

Relationship External Factors with Internet Addiction in Adolescent Age 15–18 Years

Masdum Ibrahim¹, Suryani², Aat Sriati³

¹STIKep PPNI, Bandung, Indonesia

^{2,3}Faculty of Nursing, Universitas Padjadjaran, Bandung, Indonesia

Corresponding email: masdumibrahim@gmail.com

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Abstract

The internet is one form of evolution in the development of communication and technology that affects humans. One result of the internet is a significant change in the pattern of primary social interactions between individuals. The convenience provided by the internet indirectly causes individuals to have high levels of addiction to the internet and tend to show symptoms of addiction. In Indonesia, internet addiction is mainly found in groups of adolescents aged 15-22 years. This study aims to determine the relationship of external factors: academic stress, family attachments and peers with internet addiction in high school adolescents aged 15-18 years. The study design was carried out using a correlational research design with a cross sectional approach. Respondents who contributed in this study were 97 senior high school students. With sample selection, random sampling is done. The statistical test used was chi-square. The results of this study prove that academic stress has a significant relationship with internet addiction value $X^2 = 7.91$ and $P = 0.019 < 0.05$. Family attachments did not have a relationship with internet addiction, the value of $X^2 = 0.046$ and $P = 1,000 > 0.05$ and peers did not have a relationship with internet addiction $X^2 = 0.241$ and $P = 0.657$. Based on the results of this study, it can be said that the school through the school committee to share information or share about the problem of teenagers who experience academic stress, internet addiction, impact and how to overcome them also evaluate the learning process.

Keywords: Academic stress, adolescent, family attachment, internet addiction, peer attachment.

Introduction

The internet is one form of evolution in the development of communication and technology that affects humanity. One result of the internet is a significant change in the pattern of primary social interaction between individuals. Conventional conversations such as face to face have been replaced by internet messages, video calls and social media. This can happen because the weaknesses of conventional communication such as distance and time can be covered by the internet (Young & de Abreu, 2011).

The convenience provided by the internet indirectly causes individuals to have high levels of addiction to the internet and tend to show symptoms of addiction or addictions (Young & de Abreu, 2011). There are various terminologies used by some experts to identify internet addiction as mentioned in such as: internet addiction compulsive internet use pathological internet use, problematic internet use. But almost all agree that the core of the problem of internet addiction is the disruption of the personal lives of individuals and increased tolerance to the internet, namely increasing duration of internet to satisfy self-satisfaction (Young, 1999).

Internet usage has increased in various countries every year. Data World Stats in 2017 found the highest number of internet usage in China with internet users 738,539,792 from a population of 1,388,232,693, around 53.2%, India 34.4% and the United States 87.9%. In Indonesia internet users in 2017 reached 132,700,000 or 50.4% of Indonesia's total population of 263,510,146 becoming internet users who ranked 5th after China, India, the United States and Brazil. In the United States the prevalence of internet addiction in adolescents aged 14-18 years reached 4% (Liu et al., 2007) while in Asian countries such as China reached.

Indications of internet addiction have occurred in Indonesia, mainly found in adolescents. The survey conducted by Internet World Stats (2017) shows that internet users in Indonesia are dominated by ages 15-22, ranging from 42.4%, and 84.7% using the internet via smartphones. Nearly 70% of teen internet users spend more than

3 hours a day using the internet. The three main things that netizens do (internet users) are accessing social media (94%), searching for info (64%), and opening e-mail (60.2%). Adolescents are a group that occupies a sizeable population reaching around 18% or 1.2 billion of the world's population (WHO, 2015).

The projection in Indonesia of adolescents aged 10-24 years reaches 25% of the 256 million population and in Bandung Regency the number of adolescents reaches around 25% of the total population of 3,596,623 people (BPS, 2015). With the large population of adolescents it is expected to be the next generation that has optimal quality performance according to their growth and development. Adolescents experience periods of growth and development. Individuals experience changes from childhood to adulthood followed by biological, psychological and social changes (Santrock, 2005). Kim (2008), adolescents who are often said to be at risk groups start from the age of 12-18 years, and the age most at risk is age 16, at this age adolescents enter the age of high school (SMA).

Research conducted by Xu et al. (2012) found that high school adolescents did not have good self-control, poor self regulation and low cognition compared to adolescents who had taken lectures. This is supported by Kuss's research (2013) which found high school adolescents had the desire to be free like adults. The results of the search for some literature show that internet addiction in adolescents can be influenced by two factors, namely internal factors and external factors. Internal factors include loneliness low self-esteem and neuroticism personality (Karimpoor et al., 2013).

