



THE RELATIONSHIP BETWEEN ANXIETY, SELF-ESTEEM AND INTERNET
ADDICTION AMONG EMERGING ADULTS IN MALAYSIA

RODNEY SIN MING KEEN

TAN WAI YEE

YOUN JIA XIN

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The Relationship between Anxiety, Self-esteem and
Internet Addiction among Emerging Adults in Malaysia
Rodney Sin Ming Keen, Tan Wai Yee and Youn Jia Xin
Universiti Tunku Abdul Rahman

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ANXIETY, SELF-ESTEEM AND INTERNET ADDICTION

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RODNEY SIN MING KEEN

TAN WAI YEE

YOUN JIA XIN

ANXIETY, SELF-ESTEEM AND INTERNET ADDICTION

APPROVAL FORM

This research paper attached hereto, entitled “The Relationship between Anxiety, Self-esteem and Internet Addiction among Emerging Adults in Malaysia” prepared and submitted by Rodney Sin Ming Keen, Tan Wai Yee and Youn Jia Xin in partial fulfillment of the requirements for the Bachelor of Social Science (Hons) Psychology is hereby accepted.

Supervisor

(Ms. Low Siew Kim)

Date: _____

Abstract

Internet addiction has reached an alarming rate. However, it was unclear ~~that the~~ correlation between ~~of~~ anxiety, self-esteem and internet addiction among emerging adults in Malaysia. Therefore, current study aimed to investigate the relationship between anxiety, self-esteem and internet addiction. The gender difference in internet addiction was examined as well. Current study used quantitative and cross-sectional research design. A total of 391 Malaysian emerging adults were recruited by using purposive sampling method. Internet Addiction Test (IAT), Rosenberg Self-Esteem Scale (RSES) and Beck Anxiety Inventory (BAI) were used in **the** present study. The independent sample t-test indicated that there is no significant gender difference in the internet addiction. Besides, Pearson correlation test revealed that there was a medium, significant negative correlation between anxiety and self-esteem and the Multiple regression analysis found that anxiety and self-esteem significantly predicted internet addiction. Current study highlighted the importance of considering the level of anxiety and self-esteem when addressing internet addiction. Hence, it has a vital implication for the targeted samples, educationalists, parents and also the legal authorities. Future study should use longitudinal study, develop bilingual survey and include validity scale to enhance the generalizability of the results.

Keywords: emerging adult, internet addiction, anxiety, self-esteem


Commented [m1]: If there is a correlation

DECLARATION

We declare that the material contained in this study is the end result of our own work and that due acknowledgement has been given in the bibliography and references to all sources be they printed, electronic, or personal.

Name: RODNEY SIN MING KEEN


Student ID: 16AAB04814

Signed: 

Date: 1st April 2020

Name: TAN WAI YEE


Student ID: 16AAB03271

Signed: 

Date: 1st April 2020

Name: YOUN JIA XIN

Student ID: 16AAB04662

Signed: 

Date: 1st April 2020

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List of Abbreviations

Abbreviations

1. IAT Internet Addiction Test
2. RSES Rosenberg Self-Esteem Scale
3. BAI Beck Anxiety Inventory

Chapter I

Introduction

Background of Study

Internet is a product of era in the evolution of human seeking for better technology and development. The progress is irreversible and undoable, once people get used to the benefits of internet, the only thing is how to maximize and fully utilize the potential of internet. Internet is a neutral device, just as knife and money, the consequence of using it depends on the intention of user (Young, 1999). In 2017, Deputy Communications and Multimedia Minister Datuk Jailani Johari said that among 725 participants involved in a study conducted by Malaysian Communications and Multimedia Commission, 89% were found to be addicted to the internet. This shows that the internet addiction in Malaysia has reached an alarming rate and serious concern should be taken (Malaysian National News Agency, 2017).

The past study showed that internet addiction significantly correlated with anxiety, stress and depression. Internet addicts are more likely to suffer from higher anxiety, stress and depression compared to non-addicts (Akin & Isender, 2011). One of the local study found that 71% of internet user in Malaysia has an entertaining purpose while 56% is for emotional expression (Kapahi, Ling, Ramadass, & Abdullah, 2013). Stressful and depressed people utilize internet more likely to escape from real life world and go online to seek for sense of security and comfort zone to release their negative emotion and repression.

They are preoccupied by internet and bring negative effect to daily routine such as missing class and being late to social event. When they are isolated, they will go for people online to have a talk (Leung & Lee, 2012). The term of internet addiction is further used by psychiatrist to explain problematic internet use with severe social, psychological and occupational impairment. Internet addicts are more likely to have psychological symptoms such as somatization, depression, anxiety and hostility (Adaher & Balkan, 2012).

Male and female are so different in terms of preference, value system, social identity, expressive behaviour and many other aspects. There will be cross-sectional and longitudinal difference among different cultural context and historical context. The present study would like to study the gender difference among emerging adults in Malaysia on internet addiction. Yee (2006) found that there are several purposes of online role playing game. Among the 6675 participants, he found that male players play for achievement and manipulation purpose while female for escapism, immersion and relationship purpose. Besides, the preference of game type is different according to gender. Boys prefer first-person shooting, car racing, and sport game. While girls prefer game that classified as car race, action adventure, puzzle and board game. It showed that boys have higher preference to entertaining game but girls like instructive game more (Karakus, Inal, & Cagiltay, 2008). Other than gaming, social networking is another major purpose of using internet. Parkins (2012) conducted a research by analysing 50 participants' emotion expression on their Facebook and Twitter accounts. The results showed that females use more emotional expression marker such as punctuation,

full stops, capitals, additional letter, emotion and laughter than males. In terms of information and knowledge acquisition, boys outscored girls in general information score which includes questions about history, geography, science and cultural literacy (Evan, Schweingruber, & Stevenson, 2002). It is arguable that these gender differences which related to internet usage will impact the tendency of male and female to become internet addict.

Anxiety is a mood state that often classified as a symptom in various types of psychological disorder. Anxiety and depression are typically being studied together but yet different. According to Barlow's (2002) concept, anxiety is thought of future threat with preparation of any possible imminent negative event. Anxiety makes the individuals experience muscle tension and overtly has an avoidance motive. Depression is thought of loss and failure with the experience of energy loss and withdrawal. People with internet addiction are prevalent to these two psychological symptoms, but the present study critically examines the association between anxiety and internet addiction (Adaher et al., 2012).

Past study had done research about the impact of anxiety in different aspect. A group of academic staff members with low level of job stress had perform better in their career life. Role conflict, which brings anxiety to the employees, is negatively associated with job performance (Gharib, Jamil, Ahmad, & Ghouse, 2016). Maroofi, Nazaripour and Maaznezhad (2012) conducted a research to find out the connection between anxiety and job satisfaction. The result showed that two types of job related anxiety (situational and constant anxiety) are both negatively correlated to job satisfaction.

Undergraduate students also reported that anxiety and depression during examination session will negatively affect their academic performance especially for new-intake student regardless of gender difference (Mihăilescu, Diaconescu, Ciobanu, Donisan, & Mihăilescu, 2016). The negative effect of anxiety on student has been duplicated as past study of Bigdeli (2010) stated that anxious student will have their learning process disturbed. The good news is test anxiety can be reduced by using several techniques. Nolting (2002) advocated that short and long term relaxation techniques help to handle anxiety. It is also important to transform their negative self-talk into positive self-talk in a realistic way.

The present research put highlight on the effect of self-esteem on internet addiction. Rosenberg (1965), one of the pioneers American Psychologist, defined self-esteem as how an individual positively evaluate himself or herself in a general way. People with high self-esteem see themselves as worthy to be accepted by other people and recognise their own value inside. Self-esteem also includes feelings of self-respecting, which means that people with self-esteem strive to maintain their own dignity. With this sense, their high self-confidence will be one of the outcome appeals in their subjective view about their relationship, skill and abilities (Abdel-Khalek, 2007).

Does self-esteem relate to internet usage? The significant correlation between self-esteem and internet addiction had been proved by Bahrainian and his colleagues (2014) that these two variables are negatively related. To be more specific, Wiederhold (2016) stated that family-home self-esteem and social self-esteem is the significant predictor of internet addiction. People who lacks of self-esteem tend to immerse themselves in the virtual world to

feel good which they are lacking in the real world. Griffiths (2000) explained that this is related to the individual's coping strategy and ways of compensating inadequacies. They may become dependent to internet use to gain satisfaction and perhaps overcome their real weakness. Thus, with internet use people are given new social identity and personality because users can always hide their shortcomings from other internet users.

Problem Statement

Emerging adulthood is those who between 18 to 25 years old and undergoing transition from the stage of adolescence to adulthood (Arnett, 2005). They neither accomplished their role as adolescence nor completed achieved their roles as an adult (Karatatar & Cihan, 2019). This transition in life may cause psychological distress for them as the life role is interrupted (Lane, Leibert, & Goka-Dubose, 2017).

In order to deal with the distress, emerging adults tend to have impulsive behaviors which may further promote other mental disease (King, Karyadi, Luk, & Patock-Peckham, 2011), such as using internet. The growth of the Internet is one of the technology which contribute much to the development in the 21th century (Nadeem, Buzdar, Shakir, & Naseer, 2018). However, this advancement carries negative impact which is internet addiction.

Despite the convenience of internet that bring advantages to many different aspects of human's life, it does lead the internet addiction cases increase sharply (Shek & Yu, 2012). It is becoming more common and serious problems among youths worldwide. In a study done by Malaysian Communications and Multimedia Commission (MCMC) in Malaysia, in the 89% of internet addicts, more than half of them (60%) claimed to have increased level of anxiety and 32 percent of them have major depression (New Straits Time, 2017). The study also revealed that around 76 percent of those heavy users aged between 20 to 49. This shown that internet addiction is a disorder that becoming prominent, to make things worse,

psychopathologies such as obsessive-compulsive disorder and schizophrenia are always go on with the habit of using internet (Ko, Yen, Yen, Chen and Chen, 2012).

Internet becomes a space for emerging adults to escape from anxiety and stress when things in the real life go wrong. When the frequency of them using this negative method to respond to the demanding events increase, they may become internet addicts. The presumption of the addiction self-medication appears as a consequences of the emerging adults trying to self-cure their stress by using internet (Khantzian, 1997). In addition, emerging adults may experience the very first time to get more freedom and far from the controlling and monitoring of parents (Young, 2004), therefore, they become more vulnerable to internet addiction especially those college students who have more free time (Smahel, Brown, & Blinka, 2012).

As Lane and Fink (2015) mentioned, social support can act as an interpersonal resources and protective factors to maintain the well-being of emerging adults during the life transition. However, internet addiction will negatively impact this protective factor by decrease the interaction time with friends and family members. This negatively impact the face-to-face communication and can elevate the loneliness and depression level of the emerging adults, thereby reducing their well-being of psychology (Kraut, Patterson, Lundmark, Kiesler, Mukophadhyay, & Scherlis, 1998). Meerkerk, Eijnden, Franken and Garretsen (2010) also stated that the compulsive use of internet can causes them to become lonelier, have lower life satisfaction, always feel blue and decrease in self-esteem.

Study shown that social anxiety and depression can be the precursor of internet addiction (Lai et al., 2015). There is also a positive correlation between the internet addiction with anxiety and depression score (Müller, Beutel, & Wölfling, 2014; Tonioni et al., 2012). When the relationships in reality is affected, it in turn intensify the time for emerging adults spend online. In order to get more emotional support and get more interaction with others

(Morahan-Martin & Schumacher, 2003), they may produce a fake online profiles to act as other than themselves (Young, 1998). People with social anxiety also reported they feel much easy to communicate with people online instead of face-to-face (Shepherd & Edelman, 2005). Individuals with internet addiction will realize that they can eliminate the anxious state that they unable to deal with through communicating online (Yücens & Üzer, 2018).

Internet can assist them to escape from low self-esteem, irrational thought and unfavorable emotions (Craig, 1995; Griffiths, 2000). However, the effect is actually only last for a short period of time (Campbell, Cumming, & Hughes, 2006) and often cause mental health issues such as anxiety or depression (Young, 1998). According to Cherian et al. (2018), the existence of psychological distress plays a vital role in enhance the chances of having internet addiction. The emerging adults may assume internet as a method to compensate those rejections, in fact, this future enhance the reciprocal relationship (Aydm & San, 2011).

The relatedness of psychological resources such as self-esteem and internet addiction has been studied by many researchers in the past (Andreassen, Pallesen & Griffiths, 2017; Hahn, Reuter, Spinath, & Montag, 2017). People tend to perceive internet as a coping method and offset of some shortage such as low self-esteem (Griffiths, 2000). Those with lower self-esteem more prone to internet addiction (Kim & Davis, 2009; Yang & Tung, 2007) and they actually do score higher on the risk of become internet addicts (Servidio, Gentile and Boca, 2018).

As compared to those who have high self-esteem, people with low self-esteem spend more time staying on social website (Andreassen et al., 2017; Douglas et al., 2008; Servidio, 2019). They tend to show scare and withdrawal when face-to-face interacting with others in real life (Stieger & Burger, 2010). Instead, they perceive the social interaction online is coziest and acceptable (King & Delfabbro, 2016). They find a protection which can minimize

the possibilities of being reject (Zhao, Yu, Zhang, & Ren, 2017), they feel more governable to express themselves online and can meet their needs better (Niemz, Griffiths, & Banyard, 2005).

Although there are researchers who show concern in the study of the emerging adulthood population (Lane et al., 2015; King et al., 2011; Yücens et al., 2018), there are still lack of similar subjects as current studies especially in Malaysia context. Therefore, current study should be done in order to have closer look on the issues and to figure out appropriate solutions.

Significance of Study

The purpose of conducting this study is to investigate the use of internet among emerging adults as their coping strategy for their anxiety. As the study conducted by Mohammadkhani, Alkasir, Pourshahbaz, Dehkordi, and Sefat (2017) stated that adolescent is the age group with higher risk for addicting to internet. Due to the fact that using internet is the fastest and most convenient way to deal with several matters, so that they always use internet for multiple purposes for instances communication, education, leisure or financial. Regardless of the pros of using internet, when someone continuously using internet without control, it is possible to cause several negative impacts. Emerging adults are those who tend to spend most of their time on internet and consequently they are easily to become addictive. Subsequently, solutions have to be figure out as soon as possible to prevent the phenomenon to be getting severe. Therefore, it turns out to be very important to discover what psychological factors that are possible to lead individual into internet addiction.

In previous studies, researchers wish to analyze what psychological characteristics a person have when he/she is addictive to internet (Seabra et al., 2017). While few past studies had acknowledged that self-esteem can predict internet addiction (Seabra et al., 2017; Bahrainian et al., 2014). Besides, in concerning the factors that are related with internet

addiction, anxiety also serves as one of the psychological traits that internet users have when they are overly involved in internet. Hence, main objective of this study is to hypothesize the prevalence of internet addiction in Malaysia's emerging adulthood. Also, this research is to measure the relationship of internet addiction, anxiety and also self-esteem. Consequently, the result from this study could contribute to the formulation of the concept of this behavioral dependency, internet addiction. Another purpose of this research is whether anxiety level and self-esteem could predict internet addiction as well as the association between these three variables.

On the other hands, this research concerns about raising awareness of this behavioral addiction to the public. By doing so, parents, social workers, politicians and anyone else in this community may begin to aware of the seriousness of this problem. If they realize this problem immediately, they are in the best place to control this situation from getting worst. As for parents, they could have more understanding about internet addiction and so that they could help their children to restrain themselves from overly using internet. Others than that, parents could try to give positive evaluation to their children because they play an important role to influence the self-perception of their children. According to Seabra et al. (2017), self-esteem is positively associated with internet addiction.

Next, this study also can provide emerging adults with some information of the internet addiction because it could lead individual into some physiological and psychological disorders (Akar, 2015). They can also find a better way to cope with anxiety than using the internet to reduce their anxiety level and thus increasing their self-esteem. In short, monitor the usage of internet is critical as internet addiction could harm them.

Furthermore, society could gain insight from this study about internet addiction is a severe problem as it can lead to other societal problem. Also, this research could benefit the future researcher for extension research on this relevant topic as well as provide a suggestive

relationship between internet addiction, anxiety and self-esteem for further investigation. In-depth exploration and investigation of the association between these three variables would offer some helpful insights for counsellor. Therefore, they could improve their services for their clients or else develop some useful interventions. Anyone in this community have to be involved and take responsibilities in curbing this phenomenon from getting worse.

Research Objectives

There are three objectives in current study. First of all, this study aims to figure out whether there is a difference in internet addiction between male and female emerging adults. Next, the purpose of current study is to investigate whether there is a significant relationship between anxiety and self-esteem. The third objective of the study is to identify whether anxiety and self-esteem can predict internet addiction.

Research Questions

1. Is there a significant gender difference in internet addiction among emerging adults?
2. Is there any significant relationship between anxiety and self-esteem?
3. Will anxiety and self-esteem predict internet addiction?

Research Hypotheses

1. There is a significant gender difference in internet addiction among emerging adults.
2. There is a significant relationship between anxiety and self-esteem.
3. Anxiety and self-esteem will predict internet addiction.

Variables Definition

Internet addiction.

Conceptual definition. Internet addiction can be considered as a psychological dependence on the internet, despite any type of activity once they logged on into internet (Kandell, 1998). Similarly, internet addiction is referred as despite realizing the negative impacts, a tendency of a user to spend more time on using internet than initially intended

(Young, 1996). Amandeep, Sufen and Marko (2015) stated that it is one of the negative consequence of excessive internet use among internet users. Although no majority agreement has been successfully brought about in defining Internet addiction, yet Block (2008) described internet addiction share the following four aspects such as excessive use which related with lack of ability to manage the time, withdrawal symptoms like feeling anxious when someone is disallowed to access to internet, low tolerance when ones require more time to surf internet as well as negative repercussions like fatigue and social difficulties.

Operational definition. Internet addiction was accessed by Internet Addiction Test (IAT) which tend to measure the level of addictive use of internet. It consisted 20 items and consequently the scores are total up. The higher the total score, the greater level of internet addiction is.

Anxiety.

Conceptual definition. Anxiety can be defined as an unpleasant state of mind causing oneself to behave nervously (Azher, 2014) over an impending ill. Trivedi and Gupta (2010) mentioned that anxiety normally described individual's behavioral, emotional and cognitive responses when they perceived of danger. Anxiety is able to produce functional responses to an upcoming challenging events.

Operational definition. Anxiety was measured by using Beck Anxiety Inventory. This instrument consisted of twenty-one items which used to measure anxiety level. Higher scores in this questionnaire shows higher anxiety level.

Self-esteem.

