# Factors Influencing Internet Addiction among Adolescents of Malaysia and Mongolia

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## Abstract

This study was carried out to investigate the factors that might be influencing internet addiction among adolescents of Mongolia and Malaysia. The major variables of the study were Family Factors, Social Factors and Internet Addiction. The participants were 264 adolescents [123 of whom were Malaysians and 141 of whom were Mongolians]. The study used structured online questionnaire. Internet addiction was evaluated using IAT (Internet Addiction Test) standardized instrument.

Some factors had similar significant influence for both countries, but some showed opposite outcomes for Mongolian and Malaysia Internet users. Family background had no significant influence on Internet addiction in both countries. On the other hand, online friends, stress and loneliness had positive influences on Internet addiction in both countries. Entertainment's showed positive effect on Malaysian population but had no significant influence on Mongolian adolescent. There are similarities between the Internet users of the two countries; however, users demonstrate some significant differences between the two countries.

**Keywords:** Modern Trade Store, Traditional Store, Rural Vietnam, Retail Industry, Consumer Behavior, Store Attributes.

## 1. Introduction

We are living in a century where technology development is as fast as light speed and new inventions are introduced every day. The rise of computer usage during the 20th century is showing significant improvement in people's life. The Internet technology is rising and flourishing significantly in the latest decade, and the application of the Internet has deeply influenced people's life. The Internet has already integrated as part of our every day's life and the usage of internet has been growing exponentially worldwide. The Internet allows people communicate with each other

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anywhere, anytime and it's giving us many opportunities that we weren't able to get only few decades ago.

For most of the internet users, it makes our life more convenient by saving time and money. But on the other hand, many negative influences of the Internet is discovered and popularly discussed. For many young people nowadays, the Internet already started to play an important role in their learning, entertainment, social intercourse, and so on.

This problem of spending excessive amount of time on the Internet is more serious among young generation. Above 59% of total population of Mongolia is under age 30, which is quite young. So this is becoming one of the major problems of the society. Many middle and high school students spend their free time playing online games with their friends.

According to the Malaysian Communication and Multimedia Commission (2013), Malaysia has 29.71 million internet users. They found out that people between the age group 15 19 use the Internet more frequently compared with other age groups, and based on the other reports of Malaysian Internet Usage Statistic, Malaysian spend 20 hours per week online for entertainment, listening to music, watching videos and surfing social network sites.

Development of the Internet is getting to a different level and although the Internet improves our life quality in many areas, it also creates many problems in our society. Thus it'd be really necessary to find out the factors, which is motivating to addict in the Internet. Thus, the aim of this study was to determine seriousness of the Internet addiction among young generations from Malaysia and Mongolia and to indicate the factors of the Internet addiction including family-correlated and some parts of social-correlated factors.

## 2. Literature review

The World Wide Web (WWW) was released by CERN and the first web server was launched in 1990 (H'obbes, 2011). From that time Internet has already became very essential part of many people's daily life. Despite the beneficence of the Internet to our life, it also brought some serious social problems. Recently, the the Internet use has increased rapidly and this increase has a potential for leading to pathological/problematic the Internet use or the Internet addiction (Chou, Condron, & Belland, 2005).

Malaysia: According to the Norfaezah's (2010), history of the Internet in Malaysia started in 1987 with the project named Rangkaian Computer Malaysia (Rangkom) created by MIMOS (Malaysian Institute of Microelectronic Systems). In the earlier stage it was used to send emails and electronic forums to communicate each other between the Government departments and some local universities. Afterwards it spread to the private sectors. Due to the scarcity and the weakness of RANGKOM, MIMOS advocate the new plan was JARING. The purpose of Malaysian government was to include this plan in the Economy Plan No.6. At this time this Internet plan was arranged by a private sector, but now Malaysian govern-

ment is upgrading it into LTE (Long Term Revolution) which is being developed by Telecom Malaysia.

