

TURKISH UNIVERSITY STUDENTS' DEPRESSION DEGREE AND INTERNET USING

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ABSTRACT

Different discussions have been made about positive and negative effects of new information and communication technologies in academia, over last decades. Depression is one of the negative important indicators of psychological well being. It is important that the effects of these new technologies on young people's psychological well being are potentially negative. This study intends to show levels of Turkish university students' depression as a negative indicator of psychological well-being, and types of internet usage (communication, entertainment, and informative). Add to this, the research aims to investigate the relationship between depression and internet usage types (communication, entertainment, and informative) among Turkish university students. The survey was conducted on two thousand eight hundred and six (2806) students who attend twenty six (26) universities locating on throughout Turkey. Different sampling techniques were used such as cluster, purposeful and random sampling for representing all Turkey university students. Data was collected via a questionnaire which includes different subscales such as depression, internet usage types and individual differences. Results indicated that 49.2 % of participants have depression at medium or high degree. Also participants' daily average internet usage time is 118 minutes. Students more frequently use internet for the purpose of communication and entertainment while they use it for the purpose of information less. In addition, internet usage for entertainment and communication was positively and significantly correlated with depression. Lastly, it was concluded that general internet usage was positively and significantly correlated with depression.

Keywords: Depression, Turkish University students, internet usage.

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1. INTRODUCTION

Internet has widespread usage area every passing day. Cause of that reason, researchers have more pay attention internet and its relation to other concepts. Researchers especially want to focus internet's psychological and social effects on modern society. Besides, they are examining who are using the internet and which motivations they have. Numerous studies revealed that people use the internet more frequently purpose of communication and maintenance of relations the others. Especially it is observed that instant messaging usage on smart phones is rather become widespread (Shaw and Gant, 2002: 157-158, Şahin and Gülnar, 2016). Most scholars, technologists, researchers and social critics argue that these technological changes and the internet, in particular, are transforming dramatically economic and social life (King & Kraemer, 1995).

The frequency of use and even the quality of information-communication technologies appears to be connected to both physical and mental health. The increasing use of information and communication technologies as a free time activity and in study times has made it more important to define the risk and health factors related to the use of these tools. The factors in question are both physical and psychological (Thomé et al., 2007: 1302).

However, analysts disagree as to the nature of these changes and whether the changes are for the better or worse. Study results of related of this topic are contradictory. Some researchers assert that the internet is causing people to become socially isolated and cut off from genuine social relationships, as they hunker alone over their terminals or communicate with anonymous strangers through a socially impoverished medium (Turkle, 1996). The other scholars have asserted that internet facilitate people to get through geographical limitations and connect with a broader and more different groups than real life. According to them, the internet allows people to join groups on the basis of common interests rather than convenience (e.g., Katz & Aspden, 1997; Kraut, 1998; McKenna and Bargh, 2000).

The internet has recently emerged as the principal of the factors that are believed to have an effect on the psychologies and social relationships of young people. The fact that it initially became increasingly easier to access the internet, and in the following period it became very easy for devices such as smart phones to find a place in everyday life seems to justify the reputation of the internet in this regard. Frequent discussions have been made on the mass media and among academic circles, regarding the relationship between internet usage and the psychological problems of the modern society, such as depression and loneliness. Academic literature tends to focus on the potential relationship between internet usage and general mental health (psychological well-being). At this stage, the necessity of scientifically presenting mental health and its indicators in a clear manner comes into prominence (Gülnar, 2016: 137).

As it mentioned above, internet and its psychological and social affects are very important at this stage. Depression as indicator of psychological well-being is and its' relation to internet usage have to examine more detail. It will be explored is there any relationship between depression as a negative indicator of psychological well-being and internet use in this study.

2. REVIEW OF LITERATURE

It is argued that social degree, social disengagement is associated with more corrupt, less efficient government and more crime. When people are actively involved in social life, their schools run better, their politicians are more responsive, and their streets are safer. At the individual level, social disengagement is related with poor quality of life and diminished physical and psychological health. When people have more social contact, they are happier and healthier, both physically and mentally (Cohen & Wills, 1985; Gove & Geerken, 1977).