Conceptual definition. Self-esteem is usually defined as individual's overall sense of worth about self (Zaman & Munaf, 2019). Individual's view about the self can be either in the way of positive or negative. According to Koç and Kafa (2019), peoples with high self-esteem experience more sense of accordance with their perception as well as having sense of

purpose in life than those with low self-esteem who tend not to have clear sense of self. Self-esteem is an either favourable or unfavourable attitude (Rosenberg, 1965) as well as positive or negative evaluation (Smith, Mackie, & Claypool, 2014) people have about themselves.

Operational Definition. Self-esteem can be assessed by adopting Rosenberg self-esteem scale. This self-report measure comprised of 10 items which used to measure global self-worth. It is used to assess both positive and negative feelings about oneself. Score would be sum up and the higher scores designate higher self-esteem.

Emerging adulthood.

Conceptual definition. It is a developmental period range roughly from ages 18 to 25 years old (Kelly et al., 2019) and also a transition stage which from adolescence to adulthood. Arnett (2000) described emerging adulthood as individuals' growing independence from their own parents and trying to get use to the financial responsibilities and social roles of adulthood. Yet, people in emerging adulthood does not view themselves as an adolescence nor adult (Arnett, 2000). According to Arnett (2000), this period is for them to explore and find out a wide variety of possible choices in relationship, career, and worldviews.

Operational Definition. Emerging adulthood serves as an age which range from 18 to 25 years old. People who are in this age group are those who were graduated from their secondary school, either starting to further their study in any profession or involve in career world.

Chapter II

Literature Review

Gender Difference on Internet Addiction

The difference between male and female in using internet and tendency to get addicted with it has always been an interesting topic in the academic circle. Kim and Davis (2009) conducted a research among 315 college students about their problematic internet use (PIU). The male students reported higher PIU score than female students and this indicated that male students are more likely to addict in internet than female students. Male students use internet more often for entertainment and information acquisition while female students are for relationship purpose. The finding is found to be consistent with the research done by other researchers after. Shahnaz and Karim (2014) studied 210 internet users collected from University of Dhaka in Bangladesh to find out how internet addiction differs in different genders. Internet Addiction Test (IAT) was used and they found out that males are more inclined to develop internet addiction as they spend more time and related to “online dependency” and “neglect of duty” than females. Besides, the recent study done by Ifdil (2018) and his colleagues in Indonesia found similar results. They were using Chen Internet Addiction scale to measure internet addiction among 84 men and 84 women. The result replicated with previous study that men showed higher internet addiction than women with a significant difference. A local study on internet addiction done by Teong and Ang (2016) in East Malaysia on 287 usable data from student in 4 public universities in Sabah and Sarawak. The analysis showed that not only male students spend significantly more time on internet than female students; their internet addiction score are also significantly different in male students with higher scores.

However, some researches proved the gender difference on internet addiction conversely. Back to 2013, Chiu and her colleagues conducted a study focusing on internet

addiction and mobile phone addiction among college students in Taiwan. The outcome stated that female college students have more time management issue, which lead to significant higher general mobile phone addiction than male students. Female students also reported higher internet addiction tolerance, impulsive use and withdrawal syndrome with non-significant difference. Oktuğ (2012) conducted a research to study the effect of gender on internet addiction which target sample as undergraduate student in Istanbul Kültür University and Istanbul Aydın University in Turkey. 210 male and 163 female students answered the Internet Addiction Scale and their score had been analysed. The findings revealed that there is a significant gap of internet addiction between different genders. Female students are more excessive internet users compared to male students, thus they are more prone to have internet addiction.

Although majority of researches prove that there is a gender difference in internet addiction, present study will not overlook the exception. According to the study done by Dai (2016) in China, gender was not found to differ in tendency to become internet addicts. The time spent between male and female student was not found be significantly different, but the female students spend more time than male students. Another result of study conducted by Odaci (2011) in Turkey among university student agrees with previous findings. It showed no significant difference between the problematic internet use between sex and computer ownership. This conclusion is supported by Weinstein (2015) and his colleagues, their study in Israel among adults with average age of 29. There is no significant correlation between genders and internet addict found in the study (Weinstein et al., 2015).

Anxiety and Self-esteem

Zare and Riasati (2012) mentioned that anxiety can be a main treat for one's self-esteem. In their study done in Iran among 108 language learners, a negative relationship has been found between the anxiety of language learner in learning new language and their

self-esteem. In 2016, a study aimed to investigate the relationship between self-esteem, body-esteem and social anxiety was done by Abdollahi, Talib, Mobarakeh, Momtaz and Mobarake among 520 high school students in Iran. The results revealed that one's self-esteem and body-esteem can negatively predict social anxiety. Those who have low self-esteem tend to pay attention to the negative evaluation from others. Also, the study done by Abdollahi and Talib (2015) as well as Abdollahi and Abu Talib (2015) shown similar results.

In the study of Nordstrom, Goguen and Hiester (2014), college students with high level of social anxiety reported to have lower self-esteem and more difficulties in college adaptation as compared to those with low social anxiety. Besides, those with high social anxiety tend to have lower social self-esteem and in turn lead to greater anxiety. However, the study revealed that social self-esteem of these students was able to be increased at the end of their first semester as they started to master and handle the challenges in socialization.

Another study showed the mediating effect of self-esteem between mindfulness and social anxiety (Tan, Lo, Ge, & Chu, 2016). 508 undergraduates from Chinese context had joined the study. The study concluded that anxiety is negatively correlated to self-esteem, besides, self-esteem did have an effect in mediating the relationship between mindfulness and social anxiety in which mindfulness training can enhance self-esteem and high self-esteem can reduce the social anxiety. This result is supported by previous studies such as Hofmann (2007) and Kong, Wang, and Zhao (2014).

According to Van Tuijl, Jong, Sportel, Hullu and Nauta (2014), viewing oneself in a negative manner is an outstanding and remarkable cause in major cognitive vulnerable of anxiety especially in those adolescents who struggle in the identity confusion phase. They done a study to investigate the relationship between implicit and explicit self-esteem and the social anxiety symptoms in Netherlands secondary school students. In their definition, implicit self-esteem is the voluntary self-judgment in particular context that lead and direct

one's actions. On the other hand, explicit self-esteem is when cognitive resources, time and motivation have an effect on one's self-evaluation. The study's results revealed that low explicit self-esteem can predict one's social anxiety disorder. However, there is no effect of implicit self-esteem on social anxiety in the study.

Similarly, another meta-analysis confirmed the statement that low explicit self-esteem can enhance the sign or symptoms of anxiety as well as depression in adults (Sowislo & Orth, 2013). These studies proven that, specifically, explicit self-esteem, can negatively predict the social anxiety among either adolescents or adults. Also, the study of Sowislo and others (2013) discovered that the association between anxiety and self-esteem is more balance in which they have a small but significant predictive effect in both directions.

According to terror management theory (TMH) (Greenberg, Pyszczynski, & Solomon, 1986), self-esteem is a protective factor for people's anxiety or fear about acknowledging the destiny of die. However, in the study of Routledge (2012) shown no improving effect of self-esteem on death-anxiety after the activity to enhance self-esteem. This may attribute to the reason that the self-esteem baseline is already relatively high at first. Despite the results, previous studies did prove the effect of high self-esteem on decreasing the anxiety of death (Greenberg et al., 1992 & Routledge et al., 2010).

In general, the study of Longworth, Deakins, Rose and Gracey (2016) indicated that global self-esteem is strongly and negatively related to anxiety. However, in a cross-sectional study of Sikandar, Tahir and Shah (2019) found that there is no significant association between self-esteem and anxiety level among 86 males with age 17 to 35.

Anxiety and Internet Addiction

Internet addiction is an alarming concern in this society and it covered a lot of the subtypes. Based on past studies, there are several findings described that anxiety is associated with internet addiction (Weinstein, et al., 2015; Köksal, 2017; Gupta, Khan, Rajoura, &

Srivastava, 2018; Masih, & Rajkumar, 2019). These might be due to the reason that people who suffering from anxiety tend to serve internet as a coping mechanism and escapism from negative emotions (Gupta et al., 2018). Anxiety normally considered as a critical aspect that in relation with developing and sustaining addictive behaviors (Köksal, 2017).

Internet game addiction (IGA) considered one of internet addiction. Likewise, IGA was referred as uncontrolled use of internet which consequently impeded their daily and social life. Hence, relationship between Internet game addiction and anxiety level was examined by a past study done by Kim, Hughes, Park, Quinn and Kong (2016). IGA was being studied because they believed that students engaged in internet are more into internet gaming. They tend to spent more than 3 hours per day into internet gaming. Comparison was made between group with IGA and group without IGA. Result disclosed that group with IGA has higher anxiety level. In another word, internet user who allocate most of their time on internet gaming tend to lead themselves into high self-reported anxiety level.

Moreover, according to Li, Hou, Yang, Jian and Wang (2019), their recent study aimed to analyze the relationship between anxiety level and their internet addiction. A total of 1545 participants in this longitudinal study and 3 waves of their data was collected over 6 months. As a result, students with high anxiety level could predict high level of internet addiction. Those who are severely addicted to internet could also be named as a problematic internet user. Although the relationship between internet addiction and anxiety was always found as positively related, yet they revealed to have a weaker relationship (Stavropoulos et al., 2017). However, the strength of the association changes over time. Bryant and Zillmann (1984) declared that a mood enhancing hypothesis was used to explain the relationship between these two variables. When people are in negative mood, they are more likely to relieve stress by doing some leisure activities or entertainment.

On the other hands, social anxiety was also being studied recently. Social anxiety is a type of anxiety experience in social setting (Rapee & Heimberg, 1997). People tend to be anxious when they have social interaction with others people. Hence, a study designed to examine the association between internet addiction and social anxiety among university students which was conducted by Weinstein and his colleagues (2015). They claimed that people with social anxiety is not likely to have intention to present in front of others. This research consisted of 2 studies which have 120 participants respectively. Both results also revealed that there is positive relationship between internet addiction and social anxiety, yet it has a moderate relation. Next, a post-hoc t test is conducted and finding declared that respondents with high level of social anxiety tend to have higher level of internet addiction. In addition, internet user with high social anxiety score do not prefer social network. In another word, they use internet not primarily for interaction or social use. Their findings were in line with earlier researchers, which also claimed that a correlation exist among problematic internet use and social anxiety.

Self-esteem and Internet Addiction

Over these few years, self-esteem was always being studied with internet addiction (Ayas & Horzum, 2010; Błachnio, Przepiorka, Benvenuti, Mazzoni, & Seidman, 2019; Naseri, Mohamadi, Sayehmiri, & Azizpoor, 2015). There was always a negative association between self-esteem and internet addiction as people with lower level self-esteem prefer using internet as a way to recompense (Błachnio et al., 2019). In addition, research from Yildirim, Sevincer, Kandeger, and Afacan (2018) concluded, based on the Internet Addiction Test, those who fulfill the criteria for risk of internet addiction tend to have a significantly lower self-esteem.

According to Arafa, Mahmoud and Salem (2019), 407 young adults were included in a study which intended to measure the relation of self-esteem on internet addiction. All participants were mostly high educated. Consequently, result of this study showed that 25.3% of the participants were highly addicted to internet and 29.5% of respondents showed low self-esteem. Their targeted population was around 18-45 years old, subsequently they found that younger internet users within this age group were more prone to become dependent on internet. They considered a person who uses internet more than 4 hours per day is known as being addicted to internet. Also, comparison is made between internet user who spent less time on internet and those who overly involved in internet, findings showed that group with highly use of internet turns out to have lower self-esteem. This research also highlighted that the association between self-esteem and internet addiction among participants who age between 18-25 years old remain significant. Result from study by Kırçaburun (2016) also proposed higher rate of daily internet use of adolescents nowadays was affecting significantly by lower self-esteem. They tend to feel inferior, less likely to have positive evaluation towards themselves, and have negative self-worth. They are more likely to escape from the real interaction because anonymity in the virtual life is more preferable for them (Kırçaburun, 2016).

Accessing to internet has become easier and it also brought massive amount of advantages to internet user. However, it potentially causes some negative impacts to individual who constantly using it. In line with this explanation, it has shown an association between self-esteem and excessive use of internet is showed. This study was conducted by Fortes and Fernandes (2016), they analyzed how self-esteem could affect internet addiction. Targeted sample was adolescents and similarly the finding revealed that there is a negative correlation between these two variables, the correlation coefficient was -0.156. Yet, they had a weak relation. Also, the researchers mentioned that people who has negative self-evaluation

prefer to spend their spare time on internet rather than deal with people face-to-face. As people who become overly dependent on internet is possible to affect their life and also has impact on their self-esteem (Ayas et al., 2010). In short, people's behaviors and attitudes were significantly determined by their self-esteem.

Causes that lead to internet addiction was not a new issue in this era, yet it is a hot topic that constantly being reviewed by researchers. Because it not only brings physiological disorder like eyesight problem but it also harms people in terms of psychological aspects. In 2012, Yao, He, Ko and Pang also has a major concern in this relevant topic: The relation of self-esteem on Internet addiction. A quantitative study was carried out in a college and more than half of the respondents (64.4%) claimed that they use internet every day. Similar to the above two past studies, self-esteem scale was used to measure because this scale has a high reliability. Outcome of this study was consistent with some earlier researches. Result in this study proved that self-esteem has a major influence on students' internet behaviors. It is positively associated with Internet addiction. Likewise, according to one of the findings, it revealed that persons with higher self-esteem were less vulnerable to internet addiction than people with lower self-esteem (Naseri et al., 2015). In summary, college students with low self-esteem are more vulnerable to become addictive to the internet.

Predictors of Internet Addiction

Kim et al. (2009) conducted a research to examine the role of self-esteem, anxiety, flow and self-rated importance of online activity. 279 college students with average age of 21.4 who studied in USA were collected to participate in this study to respond to Young's Internet Addiction Test (1998) and Caplan's Generalized Problematic Internet Use Scale (2002). Based on their evaluation, anxiety is positively associated with internet problematic use. Apart from that, high self-esteem is proved to predict low tendency of internet addiction.

Self-esteem was a powerful negative predictor of internet use and its contribution was neutralized by traits of anxiety or worry. This finding is consistent with study later conducted by Younes (2016) and her colleagues in Pennsylvania. The university students with low self-esteem indicated significant higher potential to internet addiction. According to the results, there is a significant correlation between stress, anxiety and depression with internet addiction. The score of depression, anxiety and stress are significantly higher in the high risk internet addiction group (Younes et al., 2016).

Besides, the previous study had found result that questions the correlation between self-esteem and internet addiction. Kumar and Mondal (2018) had proved that the significant and positive association of obsession-compulsion, interpersonal sensitivity, depression, and anxiety with internet addiction among university students. Yet, there is no significant difference of self-esteem found among moderate and severe internet users in Kolkata, India.

However, some researchers worried that the negative effect of internet use has been exaggerated. A longitudinal study had been conducted by Shaw and Gant (2002) to examine the effect of consistent internet communication on loneliness, depression and self-esteem. Throughout the pre-test, mid-test and post-test, undergraduate students reported decrease in loneliness and depression, yet increase in self-esteem. The researchers suggested that the typical negative impression about internet need to be defended. Although anxiety is not one of the variables in this study, it showed an opposite side of internet in affecting users beneficially (Shaw et al., 2002).

Theoretical Framework

Self-medication hypothesis (SMH) is first proposed by Khantzian (1985) which pay major attention on the heroin and cocaine dependence. Later, the hypothesis highlighted that majority of the behavior addiction which included internet addiction or other gambling behaviors are caused by human mental distress and psychological pain which regardless of

the association with psychiatric disorder. People often feel powerless when overwhelmed by life problems and in the moment, the solely method that they can think about is addiction (Dodes, 2002).

According to Khantzian (2003), those who prone to addict fail to equip with good emotional education and have a very few words to express their feelings. Instead of find a suitable way to self-cope with that chaos in their inner psyche, they choose to become addicts which help them to cope with their emotional suffer, depression, anxiety (Khantzian, 2003). They fail to endure, adjust and acknowledge their affective states which enhance the vulnerability to get into the addiction (Tronnier, 2015) and they aim to use this way to secure their emotional stability in term of both physiological and psychological (Khantzian, 2003). They feel empowered by engaging in the addiction, trusting that their emotion as well as their whole life is now in control (Dodes, 2002). In fact, this is an illusion and false sense.

Another theoretical framework is the self-determination theory proposed by Deci and Ryan (1985) which stated that people is led by a motivation to improve, grow and achieved fulfillment. According to the theory, there are three needs in human life which included competence, connection and autonomy. People can only become self-determine when three of the needs are met.

In the context of psychology, self-determination is defined as an individual's capability to make decision and control their own life, this capability is vital in one's psychological well-being (Cherry, 2019). Three of the needs can be instrumentally in illustrating the use of internet (Chen & Jang, 2010; Nadkarni & Hofmann, 2012). Many studies also mentioned that excessive internet use is associated with the unmet needs in real-life (Chak & Leung, 2004; Song, LaRose, Eastin, & Lin, 2004; Young, 1998). Internet, which is very convenient to be accessed, become an immediate tool for people to compensate their unmet need in real-life (Wan & Chiou, 2006).

For example, internet enable people to feel satisfied and empowered in a way that they can control their identity that they want themselves to be instead of showing real-self (Wong, Yuen, & Li, 2015). Specifically, internet provide internet users to feel related with others by interaction online, meanwhile, they have the sense of autonomy in which they are interacting with other in a controlled situation (Seidman, 2013).

The presence of the psychological distress such as low self-esteem, stress, anxiety and depression can further enhance the relationship between the achievement of needs and excessive internet use (Wong et al., 2015). Also, the cognitive behavioral model that introduced by Davis (2001) also support this view that psychological distress act as an important catalyst in internet addiction. Many studies showed that psychological distress is going in the same direction with problematic internet use in which, the more severe the psychological distress, the higher the seriousness of excessive internet use and vice versa (Ebeling-Witte, Frank, & Lester, 2007; Yeh, Ko, Wu, & Cheng, 2008; Young & Rogers, 1998).

Therefore, according to the theory above, the link between the psychological variables such as anxiety and self-esteem with internet addiction is proposed in current study.