External factors include adolescents who have families who have problems in family function (Tsitsika et al., 2011; Park et al., 2013), study load and peer influence (Wang et al., 2011). The existence of problems in the development of adolescents can cause mental health problems if not resolved properly. Various adolescent mental health problems are such as learning difficulties, juvenile delinquency and sexual behavior problems (Davidson, 2006).

Therefore, mental health nurses have an

important task in helping these problems. Activities that can be done by nurses in providing services and guidance in schools are primary prevention by conducting social programs that aim to create an environment to improve adolescent health. Nurses can also do secondary prevention such as resolving cases found in adolescents. In addition to primary and secondary prevention, nurses can provide therapeutic support for children and adolescents through psychotherapy, counseling, family therapy and counseling in the school and family environment (Kusumawati, 2010).

Baleendah District is one of the Districts in Bandung Regency which has a population of 251,996 people with a school age of 7–12 years with 4,157 people, 13–15 years old school age 4,663 people, school age 16–18 years 4,663 people (BPS, 2015). The existence of school age in Baleendah District is a potential for the future of the younger generation to progress in Baleendah sub-district. The Dikdasmen data of the Ministry of Education and Culture (2018) mentions Baleendah District as a sub-district that has a high school distribution of 8 high schools with 3,682 students.

A preliminary study conducted on 10 high school students domiciled in Baleendah Subdistrict found 4 students using the internet since elementary school (SD), 4 students using the internet since junior high school (SMP) and 2 students using the internet since high school (SMA). Four students say they use the internet more than 5 hours per day and four students use the internet less than 5 hours per day. All students interviewed said they often visited the Google site for school assignment searches, then accessed youtube, online games, and social media such as Instagram, Facebook, line, Whats App and vlog.

All students interviewed said using whatsapp and line for communication facilities. Six students said they felt anxious, depressed, lonely, uncomfortable, afraid to lose the latest information, if they did not use the internet they would try to be able to access the internet immediately by filling out internet quota, searching for internet cafes and free wi-fi. Furthermore, two students said it was normal to not use the internet. The

results of the interview also found that all students had smartphones and four students were facilitated by internet services installed in their homes so that students actively played online games. Three students also said that they had never attended school because they played online games at the internet cafe.

The results of surveys and observations carried out in several high schools in Baleendah Subdistrict, there are five schools that allow students to bring smartphones and some even have wi-fi facilities in their school. Activities at recess in the canteen or in the park are seen by some students using laptops to use Wi-Fi facilities in schools, some students are using their smartphones to open their social media, such as: Facebook, line, Instagram and Whats App.

Method

Design research by cross sectional approach, uses a correlation analysis research design that aims to determine the relationship between independent variables and the dependent variable conducted in September - October 2018. This research permit No : 070/1092-CADISDIKWIL VIII from Educator Authorietis West Java Province. The research with population of 3682 students from 8 high schools in Baleendah District, Bandung Regency. Using random sampling with Taro Yamane or Slovin formula and sample results of 97 students with inclusion criteria such as: high school students who have ages 15-18 years, students who experience internet addiction are based on the results mild dependence internet addiction with screening using an Internet Addiction Test. The research using Educational Stress Scale for Adolescents (ESSA), Inventory Parents and Peer (IPPA) and Internet Addiction Test (IAT)

Results

A. Characteristic of respondents

Based on table 4 above, it can be seen the sociodemographic description of the respondents most (80.4%) of respondents live with their parents. Nearly half (42.3%) of

respondents use the internet to communicate. If seen by the duration of internet usage more than half (64.9%) of respondents use the

internet more than the same as 6 hours per day.

Based on table 4.3 above, it can be seen

Table 1 Distribution of Frequency Characteristics of Adolescents 8 Senior High Schools in Kecamatan Baleendah Kabupaten Bandung (n = 97)

Characteristics	Frequency	Percentage (%)
Gender		
Male	46	47.4
Female	51	52.6
Total	97	100

Table 2 Distribution of Sociodemographic Frequency of Adolescent High School in Baleendah District of Bandung Regency (n = 97)

Sociodemography	Frequency	Percentage (%)
Living Together		
Both parent	78	80.4
One of the parent	10	10.3
Guardian	9	9.3
The main purpose of using the internet		
Social Network	27	27.8
Game Online	13	13.4
Finding Information	16	16.5
Communication	41	42.3
Duration of internet usage in a day		
≥ 6 hours /day	63	64.9
< 6 hours/day	34	35.1

