ARTÍCULO ORIGINAL

Gac Méd Caracas 2024;132(Supl 2):S217-S222
DOI: 10.47307/GMC.2024.132.s2.8

Relationship between self-control as an internal factor and internet addiction in adolescents

Relación entre el autocontrol como factor interno y la adicción a internet en adolescentes

Ariestika Baktian Hapsari[1a], Rizki Fitryasari[2a], Dianis Wulan Sari[3a], Rr Dian Tristiana[4a], Ah. Yusuf[5a], Chong-Mei Chan[6b]

SUMMARY

Introduction: *The increasing interest of adolescents in internet usage has heightened the risk of internet addiction. Self-control, a crucial internal factor, has been the focus of our study. We aimed to investigate the relationship between self-control and internet addiction.* **Methods**: *Using a correlational design with a cross-sectional approach, we surveyed 165 senior high school students selected through cluster sampling. Self-control was the independent variable, and internet addiction was the dependent variable. Data collection involved questionnaires, including the Internet Addiction Test and Self-control Scale, followed by the Spearman Rho test analysis.* **Results**: *We discovered a significant relationship between self-control and internet addiction (p = 0.0001; r = -0.456).* **Conclusion**: *Our findings underscore that higher levels of self-control are linked to lower instances of internet addiction. This suggests that fostering self-control among adolescents is a practical and effective strategy for preventing internet addiction.*

Keywords: *Adolescents, internal factors, Internet addiction, self-control, well-being*

RESUMEN

Introducción: *El creciente interés de los adolescentes por utilizar Internet los hace más susceptibles a la adicción a Internet. El autocontrol se destaca como un factor interno crucial para los adolescentes. Este estudio tuvo como objetivo examinar la correlación entre el autocontrol y la adicción a Internet.* **Métodos:** *Empleando un diseño correlacional con un enfoque transversal, el estudio encuestó a 165 estudiantes de secundaria seleccionados por muestreo por conglomerados. El autocontrol fue la variable independiente y la adicción a Internet fue la variable dependiente. La recolección de datos utilizó cuestionarios, incluida la prueba de adicción a Internet y la escala de autocontrol, seguidos de un análisis mediante la prueba de Spearman Rho.* **Resultados:** *Se obtuvo una relación significativa entre el autocontrol y la adicción a Internet (p =0,0001; r = -0,456).* **Conclusión:** *Los hallazgos indican que niveles más altos de autocontrol corresponden a casos más bajos*

DOI: https://doi.org/10.47307/GMC.2024.132.s2.8

ORCID ID: 0000-0002-7164-2997[2]
ORCID ID: 0000-0003- 1661-799[3]
ORCID ID: 0000-0001-8524-3818[4]
ORCID ID: 0000-0002-6669-0767[5]
ORCID ID: 0000-0002-8599-3018[6]

[a]Faculty of Nursing, Universitas Airlangga, Kampus C UNAIR, Jl. Dr. Ir. H. Soekarno, Mulyorejo, Kec. Mulyorejo, Kota Surabaya, Jawa Timur. 60115 Surabaya. Indonesia.
[b]Department of Nursing Science, Faculty of Medicine, University of Malaya, 50603 Kuala Lumpur, Wilayah Persekutuan Kuala Lumpur, Malaysia.

*Corresponding Author: Rizki Fitryasari
E-mail: rizki-f-p-k@fkp.unair.ac.id

Recibido: 29 de septiembre 2024
Aceptado: 13 de octubre 2024

de adicción a Internet. En consecuencia, fomentar el autocontrol entre los adolescentes es fundamental para prevenir la adicción a Internet.

Palabras clave*: Adolescentes, factores internos, adicción a Internet, autocontrol, Bbenestar.*

INTRODUCTION

Internet use among adolescents is relatively high and provides an opportunity to cause compulsive behavior that is demanding to control and also possibly develops into internet addiction. Internet addiction is a mental disorder characterized by excessive or uncontrolled preoccupation with computer use and internet access, which causes disturbance or distress (1). Adolescents are susceptible to experiencing internet addiction, considering that they are at an identity crisis stage, where they have exceedingly high curiosity, consistently desire to try new things, and are easily influenced by their peers (2).