Mongolia: Bilguun (2011) mentioned in his magazine article that 1996 is the year which Mongolians where first introduced to Internet and there were about 500 people who use the Internet daily, but in 2010 there were approximately 709000 daily the Internet users in Mongolia. On the latest statistics of Miniwatts Marketing Group (2013), it is reported that there are about 635,999 Internet users as of June 30, 2012 in Mongolia.

Mongolian teenagers are also enjoying the convenience and comfort that Internet has brought. For example on the website National Library of Mongolia, readers can use their e-mail addresses to register and get all the latest news provided by the library and see whether the books they want are available. It can be helpful for both the library and the readers by giving and receiving the information within short time. Just like people all around the world, young people in Mongolia use connect with their family and friends who are living in different countries. In 90s people used to go to The Central Post Office and make appointments, wait in a long queue to make international call. Getting and exchanging various types of information is a very important. People used to wait for the newspapers to get the political and know what's going on in the world, but now we can get all those information within few minutes by just clicking few buttons.

According to timeline of "Information and Technology Company, Univision LLC," in 2006, Mongolian government and Mongolian Association of Information, Communication Technology carried out a program named "Internet for Every Household", that encouraged those related companies to offer many different services with low price and fast internet for the citizens (Univision, 2011). This has both positive and negative influence on teenagers. If they have internet access at home 24/7, it'll increase the opportunity to use that during both day and night time.

Addicts may use the Internet for extended periods, isolating themselves from other forms of social contact, and focus almost entirely on the Internet rather than broader life events. Douglas et. al., (2008), proposed conceptual model of internet. It can be concluded that overuse of internet is generally defined by the inner need and motivations of an individual or so called push factor.

Internet addiction can be found at any age and in any socioeconomic condition, but the research's major attention has been focused on adolescents (Stefano et al., 2006). Adolescence is a critical period of vulnerability to both substance and non-substance addictions. The investigation of the prevalence of multiple sub threshold addictions in this age group may be helpful in identifying predictive and risk factors (Stefano et al., 2006). Technology is changing the way people are socializing, studying, working, shopping, searching for jobs and spending their leisure time. Because the Internet is introduced at a very young age, children and adolescents become one of the first groups to use internet on a large scale and among the first to begin experiencing problems associated with excessive internet use (Dinicola, 2004). For a child that is depressed or has social phobia, they can get in touch with other kids dealing with the same kinds of issues. They can go into artificial worlds, like 'Second Life,' where they can live out fantasies or take on different personas. For kids who have

anger or hostility, the Internet gives them a chance to play out their aggression there (Leslie, 2009). Internet addiction disrupts nerve wiring in the brains of teenagers, a study has found - causing a level of brain damage normally seen in heavy substance abusers. Similar effects have been seen in the brains of people exposed to alcohol, cocaine and cannabis (Rob, 2012).

In addition to the research on self-esteem and the use of Internet, there have been studies examining adolescents' use of some social networking sites and its association with their self-esteem. In these studies, it is seen that adolescents with low self-esteem tend to spend more time in social networking sites than those with higher self-esteem (Ellison, Steinfield & Lampe, 2007; Steinfield, Ellison & Lampe, 2008). If a child is depressed or has social phobia, he/she can get in touch with other kids dealing with the same kinds of issues. They can go into artificial worlds, like 'Second Life,' where they can live out fantasies or take on different personas. For kids who have anger or hostility, the Internet gives them a chance to play out their aggression there (Leslie, 2009).

National Institute on Drug Abuse (2011) discovered that one's gender may influence risk for drug abuse and addiction. Dr. Howard (2011), of The Cambridge Health Alliance said that the gender and age differences also influence the object you select, how it affects your health, and your treatment path. According to the information written by Christian (2009) for Medical News Today, gender is important risk factors of an addiction along with genetics, having a mental illness, peer pressure, family behavior, loneliness and stress. Since new studies presented at the annual meeting of the American Psychiatric Association (2009) identified that drug abuse and addiction effect women and men differently, internet addiction can also affect two genders variously.

