

Smartphone Addiction and Loneliness in Adolescent

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Abstract. Adolescent nowadays spent most of their time online in the internet or used their smartphone. In consequence, they spent less of their time interact with their friends. It can cause a decreasing number of friends and made them experienced loneliness. Loneliness is a subjective unpleasant experience caused by the degradation of quality and quantity in social relation. Therefore this study aimed to see a correlation between smartphone addiction and loneliness in adolescent. Participants of this study are 356 freshman years students of University of Muhammadiyah Malang, aged 18-22. Data gathered using Smartphone Addiction Scale (SAS) and R-UCLA Loneliness Scale. Result showed, there is a positive correlation between smartphone addiction and loneliness in adolescent ($r=0.227$; $p=0.000$).

Keywords: Smartphone addiction, loneliness

Introduction

Loneliness is subjective unpleasant experienced caused by degradation in quality and quantity of their social relation (Peplau & Perlman, 1998). Gierenveld and Tillburg defined loneliness as a loss of chance to create a social relation or even an intimate relation (Kristina, 2007). Furthermore, Cherry explained that when someone experienced a loneliness felt unwanted by another, experienced the emptiness, and feeling alone even surrounded by people or being in a crowd (Hidayati, 2015).

Loneliness experienced at any age range, based on research it mostly experienced by adolescent. Parlee's stated that 40.000 people experienced loneliness and 79% of them are adolescence (Sears, Fredman & Peplau, 2009). In 2010, Mental Health Foundation's survey in England showed that 24% of 2256 participants in their study aged 18-34 experienced a higher loneliness than participants aged 55 (Mental Health Foundation, 2010).

Many factors can cause loneliness, such as less of social relation. Less social relation can happen because people value another activity as a more important activity, such as browsed in the internet or spent time using gadget. Hu's research (2007) found that there's the impact of communication through the internet and social communication to loneliness. On the other side, direct communication could decrease the loneliness.

A different result showed in Kim's research (2009), internet over-used and online communication mostly done by the person who experienced loneliness, whom avoided the actual social relation because of the lack of ability to build a social relation. In conclusion, a person who experienced loneliness caused by the lack of ability in social relation and displaced the expression in to the internet.

Less interaction, no initiative to start conversations, and feeling more comfortable behind the smart phone, closer friends in social media, less empathic are caused by the lack of ability in social relation or lack of

interpersonal ability. Decreased ability can cause by smart phone overused, Mok, et.al. (2014) research found that people who experienced smart phone could decrease interpersonal ability.

Human face to face interaction is decreasing, it caused by the smart phone invention, society spent most of their time searching and interact in social media through their smart phone (Afriyansgo, 2009; Nurmandia, et.al. 2013). Research in Korea showed that smart phone user found it hard to concentrate in decision making, experienced empty mind, and spent most of the time thought about their smart phone when it's not in their hands, they also felt closer with friends in smart phone than the real one. Most of the society feel more comfortable and more confidence being behind the smart phone than interact face to face with others (Jones, 2014; Kwon, et.al. 2013).

Research which involved 18 countries also found that 70 percent of the participant said that smart phone is more important in their daily life. Sixty percent feel obliged to check on their phone to update and feel anxious when they're not check the phone. Even 90 percent of the participant check their phone first before brushed their teeth, clothed and had a breakfast (Cisco, 2012).

Based on the research finding about the smart phone user's behavior, it is equal with pathological gambling and categorized in behavioral disorders. Smart phone user's behavior such as anxious, fear in run out of battery, checked the phone anytime, these over used behavior known as Nomo Phobia (no-mobile-phobia) and now it's mostly known smart phone addiction (Kalaskar, 2015; Kwon, et.al., 2013).

There are no age boundaries in smart phone, however the user in age range 18-29 are the most who experienced smart phone addiction in the population (Noviadhista, 2015). The Youth Columns, *JawaPos Radar Malang* newspaper (2015) ran a survey about Nomo Phobia. The participants are adolescent in Malang. Survey found that 67 percent of participant checked their phone every 5

minutes and only 5 percent of them checked their phone every one hour or above. Other research found that 60 percent of college student experienced smart phone addiction, they felt anxious and uncomfortable when they're not holding their phone (Biantoro, 2014). Those circumstances affect the frequency of interaction in social relation, and it could affect the time they practiced they're interpersonal ability.