The importance of social networks may be most apparent when considering the beneficial effects they have on participants' overall well-being. In fact, several studies have concluded that social relationships within social networks positively influence psychological and physical health (Cohen et al., 2003; Russell, 2004; Surkan et al., 2006). Although changes in the labor force participation of women and marital breakup may account for some of the declines in social participation and increases in depression since the 1960s, technological changes may also play an important role on this issue. Television, an earlier technology similar to the internet in some respects, may have reduced social participation as it kept people home watching the set (Kraut et al., 1998: 1018).

Whether social uses of the internet have positive or negative effects may depend on how the internet shapes the balance of strong and weak network ties that people maintain. Strong ties are relationships associated with frequent contact, deep feelings of affection and obligation, and application to a broad content domain, whereas weak ties are relationships with superficial and easily broken bonds, infrequent contact, and narrow focus. Strong and weak ties alike provide people with social support. Weak ties, including weak on-line ties (Granovetter, 1973; Constant, Sproull, & Kiesler, 1996), are especially useful for linking people to information and social resources unavailable in people's closest, domestic groups. Nonetheless, strong social ties are the relationships that generally buffer people from life's stresses and that lead to better social and psychological outcomes (Cohen & Wills, 1985). People receive most of their social support from people with whom they are in most frequent contact, and bigger favors come from those with stronger ties such as family (Wellman & Wortley, 1990).

While several studies deal with the level and type of technology use, a much smaller number of studies focus on the psycho-social effects of technology. In this manner, the psycho-social effects of the internet, which is very commonly used among young people, are of extreme importance. While some of the studies on the topic present the negative effects of internet use on psychological well-being (Kraut et al., 1998; Mathers et al., 2009; Rosen, 2006), some others reveal the positive dimension of this effect (Lavoie and Pychyl, 2001; La Rose et al., 2003; Morahan - Martin, 2005).

Kraut and colleagues (1998) performed a longitudinal research which related to internet and psychological well-being. This study's results revealed that greater internet use caused a small but significant decline in social involvement (family communication, local social network, and social support) and an increase in loneliness and depression. The paradox was how a "social technology" used primarily for interpersonal interaction could increase social isolation and thereby decrease psychological well-being among its users. Internet use was related with increases in loneliness and depression and tended to increase stress as well. These results seemed paradoxical indeed to those who viewed the internet as a vibrant new means of social interaction through its many e-mail exchanges, newsgroups and chatrooms. To explain the paradox, the researchers reasoned that superficial relationships (weak ties) formed on line displaced meaningful (strong tie) relationships in the real world (La Rose et al., 2001). In addition, Boonvisudhi and Kuladee (2017) found that internet addiction and depression positively associated among students of faculty of medicine. The other researchers also revealed similar results related to association depression and internet addiction (Bernardi and Pallanti, 2009; Ha et al., 2006; Yen et al., 2007; Ko et al., 2008). Also Dutta and Chye (2017) revealed that depression was the most important predictor of problematic internet use, followed by academic stress. Evidence also showed that depression degrees are significantly high among international students pursuing academic activities away from their home country (Han, Han, Luo, Jacobs, & Jean-Baptiste, 2013; Mesidor & Sly, 2015; Rice, Choi, Zhang, Morero, &

Anderson, 2012; Sa, Seo, Nelson, & Lohrmann, 2013). These studies also asserted that international students are at risk of depression and problematic internet use.

The results were also paradoxical in the face of competing evidence of the positive social impacts of Internet use. Researchers (Parks & Floyd, 1996, Katz & Aspden, 1997) found that the Internet spawned highly developed on-line relationships and that many led to real world social contacts, suggesting that social isolation might *decrease* with heavy Internet use. Computer mediated communication research has demonstrated that even media lacking in social cues, including text-based e-mail and chatrooms on the Internet, may foster supportive relationships over time (Walther, 1996). Ethnographic research indicated that on-line communication supplements existing real world relationships rather than displaces them. In a review of ethnographic and anecdotal evidence about it was concluded that internet communities, on-line relationships can be strong and intimate and may strengthen real world relationships as much as diminish them.

