



1. The Effect of Health Education on Diet Compliance Among Patients with Diabetes Mellitus in the Sukaraja Public Health Center's Work Area in Sukabumi Regency
2. The Effects of Husband Support, Motivation, and Self-Efficacy on the Examination of Visual Inspection of Acetic Acid (IVA) in Karawang Village, Karawang Health Center, and Sukabumi Regency in Women of Childbearing Age (PUS)
3. The Experience of Nursing Care Patient with ECG Letal in Intensive Care Unit Sekarwangi Hospital
4. The Effectiveness of Consumption of Red Guava Juice Against Increasing Hemoglobin Levels in Pregnant Women
5. Influence of Hypnotherapy to Reduce the Anxiety of School-Age Children in the Preoperative Phase in the Guntur Room of Level II Dustira Cimahi Hospital
6. Academic Stress Affects Smartphone Addiction in Nursing Student
7. The Effectiveness Of The Protective Barrier Of The Skin Against Medical Adhesive Related Skin Injury (Marsi) In Children Treated In Pediatric Intensive Care Units : Systematic Review
8. Stress Level of Nursing Students During Online Learning During the Covid-19 Pandemic
9. The Relationship of Self Care with Disabilities in People with Leprosy in the South Jakarta
10. Effect of Stress Ball on Stress and Anxiety in Hemodialysis Patients
11. What is the Level of Pain in Patients Who Are Inserted Urinary Catheters Using Pure Jelly?
12. Self-Control Technique to Improve Self-Esteem Among Victims of Bullying
13. The Expectations of Baby Moms and Toddlers in An Integrated Health Care (Posyandu) in Penggilingan Village East Jakarta
14. The Effect of Breastfeeding Technique Education on the Breastfeeding Efficacy of Public Mothers at the GSIA Nabire Clinic, Papua
15. Differences in Knowledge of Preconceptional Mothers about Breast Examination (Breacking) as Pre-and-Post Explanation Breast Cancer Prevention
16. The Effectiveness of Biscuit Consumption of Pregnant Women on Increasing The Circumference of The Upper Arm In Pregnant Women with Chronic Energy Deficiency (CED) In The Karawang Kulon Health Center Area
17. Effectiveness of MGSO4 Administration Against Prevention of Eclampsia in Severe Pre-Eclampsia in RSIA Resti Mulya in 2022
18. Differences in the Effectiveness of Giving Dark Chocolate and Ginger to Reducing Menstrual Pain Intensity in SMAN 1 Cikande Students in 2022
19. The Effect of Baby Massage in Healing Cough of The Common Cold in Infants at Zhafira Zarifa Clinic
20. Relationship of Mothers' Characteristic, Attitude, and Self Efficacy Toward Exclusive Breastfeeding Practice in Work Area of Tigaraksa Public Health Centre
21. Technology-Based Interventions in Schizophrenia Patients : A Narrative Review
22. The Effectiveness of Venopheric Infusation on Ferritine Levels in Pregnant Women with Iron Deficiency Anemia in RSPAD Gatot Soebroto
23. Effectiveness Of Beetroot And Spinach Against The Increase In Hemoglobin Levels Of Pregnant Women In The Primary Clinic Kasih Bunda, 2022
24. The Effect of Audiovisual-Based Education Media on Self Management in Type 2 Diabetes Mellitus Patients in the Work Area of UPT Puskesmas Ledeng
25. The Effect of Progressive Muscle Relaxation on Anxiety in Covid-19 Patients in Bandung
26. The Effectiveness of the Combination of Spiritual Emotional Freedom Technique and Slow Deep Breathing in Lowering Blood Pressure Reduction in Hypertensive Patients at UPT Puskesmas Pasundan, Bandung City
27. MUSKAR-T for Improving Mental Health and Cancer-Related Symptoms in Women Diagnosed with Breast Cancer Undergoing Chemotherapy: A Queasy Experimental Design
28. Overview of Emotional Stability in Class Adolescents Based on Nursing Perspectives
29. NICU Room Baby Care at the Sekarwangi Regional General Hospital: Mothers' Satisfaction with Baby Care and Social Support for Mothers with Premature Infants
30. Effectiveness of Consumption of Brown Rice and Potatoes in Reducing Blood Sugar in the Elderly with Type 2 Diabetes Mellitus at Pondok Ranji Health Center

