# Mental disorders on smartphone users

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Mental disorders on Smartphone users refer to the emergence of several characteristics of psychological disorders such as stress, anxiety, and depression due to the excessive frequency of smartphone-using. This is quantitative descriptive research which involved 314 men and women, aged 18 -40 years old and domiciled in Pekanbaru. Samples were chosen by simple random sampling technique. Data from the subject were collected by using Depression Anxiety Stress Scale 21 (DASS 21), which has been adapted in Indonesian. Data processed using descriptive statistics. Data analysis show about 20.7% of users experienced moderate category anxiety, 11.8% experienced mild category anxiety, 5.7% experienced severe category anxiety and 5.4% indicated experiencing severe anxiety. As many as 4.5% of smartphone users indicated experiencing mild depression, about 1.9% moderate depression and 1% major depression.

Keywords : DASS 21, extremely moderate depression, downloaded

I.      Introduction

Communication technology has been improving since last twenty years. Development in technology is started by inventing the telephone, a tool for communicating across people wherever they were. People were so happy when it came at a first time due to some conveniences, such as they can contact their relative anytime they want. The first phone was so simple, and could not be moved to another place. A few years after that, the mobile phone was found. As its name, mobile, this phone can be brought wherever we go. Even though the mobile phone was more flexible than does the phone before, this mode still had some limits. People only enable sending some texts and phone. But, many years later this mode has changed. In Now day a phone can connect with internet where internet enable people connecting with people around the world. Not only do send some texts and calls, but also people can do many things such as internet access. Internet accesses give so many conveniences, for instance doing bank transaction, sending letter anytime and anywhere, and knowing information around the world without limits. Obviously, using social media is one of the main reasons why people using internet and smartphones can facilitate it. As all those gains mobile phones has another name, smartphone or gadget. Gadget has already been used by many people. An increasing amount of using smartphone find in every country, including Indonesia. According to Kompas (2018), smartphone users in Indonesia grew up from 55 million in 2015 to 100 million in 2018 whereas internet users reach 123 million in 2015 and grew up to 112 million in 2017. Beside some positive effects from using the smartphone which is connected to internet, there are some negatives effects of using the smartphone as well. Some studies showed negative effects of using smartphone excessively. Mental health problems were reported for people using smartphone such as depression, sleep problems and anxiety (Muduli, 2014;Kaur, et al 2016;Sano,2016;Sundus, 2018). Disorientation in cognitive functioning and fine motoric are reported as well (Ali et all, 2016;Hacth, 2011; McGrath, 2012;Sundus, 2008). Many Children spend most of their time with technology such as smartphone, television, radio where they those things for playing games (especially smartphone) and they are reported have physical problems where they eyes become

tight (Sundus, 2008). Memory problems, forget easily was reported as well (Drus et al, 2017). Ali et all, 2016;Hacth, 2011; McGrath, 2012;Sundus, 2008 also reported children who use gadget excessively have problem in cognitive and motoric functioning.

## II. Literatures

*Smart Phone*

(Oxford, retrieved from https://en.oxforddictionaries.com/definition/gadget). Gadget has many variety such as smartphone, computer, notebook and e book reader (Zikhur, 2011). Smartphone is combination from phone and handheld computer which create revolution in technology since internet was found. Smartphones can do everything that computer do. However, smartphones have some advantages rather than do computers. Smartphones are mobile and also have high resolutions. High resolution in smartphones make smartphones is attractive than computers (definition of smartphone, retrieved from https://www.pcmag.com/encyclopedia/term/51537/smartphone). A previous research describe that people use smartphones as a tool for improving interpersonal proximity, but using smartphone also impact on social behavior and social relationship (Hillary, 2014;Langan, 2016). Furthermore, problems in social behavior and social relationships relate with mental disorder. Mental disorder is a health condition that causes changing in emotion, behavior and the way people thinking which is affect one performance in their activity, job and families (APA, retrieved from https://www.psychiatry.org/patients-families/what-is-mental-illness). Mental disorder have different severity. Some major types like depression, anxiety, schizophrenia, mood disorders, personality disorder and minor types such as symptom of stress and depression (what is mental illness, retrieved from  https://www.heallth.gov.au/internet/main).

## III. MENTAL DISORDERS

Mental disorder has other names, such as maladaptive behavior, insanity, psychopathology or mental illness. According to American psychiatric association (APA), Mental illnesses are health conditions involving changes in emotion, thinking or behavior (or a combination of these) where mental illnesses are associated with distress and/or problems functioning in social, work or family activities (Pareh 2008). As a human, we have some social obligations for instance how to connect or make social contact with other people by talking, discussing or asking a social question. Unfortunately, some people do not afford to make good social contact in now a day because they rely on their smartphones. When interacting with smartphones, most people forget about people around them. Some research explains it. This research tries to measure how impact smartphones on the user. Whether they have some mental disorders symptoms like symptoms of stress, depression and anxiety.