On the other hand there are numerous studies which indicate that internet use could weaken negative psychological well-being - loneliness and depression – (Shaw & Gant, 2002; White et al., 1999). In addition some researcher found that internet use related to better psychological well-being (Cheng, Wigand, & Nilan, 2000). Weiser (2001) conducted a similar study who investigated psychological well-being and internet use. Psychological well-being was consisted three elements which were loneliness, depression and life satisfaction. Weiser (2001: 733) indicated that psychological well-being negatively correlated with internet use for social purposes and hours of personal internet use while it was positively correlated with social integration. Similarly Sanders (2000) and colleagues measured depression among high-school students, they did not find any relationship between depression and internet use. In additionally Shaw and Gant (2002) revealed that internet use to decrease loneliness and depression significantly, while perceived social support and self-esteem increased significantly.

La Rose (et al., 2001) found that there was no significant relationship between internet use and the depression after controlling for stress and social support by contradictory Kraut (et al., 1998). They also concluded that internet use was related to depression through self-efficacy and then through Internet Stress. Internet stress was directly related to the depression as hypothesized. This study also revealed that perceived social support was not related to self-efficacy nor, through it, to depression. They showed that internet use to depression through e-mail use and perceived social support was validated. Overall internet use was positively related to e-mail use, which in turn was positively related to perceived social support. Perceived social support had a significant and negative relationship to depression. In other words, internet use decreased depression through its relationship to the use of electronic mail and perceived social support. They asserted that internet communication with people can alleviate depression, at least among socially isolated populations such as college students.

At the end of the literature review following research questions was written:

RQ1: What is the level of university students' depression?

RQ2: What is the frequency and kinds of university students' internet usage?

RQ3: Is there any relationship between depression and students' internet usage?

3. METHODOLOGY

A survey was performed purpose to show the relationship between university students' depression and their internet usage. This survey was performed on two thousand eight hundred and six (2806) students who attend twenty six (26) universities and twenty seven (27)

different programs that located on whole Turkey. Different analysis such as descriptive statistics and correlation analysis have been performed for answer to the relevant research questions.

3.1. Procedure and Sample

This study has aimed to explore depression degree of university students as a negative indicator of psychological well-being and the relation between their internet usage types and frequency. Different sampling techniques were used such as cluster, purposeful and random sampling for representing all Turkey university students.

The sample was consisted 1525 (56.2 %) females participants and 1190 (43.8 %) males. Participants' ages were varying between 19 and 33 and mean of ages is 21.55. 7.7 % of the students were from Seljuk University, 7.2 % were from Marmara University, 5.3 % were Uludag University, 5.2 % were from KATU, 4.9 % were from Istanbul University, 4.8 % were from Karabuk University, 4.8 % were from Ege University, 4.7 % were Adnan Menderes University. Also the sample included Mugla, Cumhuriyet, Gazi, and Anadolu University students with smaller counts.

3.2. Measurement

A questionnaire which contained two main parts was designed to measure Turkish University students' depression degree and the relationship between internet usage types. First part of the questionnaire included Generalized Contentment Scale (GCS) and is constituted of twenty five items. The GCS is a 25-item self-rating instrument that measures affective, physiological and cognitive components of depression. Participants responded to each statement on a 5-point scale ranging from "rarely or none of the time" (1) to "most or all of the time" (5). The scores were then summed and averaged to create an index of degree of depression. The GSC has proved to be a reliable and valid instrument. Hudson (1982) reported coefficient alphas ranging from .89 to .96, indicating excellent internal consistency. Also Wang 2006: 84) reported .91 alpha in his study. In additionally Wang instrument's validity was established through Pearson correlations with the Life Satisfaction scale ($r = -.60, p < .001$). Also, cronbach alpha .84 was computed for this study, scale's validity exhibited by the positive relation between loneliness and depression ($r = .646, p < .001$).