Internet users in Indonesia are experiencing extremely rapid growth. Based on survey results from the Indonesian Internet Service Providers Association (APJII), there were 210.03 million internet users in the country in the 2021-2022 period. This number increased by 6.78 % compared to the previous period, which amounted to 196.7 million people. The growing number of internet users in Indonesia has brought the internet penetration rate in Indonesia to 77.02 %. Based on age prevalence, the highest internet penetration rate is in the 13-18-year age group, namely 99.17 %7 %. The second position is occupied by the 19-34-year age group with a penetration rate of 98.64 %. The internet penetration rate in the 35-54 age range is 87.30 %. The internet penetration rate in the age groups 5-12 years and 55 years and over is 62, 43 %, and 51.73 %, respectively (3).

Adolescents tend to focus on using media such as the internet more than adults, which makes them more vulnerable to internet addiction (4). Excessive use of the internet could lead to negative consequences that cause problems and ultimately have an adverse influence on their lives (5). Internet addiction can harm adolescents because their use has exceeded reasonable limits (6,7). Adolescents with internet addiction will damage social relationships; individuals with internet addiction will spend much of their time accessing the internet, having financial problems, disturbed physical conditions, and academic failure. There are external and internal factors that influence internet addiction (8). The external factors include family, peers, and social culture. Meanwhile, internal factors are personality, such as self-control, interests, motives, and age. Other studies found that, of several internet addiction factors, self-control is the most critical. Those with poor self-control directly influence problem behavior, thus stating that increasing self-control is critical to reducing problem behavior, such as internet addiction (9).

The self-control model is the ability to control one's behavior and tend to perform positively (10). Self-control negatively affects internet use problems in adolescents. The inability to control oneself is caused by the failure to think in advance concerning the impending impact experienced and tends solely for pleasure. The feelings arising from internet problems will influence thoughts about continuing to use the internet to fulfill one's needs (11). The prolonged usage of the internet creates a challenging cycle wherein individuals find it hard to break away and increasingly rely on it for frequent usage (12). This research aimed to analyze the relationship between self-control as an internal factor and internet addiction among adolescents at SMA (Senior High School) Negeri 5 Surakarta, Indonesia.

METHODS

This research employed a correlational design with a cross-sectional approach, focusing on adolescents from SMA Negeri 5 Surakarta, specifically class XI, totaling 165 students. Probability sampling was utilized, employing a cluster sampling technique, which involves randomly selecting several groups from the population and then sampling all or some elements from each chosen group. The independent variable in this study was self-control, while the dependent variable was the level of internet addiction. The instruments utilized included the

Self Control Scale (SCS) (13) and the Internet Addiction Test (IAT) (14,15), respectively. Data collection commenced after obtaining consent from willing respondents. Non-parametric statistical analysis, specifically the Spearman Rank Correlation test, was employed to determine the relationship between self-control and the level of internet addiction.

The Ethics Committee approved this study with Number 908/HRECC.FODM/XII/2022. Participants were informed and agreed to provide informed consent before the study began.

RESULTS

Respondents' characteristics

As outlined in Table 1, the research involved 165 students. The data indicate that the dominant gender was female, comprising 98 students (59.4 %), while middle teenagers accounted for 116 students (70.3 %). More than one-third of them, 62 respondents (37.6 %), access the internet for social media like Facebook, Instagram, and Twitter, and more than three-quarters, 128 (77.6 %), spent time using the internet for more than seven hours in one day.