Table 3 Frequency Distribution of Academic Stress, Family Attachment and Peers and Internet Addiction (n = 97)

Academic Stress	Frequency	Percentage (%)
Low	16	16.5
Medium	80	82.5
Height	1	1.0
Parent Attachment	Frequency	Percentage (%)
Medium	45	46.4
Height	52	53.6
Peer Attachment	Frequency	Percentage (%)
Medium	50	51.5
Height	47	48.5
Internet Addiction	Frequency	Percentage (%)
Mild dependence	27	27.8
Modetare dependence	70	72.2

a description of academic stress, family attachments and peers. In the academic stress variable, most (82.5%) respondents experienced academic stress in the moderate category. At family attachments more than half (72.2%) of respondents included in the medium category. Meanwhile, internet dependence, that more than half (72.2%) of respondents experience moderate dependency.

B. Distribution Mean, Standar Deviasi, Nilai Minimum - Maksimum

Based on table 4.5, the statistical test with chi-square showed that there was a significant relationship between academic stress and internet addiction with a value of $P = 0.019 < 0.05$. Attachments of families with internet addiction with a value of $P = 1.000 > 0.05$ which showed no significant relationship between family attachments and

Table 4 Distribution Mean, Standar Deviasi, Nilai Minimum - Maksimum

Variabel	Mean±SD	Minimum-Maximum
Akademic Stress	90.34±11.16	62–112
Parent Attachment	90.58±9.98	62–114
Peer Attachment	43.99±6.25	29–61
Internet Addiction	54.58±11.02	21–73

Table 5 Correlation Between Academic Stress, Family Attachment and Peer Friends with Internet Addiction In Adolescents High School in Baleendah District, Bandung Regency.

Variabel	Chi-Square (X ²) P-Value
Akademic stress	X ² = 7.951 P= .019**
Parent Attachment	X ² = .046 P= 1.000
Peer Attachment	X ² = .241 P= .657

internet addiction. Whereas peer attachment with internet addiction with P value = $0.657 > 0.05$ indicates that there is no significant relationship between peer attachments.

1. Overview of Academic Stress

In the academic stress variable, the majority (82.5%) of respondents experienced academic stress in the medium category, the results of this study found that academic stress was the main source of stressors for students. Teenagers easily experience stress because adolescents experience a period of transition from children to adults which is characterized by the existence of biological, psychological and social changes (Santrock, 2005) Stroud et al., (2009) stated that adolescents who are easily stressed are adolescents ranging in age from 14-19 years, where at that age adolescents entering junior high school (SMP) and senior high school (SMA) are in

harmony with respondents who are subjects of research.

The results of this study show that academic stress has the highest score on question number 6 “I feel depressed when studying” with a score of 338. The results of the study are in line with Schafer’s research (Rafidah et al., 2009) which found that the things that caused students to feel stressed were stressors stemming from academic problems such as stress in learning, very short time, making papers, examinations, and instructors who boring. Pressure and obstacles on students.

2. Overview Parent Attachment

At family attachments, most (53.6%) respondents are included in the high category. The results of this study indicate that family attachments in adolescents aged 15-18 years in Baleendah District High School are very

good. This is in line with the characteristics of adolescents in this study where 80.4% lived with both parents. Family is the main place for adolescents in the process of forming social skills and emotional development, especially the condition of adolescents who are entering a transition period so that they get the foundation in shaping their ability to face the next life so they can be successful people in society.

Armsden & Greenberg (2009) in his research suggesting parental attachment is a significant predictor of adolescent self-esteem. This is supported by Wilkinson's (2004) study which found high school adolescents who had good attachment to their parents would contribute to their psychological well-being. Furthermore, the Ahkter study (2014) found a difference in adherence to adolescent boys and girls. In general, female adolescents are considered to have a higher attachment than adolescent boys, this is because young women have more time at home than adolescent boys. This study also found a difference in attachment between fathers and mothers in terms of care, fathers are considered more authoritarian in terms of care and mothers are considered more sensitive and care about the needs of adolescents. The results of this study are supported by the study of Deng et al (2013) who found that the high alienation of mothers and children has a very important role in predicting problem behavior in adolescents.

Triyanto (2014) The research objective was to identify the influence of family support for adaptive behavior of adolescent puberty. Quasi-experimental design approach without pre-posttest control group design was applied. Respondents was selected by purposive sampling in Baturaden. Adaptive behavior that increased from 60% to 97% after optimization family support. Difficulties of parents in providing family support when directed to learn, to establish open communication, and teenagers emotional. There is the influence of family support optimization significantly to the increase of adaptive behavior adolescents with p value of 0.001.

