



ASSOCIATION BETWEEN EMOTIONAL REGULATION AND INTERNET ADDICTION IN NURSING STUDENTS

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ABSTRACT

The use of the internet in higher education is very helpful for the learning process, including for nursing students. The use of the internet has increased since the Covid-19 pandemic provides both benefits and risks for students. Excessive internet use can have an impact on an individual's emotions. Objectives: This study aimed to identify the association between emotional regulation and internet addiction in nursing students. Method: the quantitative correlational design was used in this study. About 279 nursing students were obtained using the purposive sampling technique. Emotion Regulation Questionnaire (cronbach α for the suppression category 0.707 and 0.761 the reappraisal category) and Internet Addiction Test questionnaire (cronbach α 0.895) was used in study. The data were analyzed by univariate and Spearman rank-order bivariate analysis. Results: The nursing students tended to use cognitive appraisal (95.3%) and expressive suppression (87.1%) as a strategy of emotional regulation. The level of internet addiction of the students was mild (40.1%), moderate (29%) and severe (2.5%). There is no relationship between emotion regulation and internet addiction of nursing students (cognitive appraisal $p=0.882$; expressive suppression $p=0.617$). Even though the students were in mild internet addiction, they could regulate their emotion well. Conclusions Emotion regulation is not the only thing that can cause internet addiction. The ability to early recognize the symptoms of internet addiction is needed to prevent the condition becoming severe.

Keywords: emotion regulation; internet addiction; nursing students

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INTRODUCTION

The Covid-19 pandemic condition requires some changes in the implementation of education, including nursing education. The classroom lecture that was previously carried out face-to-face was changed to online learning to decrease the transmission of viruses. Online learning uses the internet to facilitate the use of various learning applications and communications between lecturers and students. The use of the internet has a positive impact such as providing easy access to information and giving creative learning experiences for both lecturers and students (Korkmaz et al., 2022). On the other hand, internet use during the pandemic has negative impacts such as symptoms of internet addiction, unhappiness, and dissatisfaction in life (Evli & Şimşek, 2022).

Internet addiction is compulsive and pathological internet use (Zhang et al., 2022). Internet addiction is more often experienced by young adults, including college students (Devine et al., 2022). A previous study has shown that there is an effect of internet addiction on changes in sleep time, exercise time, and both physical and psychological well-being (Zhou et al., 2019). The use of the internet to support the learning process of higher education needs to be investigated whether it has more benefits or has a negative impact on the students such as addiction. The nursing students are in the age range of 18-25 years, a transition from adolescence to adulthood, namely emerging adulthood. This period is important because they experience changes in their role and become more stable adults (Jiang et al., 2022). Like the physical aspect, the psychological aspect, especially emotion is also developing. Emotional processes develop throughout life, and emotional reactivity is clearly observed from childhood to adolescence. The students as emerging adults have a focus on long-term goals and are more relevant in emotion regulation (Arnett, 2001).

A preliminary study was conducted on 20 nursing students at a private university in Tangerang, Indonesia. Based on the survey, 65% of the students used the internet for more than eight hours a day. The internet was used to access learning information, communicate, access news and information, and entertainment. Around 90% of students feel guilty for skipping work due to excessive internet use, 85% of students feel that something is not fulfilled if they don't use the internet, 65% of students feel that their productivity has decreased, and feel anxious if they cannot access the internet, and 50% often delay their work due to excessive internet use and they feel emotions when using the internet such as happiness, sadness, mood swing, anxiety, restlessness, and anger. Based on this initial study, it was found that several symptoms were close to internet addiction in college students. Students who have the process to become mature adults need to have good emotional regulation. It is not known yet whether there is a relationship between emotional regulation and internet addiction in nursing students. So this study aim is to identified association between emotional regulation and internet addiction in nursing students.