Researches, facts, and situations led to the assumption that over used smart phone can cause the smartphone addiction. It could affect the user's behavior in lack of interpersonal competence in real life such as: initiative to interact, assertive, openness, emotional competence, and ability to solved conflict caused by the increasing in smartphone addiction. Smart phone invention used to make a communication easier, but recent research found the opposite, smart phone make people addicted, less direct interaction and it's all opposite of the main goal to make the communication easier. This condition could triggered decreasing numbers of friend and can experience loneliness because of decreasing quality and quantity in social relation.

Based on those explanations above, the purpose of this study is to measure the correlation between smart phone addiction and loneliness in adolescent. The result of this study expected to give information to adolescent as a smart phone user, and people around such as; peers, lecture, and parents about newest phenomena about smart phone addiction, with the information could decrease the effect of smart phone addiction caused by the smart phone over used. For psychological science development, the result of this study expected to help scholar in study and professional used as new information and references for the same research.

Loneliness

Loneliness was described by Gierveld and Tillburg as a formed in losing opportunity for making relationship with other people socially or in more intimate level (Kristiani, 2007). Lake (1986) stated that a loner was someone who needed other people to communicate and formed specialrelationship, which was intimate and affectionate relationship such in friendship. A similar statement was stated by Burger (Baron and Byrne, 2003) that loneliness happened whensomeone expected for close social relationship while they could not develop it. Those statements led to understanding that loneliness was an inconvenience feeling when someone did not have intimate or close relationship andan inconvenience feeling when they were realizing for not having the ability to develop any kind of intimate or close relationship.

Peplau and Perlman (1998) stated there were 3 substantial approaches for defining loneliness, i.e.:

a. *Need of intimacy*

This approach emphasized about the need of having close relationship with other people. In this approach, Weiss (Peplau and Perlman, 1998) stated that loneliness did not cause by being alone, but it caused by the absence of the real need for being

related or having a relationship. Loneliness always came as a response for the absence of a certain relationship type, or precisely, a response for the absence of some permanent relationships.

b. *Cognitive process*

This approach emphasized in an individual perception and evaluation about their social relationship. Loneliness in this approach was a condition when there was a discrepancy or incompatibility between social relationship desired by someone and what they were actually achieving.

c. *Social reinforcement*

This approach stated that loneliness caused by lack of reinforcement from social environment so that someone would feel lonely if they had less pleasure social interaction and it did not generate reinforcement. Gordon (in Peplau and Perlman, 1998) explained further that loneliness was feeling a loss that was coming when losing certain expected relationship with other people.

Sears, *et al.* (1994) proposed that loneliness referred to subjective discomfort when their social relationship lost its substantial characteristics. Those substantial characteristic could be quantitative or qualitative features. It was named quantitative because it was determined by number of friends around, for example someone did not have friend or only few friends, and the number of friend was less expected. While qualitative was determined by quality or individual satisfaction level about their relationship with other people, i.e. when someone felt that they had not deeply related with other people or less satisfied if it was compared to their expectation.

Smartphone Addiction

Smartphone addiction was compounded by two syllables, "addiction" and "smartphone". Addiction was defined as a functional abnormality in body limb caused by food or drug poisoned, or also caused by pathological condition and continuously consuming alcohol and drugs, and condition when was not able to assess or differentiate things rationally. Addiction had been used only in drug and substance abused, however the term of "addiction" now was used in gambling, internet, game, mobile phone used, or in any other behaviors cases. Smartphone was modern mobile phone that had highly compatibility level resembling function of computer. Smartphone usually had some modern features, e.g. email, media player, could be used as camera, navigation unit known as GPS, and it could be used for browsing using mobile data or Wi-Fi (Kwon et.al., 2013).

Bragazzi and Puente (2014) stated that smartphone addiction was uneasy feeling, anxiety, agitated, and miserable feeling caused by loss of connection with smartphone. While Park et.al. (2014) stated that smartphone addiction was like being poisoned, i.e. loss of power control, lack of tolerance, self-withdrawal indication, more obsessive, smartphone dependency, and having interpersonal problem.

