

PROBLEMATIC INTERNET USE AND PSYCHOLOGICAL WELL-BEING OF PRE-SERVICE TEACHERS FROM SELECTED EDUCATION COLLEGES

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Abstract

The main purpose of this study was to investigate problematic internet use and psychological well-being of pre-service teachers from selected Education Colleges. A total of 600 pre-service teachers (300 males and 300 females) were selected from three Education Colleges by using stratified random sampling technique in this study. Problematic internet use was measured by questionnaire of Demetrovics, Szeredl and Rozsa (2008) and Cronbach's alpha was 0.741. Psychological well-being was measured by using the questionnaire of Carol D. Ryff (1989) and Cronbach's alpha was 0.843. Both questionnaires were answered on four-point Likert scale. According to the results, there were no significant differences in problematic internet use by gender and by grade. In psychological well-being, there was significant difference by gender at 0.01 level but no significant difference by grade. The female pre-service teachers feel more psychological well-being than male pre-service teachers. There were significant differences in both problematic internet use and psychological well-being of pre-service teachers by Education College. Education College 3 may have the most problems in using internet among Education Colleges and Education College 1 may feel the best psychological well-being among Education Colleges. It was found that problematic internet use and psychological well-being of pre-service teachers in this study were significantly and negatively correlated. 5% of variance in psychological well-being was predicted by problematic internet use of pre-service teachers. This may be expected to aid Education Colleges in understanding the degree of psychological well-being to which their pre-service teachers feel and how to reduce pre-service teachers' problematic internet use.

Keywords: Problematic, problematic internet use, well-being, psychological well-being.

Introduction

The Internet has become the most popular medium utilized by the general population, especially by children and adolescents. Adolescence is viewed as an important period for personal and professional development (Ahn, 2010). During this phase, adolescents experience many physical and psychological changes, including a sense of independence and freedom (Panicker & Sachdev, 2014). Some authors hold that forming meaningful social connections are pivotal to adolescent development (Reeve, et. al., 2004), which contribute to efficient social functioning during adolescence (Waldo, 2014; Bokhorst, Sumter & Westenberg, 2010). Gillen-O'Neel and Fuligni (2013) argued that having positive relationships with peers enhances adolescent well-being and encourages better learning opportunities.

Most research studies have found that internet plays an integral part of daily life for people of today, particularly in the age of adolescence (Thorsteinsson & Davey, 2014; Wallace, 2014; Tzavela, Karakitsou, et.al. 2017). Studies have shown different ways that adolescents utilize and engage in internet. Brown (2006) suggested that the choice of media individuals make is influenced by their character and the way they interact with the world; in turn, the way individuals interact with the media will be incorporated into their daily life, influence their behavior and views and even the development of their brain. Children and adolescents are more susceptible to trade off their real life activities with virtual reality ones. Young people are also more prone to use the Internet as a form of socialization without realizing the negative impact

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that may carry. Thus, when Internet use starts to take up a large portion of children's and adolescents' time, affects their mood, and jeopardizes academic and social function and performance; Internet usage may become a problem that may require intervention (as cited in Chang & Hung, 2012).

One of the pioneers in the field was the New York psychiatrist Ivan Goldberg. In 1995, he formulated a symptom list for what he called Internet Addiction Disorder. Based on this, an individual had to experience a minimum of three of the following symptoms over a period of twelve months: tolerance, withdrawal, lack of control, relapse, spending large amounts of time online, negative consequences and continued use despite negative consequences (Goldberg, 1996).

The term "Internet addiction" was changed to the less controversial "problematic Internet use" (PIU) by Shapira et al (2000). Problematic internet use is addictive behavior— excessive or poorly controlled preoccupations, urges, or behaviors regarding computer use and internet access that lead to impairment or distress. The problem is more common in adolescent males than females and is very often linked to playing online games. In severe cases, online activity takes over the person's life to the exclusion of all else. Thus, their improvement of life and psychological well-being can be damaged because of the extreme use of internet (as cited in Chang & Hung, 2012).

Psychological well-being refers to positive mental health (Edwards, 2005). Research has shown that psychological well-being is a diverse multidimensional concept (MacLeod & Moore, 2000; Ryff, 1989b; Wissing & Van Eeden, 2002), which develops through a combination of emotional regulation, personality characteristics; identity and life experience (Helson & Srivastava, 2001). Psychological well-being can increase with age, education, extraversion and consciousness and decreases with neuroticism (Keyes et al., 2002). However, when adolescents experience unpleasantness in relation to their peers, it results in maladaptive functioning (Newman, Lohman & Newman, 2007), which may have an adverse impact on the adolescents' present and future development (Shochet, Smith, Furlong & Homel, 2011).