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Research Article

Academic Stress Affects Smartphone Addiction in Nursing Student

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Abstract

Aims: The development of information and communication technology today is very beneficial for public. Smartphones are cellular phones with many capabilities, ranging from resolution, features, to computing with various benefits especially for students. Smartphones are used in various ways including to obtain information, for financial transactions both shopping and work or for social media. Continuous use of smartphones in students can lead to smartphone addiction which can cause physical and psychological health problems. Purpose: To identified relationship between academic stress and smartphone addiction in nursing student.

Methods: This study used cross sectional design with purposive sampling. There were 150 respondent who meet the inclusion criteria. The instruments used were the respondent characteristic questionnaire, the Smartphone Addiction Scale Short Version (SAS-SV) questionnaire, and the Student Life Stress Inventory (SLSI) questionnaire.

Results: Majority respondents were female (90.7%), senior high school majoring was science (40%), second year of study (36.7%), not experienced smartphone addiction, experienced severe academic stress (54%), and mean of age was 19.67 year. In bivariate analysis there was a significant relationship between age ($p = 0.048$), year of study ($p = 0.038$) and academic stress ($p = 0.035$) with smartphone addiction. Smartphone addiction did not have a significant relationship with gender.

Conclusion: A significant relationship were found between age, year of study, and academic stress with smartphone addiction.

Suggestion: To prevent smartphone addiction in nursing student, academic stress should be reduced with develop educational programs for students to control the academic stress.

Keywords

Academic stress, nursing student, smartphone addiction

INTRODUCTION

Smartphones are an important part of people's lives today. Smartphones are used in various ways including to obtain information, for financial transactions both shopping and work or for social media.

Smartphone is a a communication device that has functions such as computers with various models and operating system standards that support user needs such as internet access, email, and other features (1). Based on internetworldstats data, Indonesia ranks third with the most

internet users in Asia with 212.35 million internet users, after China with 989.08 million internet users, and India with 755.82 million internet users (2). Based on data from Newzoo (3), Indonesia ranks fourth with the most smartphone users after China, India and the United States with penetration reaching 58.6% of the total population and 160.23 million smartphone users. On average each person has 11.2 accounts. In Indonesia, the intensity of time spent using smartphones for social media is an average of 3 hours 26 minutes per day. This figure is higher than the global figure, which is only 2 hours 16 minutes. The results of the study involving 314 respondents in Surabaya, consisting of adolescents aged 15-18 years, showed that the high intensity of smartphone use had a correlation or relationship with the level of social media addiction, fear of being left behind or FoMO, and the increased need for touch or NFT (4).

A person's inability to control the use of smartphones can cause excessive use of smartphones which can lead to smartphone addiction. Individual's inability to control smartphone use defines as smartphone addiction(5). The effects of smartphone addiction among teenagers can cause physical health problems, as well as psychological problems. Psychological problems that occur include Fear of Missing Out (FoMO) or a fear of missing precious moments when not present digitally, anxiety, and the Need for Touch (NFT) in using smartphone (4,6). The other psychological problems that can occur in students who are addicted to smartphones include shame and social anxiety, stress, disturbed sleep, and decreased sleep quality (7,8,9). Physical problems that can occur is impaired hand function due to excessive smartphone use such as pain in the thumb, and reduce pinch strength, pain in the wrist, back or neck (10).

Smartphone addiction has an impact on students' daily lives, including decreased interest in activities, lack of sleep and

disrupting social interactions (7,8,11,12). The focus of thoughts and attention of students who are addicted to smartphones is on their smartphones so that their interest in other activities including learning is limited (13). Smartphone addiction is negatively correlated with academic achievement, where the higher smartphone addiction, the lower learning achievement (5). This means that smartphone or internet addiction has a significant effect on student and adolescent academic achievement (14).

