The 6th ASEAN Regional Union Psychological Society (ARUPS) Congress
"Driving Mental Revolution in the Psychological Century: Enhancing Psychological Services for a Better Future"
20 -22 February 2018, Bali-Indonesia

Proceeding

Editors:
Andik Matulessy
Tjipto Susana
Mirra Noor Milla
Anrilia Ema M. Ningdyah

Hosted by:
Himpunan Psikologi Indonesia (HIMPSI)
Indonesian Psychological Association

Proceeding of The 6th ASEAN Regional Union Psychological Society (ARUPS) Congress 2018

Driving Mental Revolution in the Psychological Century : Enhancing Psychological Services for a Better Future

Editor : Andik Matulessy, Tjipto Susana, Mirra Noor Milla, Anrilia E M Ningdyah

ISBN 978-602-96634-8-8

xii/ 953 pages/ 23 cm

Published by HIMPSI
Address:
Jl. Kebayoran Baru No. 85B
Kebayoran Lama, Velbak
Jakarta 12240
Phone : +62 21 72801625, 085282610736
Fax. : +62 21 72801625
Email : sekretariatpp_himpsi@yahoo.co.id
Website : http://himpsi.or.id

Conference Website : http://arups2017.himpsi.or.id

This Publication was supported by: ARUPS and HIMPSI

First edition: 2018

Analysing Internet Addiction And Its Psychological Risk (Depression, Anxiety, Strerss, And Loneliness) Among Undergraduate Students Of Uin Malang

Mely Santoso
Fakultas Psikologi
Universitas Islam Negeri Maulana Malik Ibrahim Malang

Gisni Rabiah Aqilah
Fakultas Psikologi
Universitas Islam Negeri Maulana Malik Ibrahim Malang

Fathul Lubabin Nuqul
Fakultas Psikologi
Universitas Islam Negeri Maulana Malik Ibrahim Malang

Abstract

This study investigated the relationship of internet addiction with depression, anxiety, stress, and loneliness in 166 UIN Malang undergraduate students. The participants were randomly selected to complete internet addiction test, DASS-42 (Depression, Anxiety, Stress Scale), and UCLA Loneliness scale. Pearson correlation coefficient used to determine the relationship between internet addiction and depression, anxiety, stress, and loneliness. Result showed that there is correlation between internet addiction and depression ($r = 0.324$, $p < 0.05$), anxiety ($r = 0.394$, $p < 0.05$), stress ($r = 0.391$, $p < 0.05$), dan loneliness ($r = 0.187$, $p < 0.05$).Manova result showed that there is differences score between internet addict group and non-addict group.T-test performed to investigated the differences of mean between male and female for internet addiction. Result showed that male was higher mean then female.Demographic result and implication of this study are discused in full paper.

Keyword : internet addiction, depression, anxiety, stress, DASS, loneliness.

Address for Correspondence:
Mely Santoso, Fakultas Psikologi Universitas Islam Negeri Maulana Malik Ibrahim Malang. Jl. Gajayana No.50, Dinoyo, Kec. Lowokwaru, Kota Malang, Jawa Timur 65144, Indonesia, melysantoso94@gmail.com

Introduction

The development of Technology especially in informatics technology has brought us to an era where the internet has become a necessity for people today. Internet has changed our lives in ways we may never realize before. In addition to changing the way we communicate from sending a letter to short messages, the internet also provides very much information and is accessible to all human beings. In the other word, the internet brings many benefits to our lives.

According to a survey conducted by the Indonesia Internet Service Association (Asosiasi Penyelenggara Jasa Internet Indonesia (APJII)) in 2016 noted that 132.7 million Indonesian

citizens are internet active users. It is means that almost half of Indonesia's population has become an active internet user. In 2015 there are approximately 38.40% of households in Indonesia have internet access at home. This value is significantly increased compared to the year 2010 which is only about 14.83%. Increasing internet users in urban areas is much larger than the area of rural areas. In urban areas during 2010-2015 there was an increase internet access ownership in home by an average of 5.92% per year, while in rural areas around 3.47% (Susenas in BPS, 2015).

In the APJII (2016) survey also found that Students is one of the most internet users in Indonesia and social media is the most frequent internet content access by internet users in Indonesia. The use of the internet at universities has increased very rapidly. The use of the Internet in the academic field was originally devoted to learning and research but now the Internet has become a very important need for all levels of society.