METHOD

This is a quantitative study with a cross-sectional approach which already follows the strobe checklist. This study was conducted at the faculty of nursing in a private university in Tangerang Regency, Banten Province, Indonesia. Population of study is nursing students in a private university in Tangerang Regency, Banten Province, Indonesia about 923 students. The number of samples using the Slovin formula is 279 students. The purposive sampling technique was used in the study, the inclusion criteria were nursing students whose entry years were in 2021 and 2022, and who used the internet during the study due to the Covid-19 pandemic condition. The exclusion criteria were the nursing students who continued study from the vocation study, the nursing students who were studying while working, and the students who were on academic leave. There are two instruments used in this study. Emotion Regulation Questionnaire (ERQ) used to measure Emotional Regulation of the students developed by Gross dan John. Researchers asked permission to use a questionnaire adapted and translated by Fadilah, which has been tested for validity with the results of the suppression category, namely item 2 = 0.615, item 4 = 0.636, item 6 = 0.486, item 9 = 0.543 and the reappraisal category, namely item 1 = 0.434, item 3 = 0.486, item 5 = 0.454, item 7 = 0.615, item 8 = 0.441, item 10 = 0.602 and Cronbach's alpha reliability test with the results of the suppression category 0.707 and the reappraisal category 0.761 (Fadilah, 2019).

ERQ consists of 10 questions consisting of two categories, namely individual emotional experience, and individual emotional expression, with a scale of 1 to 7, namely 1 strongly disagree, 4 neutral and 7 strongly agree. Assessment of 2 categories, namely cognitive reappraisal (1,3,5,7,8,10) with score categorization using a mean of 34 so, the results are high if the number of scores $\geq$ mean and low if the number of scores $<$ mean and expressive suppression (2,4,6,9) with score categorization using a mean of 21 so, the results are high if the number of scores $\geq$ mean and low if the number of scores $<$ mean. The instruments have been tested for validity and reliability with a Cronbach alpha of 0.76. Internet Addiction Test (IAT) which developed by Young (Faraci et al., 2013) is the questionnaire used to measure students' internet addiction levels. The researcher has requested permission to use the IAT which has been adapted and translated from (Maharani et al., 2018), which has been tested for validity with a correlation coefficient lower than 0.4 and a Cronbach's alpha reliability result of 0.895. The IAT consists of 20 questions with a score of 0 to 5. Results are categorized into normal internet use (0 – 30), mild internet addiction (31 – 49), moderate internet addiction (50 – 79), and severe internet addiction (80 – 100). Data collection was carried out online by sharing the research questionnaire link with respondents.

The data collection process was carried out online from February to March 2022. The data collected was carried out by univariate descriptive analysis and bivariate analysis of the Spearman Correlation test. This research uses ethical principles in research, namely respect for persons, beneficence, non-maleficence, and justice. Respondents read the information related to the study before deciding to participate in the study. Inform consent was given to respondents before being involved in the study. This research has been declared free from ethical problems by the Research Ethics Committee of the Faculty of Nursing, Universitas Pelita Harapan (053/KEPFON/I/2022).

RESULTS

Tabel 1.
Emotional regulation of nursing students (n=279)

Emotional Regulation Type	Category	f	%
Cognitive reappraisal	High	266	95.3
	Low	13	4.7
Expressive suppression	High	243	87.1
	Low	36	12.9

Table 1, the most of students are high in using cognitive reappraisal and expressive suppression.

Table 2.
Internet addiction of nursing students (n=279)

Level of Internet addiction	f	%
Normal	79	28,3
Mild	112	40,1
Moderate	81	29,0
Severe	7	2,5

Table 2, the most of nursing students experience internet addiction at a mild level.

Table 3.