Many factor affecting smartphone addiction like depression, anxiety, insomnia, family social support (10,15); stress (5); economic level, academic stress, support from parents, and victims of bullying (16); gender, average daily using time in week, and in weekend, sociality, sociality, SNS addiction, impulsiveness, accident in using smartphone and wrist pain in using smartphone (17); female gender, pre-occupation, conflict, and use smartphone for ubiquitous trait (18); and family and emotional stresses (19).

Academic stress is students' perceptions of the existing pressures that must be faced, completion of tasks with limited time, academic workloads, and students' academic perceptions (20). Study conducted by Thomas (21) found there was a moderate positive correlation between smartphone addiction and academic stress. It shows that anything who affected smartphone addiction also affects academic stress. When academic stress increases, smartphone addiction will increase too. There is an indirect positive correlation between academic stress and problematic smartphone usage in Xu et al study (22). Participant who had low and average levels of problem focused coping had a positive indirect relationship with academic stress, and participants who had high levels on problem-focused coping, had a weaker indirect effect (22). This study aim to identified relationship between academic stress and smartphone addiction in nursing student.

METHODS

Study design. The design used was a cross-sectional design to determine the nursing student's academic stress level, smartphone addiction level, and the relationship between academic stress and smartphone addiction. This study was conducted in 2019 in East Jakarta, Indonesia.

Sample. The purposive sampling method was used in this study with inclusion criteria were diploma nursing students, have a smartphone and willing to be respondents. The number of respondents which qualify the inclusion criteria were 150 respondents.

Instrument. The researcher used three instrument: the respondent characteristic questionnaire, the Smartphone Addiction Scale Short Version (SAS-SV) questionnaire, and the Student Life Stress Inventory (SLSI) questionnaire (23). The Student Life Stress Inventory (SLSI) questionnaire consists of 51 statements divided into two dimensions (stressors, and reactions to stressors) uses a Likert scale with a range of 1-5, 1 (never), 2 (rarely), 3 (sometimes), 4 (often), and 5 (almost every time). In favorable items (1-49), scoring is done by adding up according to the answer choices. For unfavorable items (50-51), the scoring of items is reversed 5 to 1. Total score is done by adding up each category score with a score range of 51 until 255. Academic stress is categorized into three groups, including mild, moderate, and severe (24). Mild academic stress if the score range ≥ 146 , moderate 120-145, severe 51-119 (25). This questionnaire has been translated in Bahasa and tested for reliability and validity, with the results of all questions being reliable and valid with Cronbach's alpha 0.905 (26). The Smartphone Addiction Scale Short Version (SAS-SV) questionnaire consists of 10 question items and uses a Likert scale of 1-6. This questionnaire has been translated into

Indonesian by Lukman (27) and has been tested for validity and reliability with a Cronbach alpha value of 0.793 which means the SAS-SV questionnaire is reliable. This questionnaire includes ten questions that represent the factors that determine whether someone is said to be experiencing smartphone addiction, namely the daily-life disturbance (questions number 1, 2, and 3), withdrawal (questions number 4, 5, 6, and 7), cyberspace-oriented relationship (question number 8), overuse (question number 9) and tolerance (question number 10) (28). Scoring is done by adding up all the scores for questions 1-10. The highest score is 60, and the lowest score is 10. The interpretation of the results of the questionnaire is divided into 2 (two) parts: for male if score < 31 = negative smartphone addiction, 31 = positive smartphone addiction. For female, if the score < 33 = negative smartphone addiction, 33 = positive smartphone addiction.

Data collection. Before the research was started, the researcher explained the purpose and benefits of the research to the respondents. If the respondent is willing to participate, the respondent is asked to sign an informed consent. After that the respondents filled out the available questionnaires. After completing the questionnaire, the researcher will check the completeness of the contents of the questionnaire. If it is complete, the questionnaire is collected by the researcher. However, if it is not complete, the researcher asks the respondent to complete the questionnaire. **Data analysis.** Univariate analysis and bivariate analysis were used in this study. Univariate analysis for numerical data that is not normally distributed, such as age, is presented in median (interquartile range). Univariate data analysis for categorical data such as gender, senior high school. Bivariate analysis used were chi-square and Mann Whitney U-Test.