Some example of the benefit of internet that we use today is in long distance communication, especially communication between countries. If in the last 50 to 60 years a separated family between countries must send a letter to communicate, today separated families across countries because of their work is no longer difficult to communicate, with the internet connection they can use video call applications or send messages using instant messaging applications Such as WhatsApp or Line. Moreover another benefit brought by the internet is the development of mobile applications that simplify the work. One example is the application of online transport such as Go-Jek in Indonesia by bringing various features that can help people do various things like order ojek, food delivery, cleaning the house and so forth. There are also online trade applications such as *Tokopedia* online shopping that connects buyers and sellers in one platform with ease of transaction.

In addition to offering a positive impact by providing ease access to get what we needs, according to some research, the internet also brings a negative impact (Siomos et al., 2012). One of the negative impacts brought about by internet usage is the phenomenon called internet addiction. This phenomenon has been studied by many scientists in the last two decades. This internet addiction has close similarity to other types of addiction which means having physical or psychic attachment to certain things like drugs, alcohol, among others (Aghili & Aliniya, 2013).

Internet addiction is a new phenomenon for clinicians and psychologists. When first introduced by Young in his research, this theme sparked controversial debates from both clinicians and academics. Some opinions of the debate state that only physical substances ingested to the body could be termed "addictive". On the other hand the definition of "addictive" should be used only for drug cases (Young, 1999). Another element that goes into this internet addiction debate is that unlike reliance on harmful chemical elements, the internet actually offers many benefits and is not something to be criticized.

There is still no standardized definition to define Internet addiction (Ostovar et al., 2016; Chou et al., 2015) and consequently the term internet addiction is used interchangeably with another term such as compulsive internet use, problematic internet use, and the internet Use disorder, among other (Ostovar et al., 2016). Some researchers mention that the term internet addiction is not yet fully recognised as an estabilished disorder and the controversial debate is still on-going (Lam, 2014). Addiction in any form is traditionally associated with uncontrolled impulses, often accompanied by loss of self-control, preoccupation with use and keeping up with usage despite problems with the cause (Young, 2004).

Although there is still much debate, by referring to pathological gambling in the Diagnostic and Statistical Manual of Mental Disorder - Fourth Edition (DSM-IV) as a model, internet addiction can be defined as an impulsive-control disorder which does not involve an intoxicant (Young, 1996). Young then developed an eight-item scale to diagnose Internet addiction based on the diagnostic criteria of pathological gambling in the DSM-IV. Furthermore, Young created 20-item questionnaire based on the criteria for both compulsive gambling and alcoholics (Whang et al., 2003).

Young also proposes diagnostic criteria for Internet Addiction in which withdrawal, poor planning abilities, tolerance, preoccupation, impairment of control, and excessive online time are the core symptoms of Internet addiction. Excessive internet use is defined as when the internet is used as the basis for timelessness and severely disrupting people's lives (Younes et al., 2016).

Phenomenologically there are at least three subtypes in internet addiction that is excessive gaming, sexual preoccupations (cybersex), and e-mail or messaging. Someone with internet

addiction might be using the internet for a long time, closing themselves off from other social contacts and focusing more on the internet than real life (Weinstein & Lijoyeux, 2010).

Young found that 58% of students experienced poor learning habits, poor grades, or school failures due to excessive internet use (Young, 2004). He also pointed out that there are several factors that play a role in student internet abuse: free and unilimited internet access, huge blocks of unstructured time, newly experienced freedom from parental control, no monitoring or censoring of what they say or do online, full encouragement from faculty and Administrators, social intimidation and alienation, a higher legal drinking age (Young, 2004).

Many studies have discussed the factors related to the internet addictive behavior. Internet addiction reported has negative correlation with positive aspects of psychological health (self-esteem and satisfaction of life) and has positive correlation with negative aspects of psychological health such as depression, anxiety, stress, and loneliness. The study also found that addictive Internet use is gender sensitive and that the risk of Internet addiction is higher in males than in females. (Ostovar et al., 2016; Younes et al., 2016).But another study found that there is a mild negative correlation between loneliness and internet addiction. On the other hand no gender differences was found in terms of internet addiction and loneliness level. The result suggest that students addicted to the internet have significantly lower rates of loneliness (Hasmujaj, 2016).