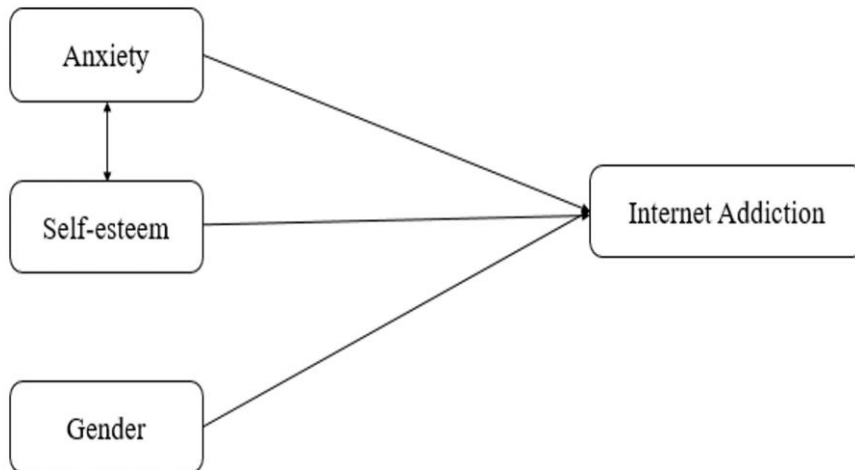
Conceptual Framework

Figure 1. Conceptual framework of present study.

The dependent variable of the study is internet addiction. The independent variables are anxiety, self-esteem and gender. With higher anxiety level and lower self-esteem, one is predicted to have higher level of internet addiction. The study grounded with the theory of self-determination which suggests that psychological distress such as low self-esteem and anxiety can enhance excessive internet use (Wong et al., 2015). There are past studies which have proven there is an association between anxiety and self-esteem (Nordstrom et al., 2014; Sowislo et al., 2013). Therefore, current study also intended to highlight the association between anxiety and self-esteem.

Gender served as another variable that may have an effect on internet addiction among emerging adulthood. Past studies supported that different gender do have a different tendency towards internet addiction (Ifdil et al., 2018; Shahnaz et al., 2014 & Teong et al., 2016).

Chapter III

Methodology

Introduction

In this chapter, research design explains the approach and type of design used for the study. Research sample and sampling method will reveal general overview of sample of study, sample size distribution. Besides, location of study will summarize the setting and population of study while research procedure will explain the steps of data collection and pilot study in the study. The instrument discusses about the instruments that will be used to measure the variables in the study. Lastly, data analysis will explain the steps of checking necessary assumptions and analyzing the main variables.

Research Design

This present research adopted a cross-sectional and quantitative research design which intend to determine the gender differences on internet addiction, the impact of self-esteem and anxiety on internet addiction, as well as the relationship between the three variables which are internet addiction, self-esteem and anxiety. Cross-sectional study can either be analytical and descriptive which actually referred as an observational study where exposure and the outcome (measurement) of a respondent are learned at only one point of time (Pandis, 2014). All concerned data and information in this study were collected by self-administered test. By using cross-sectional study, it is a way to reduce the cost of this study as it serves as an inexpensive tool (Pandis, 2014). Others than its economical way for researchers to adopt, it is also easy to use and not time-consuming compared with longitudinal study (Setia, 2016).

Sampling Method

Current study used purposive sampling method to recruit participant. It is a non-probability sampling method in which the participants ~~are~~ **were** chosen accordingly to the criteria set in advance (Crossman, 2019). In other words, not everyone has equal chance to participate in the study, instead, only participants who fit the characteristics that the study required will be chosen.

In current study, purposive sampling method ~~is~~ **was** used because of the large number **widespread** of population ~~that is widespread~~ in Malaysia. This sampling method is cost saving, time saving and more convenient. By targeting on samples ~~who~~ **which** fulfill particular characteristics, meaningful result can be contributed to the research (Etikan, Musa, & Alkassim, 2016). Therefore, anyone who meet the criterion: Malaysia citizen aged between 18-25, ~~are~~ **were** chosen as participants in the study.

Participants ~~are~~ **were** approached ~~by~~ using paper and pencil questionnaire. Online survey ~~also be~~ was sent to the participants within this age range by distributing the survey link in social media such as Facebook and WhatsApp. By generating online survey, participants across different part of Malaysia ~~are~~ **were** recruited and this prevent selection bias.

Sample Size

The target population in current study ~~are~~ **were** emerging adults in Malaysia. Based on the Malaysia demographics profile 2018 (2018), the population for this age group are approximately 5,210,792. By using the formula of Krejcie and Morgan (1970), a minimum of 386 participants are needed in this study.

Participants

Malaysians who aged between 18 to 25 ~~are~~ **were** recruited in current study. In other words, those who did not meet the criteria, including not a Malaysian or aged below 18 and above 25 ~~are~~ **were** excluded from the study.

In the final sample, there were total 391 Malaysian participants who aged between 18 to 25 ($M = 21.05$ years; $SD = 1.63$ years). The number of male participants ($N = 147$; 37.6%) are less as compared to female participants ($N = 243$; 62.1%). Besides, there were 11 Malays (2.8%), 358 Chinese (91.3%), 17 Indians (4.3%), and 5 with other races (1.3%).

Location

The study aimed at emerging adults in Malaysia; therefore, it was conducted across the country. The online survey was distributed on social media such as Facebook or WhatsApp by a survey link. In addition, paper and pencil questionnaire were also distributed around the campus. Malaysia citizen who aged between 18 to 25 are targeted.

Procedures

Before conducting the actual study of the current research, a pilot study was conducted to collect preliminary data and to measure the reliability of the instruments (Teijlingen & Hundley, 2002). Paper and pencil survey questionnaires were distributed to the targeted samples which were emerging adults. The informed consent form was attached with the questionnaire to ensure the voluntary participation of the participants without exposing to negative consequence from their participation. The consent required the respondents to agree to provide their data to balance the autonomy and maintain the dignity of the individual and the integrity of the research (Nnebue, 2010).

A group of 40 respondents are recruited in the pilot study. The analysis showed that the reliability of the scales ranged from 0.77 to 0.92. The actual study began after the pilot study.

In the main study, the procedures were similar to the pilot study but the questionnaires were distributed through both online survey and paper and pencil in order to reach more samples. The link of final version of the questionnaire which included psychological tests, informed consent and participants' demographic information is generated from the Qualtrics. The data collected ~~is~~ was analyzed by using SPSS version 23.

Instruments

Internet Addiction Test. Internet Addiction Test (IAT) was adopted in this study in order to assess the severity of internet addiction. This test was developed by Dr. Kimberly Young in 1998 which served to measure characteristics and behaviors in relation with problematic use of the Internet which include compulsivity, escapism, and dependency (Young, 2017). According to the manual of IAT (Young, 2017), internet not only referred to as surfing internet or any online activities, it is a broad concept which also consisted social media, internet gaming and access to mobile phones or any other form of technology.

In this test, it included 20-items, respondents required to answer all questions with a Likert scale of 1 to 5 with 1 for "rarely" and 5 for "always.". Also, these 20 items were grouped into 3 factors which were withdrawal and social problem (items 3, 4, 5, 9, 13, 15, 18, 19, 20), time management and performance (items 1, 2, 6, 8, 16, 17) as well as reality substitute (items 10, 12, 14). Item 7 and 11 are categorized into "others factor". For example, question that related to withdrawal and social problem is "How often do you prefer the excitement of the Internet to intimacy/relationships with your partner/friends?" item associated with time management and performance is "How often do you find that you stay online longer than you intended?" and lastly question related to reality substitute is "How

often do you block out disturbing thoughts about your life with soothing thoughts of the Internet?" (Rosenthal, Cha, & Clark, 2018). The lowest score was 20 and the highest score in this test would be 100. Different score range indicated different type of online user (20–49 = average online user, 50–79 = experiencing occasional or frequent problems with Internet use, and 80–100 = internet use is causing significant problems). Total scores were sum up and the higher the scores, the more internet dependence is. In addition, the finding of the reliability of IAT revealed high internal consistency, which has a Cronbach's alpha of 0.90 (Keser, Eşgi, Kocadağ, & Bulu, 2013). This test is commonly and widely use and had been translated into several languages. English version of IAT was used in this research. Moreover, it is a self-report test which entailed 5-10 minutes to complete.

Rosenberg Self-Esteem Scale. Rosenberg Self-Esteem Scale (RSES) is a broadly use instrument in assessing one's self esteem. Rosenberg (1965) deemed that self-esteem exists as one of the component of self-concept. In another word, RSES used to measure an individual's self-perception or feelings of self-worth on a 4-point Likert-type scale. It is ranged from 1 (totally disagree) to 4 (totally agree). This scale was constructed by Rosenberg in 1965. Similarly, this scale had been translated to different languages.

It consisted of 10 questions and has a continuum of self-worth. There are 2 factors in this scale. One factor measured positive self-esteem (items with positively worded) and the other assess negative self-esteem (items with negatively worded). 5 items were positively worded (items 1, 3, 4, 7, 10) and another 5-items were reverse scoring (items 2, 5, 6, 8, 9). Items which are negatively worded in the scale included "At times I think I am no good at all.", "I feel I do not have much to be proud of.", "I certainly feel useless at times.", "I wish I could have more respect for myself." and "All in all, I am inclined to feel that I am a failure.". Item ratings are sum up, with higher scores indicating greater positive evaluation on

them. Also, internal consistency of RSES is high with Cronbach's alpha range from .85 to .88 (Martín-Albo, Núñez, Navarro, & Grijalvo, 2007).

Beck Anxiety Inventory (BAI). Beck Anxiety Inventory was first developed by Aaron Temkin Beck and his colleagues in 1988. This inventory intended to determine the severity of anxiety in adolescents and adults. This inventory has 21 items and participants were required to respond on a four-point Likert scale ranging from 0 (not at all) to 3 (severely, I could barely stand it). Furthermore, this test potentially distinguish depression from anxiety because all the items in the BAI characterize the affective, physiological, and cognitive symptoms of anxiety rather than depression. Each of them is a short and simple description of anxiety symptom in one of its four expressed aspects such as (1) subjective ("unable to relax") (items 4, 5, 9, 10, 14, and 17), (2) neurophysiologic ("numbness or tingling") (items 1, 3, 6, 8, 12, 13, and 19), (3) autonomic ("feeling hot") (items 2, 18, 20, and 21) and (4) panic-related ("fear of losing control") (items 7, 11, 15, and 16). Due to its length and simplicity of the scale, it needs 5-10 minutes for participants to complete this inventory.

An anxiety score is created by taking the total scores (range from 0-63) of all items, with higher scores specifying greater level of anxiety. If a total score falls within 0 - 7 is considered as a "minimal level"; 8 - 15 interpreted as "Mild level"; 16 -25 as "Moderate", whereas 26 - 63 as "Severe level of anxiety". Internal consistency (Cronbach's alpha) for the items in BAI was considered good which range from .92 to .94 (Beck et al., 1988). In addition, several reasons for adopting BAI to measure one's anxiety level are it is easy to use, not overlapping with depression symptom and also precise to understand.

Data Analysis

In the present study, SPSS version 23 was used to analyze the outcome of the study. Before the analysis between variables, the assumption of normality was examined. The assumptions of normality were tested in various ways. Skewness and kurtosis referred to the

degree of asymmetry and the peakness or flatness of the given distribution respectively (Čisar & Čisar, 2010). Histogram was used to show the visual estimation of data distribution (Das & Imon, 2016). Other than that, Quantile-Quantile plot (Q-Q plot), Kolmogorov-Smirnov and Shapiro-Wilk's *W* test were used to test the assumption of normality (Pallant, 2016).

Besides, the first assumption of multiple linear regressions was examined to determine the dependent variable can be classified as continuous data. Each variable need to be independent to each other and the multicollinearity can be examined by using Variance Inflation Factors (VIF) and tolerance. VIF value more than 10 and small values for tolerance reveal the presence of multicollinearity which is undesirable (Keith, 2006).

Apart from that, the error is independent implying that the subject is responding independently where the Durbin Watson is close to two (Reddy & Sama, 2015). Mahalanobis distance (Penny & Jolliffe, 2001) and Cook's distance (Cook & Weisberg, 1982) also will be utilized to disclose outliers in multivariate data. The cases with value larger than 2 times of Leverage's value are recommended to be investigated. Lastly, the scatterplot will be analysed to examine linearity (Reddy et al., 2015) normality of residual and homoscedasticity (Muzaffar, 2016).

Independent sample t-test was used to study whether there is a gender difference on internet addiction among Malaysia emerging adults. The relationship between anxiety and self-esteem will be analyzed by using Pearson Product-Moment Correlation. Lastly, multiple linear regression was used to analyze the association between anxiety, self-esteem and internet addiction. Anxiety and self-esteem served as predictor while internet addiction served as the outcome variable.

Chapter IV

Results

Introduction

In this chapter, the normality assumptions had been tested firstly to ensure that the results draw accurate conclusions about reality. Normality test such as skewness, kurtosis, Q-Q plots, histograms and Kolmogorov-Smirnov test were conducted. Multiple linear regression assumptions were checked to ensure there is no violation. Besides, demographics data were tabulated to have better picture for the details of target variables. Moreover, independent t-test, correlation analysis and multiple linear regression analysis were conducted.

Normality Assumptions

Table 4.1

Skewness and Kurtosis

| Variable | Skewness | Kurtosis | Kolmogorov-Smirnov | Shapiro-Wilk |
|--------------------|----------|----------|--------------------|--------------|
| Anxiety | .872 | .544 | .000 | .000 |
| Self-esteem | .098 | .186 | .000 | .006 |
| Internet Addiction | .198 | -.281 | .025 | .097 |

Note. Significant at $p < .05$.

Before conducting the actual study, the normality assumptions had been checked.

Table 4.1 showed that the Skewness and Kurtosis values of each distribution are within the acceptable range which is -2 to +2 (George & Mallery, 2010). This indicates that the normality assumptions are met. Besides, histogram was used to show visual estimation of the distribution. The histogram obtained showed a bell-shaped curve indicating that the value of each score is normally distributed (refer to Appendix D, pg. 79). The Q-Q plots of each distribution also showed that the normality assumptions are met as the data points are nearly a straight line for all scale (refer to Appendix E, pg. 80).

However, the Kolmogorov-Smirnov and Shapiro-Wilk test showed an undesirable result as the p value is less than .05. Except for the Shapiro-Wilk value of internet addiction, other values indicate that the sample group is significantly different from the population which violated the assumption. This result was accepted as it is difficult for large sample size study to obtain non-significant result in Kolmogorov-Smirnov and Shapiro-Wilk Test (Ghasemi & Zahediasl, 2012).

Multiple Linear Regression Assumptions

Type of variable. Firstly, the variable type of outcome variable must be in continuous scale. This assumption was met as Internet addiction was studied in interval scale.

Independence. The assumption of independence (Berry, 1993) between outcome variable was met as each respondent would not affect other respondents' behaviour.

Table 4.2

Coefficients

| Model | Standardized Coefficients | | | Collinearity Statistics | |
|-------|---------------------------|--------|------|-------------------------|-------|
| | Beta | t | Sig. | Tolerance | VIF |
| A_T | .280 | 5.532 | .000 | .863 | 1.158 |
| SE_T | -.174 | -3.450 | .001 | .863 | 1.158 |

Note. Low multicollinearity if tolerance > .10 and VIF < 10.

Multicollinearity. Multicollinearity assumption expects low inter-correlations between predictors by analysing the Variance Inflation Factor (VIF) and tolerance value. Table 4.2 showed that the VIF values are all less than 10 while tolerance values are all larger than .01 thus revealing that this assumption was met (Keith, 2006; Shieh, 2010).

Table 4.3

Model Summary

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
|-------|-------------------|----------|-------------------|----------------------------|---------------|
| 1 | .380 ^a | .145 | .140 | 13.394 | 1.736 |

Independent errors. Durbin Watson was used to test the assumption of independence of errors. Table 4.3 showed that the value of Durbin Watson was 1.736 which indicates congruent to the assumption.

Multivariate outliers. Cook's distance, Mahalanobis Distance, and Centred Leverage Distance were used to check multivariate outliers by using standard deviation of 2. The results of Cook's distance and Mahalanobis Distance showed that no single data exceeds their benchmark of 1 and 15 respectively (refer to Appendix F, pg. 81). The Centered Leverage Value is 0.023, which was calculated by the equation $3[(2 + 1)/391]$ where 2 is number of predictors and 391 is total sample size in the present study (Dhakal, 2017). Four cases exceeded the benchmark of Centered Leverage Distance, but these cases are not removed as they showed no violation in the other two distance.

Linearity, residual normality and homoscedasticity. In addition, the assumptions of linearity of residual, residual normality and lastly, homoscedasticity are required for regression analysis. The scatterplot showed that the assumptions for linearity, residual normality and homoscedasticity were met (Refers to Appendix G, pg. 82).

Descriptive Statistic

Table 4.4

Descriptive Statistics for Demographic Variables

| | <i>n</i> | <i>%</i> | <i>M</i> | <i>SD</i> |
|-----------------------------|----------|----------|----------|-----------|
| Demographic Variable | | | | |
| Age | | | 21.05 | 1.63 |
| Gender | | | | |
| Male | 147 | 37.6 | | |
| Female | 244 | 62.4 | | |
| Ethnicity | | | | |
| Malay | 11 | 2.8 | | |
| Chinese | 358 | 91.6 | | |
| Indian | 17 | 4.3 | | |
| Other | 5 | 1.3 | | |

The present study had collected a total number of 391 responses. All the participants are Malaysian emerging adults who aged between 18 – 25 ($M = 21.05$ years; $SD = 1.63$ years). Among these participants 37.6% of them are male ($n=147$) while 62.1% of them are female ($n=243$). There are 2.8% of Malay ($n=11$), 91.3% of Chinese ($n=358$), 4.3% of Indian ($n=17$), and 1.3% with other races ($n=5$) (Refers to Table 4.4).

Commented [m2]: 62.1% or 62.4% and female 243 or 244

Commented [m3]: 91.3 or 91.6%

Table 4.5

Descriptive Statistics for Main Variables

| | <i>n</i> | % | <i>M</i> | <i>SD</i> |
|------------------------------|----------|------|----------|-----------|
| <u>Main Variables</u> | | | | |
| Anxiety | | | 17.08 | 12.11 |
| Low (0-21) | 275 | 70.3 | | |
| Medium (22-35) | 81 | 20.7 | | |
| High (36-63) | 35 | 9.0 | | |
| Internet Addiction | | | 42.57 | 14.45 |
| Average (20-49) | 274 | 70.1 | | |
| Medium (50-79) | 114 | 29.2 | | |
| Severe (80-100) | 3 | 0.8 | | |

According to Beck (1998), the respondents of Beck Anxiety Inventory (BAI) with score lower than 22 are considering as low anxiety individual. Respondents with score between 22 to 35 are people with moderate anxiety. Respondents who scored 36 and above are assumed to have potentially concerning level of anxiety. 70.3% of participants ($n=275$) are having low-anxiety, 20.7% ($n=81$) having moderate anxiety and 9.0% of them ($n=35$) having high level of anxiety. Besides that, Young (1998) suggested that the respondents of Internet Addiction Test (IAT) with score of 20 to 49 are average online user. Respondents with score 50 to 79 are experiencing occasional or frequent problems because of the Internet. Lastly, those scored 80 to 100 in IAT are considered as severe Internet addiction. Among the participants of present study, 70.08% of them are average online user ($n=274$), 29.16% of moderate online user ($n=114$) while only 0.77% of them ($n=3$) are severe internet users (Refers to Table 4.5).