Second part of the questionnaire which aimed students' internet usage type and frequency included 14 items. That 14 items measured students' internet usage type and frequency at three different usage dimensions: Communication, information and entertainment (Johnson, 2007). That scales' total reliability .89, .70 usage for communication, .87 usage for information, .66 usage for entertainment were computed. Also that scales' validity proved constant validity: Internet usage for communication positively correlated with face to face interaction scale ($r = .080, p < .001$).

3.3. Analysis and Statistical Tests

Firstly, a pilot study was applied on a small group which included one hundred students at the beginning of the survey and the questionnaire was reviewed according the results of this study. Analysis was performed by SPSS 17 statistical Program. Descriptive analysis was used to introduce demographic characteristics of participants. Central tendency statistics and computed items were performed for assessing participants' degree of depression, and internet usage. Also Correlation analysis was used to investigate the relations between depression and internet usage.

4. RESULTS

Part of finding contains three different subjects which try to answer research questions. These subjects are (1) depression degree of participants, (2) frequently and type of internet usage, (3) lastly the relationship between depression and internet usage.

4.1. Depression Degree of University Students

Firstly depression degree of Turkish University students' is descriptively investigated in this part. As seen on Table 1, mean score of participants' depression is $\bar{x} = 2.58$. This value indicated that participants' depression degree is low-point (As mentioned before, a five point scale was used to assess depression. Answers ranged one to five therefore 0.80 (4/5= 0.80) range was used in staging: 1,00-1,80 = very low; 1,81-2,60 = low; 2,61-3,40 = midpoint; 3,41-4,20 = high; 4,21-5,00 = very high).

Table 1. Central Tendency Statistics for Participants' Total Depression Degree

	N	Minimum	Maximum	Mean	SD
Depression	2780	1.00	4.83	2.58	.506

In addition, students' depression degree investigated through frequency analysis as a categorical variable (depression index was categorized based on categorical degree as it was mentioned). As have been seen on Table 2, 6.5 % of participants have very low depression, 44.0 % of participant's low depression, 45.0 % of participants midpoint depression, 4.2 % of participants high depression, and 0.3 % of participants very high depression degree. In another words 49.2 % of participants leave depression at medium or high degree.

Table 2. Results of Frequency Analysis for Depression Categories

	Frequency	Rate	Valid Rate
Very Low	181	6.4	6.5
Low	1219	42.8	44.0
Mid Point	1247	43.8	45.0
High	115	4.0	4.2
Very High	8	0.3	0.3
Total	2770	97.3	100.0
Missing	76	2.7	
General Total	2846	100.0	100.0

4.2. Turkish University Students' Internet Usage

Turkish university students' internet usage types and frequency were introduced in this part by descriptive statistics. Table 3 included mean values concerning students' internet usage types. Firstly students' daily internet usage average time is $\bar{x} = 118$ minutes. According to this, it is observed that students use internet most frequently purpose of "instant messaging" by the daily internet usage average time is $\bar{x} = 215$ minutes. Second most frequently internet usage type is purpose of social media by the daily usage average time is $\bar{x} = 184$ minutes. Internet usage for listening to music ($\bar{x} = 137$), playing game ($\bar{x} = 117$), and video/TV watching ($\bar{x} = 114$) follow internet usage purpose of instant messaging and social media. Minimum daily

average internet usage types are in order e-mail ($\bar{x} = 48$), private information seeking ($\bar{x} = 65$), academic information seeking ($\bar{x} = 69$), following news bulletin ($\bar{x} = 73$) and general information seeking ($\bar{x} = 79$).