Whang et al., (2003) found that the Internet Addiction scale showed a strong relationship with dysfunctional social behaviors. More internet addict tried to escape from reality than Possibly internet addict group and Non-addicts group. When they got stressed out by work or were just depressed, IA group showed a high tendency to access the internet. The IA group also reported have the highest degree of loneliness, depressed mood, and compulsivity compared to the other groups. The IA group seemed to be more vulnerable to interpersonal dangers than others, showing an unusually close feeling for strangers. Ha & Hwang (2014) in their study using multiple logistic regression analysis found that three psychological health indicators including poor self-rated health, subjective unhappiness, and depressive symptoms were significantly related with Internet addiction in boys and girls.

Another research showed the resluts indicated that cyber bullying, cayber pornography and internet addiction present significant positive effects on physical and mental health of individuals;

internet addiction has a significant moderating effect on the relationships among cyber bullying, cyber pornography, and physical and mental health of individual (Yu & Chao, 2016).

Another study resulted that after controlling for the effects of shared associated factors and watching violent TV programs, adolescents with Internet addiction were more likely to have aggressive behaviors during the previous year. The association was more significant among adolescents in junior high schools than in senior high/vocational schools. Online chatting, adult sex Web viewing, online gaming, online gambling, and Bulletin Board System were all associated with aggressive behaviors (Ko et al., 2009).

In physical effect, researchers suggest that addictive gaming might be associated with poorer quality of sleep. Result further indicated that problematic internet use was associated with sleep problems including subjective insomnia and poorer quality of sleep (Lam, 2014).Adolescents with internet addiction were more likely to have substance use experience, High nevelty seeking, high harm avoidance, and low reward dependence predicted a higher proportion of adolescents with internet addiction(Ko., et al, 2006). The presence of problematic internet use or internet addiction was also significantly associated with suicidal ideation an depression (Park, Hong, Park, Ha, & Yoo, 2013).

Ebeling-Wite., et al., (2007) in their research found significant correlations between shyness, internet use, and personality traits. Shyness scores were associated with problematic internet use, that is, useing the internet to decrease a percieved deficit in their real-life social network by estabilishing virtual friendships online, to relieve feelings of loneliness and depression, and to avoid instead of attend to stressful matters at hand.

University students with problematic internet use may exhibit symptoms of impaired physical health, psychological distress, anxiety, attention deficit and hyperactivity disorder, and behavioral problems (e.g., substance abuse and behavioral addictions, aggression, self-injurious behaviors) (Li, O'Brien, Snyder, & Howard., 2016).

The aim of the research was to investigate: 1) correlation between internet addiction, depression, anxiety, stress, and loneliness; 2) assess the differences in the effects of internet use on depression, anxiety, stress, and loneliness between internet addict and non-internet addict groups among UIN Malang undergraduate students; 3) assess the gender differences among male and female on internet addict group. We hypothesize that internet addiction has positive correlation

with four other variable (i.e. depression, anxiety, stress, and loneliness). We also hypothesize that there is difference effect value of internet addict on other four variable and there is also difference value between male and female in internet addict group.

Method

Sample

Research participants were undergraduate students of Universitas Islam Negeri Malang which is active internet users. The total number of study participants was 166 undergraduate students with 37.3% male students (62 students) and 62.7% female students (104 students. The age of the study participants ranged from 166 to 23 years.

Instrument and Measurement

Internet Addiction Test (IAT). IAT is a scale that measures internet addiction. This instrument developed by Young that contains 20 items and is divided into six indicators or subscales (salience, excessive use, neglect of work, anticipation, self-control, and neglect of social relationship). Each item is measured using six Likert scales, ranging from 0 (never) to 5 (very often / always). Score 100 as the maximum value that means with the higher IA score shows the more one's addict to the internet.

Depression Anxiety and Stress Scale 42 (DASS-42). DASS-42 contains 42 items and measures three dimensions separate from negative emotions that include depression, anxiety, and stress. Each of the three dimensions has 14 items and each item is judged using four Likert scales ranging from 0 (Not me at all, or never.) to 3 (Very appropriate to me, or very often). DASS-42 Scale is a translation of DASS-42 English to Indonesian language translated by Damanik which has been tested the reliability and validity of the scale.

UCLA Loneliness Scale Version 3. Loneliness is measured using UCLA Loneliness Scale version 3 scale which has 20 items. This scale uses four ranger-scale ranges ranging from 1 (never) to 4 (often or always). This scale has the value of favorable items (11 items) and unfavorable (9 items).

The researchers performed Pearson correlation test to find the correlation value between internet addiction and other variables (depression, anxiety, stress, and loneliness). Manova was performed to find the differences effect value of internet addiction on depression, anxiety, stress, and loneliness in internet addict group and non internet addict group. t-test was also applied to assess the difference mean score between male and female in the internet addict group.