Gender is one of the most important factors affecting the seriousness of internet addiction. Significant factors affecting Internet addiction were depression, gender, novelty seeking, and self-transcendence (June, Sohn, So, Yi, Park, 2007). There are studies that are focused on how the gender influences on different types of addictions.

According to Dr. John, the original research into this disorder began with exploratory surveys, which cannot establish causal relationship between specific behaviors and their cause. In other words, Surveys can help establish descriptions of how people feel about themselves and their behaviors, they cannot draw conclusions about whether a specific technology, such as the Internet. On the whole, Dr. John does, nevertheless, agree that people do have problems with spending too much time online and he relates that idea that people engage in the activity because they do not want to deal with the problems in their lives. Those problems may be a mental disorder (depression, anxiety, etc.), a serious health problem or disability, or a relationship problem. It is no different than turning on the TV so you won't have to talk to your spouse, or going "out with the boys" for a few drinks so you don't have to spend time at home. Nothing is different except the modality (John, 2012).

Likewise, it has concluded that the disorder closest to internet addiction in DSM-IV (Diagnostic and Statistical Manual of Mental Health Disorder-IV) was 'pathological gambling' under the heading 'impulse control disorders' because the non-intoxicant behavioral addictions were considered as impulse control disorders in

DSM-IV and specified the criteria for internet addiction on the basis of such pathological gambling criteria. Although there were 10 criteria for pathological gambling, two of them were excluded for being inadaptable to internet use and 8 criteria in total were included in the diagnosis criteria. Young found at least 5 or more answers of yes to these 8 criteria sufficient for internet addiction (Young 1998) :

1. Do you feel preoccupied with the Internet (think about previous on-line activity or anticipate next on-line session)?
2. Do you feel the need to use the Internet with increasing amounts of time in order to achieve satisfaction?
3. Have you repeatedly made unsuccessful efforts to control, cut back, or stop Internet use?
4. Do you feel restless, moody, depressed, or irritable when attempting to cut down or stop Internet use?
5. Do you stay on-line longer than originally intended?
6. Have you jeopardized or risked the loss of significant relationship, job, educational or career opportunity because of the Internet?
7. Have you lied to family members, therapist, or others to conceal the extent of involvement with the Internet?
8. Do you use the Internet as a way of escaping from problems or of relieving a dysphonic mood (e.g., feelings of helplessness, guilt, anxiety, and depression)?

Millions of people around the world use the Internet to find information, communicate with friends, work, play, and otherwise function well on this new medium. The Internet should not be viewed as a negative resource, nor should it be vilified. On the contrary, the Internet is an exciting new medium that is constantly evolving into an essential part of daily living. However, we must be aware of the negative consequences of overuse of the Internet, and understand the behavior of people who use it in a pathological way (Davis, 2001). Recent studies have found that 19.8% of adolescent in the world have internet addiction and furthermore, it is associated with hostility (Ko, Yen, Liu, Huang, and Yen, 2009).

## 3. Research Methodology

Total of 291 internet users (132 Malaysian and 159 Mongolian) were recruited through Internet to fill out the surveys. Those respondents are ranged from 13 to 24 years old and divided into four groups: 13-15; 16-18; 19-21 and 22-24. Moreover once we determined the range of participations, we've posted on some Facebook groups, which are in the ages of the ranges; also we've also asked from our friends, family to fill the survey and to ask their friends to fill this questionnaire.