Independent Sample t-test

Research Question 1: Is there a significant gender difference in internet addiction among emerging adults?

Table 4.6

Independent Sample t-test

| | Internet Addiction | | | | | |
|--------|--------------------|----------|-----------|----------|------|----------|
| | <i>n</i> | <i>M</i> | <i>SD</i> | <i>t</i> | d.f. | <i>p</i> |
| Male | 147 | 43.07 | 14.33 | .53 | 389 | .59 |
| Female | 244 | 42.26 | 14.54 | | | |

Note. Significant at $p < .05$.

H1: There is a significant gender difference in internet addiction among emerging adults.

An independent-sample t-test was conducted to study whether gender difference exist in internet addiction among emerging adults in Malaysia. As despite from Table 4.6, there was no a significant difference, $t(389) = .534, p = .594$. Mean of IAT score for male ($M=43.07, SD=14.33$) was slightly higher than mean for female ($M=42.26, SD=14.54$) (Refers to Appendix H, pg. 83). The results fail to support the H1 in present study as there is no significant gender difference in internet addiction.

Pearson Product-Moment Correlation

Research Question 2: Is there any significant relationship between anxiety and self-esteem?

Table 4.7

Correlations between Anxiety and Self-esteem

| | Self-Esteem | | |
|---------|-------------|----------|------|
| | <i>r</i> | <i>p</i> | d.f. |
| Anxiety | -.37** | .00 | 389 |

Note. **. Correlation is significant at the 0.01 level (2-tailed).

H2: There is a significant relationship between anxiety and self-esteem.

A Pearson product-moment correlation was run to determine the relationship between anxiety and self-esteem among Malaysian in emerging adulthood (Refers to Appendix I, pg. 84). The results showed that there was a medium, negative correlation between anxiety and self-esteem, which was statistically significant ($r = -.37, n = 391, p < .005$) (refer to Table 4.7). The H2 was supported by this result.

Multiple Linear Regression

Research Question 3: Will anxiety and self-esteem predict internet addiction?

Table 4.8

Correlations between Anxiety and Self-esteem with Internet Addiction

| | Internet Addiction | | |
|-------------|--------------------|----------|------|
| | <i>r</i> | <i>p</i> | d.f. |
| Anxiety | .34** | .00 | 389 |
| Self-esteem | -.28** | .00 | 389 |

Note. **. Correlation is significant at the 0.01 level (2-tailed).

Table 4.9

Multiple Regression of Anxiety and Self-Esteem on Internet Addiction

| | Internet Addiction | | | | | | |
|-------------|--------------------|---------|----------|----------|------|------|---------------------|
| | <i>t</i> | β | <i>p</i> | <i>F</i> | d.f. | Sig. | adj. R ² |
| Anxiety | 5.53 | .28*** | .000 | 32.80 | 388 | .000 | 0.14 |
| Self-Esteem | -3.45 | -.17** | .001 | | | | |

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

H3: Anxiety and self-esteem will predict internet addiction.

Multiple regression analysis was used to test if the anxiety and self-esteem significantly predicted internet addiction among emerging adults (Refers to Appendix J, pg. 85). The model was statistically significant, $F(2, 388) = 32.801$, $p < .001$ and accounted for 14% of the variance. It was found that anxiety and self-esteem significantly predicted internet addiction while anxiety ($\beta = .280$, $p < .001$) have stronger prediction power than self-esteem ($\beta = -.174$, $p = .001$) (Refer to Table 4.9). Thus, H3 was supported in the present study.

Chapter V

Discussion and Conclusion

Introduction

The objective of this study was to assess whether self-esteem and anxiety could affect internet addiction among emerging adulthood. The findings from present study proved that there is no gender differences in internet addiction; anxiety and self-esteem were significantly related as well as anxiety and self-esteem both have a significant outcome on internet addiction.

Gender Difference in Internet Addiction

The independent sample t-test shown that there is no significant gender difference in the internet addiction among emerging adults in Malaysia, $t(389) = .53, p = .59$. However, mean of IAT score for male ($M=43.07, SD=14.33$) was slightly higher than female ($M=42.26, SD=14.54$). The result did not support the hypothesis suggested in current study which stated that there is a significant gender difference in the internet addiction.

The result was consistent with one of the past studies by Odaci (2011) which indicated that males and females did not differ in the inclination to internet addiction, with the explanation that this may be due to the increase of internet accessibility and the technology advancement which met the daily-needs such as learning knowledge, enjoying game, interaction with others and online shopping. In the past, males' addiction to online games were well-documented (Rudolph, Klemz, & Asquith, 2013; Xu, Turel, & Yuan, 2012). However, the function of internet is not only constrained to online games nowadays, social media such as Facebook and Instagram also became well-accepted. Therefore, females who tend to value the sense of belonging started to involve more in different social activities through social network (Babalola, 2019) thus making the usage of internet among males and females became comparable.

Weinstein et al. (2015) also agreed that there is no significant gender difference in internet addiction among emerging adults, however, it is disagreed by some of the past studies (Gnisci, Perugini, Pedone, & Conza, 2011; Shahnaz et al., 2014) which claimed that males have higher level of internet addiction. The possible reason suggested by Weinstein et al. (2015) about the inconsistent of studies may be due to the cultural differences in term of the anticipation towards different gender. In some countries, males are expected to be emphasized on “fearless, strong and assertive”, whereas females to be “sensitive, soft and kind”. Hence, due to the desire to succeed in online games, the ambitious males may be more susceptible to internet addiction (Cho, Sung, Shin, Lim, & Shin, 2013). In other words, this culture may be not applicable in Malaysia, therefore, there is no significant gender difference found in internet addiction among the emerging adults.

Anxiety and Self-esteem

The Pearson Product-Moment Correlation showed that there was a medium, negative correlation between anxiety and self-esteem, which was statistically significant ($r = -.37, n = 391, p = .005$). The result had supported the second hypothesis in which there is a significant relationship between anxiety and self-esteem.

The result tallied with the past study by Zare et al. (2012) that the possible reason for the negative relationship between anxiety and self-esteem may be due to the ability of people with high self-esteem to cope with challenges. The more ability the people have to address the difficulties, there were be less anxiety. However, if people fail to enhance their self-worth by coping life issues effectively, it can be psychologically and emotionally threatening as they may think that they cannot fit into the social settings and being rejected by others (Lawrence & Williams, 2013). Therefore, self-esteem, which also incorporate both the ability

to feel the value of happiness and to cope with life difficulties effectively became a vital determinant for mental health and development (Melnik et al., 2016).

Abdollahi et al. (2016) also agreed that there is a negative relationship between self-esteem and anxiety, with the insight that people with low self-esteem tend to concern with others negative evaluation. They will try to avoid any social situation due to fear of rejection. However, when it is necessary to engage in a social setting, they may become anxious due to the overwhelming of any possible negative evaluations by others thus decreasing their self-esteem. In short, the negative cycle shown the inevitable negative relationship between anxiety and self-esteem.

According to the cognitive model of anxiety (Clark & Beck, 2010), people's cognition on how they evaluate themselves build an essential part for anxiety. If there is a negative thought in oneself, this will raise the anxiety in the social context, and this risen anxiety in turn, will further worsen the negative thought (Blöte, Miers, Van, & Westenberg, 2018). Again, this model may explain the negative relationship between the anxiety and self-esteem.

Anxiety, Self-esteem and Internet Addiction

The objective of this study was to assess whether self-esteem and anxiety could affect internet addiction among emerging adulthood. The findings from this present study proved that there is no gender differences in internet addiction, $t(389) = .53, p = .59$; anxiety and self-esteem were significantly related ($r = -.37, n = 391, p < .005$) as well as anxiety and self-esteem both have a significant outcome on internet addiction anxiety ($\beta = .28, p < .001$; $\beta = -.17, p = .001$).

The Multiple Linear Regression shown that both of the variables, anxiety and self-esteem significantly predicted internet addiction among Malaysia's emerging adulthood. In addition, anxiety posed stronger prediction power than self-esteem. The result supports the

hypothesis claimed in present study which indicated that anxiety and self-esteem predict internet addiction.

Current research has demonstrated that anxiety could predict internet addiction which show consistency with a past study by Akin and Iskender (2011). Their findings indicated that people with higher anxiety level is more likely to develop internet addiction. This current result was also supported by few past studies, indicating positive association between anxiety and internet addiction (Weinstein et al., 2015; Köksal, 2017; Gupta et al., 2018; Masih et al., 2019). Emerging adults preferred to use internet as a coping mechanism in order to avoid undesirable life events or social communication. Internet offers individual a place for social interaction that potentially stay away from synchronous communication, since they might consider face-to-face communication could trigger their anxiety level. Besides, people nowadays tend to use internet as a platform to maintain relationship and perform daily routine such as online shopping or for entertainment purpose. In short run, internet could temporarily reduce someone's anxiety level (Campbell et al., 2006).

Mozafari, Sepahvandi and Ghazanfari (2018) agreed the predictive effect of social anxiety toward internet addiction. People with social anxiety lack effective communication skill may result in inability to develop close relationship (Mozafari et al., 2018). Human beings are in need to have an intimate relationship with another human being. Hence, people with social anxiety is able to conceal their fear in this virtual world. Using internet as a way to alleviate anxiety was rewarding at the initial try but individual most probably would go back to internet once they perceived threatening events in real life situation. Individuals with higher anxiety level are more likely to use internet for recreation purpose and less likely for social communication (Weinstein et al., 2015).

The result of this study indicated that self-esteem was a significant predictor of internet addiction which was in line with the past research of Blachnio et al. (2019). They highlighted that individual with lower self-esteem has higher tendency to develop the problem of excessive internet usage because they regard internet as a way to improve their self-evaluation. People with lower self-worth found that face-to-face socialization is challenging and online chatting could let them socialize comfortably. Yao et al. (2014) research explained that people who lack of self-esteem could have increased security by being able to manage their impression and self-presentation online thus improving the sense of belonging. Therefore, negative self-evaluation inclined to lead someone addicted to internet as they perceived internet could bring a lot of advantages to their self-worth.

Aydon and Sari (2011) also opined that social self-esteem is a negative predictor of internet addiction. This could be due to the reason that individual tends to value their peer relationship and it could impact their self-esteem. When having negative self-evaluation in peer relationships, an individual may develop dependent behaviors such as internet addiction for the purpose of keeping them away from these stressful relationships (Craig, 1995). From an internet user's viewpoint, internet could serve as a compensation for some limitations such as low self-esteem. Individual with lower self-esteem perceived internet as a way to increase their satisfaction by achieving some online accomplishment for instances online gaming (Arafa et al., 2019) and develop a better social identity on this virtual world. The newly created social identity could counteract their negative perception of themselves.

Conclusion

In conclusion, the current findings support the hypothesis and achieve the aim of this study which intended to determine the predictive effect of anxiety and self-esteem ($\beta = .28$, $p < .001$; $\beta = -.17$, $p = .001$) on internet addiction among emerging adulthood. This result is

paralleled to these previous findings (Weinstein et al., 2015; Köksal, 2017; Gupta et al., 2018; Masih et al., 2019; Blachnio et al., 2019; Yildirim et al., 2018; Arafa et al., 2019; Kırçaburun, 2016; Fortes et al., 2016) which respectively supported that self-esteem and anxiety could predict the prevalence and the level of severity of internet addiction. This finding suggested that anxiety as an unpleasant emotional state and self-esteem as an evaluation of self-worth both serve as a contributing factor to internet addiction.

Theoretical Implication

Current study could contribute to the larger community in several patterns. It alerts the society to pay extra concern and focus on internet addiction issue among the emerging adults. Furthermore, this study also offers some informative resources for further understanding the level of anxiety and self-esteem when addressing this addictive behavior.

Result of this study had contributed to the theories used in this study which are self-medication hypothesis (SMH), self-determination theory, and the cognitive behavioral model. When individual faces emotional instability or emotional distress, they are prone to find a way to relieve their unpleasant mood and the way is more likely to be addictive behavior. Hence, finding of this present study advocated that people with anxiety is more likely to immerse into internet was actually well matched with self-medication hypothesis. As this study indicated that people with lower self-esteem is more addicted to internet because internet provides them a space to create a new preferable identity and manage their images which they fail to acquire it in their real life setting. Therefore, this result was compatible with self-determination theory which emphasized that people wish to have sense of autonomy and control in their life as it is crucial to their well-being.

These theories offer an in-depth understanding that emerging adulthood with either self-esteem issue or anxiety issue is at risk in developing internet addiction. Consequently,

these theories could be applied in this topic in future and also in Malaysia context as those findings in this study was congruent with the stated theories.

Practical Implication

In a nutshell, results obtained from this study are beneficial to people from all walks of life such as the targeted sample, society, educationalist, parents and also the legal authorities. It helps to raise awareness and comprehend the cons that could bring by overly-addicted to internet, thus building up the knowledge of the symptom of having internet addiction. Therefore, behaviors of internet addiction should take in consideration of anxiety plus self-esteem and efforts should evolved and taken to improve emerging adults' psychological and physiological well-being.

In this case, mental health professions could have a better apprehension about the dynamics of the correlation between these two variables (anxiety and self-esteem) studied with regard to internet addiction. They could gain insights in developing useful intervention or prevention as well as modifying current treatment techniques in order to tailor with present challenges and the uniqueness of individual. For examples, they can target the most vital factor that potentially lead the targeted population into addictive behaviors, also identify some useful solution in order to prevent internet addiction.

Moreover, school counsellor or social workers could organize some workshops in helping students to learn more about functional coping strategies instead of merely avoiding issue they faced. Effective problem solving skills should also be addressed. Individuals are encouraged to be aware of the inconsistency found between their real-self and virtual self. Once they noticed the warning sign of addictive behaviors, they are motivated to seek for professional help.

In addition, closest caregivers or parents should always be aware of their children's behaviors such as the length of time their child spent in using internet. Once parents detected that their children internet usage of time is out of proportion, parents should discuss and find some solutions for their addiction. Hence, it could somewhat aid in preventing their children from further immersed in using internet without control. Public or university could take action in setting up some awareness campaign, highlighting the importance of the risk of addictive behaviors and internet addiction in terms of physical and psychological well-being.

Limitation of Current Study

There are several limitations in the current study. First, the use of the cross-sectional study which only collect the data from participants once (Mann, 2003) and unable to trace the long-term development of their internet addiction. The study is unable to show the pattern of changes on internet addiction over time. This make the result less effective to draw the causal-effect between the gender, anxiety, self-esteem and internet addiction.

The second limitation of current study is language barrier. Since most of the participants in current study are Chinese, English may not be their mother-tongue language. The participants may have difficulties in understanding or misunderstand some of the items in Beck Anxiety Inventory (BAI) such as "wobbliness in legs" and "feeling of choking". In fact, some of the participants did approach the researchers or checked online dictionary in order to seek for the meaning of the words.

Next, the self-report questionnaire may have a social desirability bias. Social desirability bias means the inclination of participants to provide responses that fit the social desirable instead of selecting responses that reflect their real situation (Grimm, 2010). This kind of data may be provided by some participants who have high conformity to social norm

(Crowne & Marlowe, 1960). The results generated may be less accuracy if the participants did not participate in the survey honestly.

Recommendation for Future Study

To address the limitation of cross-sectional study, future study is recommended to use longitudinal study in order to determine the cause-and-effect connection between the variables (Caruana, Roman, Hernández-Sánchez, & Solli, 2015). By identifying the causal-effect more competency, better solution can be generated in order to solve the issue. Besides, longitudinal study can provide the developmental trend of internet addiction over time (Caruana et al., 2015). The result then could contribute to the research on human development.

Since the language proficiency may have an effect on the results, it is crucial for the future study to translate the survey into the main language of the participants or provide a bilingual survey. As Harzing, Reiche and Pudelko (2013) mentioned, making a translation form of survey into the main language of participants is extremely crucial. This can prevent the participants in guessing the meaning of words and therefore provided inaccurate answer.

Last but not least, in order to prevent the social desirable bias, future study could invite the close friends or parents who know the specific attributes or behaviors of the participants to provide data needed about the target participants. By doing so, more objective and accurate data can be generated. Besides, validity scale such as Marlowe-Crowne Social Desirability Scale (Crowne et al., 1960) can be used to cope this bias. The elements of detecting fake in the scale able to help the researchers to rule out the data that may be faking good and thus filter the invalid data (Lambert, Arbuckle, & Holden, 2016).

