal study. *Journal of Pediatric and Adolescent Gynecology, 26*, 10-17.