Association between emotional regulation and internet addiction of nursing students (n=279)

Emotion Regulation	Kecanduan Internet					P value
	Category	Normal	Ringan	Sedang	Berat	
Cognitive reappraisal	Tinggi	75	106	78	7	0.882
	Rendah	4	6	3	0	
Expressive Suppresion	Tinggi	69	97	72	5	0.617
	Rendah	10	15	9	2	

Table 3, nursing students who tend to use cognitive reappraisal have a mild level of internet addiction. Students who tend to be high in using expressive suppression, the majority experience mild internet addiction. Bivariate analysis showed that there is no relationship between emotion regulation and internet addiction in nursing students.

DISCUSSION

Emotion regulation is an attempt to influence the emotions of oneself or others (McRae & Gross, 2020). The results of this study indicate the use of cognitive reappraisal and expressive suppression as emotion regulation strategies applied by most nursing students. Emotion regulation strategies are applied so that the person can control their emotions and behavior so that they show better responses. One of the emotion regulation strategies is to focus on cognitive change, namely cognitive appraisal, and acceptance strategies. Cognitive appraisal is a strategy for reinterpreting or reevaluating emotional situations or goals. The students which most use this strategy could find value even from unpleasant events. This research is consistent with the results of other studies where cognitive appraisal emotion regulation is also used by most of students (Rachmawati & Cahyanti, 2021). The successful regulation of emotion will impact individual well-being (Boehme et al., 2019). Young people who have difficulty in emotional regulation can fall into maladaptive behavior when they face stressful conditions, one example of maladaptive behavior is self-harm (Nicol et al., 2022). The previous study declares that cognitive reappraisal, distraction dan expressive suppression are the best strategies to use (Mohammed et al., 2021).

A small number of students are minimal using cognitive reappraisal and expressive suppression. The students can use other emotional regulation strategies such as avoidance, direct request, distraction, rumination, acceptance, and psychological intervention. Another study has shown that distraction and expressive suppression strategies are effective in regulating excess positive emotions (Li et al., 2020). The nursing students in this study experienced a mild level of internet addiction, however, some students had moderate and severe addiction levels. Internet addiction is an uncontrolled, attentive, and insistent internet use behavior that can cause health problems and bring negative effects to daily life such as social problems, school, and difficulty to work (Weinstein et al., 2014). Mild internet addiction is when respondents occasionally spend a long time using the internet but still have control over its use.

This research was conducted during the Covid-19 pandemic. Some restrictions were made to decrease the transmission of the disease. Change in learning methods requires students to use the internet more often for learning activities. There is an average increase in internet addiction during pandemics. The internet during pandemics was used to socialize, pass the time, and even solve emotional problems (Daşdemir et al., 2022). The restriction of crowded activities increases loneliness and often enhances the addiction to the internet (Saralioglu et

al., 2022). Excessive time exposure to the internet could damage the student's health such as attention deficit, difficulty concentrating, decreased memory capacity, social isolation, and stimulation of sexuality (Ferreira et al., 2020). Internet addiction among students needs to be addressed immediately because it could be affecting their quality of life. One of the factors that can be a mediator between internet addiction and the quality of life of the person is social support. Social support can come from parents, friends, and significant others (Guo et al., 2021). The supports that can be provided include direct interaction or physical activities which can eliminate the use of the internet.

This present study showed that there is no correlation between emotional regulation and internet addiction in nursing students. This is in accordance with other similar studies with results stating that there is no relationship between emotional regulation and problematic internet use (Rahmadina et al., 2018). People with internet addiction will show lower social acceptance or cooperation with other people from a temperamental point of view, the coping strategies were characterized by a lower capacity for positive reinterpretation, planning, having social support, and a higher tendency for denial and mental and behavioral disengagement. People with internet addiction disorder presented lower communication with parents and higher alienation from parents and peers (Tonioni et al., 2014). Individuals with internet addiction were more likely to be male, have severe depression, stress, anxiety, and insomnia symptoms.