Table 3. Central Tendency Statistics Related Internet Usage Types and Frequency

Internet Usage Types	Usage on One Day Time (Minu				Usage Time on an Average			
	N	Minim	Maxim.	Mea n	N	Minim.	Maxi m	Mea n
E-Mail	1238	1	1020	43.5	1433	1	1020	48.1
Instant Messaging	2097	1	1440	205.	2130	1	1440	215.
Social Networking	1984	1	1440	182.	1981	1	1440	184.
Internet Telephone	613	1	1420	95.6	712	1	1420	81.2
Dating Sites	673	1	1420	85.3	758	1	1420	80.7
Search Engines	1697	1	1440	96.3	1767	1	1440	94.4
Public Information	1385	1	1440	84.9	1476	1	1440	79.2
Private Information	904	1	1140	67.0	1013	0	1140	65.2
AcademicInformation	1038	1	1200	77.2	1199	1	1200	69.6
Newsgroups/Bulletin	1363	1	1440	71.1	1466	1	1440	73.1
Listening Music	1776	1	1440	136.	1862	1	1440	136.
Video/TV Watching	1525	1	1440	113.	1650	0	1440	114.
Playing Games	851	0	1440	120.	950	1	1440	116.
All Other Types	592	1	1020	81.9	790	1	720	69.8
General Internet	2355	1	1440	117.	2337	1	1440	118.

Internet usage types categorized three different dimensions which are (1) communication (e-mail, instant messaging, social networking, internet telephone, dating sites), (2) information (search engines, public information seek, private information seek, academic information seek, newsgroups), (3) Entertainment (listening music, video/TV watching, playing games).

Table 4. Central Tendency Statistics Related Internet Usage Types and Groups

Internet Usage Types	Usage on One Day Time (Minu				Usage Time on an Average			
	N	Minim	Maxi m	Mean	N	Minim	Maxi m	Mean
Communication	2286	0	1440	148.9	2291	1	1440	151.1
Information	2028	1	1440	78.11	2068	0.25	1440	78.50
Entertainment	2038	1	1440	121.9	2070	1	1440	123.1

Table 4 included central tendency statistics related that internet usage groups. According to this Turkish university students use internet most frequently purpose of communication. They spend daily average $\bar{x}=151$ minutes for internet usage purpose of communication. Internet usage for entertainment follow usage for communication daily average $\bar{x} = 123$ minutes. Internet usage for information is the minimum usage type with daily average $\bar{x} = 78$ minutes. Turkish university students use internet less frequency purpose of information while they use internet more frequently purpose of communication and entertainment.

4.3. Relationship Between Depression and Internet Usage

The relation between Turkish university students' internet usage and level of depression was investigated in this section. Different correlation analysis was performed depression and internet usage. Firstly, correlation analysis was performed internet usage for communication and depression. Table 5 included results of this analysis. Correlation analysis revealed that depression and social network usage positively and significantly correlate ($r = .064$, $p < .01$). In additionally analysis indicated that depression and internet usage for general communication positively correlated.

Table 5. Results of Correlation Analysis between Internet Usage for Communication and Depression Degree (Pearson r)

	E-Mail	Instant Messagin	Social Networkin	Internet Telephon	Dating Sites	General Communi
Depressio n	-.017	.033	.064**	.034	-.014	.053*
N	1430	2126	1977	711	757	2287

Secondly one more correlation analysis was performed between internet usage for information seeking and depression. Table 6 contained results of this analysis. Correlation analysis revealed that depression and academic information using, negatively and significantly correlated. But there was no relation depression and other usage types and general information usage.

Table 6. Results of Correlation Analysis between Internet Usage for Information Seeking and Depression Degree (Pearson r)

	Search Engines	Public Informatio	Private Informatio	Academic Informatio	News Groups	Informatio n General
Depressio n	-.010	-.014	-.042	-.069*	-.028	-.017

Lastly one more correlation analysis was performed between internet usage for entertainment and depression. Table 7 also contained results of correlation analysis which related to general internet using and depression. Correlation analysis indicated that depression and internet using for listening to music ($r = .060$, $p < .05$) and entertainment ($r = .063$, $p < .05$) positively and significantly correlated. In additionally depression also positively and significantly correlated with general internet usage ($r = .066$, $p < .01$)

Table 7. Results of Correlation Analysis Between Internet Usage for Entertainment and Depression Degree (Pearson r)