The symptoms of addiction showed similar symptoms as in internet addiction, therefore smartphone addiction was developed from internet addiction. Young (1998) explained its aspects i.e., (1) always thinking to go online, (2) the urge of using internet for long time to get satisfaction, (3) less self-control to control, lessen, or quit in using internet, (4) always had gloomy and agitated feeling, (5) going online more than expected time, (6) daring to take risks losing relationship for going online, (7) willing to lie as escaping way from problem and mood disorder (e.g. helplessness, guilty feeling, and depression).

From result as stated by Young about aspects when someone had an addiction, then it was developed further by Kwon (2013) so that its aspects could be used as smartphone addiction aspects. Those smartphone addiction aspects were summarized through self-report in questionnaire that were consisted six aspects, i.e. : (1) disruption in daily life, (2) positive anticipation, as feeling good and happy from holding and using smartphone, (3) withdrawal, i.e. tendency self-withdrawal from social life, (4) orientation in cyberspace communication, (5) excessive smartphone used, and (6) lack of tolerance.

Based on description above, it could be concluded that smartphone addiction was state where someone feeling uneasy, anxiety, agitated, and lack of control in self when they were not holding smartphone. It were characterized by disruption in daily life, good feeling in holding and using smartphone, self-withdrawal from crowd, more likely to develop interpersonal relationship through cyberspace, excessive smartphone used, and lack of tolerance to environment.

The research hypothesis found that there were positive correlation between smartphone addiction and loneliness in adolescent. The more highly addiction to smartphone, the level of loneliness was also high.

Method

This research was conducted using quantitative correlational, to the correlation between smartphone addiction and loneliness. The research subjects were 356 adolescents who were University of Muhammadiyah Malang freshmen student or first year students with some characteristic, i. e.: men and women students, using smartphone for daily communication, with age ranged 18-22 years old, and students from every faculties and departments within University of Muhammadiyah Malang. The research sampling method was using *incidental sampling*, that was the sampling based on incidental whoever could be subject in this research if they were met the criteria of research subject characteristic (Sugiyono, 2014).

There were two variables studied in this research, those were smartphone addiction as independent variable and loneliness as dependent variable. Smartphone addiction was a great urge to constantly in repeating the activity for using smartphone, as feeling happy and good using smartphone so that disrupting any other activities. Data collecting method for smartphone addiction was revealed using Smartphone Addiction Scale (SAS) which

was compiled by Kwon (2013). The instrument used Likert scale consisting 27 items. Based on validity test of measuring instrument, the instrument had validity index for 0,306-0,625 with reliability coefficient was 0,874 (Putra, 2016).

Loneliness was an individual emotional and cognitive reaction about bad condition by the decreasing in quality and quantity of social relation. The research instrument for loneliness was using Loneliness scale compiled by Russel (1996), i.e. the 3rd version of Revised University of California, Los Angeles Loneliness Scale (R-UCLA Loneliness Scale). The scale used Likert scale with total items of 20 items which consisted 11 negative items (loneliness) and 9 positive items (not loneliness). The instrument validity index was 0,320-0,658 with reliability coefficient 0,883 (Nurlayli&Hidayati, 2014).

The procedure of this research began from the preparation phase by organizing research proposal. The next phase was collecting data to research subjects who were adolescents aged 18-22 years old, which was a freshman in University of Muhammadiyah Malang, using smartphone addiction scale and loneliness scale that already confirmed its validity and reliability previously. The last phase was both performing data entry and data analyzing using SPSS 20 for windows program, by conducting Pearson Product Moment correlation test to find out linear association between two continuous variables.

Result

Based on Pearson Product Moment analysis, significance between smartphone addiction and loneliness is 0.000. It means that both of those variables have a significant correlation with $p < 0.05$. Correlation coefficient shows the positive relations ($r = 0.151$), it means that the higher smartphone addiction, the higher loneliness that they felt, and vice versa. The contribution of smartphone addiction to loneliness is 5%.

Discussion

Result shows that there is a positive relation between smartphone addiction with loneliness in adolescent. The higher score in smartphone addiction, the higher their loneliness in adolescent and vice versa. The lower score in smartphone addiction, the lower their loneliness. Result explain that what caused the loneliness is decreasing quantity and quality in social interaction. This degradation happened because adolescent now have less direct social interaction, however they interact through smartphone. Loneliness felt by adolescent didn't come suddenly, but it happened because they prefer to allocate their time mostly to use smartphone rather than direct social interaction with another adolescent. People whom experience smartphone addiction will feel anxious, uncomfortable, and less self-control when they used smartphone. This could make someone ignore their environment, less empathy and less opened to other people, and it caused decreasing in interpersonal ability.