RESULTS

The results of the analysis in table 1. show that majority respondents were female (90.7%), senior high school majoring was science (40%), second year of study (36.7%), not experienced smartphone addiction, and experienced severe academic stress (54%). Based on Table 2. Mean of age was 19.67 year, while the youngest respondent was 17 year and the oldest was 25 year.

Table 1.
Respondent Characteristic (N=150)

Variable		Frequency	Percentage
Gender	Male	14	9.3
	Female	136	90.7
Senior High School Majoring	Science	60	40.0
	Social	49	32.7
	Vocational	40	26.7
	Technique	1	0.7
Year of study	1 st year	46	30.7
	2 nd year	55	36.7
	3 rd year	49	32.7
Smartphone addiction	Not addicted	100	66.7
	Addicted	50	33.3
Academic Stress	Mild	13	8.7
	Moderate	56	37.3
	Severe	81	54.0

Table 2.
Age of respondents (N=150)

Variable	Mean	Median	SD	Minimal- Maximal	95% CI
Age	19.67	20.00	1.28	17-25	19.46-19.87

Table 3.
Relationship Between Age and Smartphone Addiction (N=150)

Variable	N	P-value
Not addicted	100	0.048*
Addicted	50	

* p-value<0,05

Table 4.
Relationship Between Gender, Year Of Study, and Academic Stress With Smartphone Addiction (N=150)

Variable	Smartphone addiction				Total		p-value
	Not addicted		Addicted		n	%	
	n	%	n	%			
Gender							
Male	11	78.6	3	21.4	14	100	0.387
Female	89	21.4	47	34.6	136	100	
Total	100	66.7	50	100	150	100	
Year of study							
1 st year	24	52.2	22	47.8	46	100	0.038*
2 nd year	39	70.9	16	29.1	55	100	
3 rd year	37	75.5	12	24.5	49	100	
Total	100	66.7	50	33.3	150	100	
Academic stress							
Mild	6	46.2	7	53.8	13	100	0.035*
Moderate	33	58.9	23	41.1	56	100	
Severe	61	75.3	20	24.7	81	100	
Total	100	66.7	50	33.3	150	100	

* p-value<0,05

The bivariate analysis shows in Table 3. and Table 4. There is a significant relationship between age ($p = 0.048$), year of study ($p = 0.038$) and academic stress ($p = 0.035$) with smartphone addiction.

DISCUSSION

The smartphone addiction prevalence in this study is 33.30% (moderate), this is in line with the study of Alhassan et al (10) with a prevalence of 31.3%, and the research of Davey & Davey (2014) with a prevalence smartphone addiction in college students between 39-40%. In this study, the average age was 19.67 years. There is a significant relationship between age and smartphone addiction. This is in line with the research of Alhassan (10) where younger individuals have a greater likelihood of being addicted to smartphones than older individuals. The results of the research by Augner & Hacker (29) show that younger individuals have excessive levels of smartphone use. This can be explained where new technology tends to be accepted by teenagers than the older generation.

The majority of respondents in this study are women. There is no significant relationship between gender and smartphone addiction in this study. Different study results in Korea are shown by Lee (18) where female gender were identified had a significant effects on smartphone addiction in adolescent. Smartphone addiction in women is 2.7 times more risky. Men usually use the internet mainly for online gaming, while women usually use the internet for messaging, chatting, and blogging (18).

In this study, the majority of participants experienced severe academic stress. In contrast previous study found the majority of students experienced moderate academic stress (30). There is a significant relationship between academic stress and smartphone addiction. This is in line with research on students in Korea, that there is a relationship between academic stress and

smartphone addiction (16). Excessive academic stress can cause smartphone addiction tendencies. This academic stress can come from high expectations from teachers or parents, and intense competition among students. The negative influence of academic stress can make adolescents use smartphones as a way to deal with stress (22). Smartphone users tend to spend more time on their devices as a way to dispel negative moods and as a strategy to escape from problems. According to the Kardefelt-Winther Compensatory Internet Use theory when someone's motivation to use a smartphone is due to stress, they use a smartphone excessively (22).