References

- Abdel-Khalek, A. M. (2007). Introduction of the psychology of self-esteem. *Nova Science Publishers*. Retrieved from <https://www.researchgate.net/publication/311440256>
- Abdollahi, A., & Abu Talib, M. (2015). Self-esteem, body-esteem, emotional intelligence, and social anxiety in a college sample: The moderating role of weight. *Psychology, Health & Medicine*, 1–5. doi:10.1080/13548506.2015.1017825
- Abdollahi, A., & Talib, M. A. (2015). Sedentary behaviour and social anxiety in obese individuals: The mediating role of body esteem. *Psychology, Health & Medicine*, 20(2), 205–209. doi:10.1080/13548506.2014.913799
- Abdollahi, A., Talib, M. A., Mobarakeh, M. R. V., Momtaz, V., & Mobarake, R. K. (2016). Body-Esteem mediates the relationship between self-esteem and social anxiety: The moderating roles of weight and gender. *Child Care in Practice*, 22(3), 296–308. doi:10.1080/13575279.2015.1054787
- Adaher, A., & Balkan, E. (2012). The relationship between internet addiction and psychological symptoms. *International Journal of Global Education*, 1(2), 42-49. Retrieved from <http://www.ijge.info/ojs/index.php/ijge/article/view/72/87>
- Akar, F. (2015). Purposes, causes and consequences of excessive internet use among Turkish adolescents. *Eurasian Journal of Educational Research*, 60, 35-56. doi:10.14689/ejer.2015.60.3
- Akin, A., & Iskender, M. (2011). Internet addiction and depression, anxiety and stress. *International Online Journal of Educational Sciences*, 3(1), 138-148. Retrieved from https://www.researchgate.net/publication/264550590_Internet_addiction_and_depression_anxiety_and_stress

- Amandeep, D., Sufen, C., & Marko, N. (2015). Psychometric validation of internet addiction test with Indian adolescents. *Journal of Educational Computing, 53*(1), 15–31.
doi:10.1177/07356331155597
- Andreassen, C. S., Pallesen, S., & Griffiths, M. D. (2017). The relationship between addictive use of social media, narcissism, and self-esteem: Findings from a large national survey. *Addictive Behaviors, 64*, 287–293. doi:10.1016/j.addbeh.2016.03.006
- Arafa, A., Mahmoud, O., & Salem, E. A. (2019). Excessive internet use and self-esteem among internet users in Egypt. *International Journal of Mental Health, 48*(2), 95-105.
Retrieved from <https://doi.org/10.1080/00207411.2019.1611167>
- Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist, 55*, 469 – 480.
<http://dx.doi.org/10.1037/0003-066X.55.5.469>
- Arnett, J. J. (2005). Emerging adulthood: Understanding the new way of coming of age. *Emerging Adults in America: Coming of Age in the 21st Century*, 3–19.
doi:10.1037/11381-001
- Ayas, T., & Horzum, M. B. (2010). Relation between depression, loneliness, self-esteem and internet addiction. *Education, 133*(3), 283-290. Retrieved from
https://www.academia.edu/9785098/RELATION_BETWEEN_DEPRESSION_LONELINESS_SELF-ESTEEM_AND_INTERNET_ADDICTION
- Aydm, B., & San, S. V. (2011). Internet addiction among adolescents: The role of self-esteem. *Procedia - Social and Behavioral Sciences, 15*, 3500–3505.
doi:10.1016/j.sbspro.2011.04.325

- Aydon, B., & Sari, S. V. (2011). Internet addiction among adolescents: The role of self-esteem. *Procedia Social and Behavioral Sciences*, *15*, 3500–3505.
doi:10.1016/j.sbspro.2011.04.325
- Azher, M. (2014). The relationship between internet addiction and anxiety among students of university of Sargodha. *International Journal of Humanities and Social Science*, *4*(1), 288-292. Retrieved from
https://www.ijhssnet.com/journals/Vol_4_No_1_January_2014/33.pdf
- Babalola, O. B. (2019). Gender differences on the influence of peer relations and behavioural pattern of internet usage on internet addiction among Youths in Osun State, Nigeria. *Gender & Behaviour*, *17*(4), Retrieved from
<http://eds.a.ebscohost.com.libezp2.utar.edu.my/eds/pdfviewer/pdfviewer?vid=0&sid=74f75f2d-6f78-40cf-85ea-c3b2d7b49836%40sessionmgr4006>
- Bahrainian, S., Alizadeh, K. H., Raeisoon, M., Gorji, O. H., & Khazae, A. (2014). Relationship of internet addiction with self-esteem and depression in university students. *Journal of Preventive Medicine and Hygiene*, *55*, 86-89. Retrieved from:
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4718307/>
- Barlow, D. H. (2002). *Anxiety and its disorders: The nature and treatment of anxiety and panic*. (2nd ed). New York, NY: Guilford Press.
- Beck, A. T., Epstein, N., Brown, G., & Steer, R. A. (1988). An inventory for measuring anxiety: Psychometric properties. *Journal of Consulting and Clinical Psychology*, *56*, 893-897. doi:10.1037//0022-006x.56.6.893
- Berry, W. D. (1993). *Understanding regression assumptions. Sage university paper series on quantitative applications in the social sciences*. Newbury Park, CA: Sage.

- Bigdeli, S. (2010). Affective learning: The anxiety construct in adult learners. *Procedia-Social and Behavioral Sciences*, *9*, 674-678.
<https://doi.org/10.1016/j.sbspro.2010.12.216>
- Błachnio, A., Przepiorka, A., Benvenuti, M., Mazzoni, E., & Seidman, G. (2019). Relations between Facebook intrusion, internet addiction, life satisfaction, and self-esteem: A study in Italy and the USA. *International Journal of Mental Health and Addiction*, *17*(4), 793-805. Retrieved from <https://link.springer.com/article/10.1007/s11469-018-0038-y>
- Block, J. J. (2008). Issues for DSM-V: Internet addiction. *American Journal of Psychiatry*, *165*(3), 306–307. doi:10.1176/appi.ajp.2007.07101556
- Blöte, A. W., Miers, A. C., Van den Bos, E., & Westenberg, P. M. (2018). The role of performance quality in adolescents' self-evaluation and rumination after a speech: Is it contingent on social anxiety level? *Behavioural and Cognitive Psychotherapy*, *1–16*. doi:10.1017/s1352465818000310
- Bryant, J., & Zillmann, D. (1984). Using television to alleviate boredom and stress: Selective exposure as a function of induced excitational states. *Journal of Broadcasting*, *28*(1), 1–20. doi:10.1080/08838158409386511
- Campbell, A. J., Cumming, S. R., & Hughes, I. (2006). Internet use by the socially fearful: Addiction or therapy? *CyberPsychology & Behavior*, *9*(1), 69–81.
doi:10.1089/cpb.2006.9.69
- Caplan, S. E. (2002). Problematic internet use and psychosocial well-being: Development of a theory-based cognitive behavioral measurement instrument. *Computers in Human Behavior*, *18*(5), 553-575. [http://dx.doi.org/10.1016/S0747-5632\(02\)00004-3](http://dx.doi.org/10.1016/S0747-5632(02)00004-3).

- Caruana, E. J., Roman, M., Hernández-Sánchez, J., & Solli, P. (2015). Longitudinal studies. *Journal of Thoracic Disease*, 7(11), E537-E540. doi:10.3978/j.issn.2072-1439.2015.10.63\
- Chak, K., & Leung, L. (2004). Shyness and locus of control as predictors of internet addiction and internet use. *CyberPsychology & Behavior*, 7, 559–570. doi:10.1089/1094931042403073
- Chen, K. C., & Jang, S. J. (2010). Motivation in online learning: Testing a model of self-determination theory. *Computers in Human Behavior*, 26(4), 741–752. doi:10.1016/j.chb.2010.01.011
- Cherian, A., Anand, N., Jain, P., Prabhu, S., Thomas, C., Bhat, A., . . . Young, K. (2018). Internet use patterns, internet addiction, and psychological distress among engineering university students: A study from India. *Indian Journal of Psychological Medicine*, 40(5), 458. doi:10.4103/ijpsym.ijpsym_135_18
- Cherry, K., (2019). Self-determination theory and motivation. Retrieved from <https://www.verywellmind.com/what-is-self-determination-theory-2795387>
- Chiu, S., Hong, F., & Chiu, S. (2013). An analysis on the correlation and gender difference between college students' internet addiction and mobile phone addiction in Taiwan. *ISRN Addiction*, 2013, 1-10. doi:10.1155/2013/360607
- Cho, S., Sung, M., Shin, K., Lim, K., & Shin, Y. (2013). Does psychopathology in childhood predict internet addiction in male adolescents? *Child Psychiatry & Human Development*, 44(4), 549-555. doi:10.1007/s10578-012-0348-4

- Čisar, P., & Čisar, S. M. (2010). Skewness and kurtosis in function of selection of network traffic distribution. *Acta Polytechnica Hungarica*, 7(2), 95-106. Retrieved from https://www.uni-obuda.hu/journal/Cisar_Cisar_23.pdf
- Clark, D. A., & Beck, A. T. (2010). *Cognitive therapy of anxiety disorders: Science and practice*. New York: Guilford Press.
- Cook, R. D., & Weisberg, S. (1982). *Residuals and influence in regression*. New York, NY: Chapman and Hall.
- Craig, R. J. (1995). The role of personality in understanding substance abuse. *Alcoholism Treatment Quarterly*, 13(1), 17–27. doi:10.1300/j020v13n01_02
- Crossman, A. (2019). What you need to understand about purposive sampling. Retrieved from <https://www.thoughtco.com/purposive-sampling-3026727>.
- Crowne, D. P., & Marlowe, D. (1960). A new scale of social desirability independent of psychopathology. *Journal of Consulting Psychology*, 24(4), 349–354. Retrieved from <https://doi.org/10.1037/h0047358>
- Dai, Q. (2016). Gender, grade and personality differences in internet addiction and positive psychological health among Chinese college students. *Primary Health Care Open Access*, 6(4). doi:10.4172/2167-1079.1000248
- Das, K. R. & Imon, A. H. M. R. (2016). A brief review of tests for normality. *American Journal of Theoretical and Applied Statistics*, 5(1), 5-12. doi:10.11648/j.ajtas.20160501.12
- Davis, R. A. (2001). A cognitive-behavioral model of pathological Internet use. *Computers in Human Behavior*, 17(2), 187–195. doi:10.1016/s0747-5632(00)00041-8

- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum.
- Dhakal, C. P. (2017). Dealing with outliers and influential points while fitting regression. *Journal of Institute of Science and Technology*, 22(1), 61-65.
doi:10.3126/jist.v22i1.17741
- Dodes, L.M. (2002). *The Heart of Addiction*. New York: HarperCollins.
- Douglas, A. C., Mills, J. E., Niang, M., Stepchenkova, S., Byun, S., Ruffini, C., ... Blanton, M. (2008). Internet addiction: Meta-synthesis of qualitative research for the decade 1996–2006. *Computers in Human Behavior*, 24(6), 3027–3044.
doi:10.1016/j.chb.2008.05.009
- Ebeling-Witte, S., Frank, M. L., & Lester, D. (2007). Shyness, internet use, and personality. *CyberPsychology & Behavior*, 10(5), 713–716. doi:10.1089/cpb.2007.9964
- Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. *American Journal of Theoretical and Applied Statistics*, 5(1), 1-4. doi:10.11648/j.ajtas.20160501.11
- Evan, E., Schweingruber, H., & Stevenson, W. (2002). Gender differences in interest and knowledge acquisition: The United States, Taiwan, and Japan. *Sex Roles*, 47(3), 153-167. doi:10.1023/A:1021047122532
- Fortes, L. S., & Fernandes, M. (2016). The effect of mobile and internet addiction on self-esteem among adolescents. *International Journal of English Language, Literature and Humanities*, 4(9), 200-209. Retrieved from <https://ijellh.com/OJS/index.php/OJS/article/download/1628/1577/>

- George, D., & Mallery, P. (2010). *SPSS for Windows step by step: A simple guide and reference* (10th ed.). Boston: Allyn & Bacon.
- Gharib, M. N., Jamil, S. A., Ahmad, M., & Ghouse, S. (2016). The impact of job stress on job performance: A case study on academic staff at Dhofar university. *International Journal of Economic Research*, *13*(1), 21-33. Retrieved from https://www.researchgate.net/publication/302258258_The_impact_of_job_stress_on_job_performance_A_case_study_on_academic_staff_at_dhofar_university
- Ghasemi, A., & Zahediasl, S. (2012). Normality tests for statistical analysis: A guide for non-statisticians. *International Journal of Endocrinology and Metabolism*, *10*(2), 486–489. doi:10.5812/ijem.3505
- Gnisci, A., Perugini, M., Pedone, R., & Conza, A. D. (2011). Construct validation of the use, abuse and dependence on the internet inventory. *Computers in Human Behavior*, *27*(1), 240-247. doi:10.1016/j.chb.2010.08.002
- Greenberg, J., Pyszczynski, T., & Solomon, S. (1986). The causes and consequences of a need for self-esteem: A terror management theory. *Public Self and Private Self*, 189–212. doi:10.1007/978-1-4613-9564-5_10
- Greenberg, J., Solomon, S., Pyszczynski, T., Rosenblatt, A., Burling, J., Lyon, D., . . . Simon, L. (1992). Why do people need self-esteem? Converging evidence that self-esteem serves an anxiety-buffering function. *Journal of Personality and Social Psychology*, *63*, 913–922. doi:10.1037//0022-3514.63.6.913
- Griffiths, M. (2000). Does internet and computer "addiction" exist? Some case study evidence. *CyberPsychology and Behavior*, *3*(2), 211–218. doi:10.1089/109493100316067

- Grimm, P. (2010). Social desirability bias. *Wiley International Encyclopedia of Marketing*. doi:10.1002/9781444316568.wiem02057
- Gupta, A., Khan, A. M., Rajoura, O. P., & Srivastava, S. (2018). Internet addiction and its mental health correlates among undergraduate college students of a university in North India. *Journal of Family Medicine and Primary Care*, 7(4), 721-727. doi:10.4103/jfmpe.jfmpe_266_17
- Hahn, E., Reuter, M., Spinath, F. M., & Montag, C. (2017). Internet addiction and its facets: The role of genetics and the relation to self-directedness. *Addictive Behaviors*, 65, 137–146. doi:10.1016/j.addbeh.2016.10.018
- Harzing, A. W., Reiche, B. S., & Pudelko, M. (2013). Challenges in international survey research: A review with illustrations and suggested solutions for best practice. *European Journal of International Management*, 7(1), 112. doi:10.1504/ejim.2013.052090
- Hofmann, S. G. (2007). Cognitive factors that maintain social anxiety disorder: A comprehensive model and its treatment implications. *Cognitive Behaviour Therapy*, 36(4), 193–209. doi:10.1080/16506070701421313
- Ifdil, I., Putri, Y. E., Fadli, R. P., Erwinda, L., Suranata, K., Ardi, Z., . . . Rangka, I. B. (2018). Measuring internet addiction: Comparative studies based on gender using Bayesian analysis. *Journal of Physics: Conference Series*, 1114. doi:10.1088/1742-6596/1114/1/012073
- Kandell, J. J. (1998). Internet addiction on campus: The vulnerability of college students. *CyberPsychology & Behavior*, 1(1), 11–17. doi:10.1089/cpb.1998.1.11

- Kapahi, A., Ling, C. S., Ramadass, S., & Abdullah, N. (2013). Internet addiction in Malaysia causes and effects. *iBusiness*, *5*(2), 72-76. doi:10.4236/ib.2013.52009
- Karakus, T., Inal, Y., & Cagiltay, K. (2008). A descriptive study of Turkish high school students' gameplaying characteristics and their considerations concerning the effects of games. *Computers in Human Behavior*, *24*(6), 2520-2529. doi:10.1016/j.chb.2008.03.011
- Karatatar, H., & Cihan, H. (2019). The mediator role of personality traits between the relationship of perceived parenthood style and relationship satisfaction in emerging adulthood. *International Journal of Eurasia Social Sciences*, *10*(36), 629–658. Retrieved from <http://search.ebscohost.com.libezp2.utar.edu.my/login.aspx?direct=true&db=a9h&AN=138077699&site=eds-live&scope=site>
- Keith, T. (2006). *Multiple Regression and Beyond*. Boston, MA: Allyn & Bacon.
- Kelly, C. S., Berg, C. A., Lansing, A. H., Turner, S. L., Munion, A. K., Tracy, E. L., & Wiebe, D. J. (2019). Keeping parents connected in early emerging adulthood: Diabetes-related disclosure and solicitation. *Journal of Family Psychology*, *33*(7), 809–818. <https://doi.org/10.1037/fam0000565>
- Keser, H., Esgi, N., Kocadağ, T., & Bulu, S. (2013). Validity and reliability study of the internet addiction test. *Mevlana International Journal of Education*, *3*(4), 207-222. doi:10.13054/mije.13.51.3.4
- Khantzian, E. J. (1985). The self-medication hypothesis of addictive disorders: Focus on heroin and cocaine dependence. *The American Journal of Psychiatry*, *142*(11), 1259-1264. doi:10.1176/ajp.142.11.1259

- Khantzian, E. J. (1997). Self-regulation factors in Cocaine dependence — A clinical perspective. *Substance Use & Misuse*, *32*(12), 1769–1774.
doi:10.3109/10826089709035579
- Khantzian, E. J. (2003). Understanding addictive vulnerability: An evolving psychodynamic perspective. *Neuropsychoanalysis*, *5*(1), 5–21. doi:10.1080/15294145.2003.10773403
- Kim, H. K., & Davis, K. E. (2009). Toward a comprehensive theory of problematic Internet use: Evaluating the role of self-esteem, anxiety, flow, and the self-rated importance of Internet activities. *Computers in Human Behavior*, *25*(2), 490–500.
doi:10.1016/j.chb.2008.11.001
- Kim, N., Hughes, T. L., Park, C. G., Quinn, L., & Kong, I. D. (2016). Resting-state peripheral catecholamine and anxiety levels in Korean male adolescents with internet game addiction. *Cyberpsychology, Behavior, and Social Networking*, *19*(3), 202–208.
doi:10.1089/cyber.2015.0411
- King, D. L., & Delfabbro, P. H. (2016). The cognitive psychopathology of Internet Gaming Disorder in adolescence. *Journal of Abnormal Child Psychology*, *44*(8), 1635–1645.
doi:10.1007/s10802-016-0135-y
- King, K. M., Karyadi, K. A., Luk, J. W., & Patock-Peckham, J. A. (2011). Dispositions to rash action moderate the associations between concurrent drinking, depressive symptoms, and alcohol problems during emerging adulthood. *Psychology of Addictive Behaviors*, *25*(3), 446–454. doi:10.1037/a0023777
- Kircaburun, K. (2016). Self-esteem, daily internet use and social media addiction as predictors of depression among Turkish adolescents. *Journal of Education and Practice*, *7*(24), 64–72. Retrieved from <https://www.academia.edu/28161910/Self->

Esteem_Daily_Internet_Use_and_Social_Media_Addiction_as_Predictors_of_Depression_among_Turkish_Adolescents

Ko, C. H., Yen, J. Y., Yen, C. F., Chen, C. S., & Chen, C. C. (2012). The association between Internet addiction and psychiatric disorder: A review of the literature. *European Psychiatry*, 27(1), 1–8. doi:10.1016/j.eurpsy.2010.04.011

Koç, V., & Kafa, G. (2019). The roles of self-esteem and attachment within the framework of terror management theory. *Psikiyatride Güncel Yaklaşımlar-Current Approaches in Psychiatry*, 11(1), 129-139. doi:10.18863/pgy.419330

Köksal, H. (2017). The relationship between internet addiction and depression, anxiety, and stress among IUS students. *International University of Sarajevo*. Retrieved from https://www.academia.edu/34167817/THE_RELATIONSHIP_BETWEEN_INTERNET_ADDICTION_AND_DEPRESSION_ANXIETY_AND_STRESS_AMONG_IUS_STUDENTS

Kong, F., Wang, X., & Zhao, J. (2014). Dispositional mindfulness and life satisfaction: The role of core self-evaluations. *Personality and Individual Differences*, 56, 165–169. doi:10.1016/j.paid.2013.09.002

Kraut, R., Patterson, M., Lundmark, V., Kiesler, S., Mukophadhyay, T., & Scherlis, W. (1998). Internet paradox: A social technology that reduces social involvement and psychological well-being? *American Psychologist*, 53(9), 1017–1031. doi:10.1037//0003-066x.53.9.1017

Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30(3), 607-610. doi:10.1177/00131644700300030

