

New Trends and Issues
Proceedings on Humanities
and Social Sciences



Volume 6, Issue 4 (2019) 062-066

www.prosoc.eu

ISSN 2547-8818

Selected Paper of 8th World Conference on Design and Arts (WCDA 2019) 27 – 29 June 2019, Tirana International Conference Centre, Tirana, Albania

Research on high school students' Internet addiction levels in critical thinking disposition

Canan Kocak Altundag*, Department of Mathematics and Science Education, Hacettepe University, Beytepe, Ankara, Turkey

Aysem Seda Yucel, Department of Mathematics and Science Education, Hacettepe University, Beytepe, Ankara, Turkey

Suggested Citation:

Kocak Altundag, C. & Yucel, A. S. (2019). Research on high school students' Internet addiction levels in critical thinking disposition. *New Trends and Issues Proceedings on Humanities and Social Sciences*. [Online]. 6(4), pp 062–066. Available from: www.prosoc.eu

Selection and peer review under responsibility of Prof. Dr. Ayse Cakir Ilhan, Ankara University, Ankara, Turkey.
©2019. All rights reserved.

Abstract

The aim of this study is to determine the prevalence of Internet addiction and to evaluate the associated factors and critical thinking disposition among high school students. The students from different high schools constituted sample group which was determined by simple random sampling of probability sampling method. The main objective of this research is to investigate Internet addiction and critical thinking disposition in terms of various variables. In addition, the relationships between Internet addiction and critical thinking disposition have been explored. Descriptive survey model out of scanning models was used in the research. 204 high school students were participated in the study, Young's Internet Addiction Scale, Critical Thinking Tendency Scale and sociodemographic questionnaire are applied to the students, the groups were classified as Internet addiction, risky Internet usage and average Internet usage according to the Internet addiction test. Thus, the groups were compared with each other with respect to sociodemographic factors via statistical analysis.

Keywords: Internet addiction, critical thinking, high school students.

* ADDRESS FOR CORRESPONDENCE: **Canan Kocak Altundag**, Hacettepe University, Beytepe, Ankara, Turkey. *E-mail address:* canan.kck@gmail.com / Tel.: +90 3122976787

1. Introduction

Critical thinking has been one of the most popular concepts studied in the field of education in recent years. Critical thinking skills of individuals could or could not be improved within various processes during education at home or at school. Therefore, teachers play a great role in developing the critical thinking skills of students (Akar, 2017; Browne & Freeman, 2000; Onen-Yucel & Kocak, 2010).

Critical thinking, one of the most important characteristics that an individual should have, is a complex and comprehensive process in which high-level skills are used. Use of critical thinking skills on appropriate occasions can only be realised by having the disposition of critical thinking. Critical thinking a) to evaluate other people's claims, b) one's gaining confidence his/her own claim and to asses that, c) to resolve inconsistencies and d) to understand complex problems and find solutions to these emphasises having such those functions (Allegretti & Frederick, 1995; Azar, 2010).

The Internet entered our lives as a development of the communication technologies and as such it enables us to reach all information that we need, further it enables us to have a fun and entertaining time and to communicate synchronously with our beloved ones. However, alongside these conveniences, there are some problems that arise from the overuse of the Internet. Without doubt, first of all is there the addiction to the Internet (Demircioglu, 2012; Ricketts & Rudd, 2005).

Preoccupation and compulsive use of the Internet can cause impairment in functionality and has long been debated on the topic of 'Internet addiction'. Internet addiction observed among high school students and characterised by excessive Internet usage raises concern as a significant communal mental health problem (Ricketts & Rudds, 2004). The Internet addiction has been one of the most popular concepts studied in the field of education in recent years. Determining Internet addiction levels of high school students are essential. Internet use is subjective, however, its positive or negative consequences on individuals depend on many factors. A correlational research design was used in the study by assuming that a relationship could exist between the Internet addiction and critical thinking.

2. Methodology

The aim of this study is to determine the prevalence of Internet addiction and to evaluate the associated factors and critical thinking disposition among high school students. The students from different high schools constituted sample group which was determined by simple random sampling of probability sampling method. The main objective of this research is to investigate Internet addiction and critical thinking disposition in terms of various variables. In addition, the relationships between Internet addiction and critical thinking disposition have been explored. Descriptive survey model out of scanning models was used in the research. 204 high school students were participated in the study. The data were collected through the 'Critical Thinking Tendency Scale' developed by Ricketts and Rubb (2005). The Scale was adapted to Turkish by Demircioglu (2012). Internet Addiction Scale (IAS) was developed by Young (1998). The Scale translated into Turkish by Bayraktar (2001) to measure the Internet addiction level of the students. Independent-Sample *t*-test was conducted in order to see whether the examined characteristics varied by group. The statistics program SPSS 17.00 was used in data analysis.