Result

In the present study, Pearson correlation was use to find the correlation between internet addiction, depression, anxiety, stress, and loneliness. Table 1 shows the result from Pearson correlation test between internet addiction with depression ($r = 0.324$, $p < 0.05$), anxiety ($r = 0.394$, $p < 0.05$), stress ($r = 0.391$, $p < 0.05$), and loneliness ($r = 0.187$, $P < 0.05$). From these results we can see that there is a relationship between internet addiction with depression, anxiety, stress and loneliness. This means that along with increasing depression, anxiety, stress, and loneliness score, it will also increase the internet addiction score on the subject of research.

Table 1. Pearson Correlation Result between Internet Addiction, Depression, Anxiety, Stress, and Loneliness.

	Int addiction	**Depression**	**Anxiety**	**Stress**	**Loneliness**
Int ADD	1				
Sig.					
Depression	.324	1			
Sig.	.000				
Anxiety	.394	.760	1		
Sig.	.000	.000			
Stress	.391	.725	.795	1	
Sig.	.000	.000	.000		

	Int addiction	Depression	Anxiety	Stress	Loneliness
Loneliness	.187	.562	.447	.497	1
Sig.	.016	.000	.000	.000	

On the other hand, the table also showed that depression has positive correlation with anxiety and stress with a high correlation value (anxiety r = 0.760, p <0.05, stress r = 0.725, p <0.05). This means that the higher the depression score will be followed by the high score of anxiety and stress on the subject. A positive relationship with a high correlation value was also found in anxiety with stress (r = 0.795, p <0.05) which means higher anxiety score followed by high stress score on the subject. While for loneliness variable have relation with enough value with depression (r = 0.564, p <0.05), anxiety (r = 0.447, p <0.05), and stress (r = 0.497, p <0.05), which means higher depression score, Anxiety and stress experienced by the subject then it will be high as well as the loneliness score on the subject.

From these results, researchers found that there is correlation between Internet addiction with four other variables although the value of Pearson correlation test is not too large. The correlation value of internet addiction with anxiety is greater than the correlation value of other variables (r = 0.394, p <0.05). On the other hand, the smallest correlation value is found in the correlation between internet addiction with loneliness (r = 0, 187, p <0.05).

After the Pearson correlation test, Manova test performed to determine the effect of independent variable (internet addiction) to four dependent variable (depression, anxiety, stress and loneliness). Independent manova test was conducted to determine the difference of internet addict and non-internet addict groups in four dependent variables. The results of the manova test show that in internet addict groups have increased levels of depression, anxiety, stress, and loneliness compared with non-Internet addicted groups: Trace Value (0.152), Wilk's Lambda (0.848), Hotelling's Trace (0.179), and Roy's Largest Root (0.179), (P <0.05) is found on the internet addicted group and non-internet addicted group (Table 2).

Table 2. Manova Analysis of Internet Addict and Non-Addict Group Analysis

Value		DF	EF	Sig
Pillai's trace	0.125	4	161.0	0.000
Wilks' Lambda	0.848	4	161.0	0.000
Hotteling's Trace	0.179	4	161.0	0.000
Roy's largest Root	0.179	4	161.0	0.000

The F value for this study showed: depression (F = [7209] = 19.150, P <0.05), anxiety (F = [7.209] = 28.192, P <0.05), stress (F = [7.209] = 21.637, P <0.05), Loneliness (F = [7.209] = 5.326, P <0.05). The mean dependent variable value (depression, anxiety, stress, and loneliness) of the addicted Internet group is higher than the mean value in the non-internet addicted group (Table 3).

Table 3.Anova Result Of Interaction between Internet Addiction on Depression, Anxiety, Stress, and Loneliness.

	Internet addicted group M (SD)	Non internet addicted group M (SD)	Mean square	F	Sig.
Depression	10.87 (7.744)	6.07 (6.281)	954.380	19.150	0.000
Anxiety	14.11 (6.653)	8.84 (6.105)	1150.519	28.192	0.000
Stress	16.40 (7.396)	11.22 (6.953)	1115.641	21.637	0.000
Loneliness	44.64 (8.329)	41.68 (8.193)	363.537	5.326	0.022

T-tests were performed to see differences in male and female in internet addict group in four dependent variable (i.e. depression, anxiety, stress, and loneliness). These results show that there is difference mean value between male and female in the internet addict group of four dependent variables (i.e. depression, anxiety, stress and loneliness). The t-test results showed that male had higher mean scores on all variables compared with females but the difference did not

show any significant difference between male and female in the four variables (p depression> 0.05, p anxiety > 0.05, p stress> 0.05, and p loneliness> 0.05). (Table 4).