- Kumar, M., & Mondal, A. (2018). A study on internet addiction and its relation to psychopathology and self-esteem among college students. *Industrial Psychiatry Journal*, 27(1), 61. doi:10.4103/ipj.ipj_61_17
- Lai, C., Mak, K., Watanabe, H., Jeong, J., Kim, D., Bahar, N., . . . Cheng, C. (2015). The mediating role of Internet addiction in depression, social anxiety, and psychosocial well-being among adolescents in six Asian countries: a structural equation modelling approach. *Public Health*, 129(9), 1224–1236. doi:10.1016/j.puhe.2015.07.031
- Lambert, C., Arbuckle, S., & Holden, R. (2016). The Marlowe–Crowne Social Desirability Scale outperforms the BIDR Impression Management Scale for identifying fakers. *Journal of Research in Personality*, 61, 80-86. doi:10.1016/j.jrp.2016.02.004
- Lane, J. A., & Fink, R. S. (2015). Attachment, social support satisfaction, and well-being during life transition in emerging adulthood. *The Counseling Psychologist*, 43(7), 1034–1058. doi:10.1177/0011000015592184
- Lane, J. A., Leibert, T. W., & Goka-Dubose, E. (2017). The impact of life transition on emerging adult attachment, social support, and well-being: A multiple-group comparison. *Journal of Counseling and Development*, 95(4), 378–388. doi:10.1002/jcad.12153
- Lawrence, J., & Williams, A. (2013). Anxiety explains why people with domain-contingent self-worth underperform on ability-diagnostic tests. *Journal of Research in Personality*, 47(3), 227-232. doi:10.1016/j.jrp.2013.01.004
- Leung, L., & Lee, P. S. (2012). Impact of internet literacy, internet addiction symptoms, and internet activities on academic performance. *Social Science Computer Review*, 30(4), 403-418. doi:10.1177/0894439311435217

- Li, G., Hou, G., Yang, D., Jian, H., & Wang, W. (2019). Relationship between anxiety, depression, sex, obesity, and internet addiction in Chinese adolescents: A short-term longitudinal study. *Addictive Behaviors, 90*, 421–427.
doi:10.1016/j.addbeh.2018.12.009
- Longworth, C., Deakins, J., Rose, D., & Gracey, F. (2016). The nature of self-esteem and its relationship to anxiety and depression in adult acquired brain injury. *Neuropsychological Rehabilitation, 28*(7), 1078–1094.
doi:10.1080/09602011.2016.1226185
- Malaysia demographic profile 2018. (2018). Retrieved from
https://www.indexmundi.com/malaysia/demographics_profile.html
- Malaysian National News Agency. (2017). Internet addiction in Malaysia at epidemic proportions: MCMC study. *New Straits Times*. Retrieved from
<https://www.nst.com.my/news/nation/2017/12/315031/internet-addiction-malaysia-epidemic-proportions-mcmc-study>
- Mann, C. J. (2003). Observational research methods. Research design II: Cohort, cross sectional, and case-control studies. *Emergency Medicine Journal, 20*, 54-60.
Retrieved from <https://emj.bmj.com/content/emered/20/1/54.full.pdf>
- Maroofi, F., Nazaripour, M., & Maaznezhad, S. (2012). Connections between anxiety and job satisfaction. Three accesses ‘bottom-up’, ‘top-down’ and ‘transactional’. *International Journal of Academic Research in Accounting, Finance and Management Sciences, 2*(3), 119-135. Retrieved from <http://hrmars.com/admin/pics/1265.pdf>
- Martín-Albo, J., Núñez, J. L., Navarro, J. G., & Grijalvo, F. (2007). The Rosenberg self-esteem scale: Translation and validation in university students. *The Spanish Journal of Psychology, 10*(2), 458-467. Retrieved from

https://www.researchgate.net/publication/5853773_The_Rosenberg_Self-Esteem_Scale_Translation_and_Validation_in_University_Students

- Masih, J., & Rajkumar, R. (2019). Internet addiction disorder and mental health in adolescents. *Journal of Depression and Anxiety, 13*, 1-3. doi:10.4172/2167-1044.S13-002
- Meerkerk, G. J., Eijnden, R. V. D., Franken, I., & Garretsen, H. (2010). Is compulsive internet use related to sensitivity to reward and punishment, and impulsivity? *Computers in Human Behavior, 26*(4), 729–735. doi:10.1016/j.chb.2010.01.009
- Melnyk, B., Small, L., Morrison-Beedy, D., Strasser, A., Spath, L., Kreipe, R., . . . Van-Blankenstein, S. (2006). Mental health correlates of healthy lifestyle attitudes, beliefs, choices, and behaviors in overweight adolescents. *Journal of Pediatric Health Care, 20*(6), 401-406. doi:10.1016/j.pedhc.2006.03.004.
- Mihăilescu, A., Diaconescu, L., Ciobanu, A., Donisan, T., & Mihăilescu, C. (2016). The impact of anxiety and depression on academic performance in undergraduate medical students. *European Psychiatry, 33*, S284. doi:10.1016/j.eurpsy.2016.01.761
- Mohammadkhani, P., Alkasir, E., Pourshahbaz, A., Dehkordi, F. J., & Sefat, E. S. (2017). Research paper: Internet addiction in high school students and its relationship with the symptoms of mental disorders. *Iranian Rehabilitation Journal, 15*(2), 141-148.
- Retrieved from
<https://pdfs.semanticscholar.org/3ee4/bb2215f2d5fef1f81821dc4ac340c6e32ea4.pdf>
- Morahan-Martin, J., & Schumacher, P. (2003). Loneliness and social uses of the Internet. *Computers in Human Behavior, 19*(6), 659–671. doi:10.1016/s0747-5632(03)00040-2

Mozafari, S., Sepahvandi, M. A., & Ghazanfari, F. (2018). Study of the relationship between internet addiction with social anxiety and loneliness among high school students in Yasuj. *Journal of Advanced Pharmacy Education & Research*, 8(2), 142-146.

Retrieved from

<https://japer.in/storage/models/article/qy8pMOv1k0DALz7dqXC7DNFq8aDmk2qXhZRtMwt2V53b7w5mTTv7D7CCR3Sr/study-of-the-relationship-between-internet-addiction-with-social-anxiety-and-loneliness-among-high.pdf>

Müller, K., Beutel, M., & Wölfling, K. (2014). A contribution to the clinical characterization of internet addiction in a sample of treatment seekers: Validity of assessment, severity of psychopathology and type of co-morbidity. *Comprehensive Psychiatry*, 55(4), 770–777. doi:10.1016/j.comppsy.2014.01.010

Muzaffar, B. (2016). The development and validation of a scale to measure training culture: The TC scale. *Journal of Culture, Society and Development*, 23(1), 49-58. Retrieved from <https://iiste.org/Journals/index.php/JCSD/article/view/33004>

Nadeem, M., Buzdar, M. A., Shakir, M., & Naseer, S. (2018). The association between Muslim religiosity and internet addiction among young adult college students. *Journal of Religion and Health*. doi:10.1007/s10943-018-0697-9

Nadkarni, A., & Hofmann, S. G. (2012). Why do people use Facebook? *Personality and Individual Differences*, 52(3), 243–249. doi:10.1016/j.paid.2011.11.007

Naseri, L., Mohamadi, J., Sayehmiri, K., & Azizpoor, Y. (2015). Perceived social support, self-esteem, and internet addiction among students of al-Zahra university, Tehran, Iran. *Iranian Journal of Psychiatry and Behavioral Sciences*, 9(3). doi:10.17795/ijpbs-421.

- New Straits Time (2017). Internet addiction in Malaysia at epidemic proportions: MCMC study. Retrieved from <https://www.nst.com.my/news/nation/2017/12/315031/internet-addiction-malaysia-epidemic-proportions-mcmc-study>
- Niemz, K., Griffiths, M., & Banyard, P. (2005). Prevalence of pathological internet use among university students and correlations with self-esteem, the General Health Questionnaire (GHQ), and disinhibition. *CyberPsychology and Behavior*, 8(6), 562–570. doi:10.1089/cpb.2005.8.562
- Nnebue, C. C. (2010). Informed consent in research. Retrieved from <https://www.ajol.info/index.php/afrij/article/view/86188>.
- Nolting, P. D. (2002). *Winning at Math: Your Guide to Learning Mathematics Through Successful Study Skills*. Florida: Academic Success Press.
- Nordstrom, A. H., Goguen, L. M. S., & Hiester, M. (2014). The effect of social anxiety and self-esteem on college adjustment, academics, and retention. *Journal of College Counseling*, 17(1), 48–63. doi:10.1002/j.2161-1882.2014.00047.x
- Odaci, H. (2011). Academic self-efficacy and academic procrastination as predictors of problematic internet use in university students. *Computers & Education*, 57(1), 1109–1113. doi:10.1016/j.compedu.2011.01.005
- Oktuğ, Z. (2012). Gender differences in internet addiction and tendency to express emotions. Retrieved from <https://pdfs.semanticscholar.org/8006/c6d035534a04e2eb1c6ca9ca1df5ddc99d0a.pdf>
- Pallant, J. (2016). *SPSS survival manual: A step by step guide to data analysis using IBM SPSS*. (6th ed.). Retrieved from

https://books.google.com.my/books?id=1uAvCwAAQBAJ&pg=PR3&source=gbs_selected_pages&cad=3#v=onepage&q&f=false

- Pandis, N. (2014). Cross-sectional studies. *American Journal of Orthodontics and Dentofacial Orthopedics*, 146(1), 127-129. Retrieved from <https://doi.org/10.1016/j.ajodo.2014.05.005>
- Parkins, R. (2012). Gender and emotional expressiveness: An analysis of prosodic features in emotional expression. *Griffith Working Papers in Pragmatics and Intercultural Communication*, 5(1), 46-54. Retrieved from https://www.griffith.edu.au/__data/assets/pdf_file/0026/363680/Paper-6-Parkins-Gender-and-Emotional-Expressiveness_final.pdf
- Penny, K. I., & Jolliffe, I. T. (2001). A comparison of multivariate outlier detection methods for clinical laboratory safety data. *Journal of the Royal Statistical Society: Series D (The Statistician)*, 50(3), 295–307. doi:10.1111/1467-9884.00279
- Rapee, R. M., & Heimberg, R. G. (1997). A cognitive-behavioral model of anxiety in social phobia. *Behavior Research and Therapy*, 35(8), 741-756. Retrieved from [https://doi.org/10.1016/S0005-7967\(97\)00022-3](https://doi.org/10.1016/S0005-7967(97)00022-3)
- Reddy, P. R., & Sarma, K. L. A. (2015). A multiple linear regression approach for the analysis of stress factors of faculty in higher educational institutions. *International Journal of Mathematics and its Applications*, 3(4), 95-103. Retrieved from <http://ijmaa.in/v3n4-a/95-103.pdf>
- Rosenberg, M. (1965). *Society and the adolescent self-image* (Vol.11). Princeton, N.J.: Princeton University Press.

- Rosenthal, S., Cha, Y., & Clark, M. (2018). The Internet Addiction Test in a Young Adult U.S. Population. *Cyberpsychology, Behavior, And Social Networking*, *21*(10), 661-666. doi:10.1089/cyber.2018.0143
- Routledge, C. (2012). Failure causes fear: The effect of self-esteem threat on death-anxiety. *The Journal of Social Psychology*, *152*(6), 665–669.
doi:10.1080/00224545.2012.691915
- Routledge, C., Ostafin, B., Juhl, J., Sedikides, C., Cathey, C., & Liao, J. (2010). Adjusting to death: The effects of self-esteem and mortality salience on well-being, growth motivation, and maladaptive behavior. *Journal of Personality and Social Psychology*, *99*, 897–916. doi:10.1037/a0021431
- Rudolph, R. L., Klemz, B. R., & Asquith, J. N. (2013). Young female users of social media and internet addiction. *Journal of Mass Communication & Journalism*, *4*(2).
<http://dx.doi.org/10.4172/2165-7912.1000177>
- Seabra, L., Loureiro, M., Pereira, H., Monteiro, S., Afonso, R. M., & Esgalhado, G. (2017). Relationship between internet addiction and self-esteem: Cross-cultural study in Portugal and Brazil. *Interacting with Computers*, *29*(5), 767–778.
doi:10.1093/iwc/iwx011
- Seidman, G. (2013). Self-presentation and belonging on Facebook: How personality influences social media use and motivations. *Personality and Individual Differences*, *54*(3), 402–407. doi:10.1016/j.paid.2012.10.009
- Servidio, R. (2019). A discriminant analysis to predict the impact of personality traits, self-esteem, and time spent online on different levels of internet addiction risk among university students. *Studia Psychologica*, *61*(1), 56–70. doi:10.21909/sp.2019.01.772

- Servidio, R., Gentile, A., & Boca, S. (2018). The mediational role of coping strategies in the relationship between self-esteem and risk of Internet addiction. *Europe's Journal of Psychology, 14*(1), 176–187. doi:10.5964/ejop.v14i1.1449
- Setia, M. S. (2016). Methodology series module 3: Cross-sectional studies. *Indian Journal of Dermatology, 61*(3), 261-264. doi:10.4103/0019-5154.182410
- Shahnaz, I., & Karim, A. R. (2014). Gender difference in internet addiction among young adults. *Dhaka University Journal of Psychology, 38*, 111-122. Retrieved from https://www.researchgate.net/publication/300072747_Gender_Difference_in_Internet_Addiction_among_Young_Adults
- Shaw, L. H., & Gant, L. M. (2002). In defense of the internet: The relationship between internet communication and depression, loneliness, self-esteem, and perceived social support. *CyberPsychology & Behavior, 5*(2), 157-171. doi:10.1089/109493102753770552
- Shek, D. T. L., & Yu, L. (2012). Internet addiction phenomenon in early adolescents in Hong Kong. *The Scientific World Journal, 2012*, 1–9. doi:10.1100/2012/104304
- Shepherd, R.-M., & Edelman, R. J. (2005). Reasons for internet use and social anxiety. *Personality and Individual Differences, 39*(5), 949–958. doi:10.1016/j.paid.2005.04.001
- Shieh, G. (2010). On the misconception of multicollinearity in detection of moderating effects: Multicollinearity is not always detrimental. *Multivariate Behavioural Research, 45*, 483-507. doi:10.1080/00273171.2010.483393
- Sikandar M. Z., Tahir F. N., & Shah S. I. A. (2019). Self-esteem and anxiety among young adult male stutterers of Central Punjab. *Biomedica, 35*(1), 38. Retrieved from

<http://search.ebscohost.com.libezp2.utar.edu.my/login.aspx?direct=true&db=a9h&AN=138855604&site=eds-live&scope=site>

Smahel, D., Brown, B. B., & Blinka, L. (2012). Associations between online friendship and Internet addiction among adolescents and emerging adults. *Developmental Psychology, 48*(2), 381–388. doi:10.1037/a0027025

Smith, E. R., Mackie, D. M., & Claypool, H (2014). *Social psychology*. New York: Psychology Press.

Song, I., LaRose, R., Eastin, M. S., & Lin, C. A. (2004). Internet gratifications and internet addiction: On the uses and abuses of new media. *Cyber Psychology Behavior, 7*, 384–394. doi:10.1089/cpb.2004.7.384

Sowislo, J. F., & Orth, U. (2013). Does low self-esteem predict depression and anxiety? A meta-analysis of longitudinal studies. *Psychological Bulletin, 139*(1), 213–240. doi:10.1037/a0028931

Stavropoulos, V., Gomez, R., Steen, E., Beard, C., Liew, L., & Griffiths, M. D. (2017). The longitudinal association between anxiety and Internet addiction in adolescence: The moderating effect of classroom extraversion. *Journal of Behavioral Addictions, 6*(2), 237–247. doi:10.1556/2006.6.2017.026

Stieger, S., & Burger, C. (2010). Implicit and explicit self-esteem in the context of internet addiction. *Cyberpsychology, Behavior, and Social Networking, 13*(6), 681–688. doi:10.1089/cyber.2009.0426

Tan, J., Lo, P., Ge, N., & Chu, C. (2016). Self-esteem mediates the relationship between mindfulness and social anxiety among Chinese undergraduate students. *Social*

Behavior and Personality: An International Journal, 44(8), 1297–1304.

doi:10.2224/sbp.2016.44.8.1297

Teijlingen, E. R., & Hundley, V. (2002). The importance of pilot studies. *Nursing*

Standard, 16(40), 33-36. doi:10.7748/ns2002.06.16.40.33.c3214

Teong, K. V., & Ang, M. C. (2016). Internet use and addiction among students in Malaysian

Public Universities in east Malaysia: Some empirical evidence. *Journal of*

Management Research, 8(2), 31. doi:10.5296/jmr.v8i2.9092

Tonioni, F., Dalessandris, L., Lai, C., Martinelli, D., Corvino, S., Vasale, M., . . . Bria, P.

(2012). Internet addiction: Hours spent online, behaviors and psychological

symptoms. *General Hospital Psychiatry*, 34(1), 80–87.

doi:10.1016/j.genhosppsy.2011.09.013

Trivedi, J. K., & Gupta, P. K. (2010). An overview of Indian research in anxiety disorders.