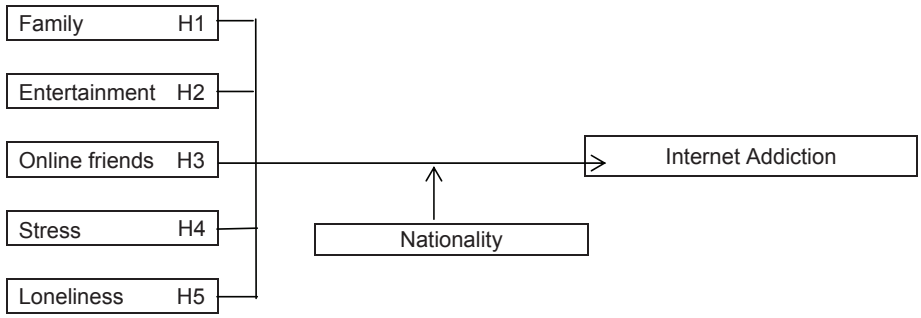


Figure 1. Conceptual Framework

Table 1. Summary of research hypothesis.

| Hypothesis | Description |
|---|---|
| H1 | Family has positive influence on Internet Addiction of young Internet users. |
| H1a. | Family has positive effect on Internet Addiction of Mongolian adolescent Internet users. |
| H1b. | Family has positive effect on Internet Addiction of Malaysian adolescent Internet users. |
| H2 | Entertainment has positive effect on Internet Addiction adolescent Internet users. |
| H2a. | Entertainment has positive effect on Internet Addiction of Mongolian adolescent Internet users. |
| H2b. | Entertainment has positive effect on Internet Addiction of Malaysian adolescent Internet users. |
| H3 | Online friends have positive effect on Internet Addiction adolescent Internet users. |
| H3a. | Online friends have positive effect on Internet Addiction of Mongolian adolescent Internet users. |
| H3b. | Online friends have positive effect on Internet Addiction of Malaysian adolescent Internet users. |
| H4 | Stress has positive effect on Internet Addiction adolescent Internet users. |
| H4a. | Stress has positive effect on Internet Addiction of Mongolian adolescent Internet users. |
| H4b. | Stress has positive effect on Internet Addiction of Malaysian adolescent Internet users. |
| H5 | Loneliness has positive impact on Internet Addiction of adolescent Internet users. |
| H5a. | Loneliness has positive effect on Internet Addiction of Mongolian adolescent Internet users. |
| H5b. | Loneliness has positive effect on Internet Addiction of Malaysian adolescent Internet users. |

Table 2. Definition of variables.

| Variables | Variable Code | Description | Reference |
|---|---|---|---|
| Family | FR | Families are defined in terms of two parents living together with responsibility for rearing their children | Robert M. Milardo (1996) |
| Entertainment | EN | Music, free videos, computer games, social networking and chatting as five main sources of entertainment of Internet. | David Prakash Kumar (2010) |
| Online friends | OF | "Online friends" as someone who you know exclusively through the online world and will rarely, if ever, meet. Online friendships can develop in places like forums, gaming sites, blogs, online groups, Facebook, or the like. | Cherie B., (2013) |
| Stress | ST | Stress-related variables were associated with Internet addiction among adolescents as they are also related to other addictions. | Lam L. T., et al. (2009) |
| Loneliness | LN | Loneliness was one of the factors that are negatively related to interpersonal and health problems. | Simon M. K., (2013) |

Internet Addiction Test (IAT) is used to determine the participant Internet addiction and basic information, family background; social-related questions are also asked. For the IAT is used for this study. Over the years, researchers have devised different kinds of measurement to make research of Internet addiction. But since Dr. Kimberly Young has found "The Center for Internet Addiction" in 1995, so many of them started to use IAT through the worldwide. Young (1998) expanded the original YDQ and developed another measurement called Internet Addiction Test (IAT). The IAT scale comprises 20 items (as shown in Appendix) which assess the severity of negative consequences due to excessive Internet use. These items cover an individual's Internet use habits, his/her thoughts about the Internet as well as the related problems of Internet use. For each item, a graded response (0 = "never" to 5 = "always") can be selected and the higher summed item scores represent higher level of Internet addiction. After filled out that set questions, 20 - 100 score will gotten and three types of Internet-user groups were identifies in accordance with the original scheme of Young and the scores ranging as a down below.