3. Overview Peer attachment

The results of this study indicate more

than half (51.5%) of respondents have peer attachments that have a moderate category. This means that peers have an important role in the lives of adolescents. Attachment changes occur when teens learn and develop relationships with individuals other than family. Peer attachment is a bond that occurs between adolescents and peers who relate to thoughts, feelings and emotions (Baroccas, 2009).

Wilkinson's (2004) study found adolescence's attachment to peers was interwoven because of the personal experiences of adolescents from interactions with their parents. Safe attachment with parents is the initial source that determines how teens will evaluate themselves and interact with others. It is believed that the quality of adolescent relationships with parents has a good impact on the self-concept of adolescents in establishing harmonious relationships with their peers.

4. Overview Internet Addiction Levels

Based on data on internet dependence (72.2%) respondents experienced moderate dependence and (27.8%) respondents experienced mild dependence. In the era of globalization, technological advances have a major influence on society, especially adolescents. Teenagers can easily access the internet wherever and whenever. This is supported by increasingly sophisticated facilities such as smartphones with several advanced features in them and supported by more and more spots found that provide free wifi.

Greenfield, (1999) in Young and Abreu (2011) explains that the internet is so attractive, because it contains colors, movements, sounds, interactivity and infinite information that causes a person to feel comfortable and unaware of a problem. In adolescents the internet is more used for entertainment facilities than task search so that it can increase internet dependence (Floros & Siomos, 2013). Hardanti (2013) factors underlying the behavior of playing online games at school age The results showed that 56% and 60% addiction behavior influenced by motivational factor and attraction factors. Based on this finding, it is recommended to treated and prevent games addiction behavior

in children based on collaboration between family, school and health provide.

The dependence of the internet on adolescents aged 15–18 years in SMA Kecamatan Baleendah Bandung Regency is also influenced by several aspects, one of which is the availability or coverage of the internet either through smartphones or wi-fi installed in the school environment. The availability of the internet is not only in urban areas, inversely proportional to the research conducted by Mohsin, Mishra & Sahu (2016) who found that urban teenagers use the internet more because of affordability of access and they have more knowledge about technological developments especially the internet. Urban teenagers are more consumptive in terms of internet usage compared to teenagers in rural areas.

The results showed that the majority of high school adolescent respondents in Baleendah District, Bandung Regency (42.3%) used the internet for communication media. If seen by the duration of internet usage more than half (64.9%) of respondents use the internet more than the same as 6 hours per day. In line with the research of Block (2008) and Wu, Lee, Liao, and Chang (2015), Beard (2005) states that some diagnostic criteria needed to enforce someone experiencing internet addiction include being busy with internet activities, increasing the amount of time needed to access the internet, fails to control internet usage, is nervous, depressed, depressed or irritable when trying to reduce or stop using the internet. In addition to the criteria above Tao et al. (2010) stated that a person is said to experience internet addiction if using the internet for 6 hours or more per day and this has been going on for at least 3 months. Another opinion states that someone is said to experience internet addiction if using an average of 38 hours or more per week (Young in Koc, 2011).

5. Relationship between Academic Stress and Internet Addiction

Based on table 5, the statistical test with chi-square showed that there was a significant relationship between academic stress and internet addiction with a P value = 0.019 <(0.05). In line with Putri's research (2017) the results of the Rank Spearman test with a

value of $p = 0.000$ (<0.05) showed that there was a positive relationship between academic stress and internet addiction and the value of $r = 0.525$ showed a moderate strength of meaningful relationships, the higher academic stress the higher the teenager is at risk of experiencing internet addiction.

Similarly, the Jun & Choi Research (2015) examined the relationship of academic stress mediated by negative emotions and its relationship to internet addiction. The results of this study indicate that adolescents who experience academic stress may be at risk of internet addiction especially when accompanied by negative emotions. Academic stress can be felt with various school assignments, the number of quizzes, and exams, which is in line with Lal (2014) study that found academic stress can arise due to adolescents having to face many academic demands, such as school exams, answering questions in class, showing progress on subjects, understanding what taught by teachers, competing with classmates, and fulfilling the expectations of teachers and parents of students.

Prolonged academic stress can also result in losing interest, decreasing concentration and avoiding problems that can cause students to look for other activities to reduce academic stress such as accessing the internet (Jun & Choi, 2015). According to Wang, Zhou, and Lu (2011), the risk factors for adolescents experiencing internet addiction are related to stress, resulting in bad relationships with teachers and friends and experiencing conflict within the family.