Table 1

Respondents' characteristics

		Characteristic	f	%
Gender		Male	67	40.6
		Female	98	59.4
	Total		165	100.0
Age (years)		10-14 years old	3	1.8
		15-17 years old	116	70.3
		18-19 years old	46	27.9
	Total		165	100.0
Internet usage		Social media	62	37.6
		Playing games	18	10.9
		Reading news	5	3.0
		Chatting	54	32.7
		Doing the task	6	3.6
		Watching movies	20	12.1
	Total		165	100.0
Time		≤ 2 hours/day	0	0
		3-4 hours/day	3	1.8
		5-6 hours/day	34	20,6
		≥ 7 hours/day	128	77.6
	Total		165	10.0

Distribution of respondents' self-control and Internet addiction level

Table 2 shows the distribution of respondents' self-control and internet addiction levels. Most respondents, 63 (38.2 %), have a moderate level of self-control, and 57 respondents (34.5 %) still have a low level. Indicators show respondents' behavior control is mostly moderate (45.5 %) and high (45.4 %). Meanwhile, cognitive control is almost evenly distributed at all levels, with the highest being at the lowest level for 58 respondents (35.2 %).

Table 2 also explains the internet addiction level. Data showed that 60 responders (36.4 %) were experiencing low internet addiction, and 20 responders (33 %) had high internet addiction levels. Based on analysis, tolerance is the most frequently experienced by 73 respondents (44.2 %), especially at low levels. Meanwhile, almost half of the responders, 65 (39.4 %), have a high level of mood modification.

Table 2

Distribution of self-control and internet addiction level based on indicators

Variables/Indicators	Normal		Low		Moderate		High		Total	
	f	%	f	%	f	%	f	%	f	%
Self-control	-	-	57	34.5	63	38.2	45	27.3	165	100
Behavior control	-	-	15	9.1	75	45.5	75	45.5	165	100
Cognitive control	-	-	58	35.2	50	30.3	57	34.5	165	100
Decision control	-	-	48	29.1	58	35.2	59	35.8	165	100
Internet addiction level	29	17.6	60	36.4	43	26.1	33	20.0	165	100
Salience	10	6.1	68	41.2	48	29.1	39	23.6	165	100
Mood modification	13	7.9	42	25.5	45	27.3	65	39.4	165	100
Tolerance	13	7.9	73	44.2	58	35.2	21	12.7	165	100
Withdrawal	19	11.5	69	41.8	34	20.6	43	26.2	165	100
Conflict	21	12.7	69	41.8	67	40.6	8	4.8	165	100
Relapse	22	13.3	57	34.5	41	24.8	45	27.3	165	100

Correlation between self-control and internet addiction level

Table 3 shows the cross-tabulation distribution between self-control, internet addiction level and the statistical test result. The result of the Spearman Test shows a p-value = 0.0001 with a significance level of $\alpha < 0.05$, indicating that there was a relationship between self-control and the level of internet addiction. The correlation coefficient, r= -0.456, means a negative correlation, concluding that the higher the self-control, the lower the level of internet addiction.

Table 3

Correlation between self-control and internet addiction level

		Internet Addiction Level									
		Normal		Low		Moderate		High		Total	
		f	%	f	%	f	%	f	%	f	%
Self-Control	Low	3	1.8	15	9.1	19	11.5	20	12.1	57	34.5
	Moderate	8	4.8	26	15.8	17	10.3	12	7.3	63	38.2
	High	18	10.9	19	11.5	7	4.2	1	0.6	45	27.3
	Total	29	17.6	60	36.4	43	26.1	33	20.0	165	100.0

Spearman's Rank test (p) = 0.0001 (r) = -0.456

DISCUSSION

Present results show respondents have relatively good self-control at medium and high levels. Self-control is the ability to control oneself and tend to have a positive attitude (10). Self-control allows individuals to control themselves and behave correctly and according to their hearts and minds. Self-control makes individuals realize that this has dangerous consequences for the actions they take to be able to regulate their emotions. Respondents can still integrate, direct, control, and regulate online behavior by considering the consequences of choosing the right action. Adolescents use the internet and cell phones as a daily activity to study and look for references for assignments given by teachers after school. This study showed that adolescents'

behavioral and decision-making control are quite high. This is related to the developmental stage of middle adolescence, which is confusing because the adolescent knows whether to decide, is sensitive or doesn't care, and is idealistic. Middle adolescents begin experimenting with ideas, developing insights, and reflecting on others' feelings, which is also done using the internet. Having high self-control, especially control in terms of behavior and decision-making, will help adolescents achieve a good self-identity and support healthy mental growth (16,17).