– 20 - 49 points: You are an average on-line user. You may surf the Web a bit too long at times, but you have control over your usage. (Minimal users)

– 50 -79 points: You are experiencing occasional or frequent problems because of the Internet. You should consider their full impact on your life. (Moderate users)

– 80 - 100 points: Your Internet usage is causing significant problems in your life. You should evaluate the impact of the Internet on your life and address the problems directly caused by your Internet usage. (Excessive users)

## 4. Empirical result and research findings

As indicated in table 3 there were slightly more female (53.2%) than male (46.8%) Mongolian respondents. Since most of the Mongolian respondents were 18 or younger (53.9%), naturally most of them were not working (70.9%). Most of the respondents accessed the Internet from home (67.4%).

Number of questionnaires completed was 291. The number of questionnaires was reduced to 264 because 27 questionnaires were not finished and therefore not useable as the data. The first section of this questionnaire included basic data, such as nationality, gender and age.

Number of participants in Mongolia filled out this questionnaire was 159, but 141 of them were used. Respondents fall between 13 to 24 years old, including both students and workers. Most of the participants surf internet at their home using either PC or laptop.

There was 123 out of 132 total questionnaires collected from Malaysia were used for the data analysis. Respondents also fall between 13 to 24 years old, including both full time students and full time employees. They also tend to use internet mostly at home and what's different from Mongolian users is more frequent use of laptop. As indicated in table 4, frequency distribution profile of respondents showed that among Malaysian respondents 56.9% of the respondents are male while the 43.1% are female.

### 4.1. *Reliability Test analyses*

The reliability of the measurement tools were assessed by the Cronbach's alpha ($\alpha$) reliability coefficient. It is proposed to be more than 0.6, but more than 0.5 is justifiable regarding to its moderate reliability within few constructs.

In order to check the measurement of internal reliability, relevant analysis in SPSS was put through a run test. The results of reliability assessments for became more relevant, shown in Table 5.

After checking Cronbach's alpha in SPSS-19, there hadn't any items, that total correlations are less than 0.3. The reliability of Family-related is 0.583 that is considered moderate but acceptable. Its item-to-total correlations are more than 0.312. For the Entertainment variable's reliability is 0.772. Items-to-total correlations are exceeding 0.384. With an alpha of 0.765 (Online friends), supervision has a high reliability measurement. With item-to-total correlations at more than.

That means higher reliability. About Stress's alpha is 0.568, with item-to-total correlations at more than 0.399. Loneliness's alpha is 0.624; Items-to-total correlations are exceeding 0.457.

Table 3. Sample Demographics (Mongolia).

| Characteristics | Categories | Frequency | Percentage (%) |
|---|---|---|---|
| Gender | Male | 66 | 46.8 |
| | Female | 75 | 53.2 |
| Age | 13-15 | 34 | 24.1 |
| | 16-18 | 42 | 29.8 |
| | 19-21 | 30 | 21.3 |
| | 22-24 | 35 | 24.8 |
| Education Level | Junior High | 30 | 21.3 |
| | High school | 61 | 43.3 |
| | Undergraduate | 46 | 32.6 |
| | Master and above | 4 | 2.8 |
| Student Status | Part-time student | 10 | 7.1 |
| | Full-time student | 95 | 67.4 |
| | Non-student | 36 | 25.5 |
| Job Status | Part-time worker | 24 | 17.0 |
| | Full-time worker | 17 | 12.1 |
| | Non-worker | 100 | 70.9 |
| Internet Access | Home | 95 | 67.4 |
| | School | 18 | 12.8 |
| | Dorm | 6 | 4.3 |
| | Internet Café | 14 | 9.9 |
| | Office | 8 | 5.7 |
| Device | PC | 58 | 41.1 |
| | Laptop | 42 | 29.8 |
| | Tablet | 18 | 12.8 |
| | Smart Phone | 23 | 16.3 |
| Hours | Less than one hour | 36 | 25.5 |
| | 1-3 hours | 54 | 38.3 |
| | 4-6 hours | 48 | 34.0 |
| | 7 hours or above | 3 | 2.1 |