	Listening Music	Video/TV Watching	Playing Game	The Others	Entertain m.	Internet General
Total Loneliness	.060*	.032	.007	-.022	.063*	.066**

5. DISCUSSION, CONCLUSION AND SUGGESTION

This study purposed to investigate relation to Turkish university students' depression level as an negative indicator of psychological well-being, and their internet usage types and frequency. Results revealed that Turkish university students' level of depression is low. On the other hand an important part of the sample has mid-point or high degree of depression. In another words 49.2 % of Turkish university students leave depression. This percentage is fairly noteworthy. This situation indicated that it is a negative statement in the manner of University students' psychological well-being. These results are overlapping with the other research findings (Han, Han, Luo, Jacobs, & Jean-Baptiste, 2013; Mesidor & Sly, 2015; Rice, Choi, Zhang, Morero, & Anderson, 2012; Sa, Seo, Nelson, & Lohrmann, 2013).

Internet usage types and frequency is the another important variable in this study as it mentioned. University students' daily internet usage average time this included all types of usage is 118 minutes. According to this, it is observed that students use internet most frequently purpose of "instant messaging" by the daily internet usage average time is $\bar{x} = 215$ minutes. Second most frequently internet usage type is purpose of social media by the daily usage average time is $\bar{x} = 184$ minutes. Internet usage for listening to music ($\bar{x} = 137$), playing game ($\bar{x} = 117$), and video/TV watching ($\bar{x} = 114$) follow internet usage purpose of instant messaging and social media. Minimum daily average internet usage types are in order e-mail ($\bar{x} = 48$), private information seeking ($\bar{x} = 65$), academic information seeking ($\bar{x} = 69$), following news bulletin ($\bar{x} = 73$) and general information seeking ($\bar{x} = 79$). Turkish university students use internet less frequency purpose of information while they use internet more frequently purpose of communication and entertainment.

It was revealed clearly that the relationship between Turkish university students' depression degree as a negative indicator of psychological well-being and their internet usage seemly to this study's main purpose. Firstly it was clearly exhibited that depression and general internet usage positively correlated. Also correlation analysis revealed that depression and social network usage positively and significantly correlate. In additionally analysis indicated that depression and internet usage for general communication positively correlated. These findings are also consistent with the other findings which include the negative relation internet usage and psychological well-being (Thomé et.al., 2007; Şahin and Gülnar, 2015, Kraut et al., 1998; Mathers et al., 2009; Rosen, 2006). These results are really quite remarkable. This situation can be explained by La Rose (2001) who asserts that superficial relationships (weak ties) formed on line displaced meaningful (strong tie) relationships in the real world. As a result of this people who use frequently internet for communication isolate to their social circles. Therefore it can be cause depression or loneliness.

The other remarkable result of this study is that negative relation between depression and internet usage for academic information. More frequently use the internet for academic searching, they have less depressive feelings. It can be explained that when people use the internet for academic searching they escape bad feeling and psychological conditions. In additionally it was also concluded that depression and internet usage for general entertainment positively correlated. This result can be interpreted that the people who have negative psychological conditions can use the internet for overcome these bad mood (Pychyl, 2001; Chou, 2001; La Rose vd., 2003; Morahan-Martin, 2005). Internet usage for social aims can help overcome to psychological problems.

Based on the positive relationship between general internet use, social media usage and depression level, more detailed studies can be conducted between social media platforms and depression level. Again, considering the positive relationship between the Loneliness level of

the participants and the use of internet for listening to music, entertainment and general use, sub-dimensions of internet use for entertainment and listening to music can be evaluated for loneliness in new studies.