The results show that most internet addiction levels are mild. Internet addiction is an addictive behavior in individuals that is related to excessive use of online applications, which has a detrimental effect on a person's life (18,19). When activities like browsing news online or engaging in social media are pleasurable, the body perceives them as comfortable and desires repetition, increasing the risk of addiction. Respondents displayed mild addictive behaviors, such as spending more time online than planned, prioritizing online activities without neglecting assignments, occasionally checking social media before other tasks, anticipating online time, feeling boredom without internet access, sacrificing sleep for late-night online sessions, maintaining productivity while online, attempting to limit online time, seeking new online connections, and choosing online activities over socializing with friends.

The data show that self-control is negatively associated with the level of internet addiction. The higher self-control, the lower the level of internet addiction. Individuals with high self-control possess the ability to manage their online behavior effectively (20,21). They can assess the consequences of their actions, enabling them to make informed decisions. Those with high self-control can regulate their internet usage, ensuring they do not become consumed by it. They use the internet purposefully, balancing online activities and real-life engagements. Moreover, individuals with high self-control refrain from using the internet as a means of escaping from problems. Conversely, those with low self-control struggle to regulate their behavior and usage patterns (22) SD = 0.65.

The research showed that of the 63 respondents with sufficient self-control, 60 of them had mild internet addiction. This does not align with previous studies, which stated that there was a positive relationship between self-control and internet addiction; this was due to adolescents' awareness of accessing the internet (8,23,24). The high level of internet addiction is caused by the demand to fulfill their information needs or as a method of relaxation, so each adolescent has different needs in using the internet. From our results, it can be concluded that internet use is not always harmful but has positive aspects if used appropriately and wisely; adolescents with good self-control and who use the internet appropriately will avoid internet addiction. Age is one of the factors influencing self-control. In this case, it can be observed from the respondents' age, most of whom were in their middle teens (25). Adolescents' age means their control function still requires to be consolidated, reducing their problems and awareness (26,27). Adolescents with poor self-control potentially become addicted when using the internet.

CONCLUSION

Self-control plays a pivotal role as an internal factor in teenagers, serving as a crucial deterrent against internet addiction. Enhanced self-control correlates with reduced levels of internet addiction among adolescents. Therefore, it is imperative to bolster self-control among teenagers as a preventive measure against internet addiction.

Acknowledgments

The authors thank the participants who agreed to participate in the study. We also thank Universitas Airlangga for all facility during the research project

Funding source

Airlangga University funded this research for the Article Review Programme Year of 2020