Table 4. Result of t-test between male and female on internet addict group regarding depression, anxiety, stress, and loneliness.

Variable	Male M (SD)	Female M (SD)	p
Depression	12.46 (8.61)	9.48 (6.69)	0.323
Anxiety	15.02 (6.20)	13.31 (6.98)	0.682
Stress	16.97 (6.95)	15.91 (7.80)	0.171
Loneliness	45.08 (7.23)	44.26 (9.24)	0.171

Discussion

The main goal of this study was to investigate the correlation value, difference score between internet addict and non-internet addict group and to assess the difference of mean score between male and female in the internet addict group on the four other variables (i.e. depression, anxiety, stress, and loneliness). Pearson's correlation test was use to assess relationship between internet addiction and depression, anxiety, stress and loneliness. We found positive correlation between internet addiction with other variable, depression (r = 0.324, p < 0.01), anxiety (r = 0.394, p< 0.01), stress (r = 0.391, p < 0.01), dan lonelines (r = 0.187, p < 0.05) (Table 1). This suggest that internet addiction is correlated with depression, anxiety, stress and loneliness where the increase the score of internet addict will increase the other variable score. Although the relationship value of loneliness was small then other variables, there is still have a correlation score with a significant level (p < 0.05).

The result also found that the mean score on stress, depression, anxiety, and loneliness among internet addicts group were higher than those of non-addicts group. This findings proposed that the more addicted a person is to the internet, the more depressed, anxious, stressed, and lonely the person is (Table 3). This result was consistent with the result of previous research carried out

in Iranian students which reported a positive relationship between Internet addiction, depression, anxiety, stress, and loneliness (Ostovar et al., 2016; Younes et al., 2016).

Result from t-test shows that there is difference mean value between male and female in internet addict group on the four other variables but the difference value between male and female is not significant ($p > 0.05$) (Table 4). Similarly, previous research have shown that internet addict are not gender sensitive or no significant differences in term of internet addiction between gender (Ainin, Jaafar, Ashraf, & Parveen, 2016; Aghili & Aliniya, 2013). This finding contradicts Ostovar et al.'s (2016) finding whereby males are found to be more tend to internet addiction than females. This difference findings in t-test could be related to cultural differences between research subjects, the difference purpose for using internet access, and socio-demographic characteristic of the research subject. Although there is no significant differences between male and female in internet but male group have higher mean on the four research variables (i.e. depression, anxiety, stress, and loneliness) compared to female group.

The findings of this study add empirical evidence to the existing literature in respect of the relationship between internet addiction, depression, anxiety, stress, and loneliness.However, further research is required to prove more strongly result about the relationship between internet addiction, depression, anxiety, stress, and loneliness. In addition to the survey research, perhaps further research can be designed using experiments study to obtain better results of t-test that examine gender differences between male and female in internet addiction. The research further also have to find better empirical effect result and also difference value of internet addict and non-internet addict group by looking at the effects of treatment.

Conclusion

This study aims to find the correlation value between variables of the research (i.e. internet addiction, depression, anxiety, and stress), find the difference between internet addict and non-addict group on the four dependent variables (i.e. depression, anxiety, stress, and loneliness) and to find the difference between male and female in internet addict group. The result showed that there is significant correlation between internet addiction, depression, anxiety, stress, and loneliness. Although the correlation values are small but it still useful to explain the result of the study. The result from manova showed difference mean between internet addict group and non-internet addict group on the four dependent variables. T-test result show the difference mean

between male and female in the internet addict group on the four dependent variable but the difference between male and female is not significant.

Acknowledgement

Special thanks to Fakultas Psikologi and for the lectures who has helped to analyzing and writing this research.

Declaration of Interest

The authors report no conflicts of interest in this work.

References

Aghili, M., & Aliniya, R. (2013). Internet addiction and psychological health of students. *Indian Journal of Health and Wellbeing*, *4*(7), 1411–1414.