Indian J Psychiatry, 52(7), 210-218. doi:10.4103/0019-5545.69234

Tronnier, C. D. (2015). Harnessing attachment in addiction treatment: Regulation theory and

the self-medication hypothesis. *Journal of Social Work Practice in the Addictions*,

15(3), 233–251. doi:10.1080/1533256x.2015.1056529

Van Tuijl, L. A., Jong, P. J., Sportel, B. E., Hullu, E., & Nauta, M. H. (2014). Implicit and

explicit self-esteem and their reciprocal relationship with symptoms of depression and

social anxiety: A longitudinal study in adolescents. *Journal of Behavior Therapy and*

Experimental Psychiatry, 45(1), 113–121. doi:10.1016/j.jbtep.2013.09.007

Wan, C., & Chiou, W. (2006). Psychological motives and online games addiction: A test of

flow theory and humanistic needs theory. *CyberPsychology & Behavior*, 9, 317– 324.

doi:10.1089/cpb.2006.9.317

- Weinstein, A., Dorani, D., Elhadif, R., Bukovza, Y., Yarmulnik, A., & Dannon, P. (2015). Internet addiction is associated with social anxiety in young adults. *Annals of Clinical Psychiatry, 27*(1), 2-7. doi:10.1093/med/9780199380183.003.0001
- Wiederhold, B. K. (2016). Low self-esteem and teens' internet addiction: What have we learned in the last 20 years? *Cyberpsychology, Behavior, and Social Networking, 19*(6), 359-359. doi:10.1089/cyber.2016.29037.bkw
- Wong, T. Y., Yuen, K. S. L., & Li, W. O. (2015). A basic need theory approach to problematic Internet use and the mediating effect of psychological distress. *Frontiers in Psychology, 5*. doi:10.3389/fpsyg.2014.01562
- Xu, Z., Turel, O., & Yuan, Y. (2012). Online game addiction among adolescents: Motivation and prevention factors. *European Journal of Information Systems, 21*(3), 321-340. <http://dx.doi.org/10.1057/ejis.2011.56>
- Yang, S. C., & Tung, C. J. (2007). Comparison of Internet addicts and non-addicts in Taiwanese high school. *Computers in Human Behavior, 23*(1), 79-96. doi:10.1016/j.chb.2004.03.037
- Yao, M. Z., He, J., Ko, D. M., & Pang, K. (2012). The influence of personality, parental behaviors, and self-esteem on internet addiction: A study of Chinese college students. *Cyberpsychology, Behavior, and Social Networking, 17*(2), 104-110. doi:10.1089/cyber.2012.0710
- Yee, N. (2006). The demographics, motivations and derived experiences of users of massively-multiuser online graphical environments. *Presence: Teleoperators and Virtual Environments, 15*(3), 309-329. Retrieved from <http://www.nickyee.com/pubs/Yee%20-%20MMORPG%20Demographics%202006.pdf>

- Yeh, Y. C., Ko, H. C., Wu, J. Y. W., & Cheng, C. P. (2008). Gender differences in relationships of actual and virtual social support to internet addiction mediated through depressive symptoms among college students in Taiwan. *CyberPsychology & Behavior, 11*(4), 485–487. doi:10.1089/cpb.2007.0134
- Yildirim, M. S., Sevincer, G. M., Kandeger, A., & Afacan, C. (2018). Investigation of the relationship between risk of Internet addiction, food addiction, and self-esteem in high school students. *Dusunen Adam the Journal of Psychiatry and Neurological Sciences, 31*, 187-194. Retrieved from http://www.dusunenadamdergisi.org/ing/DergiPdf/DUSUNEN_ADAM_DERGISI_cd7e075be31a4ff19dfcc9023ebeac05.pdf
- Younes, F., Halawi, G., Jabbour, H., El Osta, N., Karam, L., Hajj, A., & Rabbaa Khabbaz, L. (2016). Internet addiction and relationships with insomnia, anxiety, depression, stress and self-esteem in university students: A cross-sectional designed study, *PLOS ONE, 11*(9). doi:10.1371/journal.pone.0161126
- Young, K. S. (1996). Internet Addiction: The Emergence of a New Clinical Disorder. *CyberPsychology & Behavior, 1*, 237-244. <http://dx.doi.org/10.1089/cpb.1998.1.237>
- Young, K. S. (1998). Internet addiction: the emergence of a new clinical disorder. *CyberPsychology & Behavior, 1*, 237–244. doi:10.1089/cpb.1998.1.237
- Young, K. S. (2004). Internet addiction: A new clinical phenomenon and its consequences. *American Behavioral Scientist, 48*(4), 402–415. doi:10.1177/0002764204270278
- Young, K. S. (2017). Internet addiction test. Retrieved from https://www.stoeltingco.com/media/wysiwyg/IAT_web_sample.pdf

- Young, K. S., & Rogers, R. C. (1998). The relationship between depression and internet addiction. *CyberPsychology & Behavior, 1*(1), 25–28. doi:10.1089/cpb.1998.1.25
- Young, K. S. (1999). Internet addiction: Symptoms, evaluation, and treatment. *Innovations in Clinical Practice, 17*. Retrieved from <https://doi.org/10.1136/sbmj.9910351>
- Yücens, B., & Üzer, A. (2018). The relationship between internet addiction, social anxiety, impulsivity, self-esteem, and depression in a sample of Turkish undergraduate medical students. *Psychiatry Research, 267*, 313–318. doi:10.1016/j.psychres.2018.06.033
- Zaman, N. I., & Munaf, S. (2019). Self-esteem and depressive mood of individuals with mood disorders: A correlational study. *Bahria Journal of Professional Psychology, 18*(1), 1-10. Retrieved from <http://web.b.ebscohost.com.libezp2.utar.edu.my/ehost/pdfviewer/pdfviewer?vid=0&sid=e5870219-facb-4a05-bc41-1dddc2d813ef%40sessionmgr101>
- Zare, P., & Riasati, M. J. (2012). The relationship between language learning anxiety, self-esteem, and academic level among Iranian EFL learners. *Pertanika Journal of Social Sciences & Humanities, 20*(1), 219–225. Retrieved from <http://search.ebscohost.com.libezp2.utar.edu.my/login.aspx?direct=true&db=hlh&AN=75359012&site=eds-live&scope=site>
- Zhao, L., Yu, X., Zhang, L., & Ren, Z. (2017). Stability of implicit self-esteem among Internet addicted College students in China. *Social Behavior and Personality: An International Journal, 45*(2), 339–352. doi:10.2224/sbp.6135

Appendices

Appendix A

Beck Anxiety Inventory (BAI)

Instructions: Please carefully read each item in the list. Indicate how much you have been bothered by that symptom during the past month, including today, by circling the number in the corresponding space in the column next to each symptom.

| | Not at all | Mildly, but it didn't bother me much | Moderately – it wasn't pleasant at times | Severely – it bothered me a lot |
|-------------------------|-------------------|---|---|--|
| Numbness or tingling | 0 | 1 | 2 | 3 |
| Feeling hot | 0 | 1 | 2 | 3 |
| Wobbliness in legs | 0 | 1 | 2 | 3 |
| Unable to relax | 0 | 1 | 2 | 3 |
| Fear of worst happening | 0 | 1 | 2 | 3 |
| Dizzy or lightheaded | 0 | 1 | 2 | 3 |
| Heart pounding / racing | 0 | 1 | 2 | 3 |
| Unsteady | 0 | 1 | 2 | 3 |
| Terrified or afraid | 0 | 1 | 2 | 3 |
| Nervous | 0 | 1 | 2 | 3 |
| Feeling of choking | 0 | 1 | 2 | 3 |
| Hands trembling | 0 | 1 | 2 | 3 |
| Shaky / unsteady | 0 | 1 | 2 | 3 |
| Fear of losing control | 0 | 1 | 2 | 3 |
| Difficulty in breathing | 0 | 1 | 2 | 3 |
| Fear of dying | 0 | 1 | 2 | 3 |
| Scared | 0 | 1 | 2 | 3 |
| Indigestion | 0 | 1 | 2 | 3 |
| Faint / lightheaded | 0 | 1 | 2 | 3 |
| Face flushed | 0 | 1 | 2 | 3 |
| Hot / cold sweats | 0 | 1 | 2 | 3 |

Appendix B

Rosenberg Self-Esteem Scale

Instructions: Please read the following statements and for each, circle the number that best represents you. The rating scale is as follows:

| Strongly disagree | Moderately disagree | Moderately agree | Strongly agree |
|--------------------------|----------------------------|-------------------------|-----------------------|
| 1 | 2 | 3 | 4 |

| | | | | | |
|----|---|---|---|---|---|
| 1 | On the whole I am satisfied with myself. | 1 | 2 | 3 | 4 |
| 2 | At times I think I am no good at all. | 1 | 2 | 3 | 4 |
| 3 | I think that I have a number of good qualities. | 1 | 2 | 3 | 4 |
| 4 | I am able to do things as well as most other people. | 1 | 2 | 3 | 4 |
| 5 | I feel I do not have much to be proud of. | 1 | 2 | 3 | 4 |
| 6 | I certainly feel useless at times. | 1 | 2 | 3 | 4 |
| 7 | I feel that I am a person of worth, at least on an equal plane with others. | 1 | 2 | 3 | 4 |
| 8 | I wish I could have more respect for myself. | 1 | 2 | 3 | 4 |
| 9 | All in all, I am inclined to feel that I am a failure. | 1 | 2 | 3 | 4 |
| 10 | I take a positive attitude toward myself. | 1 | 2 | 3 | 4 |

Appendix C

Internet Addiction Test

To begin, answer the following questions by using this scale:

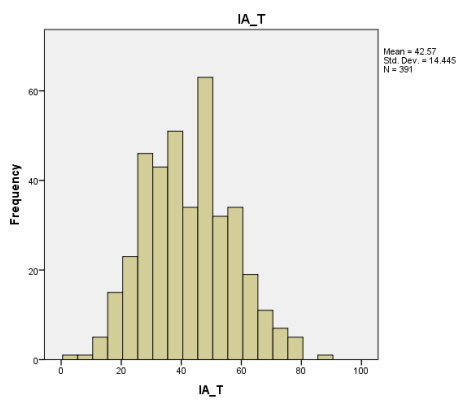
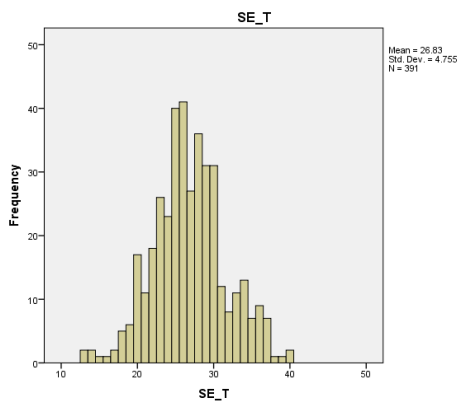
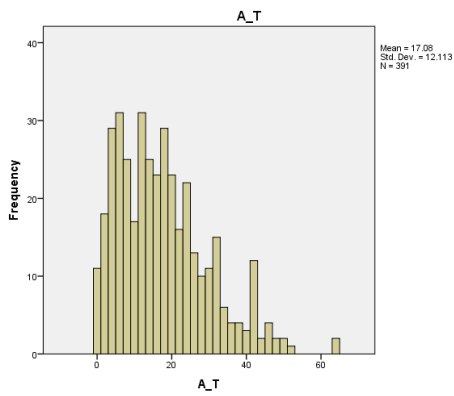
| Does not apply | Rarely | Occasionally | Frequently | Often | Always |
|----------------|--------|--------------|------------|-------|--------|
| 0 | 1 | 2 | 3 | 4 | 5 |

| Question | Scale | | | | | |
|--|-------|---|---|---|---|---|
| 1 How often do you find that you stay on-line longer than you intended? | 1 | 2 | 3 | 4 | 5 | 0 |
| 2 How often do you neglect household chores to spend more time on-line? | 1 | 2 | 3 | 4 | 5 | 0 |
| 3 How often do you prefer the excitement of the Internet to intimacy with your partner? | 1 | 2 | 3 | 4 | 5 | 0 |
| 4 How often do you form new relationships with fellow on-line users? | 1 | 2 | 3 | 4 | 5 | 0 |
| 5 How often do others in your life complain to you about the amount of time you spend on-line? | 1 | 2 | 3 | 4 | 5 | 0 |
| 6 How often do your grades or school work suffers because of the amount of time you spend on-line? | 1 | 2 | 3 | 4 | 5 | 0 |
| 7 How often do you check your email before something else that you need to do? | 1 | 2 | 3 | 4 | 5 | 0 |
| 8 How often does your job performance or productivity suffer because of the Internet? | 1 | 2 | 3 | 4 | 5 | 0 |
| 9 How often do you become defensive or secretive when anyone asks you what you do on-line? | 1 | 2 | 3 | 4 | 5 | 0 |
| 10 How often do you block out disturbing thoughts about your life with soothing thoughts of the Internet? | 1 | 2 | 3 | 4 | 5 | 0 |
| 11 How often do you find yourself anticipating when you will go on-line again? | 1 | 2 | 3 | 4 | 5 | 0 |

| | | | | | | | |
|-----------|---|---|---|---|---|---|---|
| 12 | How often do you fear that life without the Internet would be boring, empty, and joyless? | 1 | 2 | 3 | 4 | 5 | 0 |
| 13 | How often do you snap, yell, or act annoyed if someone bothers you while you are on-line? | 1 | 2 | 3 | 4 | 5 | 0 |
| 14 | How often do you lose sleep due to late-night log-ins? | 1 | 2 | 3 | 4 | 5 | 0 |
| 15 | How often do you feel preoccupied with the Internet when off-line, or fantasize about being on-line? | 1 | 2 | 3 | 4 | 5 | 0 |
| 16 | How often do you find yourself saying "just a few more minutes" when on-line? | 1 | 2 | 3 | 4 | 5 | 0 |
| 17 | How often do you try to cut down the amount of time you spend on-line and fail? | 1 | 2 | 3 | 4 | 5 | 0 |
| 18 | How often do you try to hide how long you've been on-line? | 1 | 2 | 3 | 4 | 5 | 0 |
| 19 | How often do you choose to spend more time on-line over going out with others? | 1 | 2 | 3 | 4 | 5 | 0 |
| 20 | How often do you feel depressed, moody or nervous when you are off-line, which goes away once you are back on-line? | 1 | 2 | 3 | 4 | 5 | 0 |

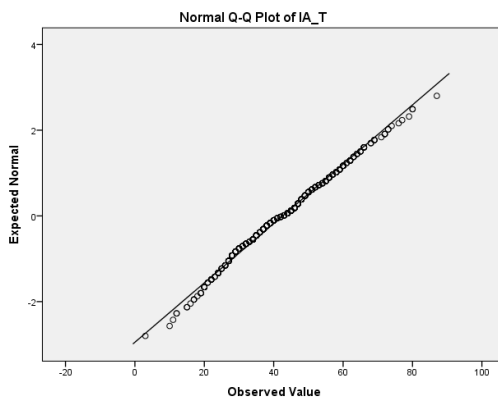
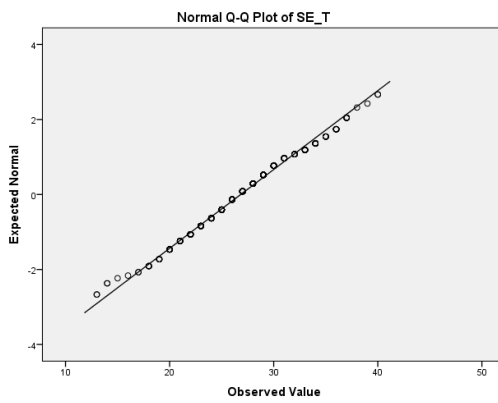
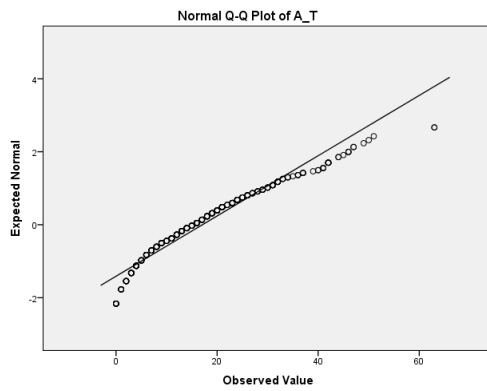
Appendix D

Histogram of Anxiety, Self-esteem and Internet Addiction



Appendix E

Q-Q plots of Anxiety, Self-esteem and Internet Addiction



Appendix F

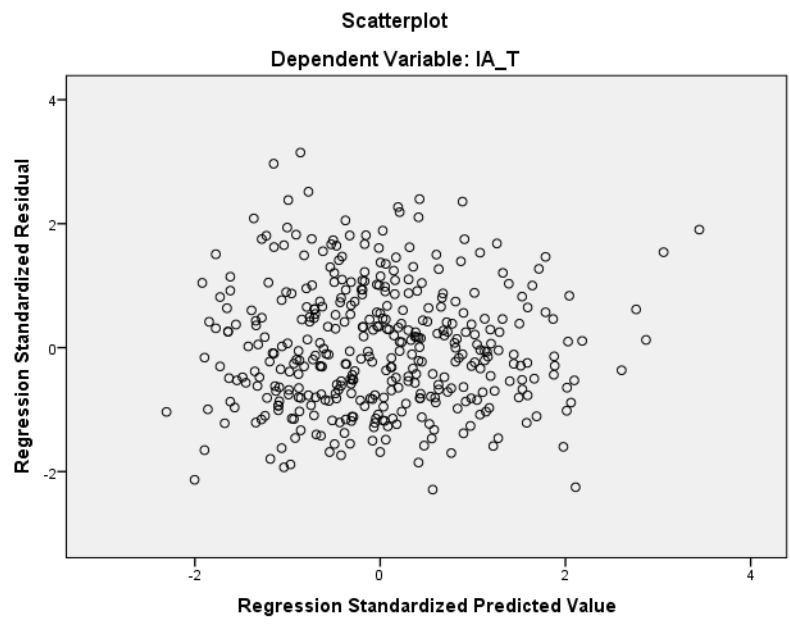
Mahalanobis Distance, Cook's Distance and Centered Leverage Distance

| Residuals Statistics^a | | | | | |
|---|---------|---------------|-------|----------------|-----|
| | Minimum | Maximum | Mean | Std. Deviation | N |
| Predicted Value | 29.89 | 61.49 | 42.57 | 5.493 | 391 |
| Std. Predicted Value | -2.307 | 3.445 | .000 | 1.000 | 391 |
| Standard Error of Predicted Value | .678 | 2.723 | 1.119 | .352 | 391 |
| Adjusted Predicted Value | 30.21 | 60.44 | 42.57 | 5.485 | 391 |
| Residual | -30.683 | 42.162 | .000 | 13.360 | 391 |
| Std. Residual | -2.291 | 3.148 | .000 | .997 | 391 |
| Stud. Residual | -2.304 | 3.164 | .000 | 1.001 | 391 |
| Deleted Residual | -31.047 | 42.592 | .000 | 13.469 | 391 |
| Stud. Deleted Residual | -2.317 | 3.201 | .000 | 1.004 | 391 |
| Mahal. Distance | .001 | 15.122 | 1.995 | 2.119 | 391 |
| Cook's Distance | .000 | .052 | .003 | .005 | 391 |
| Centered Leverage Value | .000 | .039 | .005 | .005 | 391 |

a. Dependent Variable: IA_T

Appendix G

Scatterplots of Internet Addiction



Appendix H

Statistic of Internet Addiction for Both Genders

| Statistics | | | | | | | |
|------------|--------------------|---------|---------|--------|--------------------|---------|---------|
| IA_T | | | | | | | |
| Male | N | Valid | 147 | Female | N | Valid | 244 |
| | | Missing | 0 | | | Missing | 0 |
| | Mean | | 43.07 | | Mean | | 42.26 |
| | Std. Error of Mean | | 1.182 | | Std. Error of Mean | | .931 |
| | Median | | 44.00 | | Median | | 42.00 |
| | Mode | | 49 | | Mode | | 47 |
| | Std. Deviation | | 14.330 | | Std. Deviation | | 14.535 |
| | Variance | | 205.352 | | Variance | | 211.272 |
| | Range | | 69 | | Range | | 84 |
| | Minimum | | 11 | | Minimum | | 3 |
| | Maximum | | 80 | | Maximum | | 87 |
| | Percentiles | 25 | 32.00 | | Percentiles | 25 | 32.00 |
| | | 50 | 44.00 | | | 50 | 42.00 |
| | | 75 | 52.00 | | | 75 | 51.75 |

Appendix I

Correlation between Anxiety, Self-esteem and Internet Addiction

| | | A_T | SE_T | IA_T |
|------|-----------------|---------|---------|---------|
| A_T | Pearson | 1 | -.370** | .344** |
| | Correlation | | | |
| | Sig. (2-tailed) | | .000 | .000 |
| | N | 391 | 391 | 391 |
| SE_T | Pearson | -.370** | 1 | -.278** |
| | Correlation | | | |
| | Sig. (2-tailed) | .000 | | .000 |
| | N | 391 | 391 | 391 |
| IA_T | Pearson | .344** | -.278** | 1 |
| | Correlation | | | |
| | Sig. (2-tailed) | .000 | .000 | |
| | N | 391 | 391 | 391 |

** . Correlation is significant at the 0.01 level (2-tailed).

Appendix J

Multiple Regression of Anxiety and Self-esteem on Internet Addiction

ANOVA^a

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|-------|------------|----------------|-----|-------------|--------|-------------------|
| 1 | Regression | 11769.587 | 2 | 5884.793 | 32.801 | .000 ^b |
| | Residual | 69610.500 | 388 | 179.409 | | |
| | Total | 81380.087 | 390 | | | |

a. Dependent Variable: IA_T

b. Predictors: (Constant), SE_T, A_T

Coefficients^a

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95.0% Confidence Interval for B | | Collinearity Statistics |
|-------|------------|-----------------------------|------------|---------------------------|--------|------|---------------------------------|-------------|-------------------------|
| | | B | Std. Error | Beta | | | Lower Bound | Upper Bound | |
| 1 | (Constant) | 51.079 | 4.649 | | 10.986 | .000 | 41.938 | 60.220 | |
| | A_T | .333 | .060 | .280 | 5.532 | .000 | .215 | .452 | .863 1.158 |
| | SE_T | -.530 | .154 | -.174 | -3.450 | .001 | -.831 | -.228 | .863 1.158 |

a. Dependent Variable: IA_T

ANXIETY, SELF-ESTEEM AND INTERNET ADDICTION



UNIVERSITI TUNKU ABDUL RAHMAN
Wholly Owned by UTAR Education Foundation (Company No. 578227-M)

Re: U/SERC/236/2019

16 December 2019

Dr Chie Qiu Ting
Head, Department of Psychology and Counselling
Faculty of Arts and Social Science
Universiti Tunku Abdul Rahman
Jalan Universiti, Bandar Baru Barat
31900 Kampar, Perak.