Conflicts of Interest

We declare none of us has a conflict of interest

REFERENCE

1. Jorgenson A, Hsiao R, Yen C. Internet addiction and other behavioral addictions. Child Adolesc Psychiatr Clin N Am. 2016;25(3):509-520.
2. Sarwono S. Adolescent Psychology. In: Jakarta: PT, editor. Raja Grafindo Persada. Jakarta: PT. Raja Grafindo Persada; 2013.
3. APJII. Infographics of Indonesian Internet User Penetration and Behavior: Survey 2022. Asosiasi Penyedia Jasa Internet Indonesia. 2022.
4. Kim D, Lee Y, Lee J, Nam JK, Chung Y. Development of Korean Smartphone addiction proneness scale for youth. PLoS One. 2014;9(5):e97920.
5. Wan A, Wu L. Understanding the negative consequences of watching social live streaming among Chinese viewers. Int J Commun. 2020;14:5311-5330.
6. Heo J, Oh J, Subramanian S, Kim Y, Kawachi I. Addictive internet use among Korean adolescents: a national survey. PLoS One. 2014;9(2):e87819.
7. Yang S, Chen K, Lin P, Wang P. Relationships among health-related behaviors, smartphone dependence, and sleep duration in female junior college students. Soc Heal Behav. 2019;2:26-31.
8. Anggraeni M, Praherdhiono H, Sulthoni S. Relationship between self control and internet addiction disorder in students of the 2016 Class of Educational Technology, State University of Malang. J Kaji Teknol Pendidik. 2019;2(2):131-139.
9. Kim J, Jong L, Hyun M. Effects of time perspective and self-control on procrastination and Internet addiction. J Behav Addict. 2019;6(2):229-236.
10. Li X, Li D, Newman J. Parental behavior and psychological control and problematic internet use among Chinese adolescents: the mediating role of self-control. Cyberpsychology Behav Soc Netw. 2013;6(6):442-447.
11. Liu M, Li X, He Z. Self-control mediates, and mobile phone dependence moderates, the relationship between psychological capital and attitudes toward physical exercise among Chinese university students. Front Psychol. 2022;13.
12. Li D, Zhang W, Wang Y. Parental behavioral control, psychological control, and Chinese adolescents' peer victimization: The mediating role of self-control. J Child Fam Stud. 2015;24:628-637.
13. Tangney J, Baumeister R, Boone A. High self-control predicts good adjustment, less pathology, better grades, and interpersonal success. J Pers. 2004;72(2):271-324.
14. Young K, de Abreu C. Internet Addiction: A Handbook and Guide to Evaluation and Treatment. Hoboken: NJ: John Wiley & Sons Inc; 2011.
15. Widyanto L, McMurran M. The psychometric properties of the internet addiction test. Cyber Psychol Behav. 2004;7:433-450.
16. Denson T, DeWall C, Finkel E. Self-control and aggression. Curr Dir Psychol Sci. 2012;21(1):20-25.
17. Kim Y, Richards J, Oldehinkel A. Self-control, mental health problems, and family functioning in adolescence and young adulthood: between-person differences and within-person effects. J Youth Adolesc. 2022;51:1181-1195.
18. Ismail N, Tajjudin A, Jaafar H, Nik Jaafar N, Baharudi A, Ibrahim N. The relationship between internet addiction, internet gaming and anxiety among medical students in a Malaysian Public University during COVID-19 Pandemic. Int J Env Res Public Heal. 2021;18.
19. Kawabe K, Horiuchi F, Hosokawa R, Nakachi K, Ueno S. Association between internet addiction and application usage among Junior High School Students: A Field Survey. Int J Env Res Public Heal. 2021;18(9).
20. Widiana H, Retnowati S, Hidayat R. Self-control and tendency to internet addiction. Humanit Indones Psychol J. 2004;1(1).
21. Saragih E. Self-control and tendencies to internet addiction disorder. J Psychol. 2020;4(57).
22. Sun J, Liu Q, Yu S. Child neglect, psychological abuse and smartphone addiction among Chinese adolescents: The roles of emotional intelligence and coping style. Comput Human Behav. 2018;90(September 2017):74-83.
23. Gao Y, Zhao L. On upgrading college students 'mental resilience and measures of handling network addiction. Cadre College. J. Jilin Province Econ: Manage. 2009;23:115-117.
24. Tao Y, Li C. Research on the mediating effect of self–control on internet addiction disorder and parental rearing style. China J Heal Psychol. 2009;17:1444-1447.
25. Lee J, Sung M, Song S, Lee Y, Lee J, Cho S, et al. Psychological factors associated with smartphone addiction in South Korean adolescents. J Early Adolesc. 2018;38(3):288-302.
26. Griffiths M, Kuss D. Adolescent social media addiction. Educ Heal. 2017;35:49-52.
27. Arain M, Haque M, Johal L, Mathur P, Nel W, Rais A, et al. Maturation of the adolescent brain. Neuropsych Dis Treat. 2013;9:449-461.