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The correlation of Internet addiction towards adolescents' social interaction

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Abstract

Objectives: Internet addiction is a pathological condition that drives a person to use technology excessively. Internet addiction can cause problems among adolescents to lose interest in everyday life and triggers social interaction problems. Aim: explaining the correlation between Internet addiction and adolescents' social interaction.

Methods: This study was a correlational design with a cross-sectional approach. The sampling technique used was purposive sampling. Respondents in this study were high school adolescents aged 15–18 years ($n=215$). The independent variable used in this study was Internet addiction and dependent variable was adolescents' social interaction (social interaction between adolescents and parents, peer, school environment and community). The level of Internet addiction was measured by the Internet Addiction Test (IAT) by Kimberly S. Young and Griffiths. The data obtained were analyzed using the Spearman rho.

Results: There was a significant that relationship between adolescent Internet addiction and interaction with parents ($r=-0.568$; $p=0.000$), peers ($r=-0.587$; $p=0.000$), and school environment ($r=-0.213$; $p=0.002$) but there was no relation between Internet addiction towards social interaction of adolescents with the community ($r=-0.090$; $p=0.191$).

Conclusions: This study showed that Internet addiction could affect adolescent social interactions with parents, peers and their interactions in the school environment.

Keywords: adolescents; internet addiction; online; social interaction.

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Introduction

Internet addiction is a pathological condition, obsessive/compulsive disorder, which encourages a person to use technology excessively. Compulsive Internet use has emerged as a contemporary addictive behavior. Considering its effects, it is difficult to diminish this habit because it is associated with pleasure where it can adversely affect people's daily lives [1, 2].

The Indonesian Internet Service Providers Association (APJII) recorded the number of Internet usage in Indonesia with respondents over the age of 13 had reached 143.26 million people out of the 262 million population of Indonesian people (54.68%), at the end of 2017. The number of adolescents is quite dominating, the results of a survey by Internet World Stats (2017) also mentioned the most were in the age of 15–22 years with a range from 42.4 to 84.7% [3]. This result was slightly different from the projected growth of Internet users in 2016 which is 132.7 million people [4].

The phenomenon that occurs today shows that adolescents who have addicted to the Internet show the prevalence of ignoring the quality of social interaction. The initial survey of researchers in some adolescents showed that they were often reprimanded by parents for using Internet overtime. Meanwhile, when they are at home they prefer to stay in their bedroom playing the Internet rather than interacting with their parents [5].

This tendency is somehow depriving their quality time with family. Internet addiction can also cause several changes in adolescent interactions with their peers. This can be seen during break time at school when some male students choose to remain in class to play online games. When gathering together, they tend to be busy with their respective gadgets. Gathering time is supposed to be used for engaging and interacting with their colleagues, but nowadays adolescents prefer to focus on their gadgets. Adolescents who are preoccupied with the Internet tend to be slow in responding and often ignoring whom they talk to. Adolescents who are addicted to the Internet admit that their academic performance has decreased due to excessive use of the Internet. This can lead to conflict with parents [6, 7].

Based on the above phenomenon, research regarding Internet addiction towards social interaction in adolescents

with parents, peers, school environments, and the community environment needs to be done. The results of this study are expected to provide understanding for educational institutions, parents, and nurses as a basis for thinking to direct the positive use of the Internet among adolescents.

Materials and methods

The research design used was descriptive correlational. Study conducted at Nganjuk Senior High School, East Java, Indonesia. The respondents of this study were adolescents aged 15–18 years. The dependent variable used in this study was Internet addiction. The dependent variable was adolescents' social interaction (social interaction between adolescents and parents, peer, school environment and community). This study is in accordance with ethical clearance by the Ethics Committee, Faculty of Nursing, Universitas Airlangga, Surabaya, Indonesia with ethical approval no 996-KEPK.

The sampling chosen with purposive sampling technique, as subjective and selective respondents. The researchers recruited the respondents by screening the prospective respondents according to inclusion criteria such as, adolescents of 15–18 years old, living with parents and having Internet access. According to inclusion criteria, the number of respondents was 215 adolescents who filled out informed consent.

The data collection was done using a *Likert* scale questionnaire consisting of 20 questions. The indicator of Internet addiction is the development of the Internet addiction complex of Kimberly S. Young and Griffiths which consists of salience, mood modification, tolerance, withdrawal, conflict, and relapse. The questionnaire was modified by adjusting the language that was easily understood by respondents. This questionnaire was also tested for validity and reliability, and the reliability point 0.759 was obtained. Questionnaires uses an ordinal scale, the score is given in the form of numbers from 0 to 100, the higher the Internet addiction score the more severe.

The social interaction questionnaire consisted of 65 questions. These questions are developed by the author. The questionnaire was tested for validity and reliability, and the reliability point 0.747 was obtained. Questionnaire explains about four interactions, interactions with parents, interactions with peers, interactions with the school environment, and interactions with the society. Score is obtained good and dan not good, with used ordinal scale.