### 4.2. *Validity test and factor analysis*

Construct reliability and validity were explored in order to confirm accuracy and adequacy. The major rules of doing these analyses are Eigen value must be greater than 1, KMO (Kaiser-Meyer-Olkin's Measure of sampling adequacy) is suggested to

Table 4. Sample Demographics (Malaysia).

| Characteristics | Categories | Frequency | Percentage (%) |
|---|---|---|---|
| Gender | Male | 70 | 56.9 |
| | Female | 53 | 43.1 |
| Age | 13-15 | 10 | 8.1 |
| | 16-18 | 38 | 30.9 |
| | 19-21 | 32 | 26.0 |
| | 22-24 | 43 | 35.0 |
| Education Level | Junior High | 13 | 10.6 |
| | High school | 47 | 38.2 |
| | Undergraduate | 55 | 44.7 |
| | Master and above | 8 | 6.5 |
| Student Status | Part-time student | 8 | 6.5 |
| | Full-time student | 27 | 22.0 |
| | Non-student | 88 | 71.5 |
| Job Status | Part-time worker | 24 | 19.5 |
| | Full-time worker | 17 | 13.8 |
| | Non-worker | 82 | 66.7 |
| Internet Access | Home | 87 | 70.7 |
| | School | 2 | 1.6 |
| | Dorm | 17 | 13.8 |
| | Internet Café | 0 | 0 |
| | Office | 17 | 13.8 |
| Device | PC | 29 | 21.2 |
| | Laptop | 69 | 50.4 |
| | Tablet | 6 | 4.4 |
| | Smart Phone | 19 | 13.9 |
| Hours | Less than one hour | 2 | 1.6 |
| | 1-3 hours | 45 | 36.6 |
| | 4-6 hours | 62 | 50.4 |
| | 7 hours or above | 14 | 11.4 |

Table 5. Reliability analysis result.

| Variables | Variable Code | Number of questions | Cronbach's Alpha (α) |
|---|---|---|---|
| Family-related | FR | 6 | 0.583 |
| Entertainment | EN | 7 | 0.772 |
| Online friends | OF | 4 | 0.765 |
| Stress | ST | 2 | 0.568 |
| Loneliness | LN | 2 | 0.624 |

be more than 0.8 (but more than 0.6 is justifiable), factor loading with cut point is less than 0.5.

1. Family-related: For those construct, factor loadings are higher than 0.5 that altogether ranged between 0.503 and 0.611. Following the Eigenvalue-greater-than-one-rule, the Eigenvalue of this construct is 2.006 and this factor can explain 33.437 percent of total variance. Bartlett's test of sphericity was significant ($x^2 = 191.835$, P¡0.01). The Kaiser-Meyer-Olkin in measure of sampling adequacy is 0.559 that exceeds pre-determined threshold for factor analysis.

2. Entertainment: All factor loadings are ranged within 0.525 to 0.778. Following the Eigenvalue-greater-than-one-rule, the Eigenvalue of this variable is 2.998 and this factor can explain 42.829 percent of total variance. Chi-Square is

   Significant ($\chi = 418.233$, P¡0.01). The Kaiser-Meyer-Olkin measure of sampling adequacy is 0.731 which meets the pre-determined factor analysis criterion.

3. Online Friends: 0.708 to 0.838 are the range of all factor loadings. By Eigenvalue-greater-than-one-rule, the Eigenvalue of this variable is 2.365 and this factor can explain 59.119 percent of total variance. Chi-Square is significant ($\chi = 274.628$, P¡0.01). 0.731 is the Kaiser-Meyer-Olkin measure of sampling adequacy, which meets the pre-determined factor analysis criterion.