CONCLUSION

Majority respondents were female (90.7%), senior high school majoring was science (40%), second year of study (36.7%), not experienced smartphone addiction, experienced severe academic stress (54%), and mean of age was 19.67 year. Conclusion: There is a significant relationship between age ($p = 0.048$), year of study ($p = 0.038$) and academic stress ($p = 0.035$) with smartphone addiction.

REFERENCES

1. Syafrida R. Regulasi diri dan intensitas penggunaan Smartphone Terhadap Keterampilan Sosial. *J Pendidik Usia Dini*. 2014;8(2):353-63.
2. Kusnandar VB. Pengguna Internet Indonesia Peringkat ke-3 Terbanyak di Asia. *Databooks.id* [Internet]. 2021;2021. Available from: <https://databoks.katadata.co.id/data-publish/2021/10/14/pengguna-internet-indonesia-peringkat-ke-3-terbanyak-di-asia>
3. Newzoo. Daftar Negara Pengguna Smartphone Terbanyak, Indonesia Urutan Berapa? [Internet]. *Katadata*. 2021. Available from: <https://databoks.katadata.co.id/data-publish/2021/07/01/daftar-negara-pengguna-smartphone-terbanyak-indonesia-urutan-berapa#:~:text=Kemudian%2C Indonesia menempati posisi keempat,%2C6%25 dari total populasi.&text=Adapun%2C Newzoo memperkirakan ada sekitar>,
4. Has EMM, Istianah N, Qona'ah A. The Correlation between Intensity of Smartphone Usage with Social Media Addiction, Fear of Missing Out, and Need for Touch among Adolescents. *Int J Psychosoc Rehabil*. 2020;24(9):856-62.
5. Samaha M, Hawi NS. Relationships among smartphone addiction, stress, academic performance, and satisfaction with life. *Comput Human Behav* [Internet]. 2016;57:321-5. Available from: <http://dx.doi.org/10.1016/j.chb.2015.12.045>
6. Elhai JD, Levine JC, Dvorak RD, Hall BJ. Fear of missing out, need for touch, anxiety and depression are related to problematic smartphone use. *Comput Human Behav* [Internet]. 2016;63:509-16. Available from: <http://dx.doi.org/10.1016/j.chb.2016.05.079>
7. Young KS. Internet Addiction: A New Clinical Phenomenon and Its Consequences. *Am Behav Sci* [Internet]. 2011;48(4):402-15. Available from: doi: 10.1177/0002764204270278%0AThe
8. Hawi NS, Samaha M. To excel or not to excel: Strong evidence on the adverse effect of smartphone addiction on academic performance. *Comput Educ* [Internet]. 2016;98:81-9. Available from: <http://dx.doi.org/10.1016/j.compedu.2016.03.007>