Ainin, S., Jaafar, N. I., Ashraf, M., & Parveen, F. (2016). Exploring the role of demographics and psychological variables in internet addiction. *Social Science Computer Review*, 0894439316667396. https://doi.org/10.1177/0894439316667396

Asosiasi Penyelenggara Jasa Internet Indonesia (2016). *Penetrasi dan perilaku pengguna internet Indonesia. Jakarta*. Retrieved December 19, 2016, from https://apjii.or.id/survei

Badan Pusat Statistik Indonesia (2015). *Statistik telekomunikasi Indonesia 2015*. Retrieved 15 Mei 2017 from https://www.bps.go.id/website/pdf_publikasi/Statistik-Telekomunikasi-Indonesia-2015--.pdf

Chou, C., Condron, L., & Belland, J. C. (2005). A review of the research on internet addiction. *Educational Psychology Review*, *17*(4), 363–388. https://doi.org/10.1007/s10648-005-8138-1

Ha, Y.-M., & Hwang, W. J. (2014). Gender differences in internet addiction associated with psychological health indicators among adolescents using a national web-based survey. *International Journal of Mental Health and Addiction*, 12(5), 660–669. https://doi.org/10.1007/s11469-014-9500-7

Hasmujaj, E. (2016). Internet addiction and loneliness among students of university of shkodra. *European Scientific Journal*, *12*(29). https://doi.org/10.19044/esj.2016.v12n29p397

Ko, C.-H., Yen, J.-Y., Liu, S.-C., Huang, C.-F., & Yen, C.-F. (2009). The associations between aggressive behaviors and internet addiction and online activities in adolescents. *The Journal of Adolescent Health: Official Publication of the Society for Adolescent Medicine*, *44*(6), 598–605. https://doi.org/10.1016/j.jadohealth.2008.11.011

Li, W., O'Brien, J. E., Snyder, S. M., & Howard, M. O. (2016). Diagnostic criteria for problematic internet use among u.s. University students: a mixed-methods evaluation. *PLOS ONE,* 11(1), e0145981. https://doi.org/10.1371/journal.pone.0145981

Lam, L. T. (2014). Internet gaming addiction, problematic use of the internet, and sleep problems: a systematic review. *Current Psychiatry Reports*, *16*(4). https://doi.org/10.1007/s11920-014-0444-1

Park, S., Hong, K.-E. M., Park, E. J., Ha, K. S., & Yoo, H. J. (2013). The association between problematic internet use and depression, suicidal ideation and bipolar disorder symptoms in korean adolescents. *The Australian and New Zealand Journal of Psychiatry*, *47*(2), 153–159. https://doi.org/10.1177/0004867412463613

Ostovar, S., Allahyar, N., Aminpoor, H., Moafian, F., Nor, M. B. M., & Griffiths, M. D. (2016). Internet addiction and its psychosocial risks (depression, anxiety, stress and loneliness) among iranian adolescents and young adults: a structural equation model in a cross-sectional study. *International Journal of Mental Health and Addiction*, *14*(3), 257–267. https://doi.org/10.1007/s11469-015-9628-0

Siomos, K., Floros, G., Fisoun, V., Evaggelia, D., Farkonas, N., Sergentani, E., … Geroukalis, D. (2012). Evolution of internet addiction in greek adolescent students over a two-year period: the impact of parental bonding. *European Child & Adolescent Psychiatry*, *21*(4), 211–219. https://doi.org/10.1007/s00787-012-0254-0

Weinstein, A., & Lejoyeux, M. (2010). Internet addiction or excessive internet use. *The American Journal of Drug and Alcohol Abuse*, *36*(5), 277–283. https://doi.org/10.3109/00952990.2010.491880

Younes, F., Halawi, G., Jabbour, H., El Osta, N., Karam, L., Hajj, A., & Rabbaa Khabbaz, L. (2016). Internet addiction and relationships with insomnia, anxiety, depression, stress and self-esteem in university students: A Cross-Sectional Designed Study. *PLOS ONE*, 11(9), e0161126. https://doi.org/10.1371/journal.pone.0161126

Young, K. S. (1996). Internet addiction: The emergence of a new clinical disorder. Toronto, Canada.

Young, K. S. (1999). Internet addiction: Symptoms, evaluation and treatment. *Innovations in Clinical Practice: A Source Book*, *17*, 19–31.

Young, K. S. (2004). Internet addiction: A new clinical phenomenon and its consequences. *American Behavioral Scientist,* 48(4), 402–415. https://doi.org/10.1177/0002764204270278

Yu, T.-K., & Chao, C.-M. (2016). Internet misconduct impact adolescent mental health in taiwan: The moderating roles of internet addiction. *International Journal of Mental Health and Addiction*, *14*(6), 921–936. https://doi.org/10.1007/s11469-016-9641-y