4. Stress: Factors ranged in 0.836 individually. According to the Eigenvalue-greater-than-one-rule, the Eigenvalue of this variable is 1.399 and this factor can explain 69.972 percent of total variance. Chi-Square is significant ($\chi = 45.455$, P¡0.01). The Kaiser-Meyer-Olkin measure of sampling adequacy is 0.5 which meeting the pre-determined factor analysis criterion.

5. Loneliness: Entire factor loadings ranged in 0.854. By Eigenvalue-greater-than-one-rule, the Eigenvalue of this variable is 1.457 and this factor can explain 72.856 percent of total variance. Chi-Square is significant ($\chi = 61.297$, P¡0.01). The Kaiser-Meyer-Olkin measure of sampling adequacy is 0.5 which means it meets the pre-determined factor analysis criterion.

Table 6. Factor Analysis.

| Rank | Variables | Questionnaire Items | Factor analysis | Eigen value | Cumulative proportion (%) | KMO | Chi-square | P value |
|---|---|---|---|---|---|---|---|---|
| 1 | Family-related | FR1 | 0.503 | 2.006 | 33.437 | 0.559 | 191.835 | 0.000*** |
| | | FR2 | 0.599 | | | | | |
| | | FR3 | 0.602 | | | | | |
| | | FR4 | 0.594 | | | | | |
| | | FR5 | 0.611 | | | | | |
| | | FR6 | 0.552 | | | | | |
| 2 | Entertainment | EN1 | 0.551 | 2.998 | 42.829 | 0.796 | 418.233 | 0.000*** |
| | | EN2 | 0.778 | | | | | |
| | | EN3 | 0.710 | | | | | |
| | | EN4 | 0.626 | | | | | |
| | | EN5 | 0.678 | | | | | |
| | | EN6 | 0.677 | | | | | |
| | | EN7 | 0.525 | | | | | |
| 3 | Online friends | OF1 | 0.725 | 2.365 | 59.119 | 0.743 | 274.628 | 0.000*** |
| | | OF2 | 0.838 | | | | | |
| | | OF3 | 0.708 | | | | | |
| | | OF4 | 0.806 | | | | | |
| 4 | Stress | ST1 | 0.836 | 1.399 | 69.972 | 0.500 | 45.455 | 0.000*** |
| | | ST2 | 0.836 | | | | | |
| 5 | Loneliness | LN1 | 0.854 | 1.457 | 72.856 | 0.500 | 61.297 | 0.000*** |
| | | LN2 | 0.854 | | | | | |

Note : *<0.10, **<0.05, ***<0.001

### 4.3. *Multiple Regression analysis*

Family-related factors, entertainment, online fiends, stress, loneliness are the five independent variables and ”Internet addiction” is dependent variable of this study. As we can see from the table above, having online friends, feeling stressed and feeling lonely have significant effect on Internet addiction. Independent variable stress has the most significant effect compared to other independent variables. Having online friends and feeling lonely has significant effect but not as much as stress. (tblc7)

From the result shown on the Table 8, 3 of 5 independent variables (entertainment, stress and loneliness) had significant effect on Internet addiction. Entertainment and stress had the most significant effect compared to others. We also found out that family related factors and having online friends didn’t have any significant effect on our dependent variable.