Nursing students should have optimal physical and mental health to play a good role in their profession. therefore, students should be able to use the internet effectively and efficiently. If there are signs of addiction, they need to visit a professional immediately to avoid falling into a worse condition. Nurses also need to increase health promotion for adolescents and adults who actively use the internet and socialize about internet addiction and how to prevent it. More mental health promotion is needed to introduce good emotion regulation strategies so that students' emotional management becomes more stable. This study only identified the level of internet addiction of students without distinguishing between types, whether it is internet gaming addiction, social media addiction, or other types.

CONCLUSION

The most of nursing students use cognitive appraisal and expressive suppression as their emotion regulation. Nursing students in this study experienced mild (40.1%), moderate (29%) and severe (2.5%) internet addiction. There is no relationship between emotional regulation and internet addiction in nursing students.

REFERENCES

- Arnett, J. J. (2001). Conceptions of the Transition to Adulthood: Perspectives from Adolescence Through Midlife. *Journal of Adult Development*, 8(2), 133–143. <https://doi.org/10.1023/A:1026450103225>
- Boehme, S., Biehl, S. C., & Mühlberger, A. (2019). Effects of differential strategies of emotion regulation. *Brain Sciences*, 9(9). <https://doi.org/10.3390/brainsci9090225>
- Daşdemir, F., Orbatu, D., Bektaş, M., & Özkan, B. (2022). Impact of the coronavirus disease 2019 pandemic on obesity, internet addiction, and sleep quality in adolescents. *Journal of Pediatric Nursing*, 66, 196–201. <https://doi.org/10.1016/J.PEDN.2022.07.011>

- Devine, D., Ogletree, A. M., Shah, P., & Katz, B. (2022). Internet addiction, cognitive, and dispositional factors among US adults. *Computers in Human Behavior Reports*, 6, 100180. <https://doi.org/10.1016/J.CHBR.2022.100180>
- Evli, M., & Şimşek, N. (2022). The effect of COVID-19 uncertainty on internet addiction, happiness and life satisfaction in adolescents. *Archives of Psychiatric Nursing*, 41, 20–26. <https://doi.org/10.1016/J.APNU.2022.07.008>
- Fadilah, H. (2019). Hubungan Regulasi Emosi Dengan Adversity Quotient Pada Mahasiswa Yang Sedang Menyusun Skripsi. <http://repository.unj.ac.id/id/eprint/3074>
- Faraci, P., Giuseppe, C., & Severino, S. (2013). Internet Addiction Test (IAT): Which is the Best Factorial Solution? Faraci, P., Craparo, G., Messina, R., & Severino, S. (2013). Internet Addiction Test (IAT): Which Is the Best Factorial Solution?. *Journal of Medical Internet Research*, 15(10), E225. <https://doi.org/https://doi.org/10.2196/jmir.2935>
- Ferreira, E. Z., Oliveira, A. M. N. de, Medeiros, S. P., Gomes, G. C., Cezar-Vaz, M. R., & Ávila, J. A. de. (2020). Internet influence on the biopsychosocial health of adolescents: an integrative review. In *Revista brasileira de enfermagem* (Vol. 73, Issue 2, p. e20180766). NLM (Medline). <https://doi.org/10.1590/0034-7167-2018-0766>
- Guo, L., Shi, G., Du, X., Wang, W., Guo, Y., & Lu, C. (2021). Associations of emotional and behavioral problems with Internet use among Chinese young adults: the role of academic performance. *Journal of Affective Disorders*, 287, 214–221. <https://doi.org/10.1016/J.JAD.2021.03.050>
- Jiang, X., Moreno, J., & Ng, Z. (2022). Examining the interplay of emotion regulation strategies, social stress, and gender in predicting life satisfaction of emerging adults. *Personality and Individual Differences*, 185, 111255. <https://doi.org/10.1016/J.PAID.2021.111255>
- Korkmaz, Ö., Erer, E., & Erer, D. (2022). Internet access and its role on educational inequality during the COVID-19 pandemic. *Telecommunications Policy*, 46(5). <https://doi.org/10.1016/j.telpol.2022.102353>
- Li, P., Zhu, C., Leng, Y., & Luo, W. (2020). Distraction and expressive suppression strategies in down-regulation of high- and low-intensity positive emotions. *International Journal of Psychophysiology*, 158, 56–61. <https://doi.org/10.1016/J.IJPSYCHO.2020.09.010>
- Maharani, D. A., Prasajo, R. A., Hasanuddin, M. O., & Mahayana, D. (2018). Mengujikan Internet Addiction Test (IAT) ke Responden Indonesia. *OSF.IO*. <https://doi.org/https://doi.org/10.31227/osf.io/7ag4w>
- McRae, K., & Gross, J. J. (2020). Emotion Regulation. *Emotion*. <https://doi.org/10.1037/emo0000703.supp>
- Mohammed, A.-R., Kosonogov, V., & Lyusin, D. (2021). Expressive suppression versus cognitive reappraisal: Effects on self-report and peripheral psychophysiology. *International Journal of Psychophysiology*, 167, 30–37. <https://www.sciencedirect.com/science/article/abs/pii/S0167876021001872>
- Nicol, A., Kavanagh, P. S., Murray, K., & Mak, A. S. (2022). Emotion regulation as a mediator between early maladaptive schemas and non-suicidal self-injury in youth.