Dear Dr Chie,

Ethical Approval For Research Project/Protocol

We refer to the application for ethical approval for your students' research projects from Bachelor of Social Science (Hons) Psychology programme enrolled in course UAPZ3013. We are pleased to inform you that the application has been approved under expedited review.

The details of the research projects are as follows:

| | Research Title | Student's Name | Supervisor's Name | Approval Validity |
|-----|--|--|------------------------------------|--|
| 1. | Gaming in Predicting Social Well-being and Cognitive Ability Among UTAR FAS Students | 1. Joshua Zinn-Shyan Wang 2. Yap Hong Leong | Ms Natasha Amira Binti Hushairi | 16 December 2019 – 15 December 2020 |
| 2. | The Relationship Between Parenting Style and Emotion Regulation Among Undergraduate Students in UTAR | 1. Chew Zi Qung 2. Lee Ken-Nis 3. Yong Cai Ying | | |
| 3. | A Study of the Relationship Between Intrinsic Motivation, Extrinsic Motivation, Amotivation and Academic Engagement Among Undergraduate Students in Malaysia | 1. Chang Yee Kai 2. Soh Hon Wei | Pn Anisah Zainab Binti Musa | |
| 4. | A Study of Religiosity and Resilience Among Malaysian Youth | 1. Tham Qiau Leng 2. Kevin Tan Lee Kiat 3. Yevonne Patrina a/p Patrick | | |
| 5. | Perceived Parenting Styles and Perceived Stress Towards Aggression Among College Students in Malaysia | 1. Ruth Christy Lo 2. Ryan E Liang | Dr Pung Pit Wan | |
| 6. | Gender Differences and The Relationships Between Marital Satisfaction, Self-esteem and Job Satisfaction in Malaysia | 1. Chia Chu Hang 2. Ching Zi Xin 3. Choo Wan Yin | Ms Low Sew Kim | |
| 7. | The Relationship of Social Support, Self-efficacy and Life Satisfaction Among Emerging Adulthood in Malaysia | 1. Lee Tong Chew 2. Wang Kin Hao | | |
| 8. | The Relationship Between Anxiety, Self-esteem and Internet Addiction Among Emerging Adults in Malaysia | 1. Rodney Sin Ming Keen 2. Tan Wai Yee 3. Youn Jia Xin | Mr Tay Kok Wai | |
| 9. | Working Day and Night: Burnout, Mental Health and Perceived Social Support Among Human Services Workers in Malaysia | 1. Nicole Chang Yi Woon 2. Sam Kar Kei 3. Tan Jia Thoong | | |
| 10. | A Study of Effectiveness of Resilience Workshop Among Malaysian Undergraduate Students | 1. Lim Sin Yee 2. Yeoh Keng Yi | | |

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| | Research Title | Student's Name | Supervisor's Name | Approval Validity |
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| 11. | The Relationship Between Procrastination, Perfectionism and Coping Among UTAR Undergraduate Students | 1. Joanna Lee Jia Hui 2. Kee Yen Yee | Dr Siah Poh Chua | 16 December 2019 – 15 December 2020 |
| 12. | Dark Triad and Social Media Addiction: The Mediating Role of Coping Strategies | 1. Berme Wong Zi Ru 2. Goh Sin Jie 3. Hue Jie Yeng | | |
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The conduct of this research is subject to the following:

- (1) The participants' informed consent be obtained prior to the commencement of the research;
- (2) Confidentiality of participants' personal data must be maintained; and
- (3) Compliance with procedures set out in related policies of UTAR such as the UTAR Research Ethics and Code of Conduct, Code of Practice for Research Involving Humans and other related policies/guidelines.

Should the students collect personal data of participants in their studies, please have the participants sign the attached Personal Data Protection Statement for records.

Thank you.

Yours sincerely,



Professor Ts Dr Faidz bin Abd Rahman
Chairman
UTAR Scientific and Ethical Review Committee

c.c Dean, Faculty of Arts and Social Science
Director, Institute of Postgraduate Studies and Research

ANXIETY, SELF-ESTEEM AND INTERNET ADDICTION

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UAPZ 3023 Final Year Project II

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| Student's Name: | Student's Id |
| 1. Rodney Sin Ming Keen | 1. 1604814 |
| 2. Tan Wai Yee | 2. 1603271 |
| 3. Youn Jia Xin | 3. 1604662 |

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Please score each descriptor based on the scale provided below:

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ANXIETY, SELF-ESTEEM AND INTERNET ADDICTION

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| 4. Highlights the significance of the study. (5%) | |
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| 2. Appropriate sampling techniques (5%) <ul style="list-style-type: none"> - Sample size is justified. - Sampling method correctly mentioned - Location of how the subjects are selected | |
| 3. Clear explanation of procedure (5%) <ul style="list-style-type: none"> - How is consent obtained - Description of how data was collected | |
| 4. Explanation on the instruments/questionnaires used (5%) <ul style="list-style-type: none"> - Description of instrument measures, scoring system, meaning of scores, reliability and validity information. | |
| Subtotal | / 20% |
| Remark: | |
| 3. RESULTS (20%) | |
| 1. Analyses used are appropriate for each hypothesis. (10%) | |
| 2. Interpretations and explanations of the statistical analyses are accurate. (10%) | |
| Subtotal | / 20% |
| Remark: | |
| 4. DISCUSSION & CONCLUSION (25%) | |
| 1. Constructive discussion of findings. | |

ANXIETY, SELF-ESTEEM AND INTERNET ADDICTION

| | | | |
|---|----------------------|----------------------|----------------------|
| - Explanation and critical analysis. Results were critically analyzed with similar and/or dissimilar results. (10%) | | | |
| 2. Implication of the study. (5%) | | | |
| 3. Limitations mentioned relevant and constructive to the study. (5%) | | | |
| 4. Recommendations for future research. (5%) | | | |
| Subtotal | | | / 25% |
| Remark: | | | |
| 5. LANGUAGE & ORGANIZATION (5%) | | | |
| 1. Comprehensiveness: Content Organization + Language | | | |
| Subtotal | | | / 5% |
| Remark: | | | |
| 6. APA STYLE AND REFERENCING (5%) | | | |
| 1. APA format is followed | | | |
| Subtotal | | | / 5% |
| Remark: | | | |
| 7. *ORAL PRESENTATION (20%) | | | |
| | Score | | |
| | Student 1 | Student 2 | Student 3 |
| Subtotal | | | |
| Remark: | | | |
| PENALTY: Maximum 10 marks for LATE SUBMISSION, MISSING FORM or POOR ATTENDANCE for consultation with supervisor | | | |
| | Student 1 | Student 2 | Student 3 |
| **FINAL MARK/TOTAL | | | |

ANXIETY, SELF-ESTEEM AND INTERNET ADDICTION

*****Overall Comments:**

Signature: _____

Date:

Notes:

1. **Subtotal:** The sum of scores for each assessment criteria
2. **FINAL MARK/TOTAL:** The summation of all subtotal score
3. Plagiarism is UNACCEPTABLE. Parameters of originality required and limits approved by UTAR are as follows:
 - (i) **Overall similarity index is 20% and below**, and
 - (ii) Matching of individual sources listed must be less than 3% each, and
 - (iii) Matching texts in continuous block must not exceed 8 words

Note: Parameters (i) – (ii) shall exclude quotes, references and text matches which are less than 8 words.

Any works violate the above originality requirements will NOT be accepted. Students have to redo the report and meet the requirements in **SEVEN(7)** days.

*The marks of "Oral Presentation" are to be retrieved from "**Oral Presentation Evaluation Form**".

**It's compulsory for the supervisor/reviewer to give the overall comments for the research projects with A- and above or F grading.

ANXIETY, SELF-ESTEEM AND INTERNET ADDICTION

| | | | |
|--|------------|----------------------------|------------------|
| Universiti Tunku Abdul Rahman | | | |
| Form Title : Supervisor's Comments on Originality Report Generated by Turnitin for Submission of Final Year Project Report (for Undergraduate Programmes) | | | |
| Form Number: FM-IAD-005 | Rev No.: 0 | Effective Date: 01/10/2013 | Page No.: 1 of 1 |



FACULTY OF ARTS AND SOCIAL SCIENCE

| | |
|-------------------------------------|---|
| Full Name(s) of Candidate(s) | Rodney Sin Ming Keen, Tan Wai Yee, Youn Jia Xin |
| ID Number(s) | 1604814, 1603271, 1604662 |
| Programme / Course | Psychology |
| Title of Final Year Project | The relationship between anxiety, self-esteem and internet addiction Among emerging adults in Malaysia. |

| Similarity | Supervisor's Comments (Compulsory if parameters of originality exceeds the limits approved by UTAR) |
|---|--|
| Overall similarity index: _____ % Similarity by source Internet Sources: _____ % Publications: _____ % Student Papers: _____ % | |
| Number of individual sources listed of more than 3% similarity: _____ | |
| Parameters of originality required and limits approved by UTAR are as follows: (i) Overall similarity index is 20% and below, and (ii) Matching of individual sources listed must be less than 3% each, and (iii) Matching texts in continuous block must not exceed 8 words <i>Note: Parameters (i) – (ii) shall exclude quotes, bibliography and text matches which are less than 8 words.</i> | |

Note Supervisor/Candidate(s) is/are required to provide softcopy of full set of the originality report to Faculty/Institute

Based on the above results, I hereby declare that I am satisfied with the originality of the Final Year Project Report submitted by my student(s) as named above.

Signature of Supervisor

Name: _____

Signature of Co-Supervisor

Name: _____

ANXIETY, SELF-ESTEEM AND INTERNET ADDICTION

Date: _____ Date: _____

UNIVERSITI TUNKU ABDUL RAHMAN

ACADEMIC YEAR 2019/2020

FINAL ASSESSMENT

MAIN

UAPC2103 COUNSELLING SKILLS

MONDAY, 14 MAY 2020

TIME: 9.00 AM – 1.00 PM (4 HOURS)

BACHELOR OF SOCIAL SCIENCE (HONS) PSYCHOLOGY

Instruction to Candidates:

1. You are required to fill in the particulars below

Name:
Student ID:
Index Number:
Programme:
Course Code:
Course Name:

2. You are required to fill in and submit the final assessment declaration form along with the final assessment

3. You are required to Turnitin the assessment. Do exclude the cover page of the assessment while Turnitin the assessment.

SECTION A: SHORT ANSWER QUESTIONS [TOTAL: 70 MARKS]

This section contains **TWO (2)** questions.

Answer **ALL** questions.

SECTION B: SHORT CASE STUDY [TOTAL:30 MARKS]

Answer **ONE(1)** question only.

ANXIETY, SELF-ESTEEM AND INTERNET ADDICTION

| | | | |
|--|-----------|------------------------------|-----------------|
| Universiti Tunku Abdul Rahman | | | |
| Form Title: Sample of Submission Sheet for FYP/Dissertation/Thesis | | | |
| Form Number : FM-IAD-004 | Rev No: 0 | Effective Date: 21 June 2011 | Page No: 1 of 1 |

**FACULTY OF ARTS AND SOCIAL SCIENCES
UNIVERSITI TUNKU ABDUL RAHMAN**

Date: 1st April 2020

SUBMISSION OF FINAL YEAR PROJECT /DISSERTATION/THESIS

It is hereby certified that Rodney Sin Ming Keen (ID No: 1604814) has completed this final year project entitled "The Relationship between Anxiety, Self-esteem and Internet Addiction among Emerging Adults in Malaysia" under the supervision of Ms. Low Sew Kim from the Department of Psychology and Counselling, Faculty of Arts and Social Sciences.

I understand that University will upload softcopy of my final year project in pdf format into UTAR Institutional Repository, which may be made accessible to UTAR community and public.

Yours truly,



Name: Rodney Sin Ming Keen

ANXIETY, SELF-ESTEEM AND INTERNET ADDICTION

| | | | |
|---|-----------|------------------------------|-----------------|
| Universiti Tunku Abdul Rahman | | | |
| Form Title : Sample of Submission Sheet for FYP/Dissertation/Thesis | | | |
| Form Number : FM-IAD-004 | Rev No: 0 | Effective Date: 21 June 2011 | Page No: 1 of 1 |

**FACULTY OF ARTS AND SOCIAL SCIENCES
UNIVERSITI TUNKU ABDUL RAHMAN**

Date: 1st April 2020

SUBMISSION OF FINAL YEAR PROJECT /DISSERTATION/THESIS

It is hereby certified that Tan Wai Yee (ID No: 1603271) has completed this final year project entitled "The Relationship between Anxiety, Self-esteem and Internet Addiction among Emerging Adults in Malaysia" under the supervision of Ms. Low Sew Kim from the Department of Psychology and Counselling, Faculty of Arts and Social Sciences.

I understand that University will upload softcopy of my final year project in pdf format into UTAR Institutional Repository, which may be made accessible to UTAR community and public.

Yours truly,



Name: Tan Wai Yee

ANXIETY, SELF-ESTEEM AND INTERNET ADDICTION

| | | | |
|---|-----------|-------------------------------------|------------------------|
| Universiti Tunku Abdul Rahman | | | |
| Form Title: Sample of Submission Sheet for FYP/Dissertation/Thesis | | | |
| Form Number: FM-IAD-004 | Rev No: 0 | Effective Date: 21 June 2011 | Page No: 1 of 1 |

**FACULTY OF ARTS AND SOCIAL SCIENCES
UNIVERSITI TUNKU ABDUL RAHMAN**

Date: 1st April 2020

SUBMISSION OF FINAL YEAR PROJECT /DISSERTATION/THESIS

It is hereby certified that Youn Jia Xin (ID No: 1604662) has completed this final year project entitled "The Relationship between Anxiety, Self-esteem and Internet Addiction among Emerging Adults in Malaysia" under the supervision of Ms. Low Sew Kim from the Department of Psychology and Counselling, Faculty of Arts and Social Sciences.

I understand that University will upload softcopy of my final year project in pdf format into UTAR Institutional Repository, which may be made accessible to UTAR community and public.

Yours truly,



Name: Youn Jia Xin

ANXIETY, SELF-ESTEEM AND INTERNET ADDICTION

Action Plan of UAPZ 3023 (group-based) Final Year Project II for Jan & May trimester

Supervisee's Name: Yuen Tin Kin, Boshing, Tan Wan Yee

Supervisor's Name: Ms. Leung Szeu Kim

| Task Description | Duration | Date/Time | Supervisee's Signature | Supervisor's Signature | Supervisor's Remarks | Next Appointment Date/Time |
|--|-------------------|-----------|------------------------|------------------------|--|----------------------------|
| Methodology, Data Collection & Data Analysis | W1-W2 | 11/12/20 | [Signature] | [Signature] | To check the analysis of pilot test data | |
| Finding & Analysis Discuss Findings & Analysis with Supervisor Amending Findings & Analysis | W3-W6 | 11/12/20 | [Signature] | [Signature] | - The coach help for 3 instrument is about 5.1 - To check draft of 3+4. - cat 4 - Report format to change. | 25/2/20 |
| Discussion & Conclusion Discuss Discussion & Conclusion with Supervisor Amending Discussion & Conclusion | W7-W9 | 7/1/20 | [Signature] | [Signature] | cat 4 to be submitted cat 5 to refine the draft - 20/1/20 20/1/20 | 27/12/20 |
| Submission of first draft* | Monday of Week 10 | | | | submit the first draft to Turnitin.com to check similarity rate | |
| Amendment | W10 | | | | | |
| Submission of final FYP (FYP I + FYP II)* | Monday of W11 | | | | submit hardcopy, CD, and relevant documents to supervisor | |
| Oral Presentation | W11-W12 | | | | Oral Presentation Schedule will be released and your supervisor will inform you via email. | |

Notes:

1. The listed duration is for reference only, supervisors can adjust the period according to the topics and content of the projects.
2. *Deadline for submission can not be changed, one mark will be deducted per day for late submission.
3. Supervisees are to take the active role to make appointments with their supervisors.
4. Both supervisors and supervisees should keep a copy of this rec.s. This record is to be submitted together with the submission of the FYP II.