This condition caused the small number of friends and caused loneliness.

People who experienced smartphone addiction if showed a few criteria such as: happy when use smartphone, have a tendency withdraw from a social life, have an orientation to cyberspace, overused of smartphone, less tolerate to environment and disturbed daily activity (Kwon, 2013). Those explained that someone feel lonely because they intend to avoid social life. In this research, it showed that smartphone addiction contributed 5% as a caused of adolescent's loneliness.

This research supported by Bhardwaj & Ashok (2015), in their research it explained that there is a positive correlation between mobile phone addiction and loneliness experienced by students in Mumbai. However, that research held in Mumbai with 100 participants who live in Mumbai with the age range between 13-17 years old. Otherwise, in this research there is a bigger number of participants, there are 356 students involved in this research. The participants are the new students in University of Muhammadiyah Malang, with the age range 18-22 years old from a various major and faculty. it means, this research showed that positive correlation between smartphone addiction and loneliness in adolescent could apply to all students with the same background, culture and all adolescent in a late adolescent to early adult.

Jin and Park in their research explained that direct interaction could decreased someone's loneliness (Bhardwaj & Ashok, 2015). Someone that have a direct interaction, have a chance to communicate with other person could make them feel less lonely and the existence is validated. Those could fulfill their need to interact and have a relation with others, so they will not find happiness through their smartphone.

Darcin, Kose, et.al., (2016) in their research showed that adolescent who used their phone for a social media are more susceptible to smartphone addiction than adolescent who used their phone for calling and internet browsing. Smartphone addiction experienced by adolescents also related with social anxiety and loneliness. Overused smartphone, accessing social media replaced the activity that adolescent should do such as direct interaction or telling stories with somebody else's (Darcin, Kose, et.al., 2016)

Other research by Toda & Ezoie (2013) explained that loneliness and mobile phone addiction have a positive correlation with internet used in medical students in Japan. However, the biggest contribution to internet addiction is a loneliness in adolescent. Adolescent who experienced loneliness have tendency to do an activity by themselves, using the internet and avoiding the environment, they will eventually experience the addiction. The research almost the same as the research that had been held, adolescents with smartphone addiction could cause loneliness, because they were isolated from real world and didn't have a direct interaction with others.

Bian & Leung (2015) argue that the function of smartphone could make people addicted, because in

smartphone there are application to read like e-book, email, messaging through SMS, social media, online game, and other features. These activities using smartphone could make people spent their time mostly on smartphone until they got addicted. People who experienced addiction not only harm themselves, but also could harm other people, for example it could disturb other's comfort in public places.

Based on research conducted in 414 students in Tiongkok, it explained that psychological effect from smartphone addiction is loneliness (Bian & Leung, 2015). It has a same result as this research, which showed that there is a positive correlation between smartphone addiction and loneliness in adolescent. Someone with loneliness show less involvement in social activity, less open, spent less time with others, and spent time mostly alone.

Basically, smartphone used is really helpful because smartphone could make it easier in fulfill the need. Smartphone not only used for a social media, but also to search information through internet, as a media for some people that has difficulties in direct communication with others, and also to entertain ourselves using a game application in smartphone. So that, smartphone should be used like how it supposed to, not overused, so there is no addiction in adolescent. Hong, et.al., (Al-Barashadi, Bouazza & Jabur, 2014) stated in their research, students could increase their communication and social relation with other through smartphone use. It means, not excessive used of smartphone could give a good impact in adolescent.

Conclusion

Based on this research, it can conclude that the hypothesis is accepted. There is a positive correlation between smartphone addiction and loneliness in adolescent. It based on statistical analysis with significance (p) 0.000 and R value= 0.151. Smartphone addiction contribute 5% to a caused of loneliness, so, there are 95% other things that has a contribution in loneliness.

Implication in this study, specifically for participants of this study is that they have to try to decrease the tendency to smartphone addiction because it could cause loneliness. They can control and limited themselves in using smartphone and spent more time to a more meaningful activity like reading and sports. Implications for other researcher that have an interest with this variable, can used an instrument in this research to other population.

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