Journal of Behavioral and Cognitive Therapy.
<https://doi.org/10.1016/J.JBCT.2022.05.001>

- Rachmawati, A., & Cahyanti, I. Y. (2021). Strategi Regulasi Emosi terhadap Stres Akademis selama Menjalani Kuliah Daring di Masa Pandemi Covid-19. *Buletin Riset Psikologi Dan Kesehatan Mental*, 1(1), 96–103. <http://e-journal.unair.ac.id/index.php/BRPKM>
- Rahmadina, P., Afriyeni, N., & Sarry, S. M. (2018). Hubungan Regulasi Emosi Dengan Problematic Internet Use Pada Mahasiswa Pengguna Media Sosial Di Universitas Andalas. *Jurnal RAP UNP*, 70–81.
- Saralioğlu, A., Atay, T., & Arıkan, D. (2022). Determining the relationship between loneliness and internet addiction among adolescents during the covid-19 pandemic in Turkey. *Journal of Pediatric Nursing*, 63, 117–124. <https://doi.org/10.1016/J.PEDN.2021.11.011>
- Tonioni, F., Mazza, M., Autullo, G., Cappelluti, R., Catalano, V., Marano, G., Fiumana, V., Moschetti, C., Alimonti, F., Luciani, M., & Lai, C. (2014). Is Internet addiction a psychopathological condition distinct from pathological gambling? *Addictive Behaviors*, 39(6), 1052–1056. <https://doi.org/10.1016/J.ADDBEH.2014.02.016>
- Weinstein, A., Curtiss Feder, L., Rosenberg, K. P., & Dannon, P. (2014). Internet Addiction Disorder: Overview and Controversies. In *Behavioral Addictions: Criteria, Evidence, and Treatment* (pp. 99–117). Elsevier Inc. <https://doi.org/10.1016/B978-0-12-407724-9.00005-7>
- Zhang, X., Zhang, J., Zhang, K., Ren, J., Lu, X., Wang, T., Yang, H., Guo, H., Yuan, G., Zhu, Z., Hao, J., Sun, Y., Su, P., Yang, L., & Zhang, Z. (2022). Effects of different interventions on internet addiction: A meta-analysis of random controlled trials. *Journal of Affective Disorders*, 313, 56–71. <https://doi.org/10.1016/J.JAD.2022.06.013>
- Zhou, P., Chen, F., Wang, W., Song, P., & Zhu, C. (2019). Does the development of information and communication technology and transportation infrastructure affect China's educational inequality? *Sustainability (Switzerland)*, 11(9). <https://doi.org/10.3390/SU11092535>.