The screening process had been done a day before the data collection. The collected data were analyzed to find out the correlation of Internet addiction towards social interaction among adolescents. Regarding the results of the normality test indicating an abnormality of the distribution data, therefore the statistical test used was the Spearman rho correlational test with a significance level $\alpha < 0.05$ [8].

Result

Table 1 showed that the highest percentage of gender variables was 135 respondents (63%). Respondents were averagely 16–17 years old, the rest were 15 and 18 years old.

There were 94% of the respondents experienced Internet addiction where the highest frequency was mild addiction. The percentage of mild Internet addiction was 66%, 27% for the moderate Internet addiction and the rest who are heavily addicted to Internet addiction were 1% of the total respondents (Table 2).

Spearman rho analysis results obtained coefficient (r) correlation between Internet addiction with adolescents and interaction with parent of -0.568 and $p=0.000$ means that there was a very significant negative correlation between Internet addiction towards adolescents and parent interaction. Negative correlation is the poor impact obtained Internet addiction on interaction with parents.

The coefficient correlation (r) obtained on the variable of social interaction of adolescents with peers was -0.587 with a value of $p=0.000$, which means there was a very significant negative correlation between Internet addiction towards adolescent interactions with peers (Table 3).

Spearman rho analysis towards the adolescents' interaction variable with the school environment obtained the value of the coefficient correlation (r) of -0.213 with $p=0.002$. This means there was a correlation between a very significant negative correlation between Internet addiction and teen interactions with the school environment.

The correlation coefficient (r) obtained in the variable of social interaction of adolescents with the community environment was -0.090 with a value of $p=0.191$ which means there was no relationship between Internet addiction with adolescent social interaction with the community environment.

Discussion

Respondents in this study mostly experienced mild Internet addiction by the percentage of 66%. The common impacts of mild Internet addiction felt by respondents were mood modification and relapse. Mood modification is an attitude of diverting the problem that is being faced by

Table 1: The distribution of respondent demographic data.

Variable	Category	n	%
Gender	Male	80	37%
	Female	135	63%
Age	15 years	22	10%
	16 years	105	49%
	17 years	77	36%
	18 years	11	5%

Table 2: Relationship of Internet addiction to youth social interaction (n=215).

Variable	Internet addiction				p-Value
	Normal	Mild	Medium	Heavy	
<i>Interaction with parents</i>					
Good	9	93	14	2	0.000
Not good	3	49	44	1	
<i>Interaction with peers</i>					
Good	9	86	12	0	0.000
Not good	3	56	46	3	
<i>Interaction with the school environment</i>					
Good	9	78	23	1	0.002
Not good	3	64	35	2	
<i>Interaction with society</i>					
Good	9	84	30	3	0.191
Not good	3	58	28	0	

playing the Internet. Adolescents will feel satisfied when they can play the Internet. Adolescents who experience relapse will find it difficult to reduce the intensity of playing the Internet. They have tried to reduce the use of the Internet but often fail due to fulfilling the effects of mood modification [10].

Adolescents with moderate levels of Internet addiction were mostly experiencing relapse, mood modification, and withdrawal. Relapse occurs when individuals try to reduce the use of time playing the Internet but always fail. Meanwhile, mood modification is a feeling of immediately being satisfied and happy accessing the Internet. And the withdrawal effect will impulse someone to think that life without the Internet will feel empty and boring. They say that the Internet is something that cannot be separated from the present life [11, 12].

Signs of individuals experiencing withdrawals can be seen when they got easily annoyed if other people interfere with them when they are playing the Internet and will feel restless and stressed when they cannot access the Internet. Adolescents who are heavily addicted to the Internet experience all aspects of Internet addiction, namely mood modification, relapse, withdrawal, salience, tolerance, and

conflict. Adolescents who experience salience always imagine new things that are happening on the Internet even though they are doing other activities. They also think about when they will access the Internet again while doing other activities. Adolescents who experience tolerance will feel that their Internet usage is significantly increased. This phenomenon occurs for engaging the mood modification that they felt before. Tolerance causes adolescents to feel that they are accessing the Internet longer than planned, thus it often triggers sleep deprivation at night [13–16].

Adolescents who experience heavy Internet addiction that causes relapse to prefer playing the Internet rather than hanging out with their friends or family. Besides, they will also experience uncomfortable feelings when Internet usage is suddenly decreased is stopped [13]. The conflict that occurs due to Internet addiction felt by adolescents is a conflict with people around them such as parents or friends and conflict with themselves. Adolescents who are heavily addicted to the Internet say that they are often reminded by people around them so they don't play the Internet too often. Conflicts that often occur between adolescents and parents are caused by decreased grades of tasks or tests due to excessive use of the Internet. This causes teens to keep it a secret how much time they use to play the Internet to avoid being reprimanded by their parents. Conflicts with themselves that are often felt are the feelings of wonder with themselves because of the amount of time spent playing the Internet [17].