Table 7. Result of multiple regression analysis for all models (Mongolia).

| Variables | β Coefficient | t-Value | Sig. |
|---|---|---|---|
| Constant | 1.054 | 6.924 | 0.000 |
| Family-related | 0.034 | 0.766 | 0.445 |
| Entertainment | 0.175 | 1.139 | 0.257 |
| Online friends | 0.248* | 1.652 | 0.005 |
| Stress | 0.147** | 2.364 | 0.020 |
| Loneliness | 0.174* | 1.798 | 0.074 |
| **Model Fit:** | | | |
| $R^2$ | 0.611 | | |
| Adjusted $R^2$ | 0.597 | | |
| F | 42.397*** | | |

Note : *<0.10, **<0.05, ***<0.001

Table 8. Result of multiple regression analysis for all models (Malaysia).

| Variables | β Coefficient | t-Value | Sig. |
|---|---|---|---|
| Constant | -0.292 | -1.242 | 0.217 |
| Family-related | 0.113 | 1.513 | 0.133 |
| Entertainment | 0.866*** | 5.355 | 0.000 |
| Online friends | 0.008* | 0.057 | 0.099 |
| Stress | 0.268** | 3.019 | 0.003 |
| Loneliness | 0.252** | 2.417 | 0.017 |
| **Model Fit:** | | | |
| $R^2$ | 0.787 | | |
| Adjusted $R^2$ | 0.778 | | |
| F | 86.569*** | | |

Note : *<0.10, **<0.05, ***<0.001

## 5. Discussion and conclusion

Results of the hypotheses testing are revealed in table 9 Family related factors such as income, internal construct of the family, relationship with parents and family background had no significant influence on Internet addiction of the adolescence in Malaysia and Mongolia. Therefore both hypotheses were rejected. Entertainment was the significant and strong factor on the Internet addiction in Malaysia. In Mongolia, entertainment had no statistically significant influence on Internet addiction. So, hypothesis 2 was rejected for Mongolia, and accepted for Malaysia. Hypotheses three, four and five were accepted for both countries. Online friends, stress, and loneliness

are influential factors on Internet addiction of the adolescent in Malaysia and Mongolia. As technology grows social gatherings and social interactions are being replaced by the cyber world transferred through he computer monitor in the solitudes of one's room or office.

Table 9. Summary of Hypothesis Test Result.

| No | Hypotheses | | Models | Result |
|---|---|---|---|---|
| H1 | Family related factors has positive effect on Internet Addiction | H1a | Mongolia | Not accepted |
| | | H1b | Malaysia | Not accepted |
| H2 | Entertainment has positive effect on Internet Addiction | H2a | Mongolia | Not accepted |
| | | H2b | Malaysia | Accepted |
| H3 | Online friends has positive effect on Internet Addiction | H3a | Mongolia | Accepted |
| | | H3b | Malaysia | Accepted |
| H4 | Stress has positive effect on Internet Addiction | H4a | Mongolia | Accepted |
| | | H4b | Malaysia | Accepted |
| H5 | Loneliness has positive effect on Internet Addiction | H5a | Mongolia | Accepted |
| | | H5b | Malaysia | Accepted |

This study revealed that higher stress, loneliness on both Malaysian and Mongolian adolescents. But online friends also accepted on both. For entertainment, it is accepted for Malaysian adolescents.

### 5.1. *Conclusions*

Family did not play a significant role in Internet addiction of the participants of this study. This reveals that in both countries family background does not influence Internet addiction significantly. This finding indicates that adolescence in Malaysia and Mongolia has less dependence in family background and family ties. As technology grows there is less family time and family gatherings. Internet users are more dependent on their circle of their social friends in the Internet than their family. Stress, loneliness, and online friends all affected Internet addiction positively in both countries. But entertainment showed no significant influence in Malaysia, yet in Mongolia had positive effect on Internet addiction. Even though there are similarities between two countries' users there are also some significant differences. We did not find any significant difference between two genders of both countries. Among both Mongolian and Malaysian, participants in 22-24 years old range spend more time online for entertainment purpose and their IAT result were much higher that other age ranges. We saw that participants from Mongolia who are seeking master degree or above spend more time for entertainment than other educational levels. But in Malaysia's case, high school students get stressed more than other students. From the result of IAT test, there were 58 minimal, 45 moderate and 20 excessive users from Malaysia and 123 minimal and 18 moderate users in Mongolia.

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