3. Findings

In order to measure the Internet addiction level of the high school students, scores were each divided into two groups. The groups can be found in Table 1.

Table 1. Percentage and frequency values of the Internet addiction level categories

Categories	%	<i>f</i>
Risky Internet usage (RIU)	58.8	120
Average Internet usage (AIU)	41.2	84

As can be seen in Table 1, high school students were grouped by their scores. The groups were classified as RIU and AIU according to the Internet addiction test (IAT). Table 1 shows that Internet addiction level of high school students are mainly listed under the RIU Internet addiction (IA) category.

The groups were compared with each other with respect to duration of Internet use (hour) factor via statistical analysis. Descriptive statistics of high school student's duration of Internet use are displayed in Table 2.

Table 2. Descriptive statistics of high school student's duration of Internet use

Groups	0–1 hours	1–3 hours	4–6 hours	7–9 hours
RIU	1	62	42	15
AIU	31	33	20	-

As seen in Table 2, the large majority of the RIU group (*n*: 62) use the Internet 1–3 hours a day. The frequency of the AIU group (*n*: 33) using the Internet 1–3 hours a day.

The study is to identify the purposes of Internet use of the high school students'. The RIU and AIU groups were compared with each other with respect to purposes of Internet use factor via statistical analysis. The purposes of Internet use of high school students were games and entertainment, Email, Assignment, News, Chat, Video-Music downloads and Social Networks.

Table 3. Descriptive statistics regarding purposes of Internet use among the high school students

Groups	Games and Entertainment	E-mail	Assignment	News	Chat	Video-Music Downloads	Social Networks
	<i>t</i>						
RIU	81	4	12	2	7	4	10
AIU	56	3	9	2	4	5	5

As seen in Table 3, the high school students use the Internet to a large extent for 'Games and Entertainment'. When the order of importance according to the levels is analysed, the students use the Internet for 'Games and Entertainment' the most and for 'News' purposes the least.

Independent samples *t*-test analyses were conducted using the averages of high school students' scores obtained from the Critical Thinking Tendency Scale with the aim of determining the any potential significant differences. The results are displayed on Table 4.

Table 4. Independent samples *t*-test results on the averages of high school students' scores obtained from the critical thinking tendency scale

	Groups	Mean	ss	SD	<i>t</i>	<i>p</i>
Predictivity	RIU	3.70	0.67	208	2.61	0.022
	AIU	3.42	0.87			
Innovation	RIU	3.58	0.59	208	2.02	0.001
	AIU	3.37	0.91			
Cognitive Maturity	RIU	3.73	0.54	208	1.99	0.001
	AIU	3.54	0.83			

Table 4 shows that there was statistically significant difference between the average scores of the RIU and AIU achieved in the Predictivity, Innovation and Cognitive Maturity. This finding suggests that high school students' of the two groups were not at similar levels in terms of their predictivity, innovation and cognitive maturity.

The Critical Thinking Tendency Scale average scores of the RIU and average Internet usage high school students' in Predictivity, Innovation and Cognitive Maturity were significantly different. The Predictivity, Innovation and Cognitive Maturity score averages of the RIU group high school students' in the Critical Thinking Tendency Scale was higher than that of the AIU group.

4. Results

Critical thinking provides direction to emotions, wishes and movements (Elder, 1997). The aim of this study is to determine the prevalence of Internet addiction and to evaluate the associated factors and critical thinking disposition among high school students. A correlational research design was used in the study by assuming that a relationship could exist between the Internet addiction and critical thinking. The main objective of this research is to investigate Internet addiction and critical thinking disposition in terms of various variables. In addition, the relationships between Internet addiction and critical thinking disposition have been explored. Descriptive survey model out of scanning models was used in the research. 204 high school students were participated in the study, Young's IAS, Critical Thinking Tendency Scale (Ricketts & Rudd, 2005) and sociodemographic questionnaire are applied to the students; the groups were classified as IA, RIU and AIU according to the IAT. Thus, the groups were compared with each other with respect to sociodemographic factors via statistical analysis.

The findings showed that high school students would be distributed into two groups as RIU (58.2%) and AIU (41.2%), whereas there were not any groups called IA. As seen in the findings, the large majority of the RIU group ($n: 62$) use the Internet 1–3 hours a day. The frequency of the AIU group ($n: 33$) using the Internet 1–3 hours a day.

The RIU and AIU groups were compared with each other with respect to purposes of Internet use factor via statistical analysis. The purposes of Internet use of high school students were games and entertainment, Email, Assignment, News, Chat, Video, Music downloads, Social Networks and Others. The high school students use the Internet to a large extent for 'Games and Entertainment'. When the order of importance according to the levels is analysed, the adolescents use the Internet for 'Games and Entertainment' the most and for 'News' purposes the least.