## IV. Methods

*Participants*

Some participants who involve in this research have qualifications, such as live in Pekanbaru,having smartphone which connect internet, 16 -40 years old women and men, using smartphone actively. As many 343 participants were chosen by simple random sampling technique from 12 districts in Pekanbaru.

*Research design*

The aim of this research is to describe mental disorder in people who use smartphones. This is descriptive survey research. Participants were asked to complete a scale, DASS (depression

anxiety, stress scale). This scale is an adaptation scale which is used widely in my country. As screening tool, this scale can be given by anyone.

*Tools for collecting data*

Signs of mental disorder are measured by using DASS 21 from lovibond & lovibond (1995). This scale had translated and adapted in to Indonesian, with alpha cronbach 0.902. Reliability test was done by using students of pharmacy from Faculty of medicine Universitas muhamadiyah Surakarta in 2016. There are 21 items that measure depression, anxiety and stress. Each participant will be asked to fill 21 questions and all their answer reflect conditions which they have.

*Analysis data*
Data were analyzed by descriptive statistic

## V. Results
### Participants
As many as 314 participants, 18 until 40 years old women and men were involved in this research. About 39.2 % work at private sectors, 21 % participants are student of senior high schools, 16.9 % are college students and 16.6% are civil servants and 5.1 % jobless. As many as 1.3 % participants did not write their status.

**work_status**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | private sector | 123 | 39.2 | 39.7 | 39.7 |
| | civil servant | 52 | 16.6 | 16.8 | 56.5 |
| | unemployed | 16 | 5.1 | 5.2 | 61.6 |
| | collage students | 53 | 16.9 | 17.1 | 78.7 |
| | high school students | 66 | 21.0 | 21.3 | 100.0 |
| | Total | 310 | 98.7 | 100.0 | |
| Missing | System | 4 | 1.3 | | |
| Total | | 314 | 100.0 | | |

Participant also come from some tribes, such as minang tribes (19.1 %), java tribe (13.4%), batak tribe (4.1%) and others (0.3%).

Age of smartphones users are divided into 4 categorizes that are early teens (12-16 years old), late teens (17-25 years), early adulthood (26-35 years old), late adulthood (36-45 years old). As many as 8.6 % participants are early teens, 47.5 % are late teens, 38.9 % are early adulthood.

The age group who use most smartphones is early adulthood (47.5 %). All those details can be found in the table  below.

**Age_ranges**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | .00 | 1 | .3 | .3 | .3 |
| | 12-16 yo | 27 | 8.6 | 8.6 | 8.9 |
| | 17-25 yo | 149 | 47.5 | 47.5 | 56.4 |
| | 26-35 yo | 122 | 38.9 | 38.9 | 95.2 |
| | 36-45 yo | 15 | 4.8 | 4.8 | 100.0 |
| | Total | 314 | 100.0 | 100.0 | |

*Mental disorders*

Stress

There is only 13.7 % smartphones users who get low stress, 3.8 % participants get mild stress, and only 1 % participant who get moderate stress.

**suspected stress**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | normal | 248 | 79.0 | 80.0 | 80.0 |
| | mild | 43 | 13.7 | 13.9 | 93.9 |
| | moderate | 12 | 3.8 | 3.9 | 97.7 |
| | severe | 3 | 1.0 | 1.0 | 98.7 |
| | extremely severe | 4 | 1.3 | 1.3 | 100.0 |
| | Total | 310 | 98.7 | 100.0 | |
| Missing | System | 4 | 1.3 | | |
| Total | | 314 | 100.0 | | |

*Anxiety*

As many as 20.7 % smartphones users get low anxiety. 11.8 % participants get mild anxiety , 5.7 % get moderate anxiety and 5.4 % participants get extremely moderate anxiety.

**suspected anxiety**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | normal | 172 | 54.8 | 55.7 | 55.7 |
| | Mild | 37 | 11.8 | 12.0 | 67.6 |
| | moderate | 65 | 20.7 | 21.0 | 88.7 |
| | severe | 18 | 5.7 | 5.8 | 94.5 |
| | extremely severe | 17 | 5.4 | 5.5 | 100.0 |
| | Total | 309 | 98.4 | 100.0 | |
| Missing | System | 5 | 1.6 | | |
| Total | | 314 | 100.0 | | |

*Depression*

4.5 % smartphones users are indicated having low depression, 1.9 % participants obtain mild depression and only 1 % participant who has extremely depression.

**Suspect_depresi**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | normal | 283 | 90.1 | 91.3 | 91.3 |
| | mild | 14 | 4.5 | 4.5 | 95.8 |
| | moderate | 6 | 1.9 | 1.9 | 97.7 |
| | severe | 3 | 1.0 | 1.0 | 98.7 |
| | extremely severe | 4 | 1.3 | 1.3 | 100.0 |
| | Total | 310 | 98.7 | 100.0 | |
| Missing | System | 4 | 1.3 | | |
| Total | | 314 | 100.0 | | |

*When leaving smartphones*

As many as 51.3 % participants have incomplete feeling when they leave smartphone at home (for working or going to school). Meanwhile 3.8 % participants are not confident if they leave home

without bringing smartphones. Interestingly, 40.4 % participants will go back home for taking smartphones.