9. Wiwik W, Widiharti, Firman FS. Factors Affecting Psychosocial Problems on the College Students Who Experience Smartphone Addiction. Proc 1st UMGESHIC Int Semin Heal Soc Sci Humanit (UMGESHC-ISHSSH 2020). 2021;585:482-7.
10. Alhassan AA, Alqadhib EM, Taha NW, Alahmari RA, Salam M, Almutairi AF. The relationship between addiction to smartphone usage and depression among adults: A cross sectional study. BMC Psychiatry. 2018;18(1):4-11.
11. Astuti TP, Muna RF. HUBUNGAN ANTARA KONTROL DIRI DENGAN KECENDERUNGAN KECANDUAN MEDIA SOSIAL PADA REMAJA AKHIR. J karya Ilm S1 Undip. 2014;
12. Chotpitayasunondh V, Douglas KM. How “phubbing” becomes the norm: The antecedents and consequences of snubbing via smartphone. Comput Human Behav [Internet]. 2016;63(May):9-18. Available from: <http://dx.doi.org/10.1016/j.chb.2016.05.018>
13. Syah M. Psikologi Pendidikan. Bandung: Remaja Rosdakarya; 2003.
14. Kazmi SAJ. Effect Of Internet Addiction On Academic Performance And Mental Health Of Medical Students. J Bahria Univ Med Dent Coll. 2018;09(01):48-52.
15. Aker S, Şahin MK, Sezgin S, Oğuz G. Psychosocial Factors Affecting Smartphone Addiction in University Students. J Addict Nurs. 2017;28(4):215-9.
16. Choi SK. Correlation between stress and smartphone addiction in healthcare related university students. J Korean Soc Dent Hyg. 2017;17(1):27-37.
17. Cho G-Y, Kim Y-H. Factors Affecting Smartphone Addiction among University Students. J Korea Acad Coop Soc [Internet]. 2014;15(3):1632-40. Available from: <https://www.koreascience.or.kr/article/JAKO201411560021950.page>
18. Lee H, Kim JW, Choi TY. Risk factors for smartphone addiction in Korean adolescents: Smartphone use patterns. J Korean Med Sci. 2017;32(10):1674-9.
19. Chiu SI. The relationship between life stress and smartphone addiction on taiwanese university student: A mediation model of learning self-Efficacy and social self-Efficacy. Comput Human Behav [Internet]. 2014;34:49-57. Available from: <http://dx.doi.org/10.1016/j.chb.2014.01.024>
20. Bedewy D, Gabriel A. Examining perceptions of academic stress and its sources among university students: The Perception of Academic Stress Scale. Heal Psychol Open. 2015;2(2).
21. Thomas D. Cellphone Addiction and Academic Stress among University Students in Cellphone Addiction and Academic Stress among University Students in Thailand. Int Forum [Internet]. 2017;19(November 2016):80-96. Available from: https://www.researchgate.net/publication/313451160_Cellphone_Addiction_and_Academic_Stress_among_University_Students_in_Thailand
22. Xu TT, Wang HZ, Fonseca W, Zimmerman MA, Rost DH, Gaskin J, et al. The relationship between academic stress and adolescents' problematic smartphone usage. Addict Res Theory [Internet]. 2019;27(2):162-9. Available from: <https://doi.org/10.1080/16066359.2018.1488967>
23. Gadzella BM. Student-Life Stress Inventory: identification of and reactions to stressors. Psychol Rep. 1994;74(2):395-402.
24. Gadzella BM. Three Stress groups on their stressors and reactions to

- stressors in five studies. Psychol Rep. 2004;94(2):562-4.
25. Sarina NY. The Correlation between Academic Stress and Physiologically Well-being Among First Year College Student in Universitas Indonesia. Undergrad Thesis Psychol Fac Univ Indones. 2012;
 26. Panma Y. Relationship Between Academic Stress and Learning Achievement in Nursing Student. Int J Educ Res Soc Sci. 2021;2(1):222-9.
 27. Lukman. Penggunaan dan adiksi smartphone di kalangan mahasiswa fakultas kedokteran universitas hasanuddin angkatan 2015 dan 2016. Univ Hasanudin [Internet]. 2018; Available from: <http://dx.doi.org/10.1016/j.cirp.2016.06.001><http://dx.doi.org/10.1016/j.powtec.2016.12.055><https://doi.org/10.1016/j.ijfatigue.2019.02.006><https://doi.org/10.1016/j.matlet.2019.04.024><https://doi.org/10.1016/j.matlet.2019.127252><http://dx.doi.org/>
 28. Kwon M, Kim DJ, Cho H, Yang S. The smartphone addiction scale: Development and validation of a short version for adolescents. PLoS One. 2013;8(12):1-7.
 29. Augner C, Hacker GW. Associations between problematic mobile phone use and psychological parameters in young adults. Int J Public Health. 2012;57(2):437-41.
 30. Wirastuty RY. Relationship Stressors with Stress and Student Learning Achievement (Cross Sectional Study at STIKES Nani Hasanuddin Makassar). Int J Theory Appl Elem Second Sch Educ. 2019;1(1):82-7.