The final stage of the research contains comparing critical thinking tendencies of high school students according to their risky and average Internet usage levels and significant differences were found. The scores obtained from critical thinking scale were compared according to the risky and average Internet usage levels of high school students and significant differences were found between Critical Thinking Tendency Scale sub dimensions.

Independent samples *t*-test analyses were conducted using the averages of high school students' scores obtained from the Critical Thinking Tendency Scale with the aim of determining the any potential significant differences.

The Results show that there was statistically significant difference between the average scores of the RIU and AIU achieved in the Predictivity, Innovation and Cognitive Maturity. This finding suggests that high school students' of the two groups were not at similar levels in terms of their predictivity, innovation and cognitive maturity.

The Critical Thinking Tendency Scale average scores of the RIU and average Internet usage high school students' in Predictivity, Innovation and Cognitive Maturity were significantly different. The Predictivity, Innovation and Cognitive Maturity score averages of the RIU group high school students' in the Critical Thinking Tendency Scale was higher than that of the AIU group.

This study, which aimed at presenting the critical thinking skills of high school students, concluded with some suggestions made in the light of the findings obtained upon the view that critical thinking skills not only come from birth but also could be developed through education at school. The strategies to improve critical thinking skills of high school students should be discussed and projects should be developed accordingly. Technology brings daily life into the education setting, provides tools to improve learning and increases opportunities for students and teachers for feedback, deliberation and improvement (Alkan & Altundag, 2015; 2016; Bransford, Brown & Cocking, 2000). The Internet usage classes in the schools should be restructured in such a way to improve the critical thinking skills of high school students. The Internet-based educational environments should be prepared, where student teachers could enrich their critical thinking skills and see the world from different perspectives. The research on the reasons for the differences observed between the critical thinking skills of high school students is suggested as a follow up for this study.

References

- Akar, F. (2017). Purposes and characteristics of internet use of adolescents. *Pegem Egitim ve Ogretim Dergisi*, 7(2), 257–286. <https://doi.org/10.14527/pegegog.2017.010>
- Alkan, F. & Altundag, C. (2015). The role of technology in science teaching activities: web based teaching applications. *Journal for the Education of Gifted Young*, 3, 1–7.
- Alkan, F. & Altundag, C. (2016). *Opinions and attitudes of prospective teachers for the use of technology in education* (pp. 881–888). International Conference on Education in Mathematics, Science & Technology (ICEMST), Mugla, Turkey.
- Allegretti, C. L. & Frederick, J. N. (1995). A model for thinking critically about ethical issues. *Teaching of Psychology*, 22, 46–48.
- Azar, A. (2010). The effect of critical thinking dispositions on students achievement in selection and placement exam for university in Turkey. *Journal of Turkish Science Education*, 7(1), 61–73.
- Bayraktar, F. (2001). *Internet kullanımının ergen gelismindeki rolü* (Yuksek Lisans Tezi, Ege Universitesi Sosyal Bilimler Enstitusu, Izmir).
- Bransford, J., Brown, A. & Cocking, R. (2000). *How people learn: brain, mind, and experience & school*. Washington, DC: National Academy Press.
- Browne, M. N. & Freeman, K. (2000). Distinguishing features of critical thinking classrooms. *Teaching in Higher Education*, 5(3), 301–309.
- Demircioglu, E. (2012). Elestirel dusunme egilimi olceginin uyarlama calismasi ve faktor yapisinin farkli degiskenlere gore incelenmesi (Yayinlanmamis Yuksek lisans Tezi). Abant Izzet Baysal Universitesi Egitim Bilimleri Enstitusu Egitim Bilimleri Anabilim Dalı).
- Drozdikova-Zaripova, A. (2017). Pedagogical model of prevention and correction of teenage computer addiction in students of social institutions. *New Trends and Issues Proceedings on Humanities and Social Sciences*, 2(11), 137-144. <https://doi.org/10.18844/prosoc.v2i11.1915>
- Elder, L. (1997). Critical thinking the key to emotional intelligent. *Journal of Developmental Education*, 21(1), 40–41.
- Onen Yucel, A. S. & Kocak, C. (2010). Ogretmen adaylarinin elestirel dusunme duzeylerinin belirlenmesi ve bir takim degiskenler acisindan degerlendirilmesi. *International Online Journal of Educational Sciences*, 2(3), 865–882.
- Ricketts, J. & Rudds, R. (2004). The relationship between critical thinking dispositions and critical thinking skills of selected youth leaders in the national organization. *Journal of Southern Agricultural Education Research*, 54(1).
- Ricketts, J. C. & Rudd, R. D. (2005). Critical thinking of selected youth leaders: The efficacy of critical thinking dispositions, leadership and academic performance. *Journal of Agricultural Education*, 46(1), 33–44.