REFERENCES

- Bernardi S., & Pallanti S. (2009). Internet addiction: a descriptive clinical study focusing on comorbidities and dissociative symptoms. *Compr Psychiatry*, 50:510±6.
- Boonvisudhi T., & Kuladee S. (2017). Association between Internet addiction and depression in Thai medical students at Faculty of Medicine, Ramathibodi Hospital. *PLoS ONE* 12(3): e0174209. <https://doi.org/10.1371/journal.pone.0174209>
- Cheng, H., Wigand, RT., & Nilan, M. (2000). "Exploring Web Users' Optimal Flow Experiences", *Information Technology & People* 13 (4), 263-281.
- Cohen, S., & Wills, T. A. (1985). Stress, social support, and the buffering hypothesis. *Psychological Bulletin*, 98, 310-357.
- Cohen, S., Doyle, W. J., Turner, R, Alper, C. M, & Skoner, D. P. (2003). Sociability and susceptibility to the common cold. *Psychological Science*, J4(5), 389-395.
- Constant, D., Sproull, L., & Kiesler, S. (1996). The kindness of strangers: On the usefulness of weak ties for technical advice. *Organization Science*, 7, 119-135.
- Dutta, O., & Chye S. Y. L. (2017). Internet Use and Psychological Wellbeing: A Study of International Students in Singapore. *Journal of International Students*, 7(3), pp. 825-840.
- Gove, W.R., & Geerken, M.R. (1977). The Effect of Children and Employment on the Mental Health of Married Men and Women. *Social Forces*, 56, 66-76.
- Granovetter, M. (1973). The strength of weak ties. *American Journal of Sociology*, 73, 1361-1380.
- Gülнар, B. (2016). Turkish university students' loneliness degree and Internet Using. 2nd International Conference On The Changing World And Social Research, October 14-16 /Barcelona – SPAIN, 136-143.
- Ha JH, Yoo HJ, Cho IH, Chin B, Shin D, Kim JH. (2006). Psychiatric comorbidity assessed in Korean children and adolescents who screen positive for Internet addiction. *J Clin Psychiatry*. 67:821±6.
- Han, X., Han, X., Luo, Q., Jacobs, S., & Jean-Baptiste, M. (2013). Report of a mental health survey among Chinese international students at Yale University. *Journal of American College Health*, 61(1), 1–8.
- Johnson, G.M. (2007). College Student Internet Use: Convenience and Amusement. *Canadian Journal of Learning and Technology*, 33, 141-157.
- Katz, J. E., & Aspden, P. (1997). A nation of strangers? *Communications of the ACM*, 40(12), 81-86.
- King, J. L., & Kraemer, K. L. (1995). Information infrastructure, national policy, and global competitiveness. *Information Infrastructure and Policy*, 4, 5-28.
- Ko CH, Yen JY, Chen CS, Chen CC, Yen CF. (2008). Psychiatric comorbidity of Internet addiction in college students: an interview study. *CNS Spectr*. 13:147±53