This research showed that the average adolescents were addicted to social media. Respondents who experience social media addiction are dominated by adolescent girls while boys were more addicted to online games. Adolescent girls experience more social media addiction because women are more expressive and like to reveal personal information about themselves.

Adolescents who are addicted to mild Internet feel more conflict with parents. They feel afraid of being punished when they make a mistake, afraid of being scolded when their learning achievements was declined and tend to be less able to control emotions when parents scold them [6]. Adolescents who are addicted to the Internet at a moderate and severe level feel the gap and lack of communication with their parents. Conflicts between adolescents and parents also often occur due to excessive use of the Internet. Meanwhile, within the moderate and heavy levels, they prefer to play the Internet rather than spending time with family [6]. Moreover, adolescents also rarely tell their parents about their daily activities. This is in line with research conducted by Shrivastava et al. stated that someone who is addicted to the Internet will experience decreased interaction towards his family [18]. Other

Table 3: Degree of relationship strength (coefficient correlation) [9].

Coefficient correlation	Interpretation
0.0 to <0.2	Very weak
0.2 to <0.4	Weak
0.4 to <0.6	Moderate
0.6 to <0.8	Strong
0.8 to 1.0	Very strong

research conducted by Xu et al. said that the quality of communication between parents and adolescents is very closely related to the occurrence of Internet addiction where the mother factor is more related to Internet addiction than the factor coming from father [19].

Other research states that the higher the Internet usage among adolescents, the lower the frequency of face-to-face interactions with parents. The closeness between parents and children will be reduced along with the rising of the excessive use of the Internet so that quality time with family can unconsciously be ignored.

The ease adolescents in accessing the Internet and the looseness of parents in supervising their activities are the causes of the distance between parents and adolescents. As a result, adolescents feel more comfortable talking or communicating with their online friends than with parents, where communication between children and parents should be built to establish harmonious family relationships. The high intensity in communication between parents and adolescents capable of them closer to their parents [20, 21].

Liu and Kuo (2007) in their study stated that family characteristics are related to Internet addiction in adolescents [22]. Adolescents who have a quality relationship with parents experience less Internet addiction. Parents are very instrumental in preventing teens from using the Internet collectively. Communication between adolescents and parents is an effective way of controlling excessive Internet use among adolescents [23].

Internet addiction could also affect adolescents' relationships with peers. Adolescents who were addicted to the Internet at a mild level have, on average, less openness with their friends. They are seldom honest with friends about feelings they experienced, rarely gather and share information, will feel inferior when unable to adjust the rules that exist in the group and feel rarely accepted by the group when their desires and ideas are not accepted by other group members. Meanwhile, adolescents who experience Internet addiction at moderate and severe levels showed less openness and also experienced a decreasing intensity or frequency of relationships and are less able to work well together. These results were following the research conducted by Fauziah found that adolescents who cannot control themselves in playing the Internet will harm their development, namely difficulty in concentrating and difficult to socialize. Internet addiction causes adolescents to ignore their environment so that their relationships with friends become tenuous because their relationships are limited to cyberspace. This causes adolescents to be isolated from their friends so that their social skills are reduced [24].

Internet addiction could have an impact on the social life of adolescents in the school environment. Adolescents who are addicted to the Internet tend to be shy to ask questions and being reluctant for doing discussions while in class. They often feel afraid to ask the teacher about the lessons being taught, so that it can cause a decrease in concentration while studying in the classroom resulting in decreased academic achievement [24].

Adolescents who are addicted to the Internet in the mild, moderate and severe levels are on average experienced the decreasing in the frequency of communication with the school environment, both with fellow students, teachers and employees at school. They often feel insecure when speaking in front of the class, are less active in attending class discussions, tend to be afraid to ask the teacher, were less active in extracurricular activities and were more likely to work on assignments individually rather than in groups. The cooperative attitude of adolescents who are addicted to the Internet is pointing towards an unfavorable direction. On average they are indifferent to activities held at school such as attending community service. Adolescents who are addicted to the Internet tend to be less able to compete well with their friends. They feel jealous when their friends get an achievement and rarely want to congratulate them. These results confirm research conducted by Sinkkonen et al. which stated that Internet addiction can affect the lives of adolescents in terms of their physical, mental and social life. Adolescents who were addicted to the Internet have less interest in school life [25].

Conclusions

There is a significant relationship between Internet addiction with the interaction of adolescents with parents, peers, and the school environment but there is no significant relationship between Internet addictions towards the social interaction of adolescents in the community. The research novelty that adolescent activities such as play Internet need to get the attention of parents, because affects to social interactions.

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Informed consent: All participants gave their willingness to join this research.

Ethical approval: This research had passed the ethics test by the Ethics Committee of the Faculty of Nursing, Universitas Airlangga with Ethics certificate number No: 996-KEPK. This research was conducted by upholding the ethical values and rights possessed by everyone involved in this research.

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