**What_would_you_do_If_You_Forget_your_smartphones**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | No response | 14 | 4.5 | 4.5 | 4.5 |
| | incompletely feel, if go to work or school without bringing smartphones | 161 | 51.3 | 51.3 | 55.7 |
| | lack of confidence, if go to work or school without bringing smartphones | 12 | 3.8 | 3.8 | 59.6 |
| | Going back home for taking my smartphone, If i forgot bringing it | 127 | 40.4 | 40.4 | 100.0 |
| | Total | 314 | 100.0 | 100.0 | |

The Time for using smartphones

As many as 37.6 % participants use smartphones along 2 until 4 hours in a day. About 31.8 % participants interact with smartphones for 4 until 6 hours in a day and 28.3 % participants spend 6 hours in a day.

**How_many_hours_in_a_day_that_you_spend_for_smartphones**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | No response | 7 | 2.2 | 2.2 | 2.2 |
| | 2-4 hours/a day | 118 | 37.6 | 37.6 | 39.8 |
| | 4-6 hours/ a day | 100 | 31.8 | 31.8 | 71.7 |
| | More than 6 hours | 89 | 28.3 | 28.3 | 100.0 |
| | Total | 314 | 100.0 | 100.0 | |

The aim of using smartphones

There are some reasons why participants using smartphones. The main reason is to access social media (60.20 %), the second is to read articles (20.7 %). The third is to play games (6.4 %) and other reasons can be seen in the table below.

**Using_internet_for**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | none | 6 | 1.9 | 1.9 | 1.9 |
| | to acces social media | 189 | 60.2 | 60.2 | 62.1 |
| | to access games, using smartphone as a note | 8 | 2.5 | 2.5 | 64.6 |
| | Using smartphone for reading e book | 10 | 3.2 | 3.2 | 67.8 |
| | to read articles | 65 | 20.7 | 20.7 | 88.5 |
| | to play a game | 20 | 6.4 | 6.4 | 94.9 |
| | to see a route or map | 2 | .6 | .6 | 95.5 |
| | to download music and films | 14 | 4.5 | 4.5 | 100.0 |
| | Total | 314 | 100.0 | 100.0 | |

VI.  Discussion

Smartphone is a communication tool that evolve from telephone and cellphone . In nowadays smartphones have un unlimited functions. Not only do make some calls but also to do many things.

The comparison among those communication tools can be seen in the table below. As we can on the table, the Smartphone have so many functions that give much easiness for us. In this digital era, a smartphone with any feature like on the table, help us in working. For instance, replying email, browsing news, having social media, tracking location, downloading music and movies, transferring money and others. For this reason, the smartphone becomes more popular. Indonesian Ministry of information and informatics showed that smartphones users in Indonesia in 2018 is more than 100 million, and it will make Indonesia become the sixth country after china, india and America which uses smartphone actively (kominfo, go id 2015). Behind the advantages og smartphones, there are some negative effects of using smartphones. Using smartphones can lead people to be an internet addict (Weinsten & Yehuda, 2016), and impact one's mental health as well, suc as depressions and an anxiety (Mozes 2016). Vorak, Elhai, Hall, Levine (2017) and Ghazali, jaafar & Ithnain (2018), in their research, found some psychological problems for smartphones users where users have anxiety, depression, chronic stress and low self esteem. CMJ (2016) reveals by using smartphone more than 6 hours in a day people more susceptible for symptoms of depression, anxiety and having attention and focus problems. Using smartphone more than 6 hours in a day can lead some to be an internet addictive

Commonly, they are aware if they addict with smartphones. Chuon, Rem, Sam & yee, (2017 ), did a research about it. They found that smartphone users addict aware if they are addiction by smartphones. Using smartphones excessively, especially for access social media, direct some one to away from the real social relationship. They loss interaction time with the families and societies. They depend on smartphones and feel anxious. Surveys from Indonesia digital landscape (2018) reveal about 37 % respondents use smartphone for accessing social network where it is the high rate than use smartphone for games (7%) and seeing video (18 %). In line to this research which finding 60.2 % participants use smartphones for interacting with social media. Hussain & Pearson (2016) find that use smartphone causing an escalation for access social media where the more someone spent their time with social media, the less time they spend with relatives. All those research describe how smartphone impact interpersonal relationship, and when it happen people more susceptible to get depression and anxiety (jang, kim, kim & Lee, 2018). In line with those findings, some participants in this research show some psychological symptoms such as depression, anxiety and stress


V. Conclusions

As many as 314 participants, 18 until 40 years old men and women from Pekanbaru , involved in this research. All participant use smartphone actively. Participants come from some backgrounds such as senior high school student, college students, civil servant and the private sector. From 314 participants, some of them get stress, anxiety and depression where it was measured by DASS 21 scale from lovindo (1995). Research shows if using a smartphone can lead someone to get psychological disorders.

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