- Kraut, P., Patterson M., Lundmark V., Kiesler S., Mukopadhyay T., & Scherlis W., (1998). "Internet Paradox: A Social Technology That Reduces Social Involvement and Psychological Well-being?", *American Psychologist*, 53, 65-77.
- LaRose, R., Eastin, M.S., & Gregg, J. (2001). Reformulating the Internet paradox: Social cognitive explanations of Internet use and depression. [On-line]. Available: https://www.researchgate.net/publication/243779310_Reformulating_the_Internet_Paradox_Social_Cognitive_Explanations_of_Internet_Use_and_Depression
- La Rose, R., Lin, C.A., & Eastin, M. S. (2003). Unregulated Internet Usage: Addiction, Habit, or Deficient Self-Regulation?, *Media Psychology*, 5, s. 225-253
- Lavoie, J. A. A., & Pychyl, T. A. (2001). Cyberslacking and the Procrastination Superhighway: A Web Based Survey of Online Procrastination, Attitudes and Emotion, *Social Science Computer Review*, 19, (4): 431-444.
- Mathers, M., Canterfold, L., Olds, T., Hesketh, K., Ridley, K., & Wake, M. (2009). Electronic Media Use and Adolescent Health and Well-Being: Cross-Sectional Community Study, *Academic Pediatrics*, 9 (5): 307-314.
- McKenna, K.Y.A., & Bargh, J.A. (2000). Plan 9 from cyberspace: the implications of the Internet for personality and social psychology. *Personality and Social Psychology Review* 4:57-75.
- Mesidor, J. K., & Sly, K. F. (2015). Factors that contribute to the adjustment of international students. *Journal of International Students*, 6(1), 262-282.
- Morahan-Martin, J. (2005). Internet Abuse – Addiction? Disorder? Symptom? Alternative Explanations?, *Social Science Computer Review*, 23, 39-48.
- Parks, MR & Floyd, K (1996). Making friends in cyberspace. *Journal of Communication*, 46 (1), 80-97.
- Rice, K. G., Choi, C. C., Zhang, Y., Morero, Y. I., & Anderson, D. (2012). Self- Critical Perfectionism, Acculturative Stress, and Depression Among International Students. *The Counseling Psychologist*, 40(4), 575-600.
- Rosen, L. (2006). "Adolescent in MySpace: Identity Formation, Friendship and Sexual Predators", [http://www.csudh.edu/psych/Adolescent in MySpace-Executive Summary.pdf](http://www.csudh.edu/psych/Adolescent_in_MySpace-Executive_Summary.pdf), 20.09.2015.
- Russell, R. (2004). Social networks among elderly men caregivers. *The Journal of Men's Studies*, 73(1), 121-142.
- Sa, J., Seo, D.-C., Nelson, T. F., & Lohrmann, D. K. (2013). Cigarette Smoking Among Korean International College Students in the United States. *Journal of American College Health*, 61(8), 454-467.
- Sanders, C.E., Field, T.M., Diego, M., et al. (2000). The relationship of Internet use to depression and social isolation among adolescents. *Adolescence* 35: 237-241.
- Shaw, L.H. & Gant, L.M. (2002). In defense of The Internet: The Relationship Between Internet Communication and Depression, Loneliness, Self-Esteem, and Perceived Social Support, *Cyberpsychology & Behavior*, 5 (2), 157-171.

- Surkan, P. J., Peterson, K. E., Hughes, M. D., & Gottlieb, B. R. (2006). The role of social networks and support in postpartum women's depression: A multiethnic urban sample. *Maternal and Child Health Journal*, 70(4), 375-383.
- Şahin, M., Gülnar, B. (2016). İletişim korkusu ve internet kullanımı ilişkisi: Türkiye'deki üniversite öğrencileri arasında bir alan araştırması, *Selçuk İletişim*, 9 (2): 5-26
- Thomé, S., Eklöf, M., Gustafsson, E., Nilsson, R., Hagberg, M. (2007). Prevalence of Perceived Stress, Symptoms of Depression and Sleep Disturbances in Relation to Information and Communication Technology (ICT) Use Among Young Adults - an Explorative Prospective Study, *Computer Human Behavior*, 23 (3), s. 1300-1321.
- Turkle, S. (1996). Virtuality and its discontents: Searching for community in cyberspace. *The American Prospect*, 24, 50-57.
- Yen JY, Ko CH, Yen CF, Wu HY, Yang MJ. (2007). The comorbid psychiatric symptoms of Internet addiction: attention deficit and hyperactivity disorder (ADHD), depression, social phobia, and hostility. *J Adolesc Health*. 41:93±8
- Walther, JB (1996). Computer-mediated communication: Impersonal, interpersonal and hyperpersonal interaction. *Communication Research*, 23 (1), 3-43.
- Wang, Y. (2006). *Internet Use Among Students and Its Implication for Cross-Cultural Adaptation*. Unpublished Doctoral Dissertation, Kent State University.
- Weiser, E.B. (2001). The Functions of Internet Use and Their Social and Psychological Consequences, *CyberPsychology & Behavior*, 4 (6), 723-743.
- Wellman, B., & Wortley, S. (1990). Different strokes for different folks: Community ties and social support. *American Journal of Sociology*, 96, 558-588.
- White, H., McConnell, E., Clipp, E., Bynum, L., Teague, C., Navas, L., Craven, S. & Halbrecht, H. (1999). Surfing The Net in Later Life: A Review of The Literature and Pilot Study of Computer Use and Quality of Life, *Journal of Applied Gerontology*, 18 (3), 358-378.