Academic stress that occurs in high school adolescents aged 15–18 years in Baleendah Subdistrict due to pressure while studying with a value of 388 is highest among other statements. This shows various factors, one of which is because the learning process and method are in accordance with Schafer (Rafidah et al., 2009) who found several things that can cause students to feel stressed are stressors that originate from academic problems such as stress in learning, very short time, boring papers, examinations, and teachers.

6. Relationship Between Parent Attachment with Internet Addiction

The results showed that there was no relationship between family attachments and internet addiction with a value of $P = 1.000 > (0.05)$. This finding is different from the results of a previous study conducted by Putri (2017) in SMA in Andir Sub-District, Bandung, where there was a relationship between family attachments and internet addiction with a value of $p = 0.000 (< 0.05)$. The difference in the results of this study with Putri's research (2017) is likely caused by several factors, including:

1) differences in the place of study, Putri (2017) conducted a study in Bandung City, a researcher in Baleendah District, Bandung Regency. The condition in urban areas as we know is found by many parents who are busy with their work, so that supervision on their internet use for their children is neglected. In line with research conducted by Weistein & Lejoyeux (2010) which found a lack of supervision from parents is a factor that can cause teenagers to experience internet addiction.

2) at Baleendah concern for parents of their children in the high category. Parents always devote love and attention to children will make them obey the rules and responsible for their duties. Nevertheless the level of internet dependence on adolescents aged 15–18 years in SMA Baleendah District is in the moderate category.

This can occur because of a lack of parental knowledge about how to use the internet and how to effect internet usage. So that children are left to use the internet at will. The results of research conducted by Chalim (2018) the role of parents in the digital era are required to be able to supervise and control their children in using the internet. Controlling internet usage does not have to be done tightly, it can be done in a persuasive way that is respecting children's privacy.

Parents in the digital age are expected to be able to understand the use of the internet and the applications contained in it.

3) other factors that make it possible to cause a moderate level of internet dependence is the availability of wifi in schools that can be accessed and students are allowed to bring smartphones. The ease of using the internet can be facilitated by the presence of wi-fi installed in schools. Certain areas will be

met by students such as: parks, canteens and libraries that have Wi-Fi installed.

When interviewing some respondents from 8 high schools in Baleendah Subdistrict, only one high school had rules for students to be prohibited from using the internet and smartphones while in the school environment. Seven other high schools do not have such rules and Wi-Fi has been installed which can be accessed freely by their students.

7. Relationship Peer Attachment with Internet Addiction

The results showed that there was no relationship between peer attachment and internet addiction with a P value of $0.657 > (0.05)$ indicating that there was no significant relationship between peer attachments. This finding is different from the Putri (2017) study which found a link between peer attachment and internet addiction. The results of this study are also different from the results of other studies conducted by Muna (2016), there is a significant influence between peer interactions with the intensity of internet use in class XI Yogyakarta 2 nd Vocational High School. Lin, Ko, and Wu (2011) and Morstünbül (2014) suggest teenagers who do not have safe attachments or more alienation with peers such as disdain, are positively related to their internet addiction.

This difference is likely caused by the purpose of internet use in adolescents in this study, namely communication and social networking. The results of previous studies conducted by Putri (2017) found the purpose of teenage internet use in SMA Andir District, Bandung City for online games and information seeking. In line with the results of the study of Pawlowska, Zygo, Potembska, Kapka-skrzypczak, & Dreher, (2015) which compares the level of adolescent dependence on the internet in urban and rural areas. The results of their study found that there were significant differences between internet use of urban and rural teens. Rural teenagers generally only use the internet for information seeking purposes such as school assignments while social interaction is still very good with peers in real life. Whereas urban teenagers are more comfortable in using the internet not only to seek information but for various purposes including entertainment such as

online games, pornography and social media activities.

The strength of this study compared to previous research, is that researchers in data collection use affordable populations by screening which has a minimum criteria for mild dependency. With the number of samples 97 obtained by random sampling

8. Limitation of Research

This research has been carried out by the scientific method. But in its implementation there are still limitations to research such as: there are still respondents who ask when filling out the questionnaire. This happened because respondents did not focus when explaining or not understanding the questions in the questionnaire.

Conclusion

The results of this study prove that between academic stress, family attachment and peers with internet addiction, and from these three factors only academic stress has a significant relationship with internet addiction in high school students aged 15–18 years in Baleendah District, Bandung Regency.

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