When internet is used for communicating with exiting friends and family members, sending and receiving emails, searching for relevant information, researching as well as and for communicating with like-minded people with similar interests (McKenna & Bargh, 2000), it is associated with positive well-being (Kari, 2006), which can be further associated with positive growth. On the other hand, when an individual becomes dependent on the net for seeking true friendships, which are often regarded as weak and superficial (Knibbe & Luchies, 2013), it significantly hampers not only the well-being but also personal growth because such relations fail to provide feelings of warmth and companionship, in comparison to real life friendships (Green, et.al., 2005). Many adolescents engage in internet through social networking sites and instant messaging applications. It is believed that the stage of adolescence is a sensitive period where many changes occur psychologically, physically and behaviorally. Since, adolescents at this stage are in a process of building new social relationships, understanding their surrounding environment and seeking academic opportunities, focus of attention moves from parents and guardians to social relationships in context for seeking advice, solving problems, gaining knowledge, etc. (Eckenrode, 1991). Therefore, it is important that adolescents should choose the right company that matches their personality and psychological thinking, which will aid them in developing their potentials to the fullest and develop positive strategies to solve problems (as cited in Devika Pal, 2017).

Aim of the Study

The main aim of the study is to investigate problematic internet use and psychological well-being of pre-service teachers from selected Education Colleges.

Scope of the Study

This study is focus on the area of problematic internet use and psychological well-being of pre-service teachers from Meiktila, Pakokku and Pyay Education Colleges. Total of 600 pre-service teachers were from selected Education Colleges.

Definitions of Key Terms

Problematic refers to usage reflecting a specific cycle of innate dysfunction leading to Internet use that in turn exacerbates the dysfunction (Caplan, 2002; Davis, Flett, & Besser, 2002).

Problematic Internet Use (PIU) is employed here to characterize those maladaptive cognitions and behaviors involving Internet use that result in negative academic, professional, and social consequences (Caplan, 2002; Davis, Flett, & Besser, 2002).

Well-being is a dynamic concept that includes subjective, social and psychological dimensions as well as health related behaviors (Ryff, 1989).

Psychological Well-being has been defined as a state of happiness or contentment and is comprised of six core dimensions: autonomy, environmental mastery, personal growth, positive relations, purpose in life and self-acceptance (Ryff, 1989b).

Method

In this study, descriptive research design and quantitative survey method were used.

Sample

The total of 600 (male=300, female=300) pre-service teachers were selected as participants from three Education Colleges by using stratified random sampling technique.

Instrumentation

Problematic Internet Use Questionnaires (PIUQ). The questionnaire was modified by Demetrovics, Szeredl and Sandar (2008) from Internet Addiction Test (IAT) of Young (1998) and the purpose of it used to measure problematic internet use of people at any age. PIUQ consists of 18 items.

Psychological Well-being Scale (PWS). This scale was developed by Ryff, C. D. (1989). It used to measure psychological well-being. The total items were 42.

Participants will be asked to respond to each item on a four-point Likert scales ranging from strongly disagree (scored 1) to strongly agree (scored 4). The instruments used to in this study were translated from English version to Myanmar version.

After making the pilot study, the reliability analysis of the instruments was conducted by using the Statistical Package for the Social Science (SPSS). The internal consistency reliability coefficient (Cronbach's alpha) of pilot test was 0.706 for problematic internet use and 0.812 for psychological well-being. It indicates that the instruments can be identified as a reliable tool for this study.

Procedure

Firstly, researcher reviewed the related literature from several available books, theses, journals, dissertation, reports, handouts and internet sources. And then, problematic internet use and psychological well-being questionnaires were adapted and also translated to Myanmar version. In order to validate these instruments, experts' review was requested. Next, pilot study was conducted. And, the instruments were taken reliability according to pilot study results by using SPSS (20.00). After taking the validity and reliability of the instruments, the actual test was implemented at selected Education Colleges. After performing actual test, the collected data were analyzed and interpreted. In interpreting the actual test, the internal consistency reliability (Cronbach's alpha coefficient) was 0.741 for problematic internet use and 0.843 for psychological well-being. Finally, the necessary suggestions and recommendations for this study were discussed.

Data Analysis and Findings

After the instrument had been developed for the research and applied for the data collection, the problematic internet use and psychological well-being of pre-service teachers were investigated. Data were analyzed by using the Statistical Package for the Social Science (SPSS) software. Descriptive statistics, independent samples *t* test, One-way ANOVA, Person Product Moment correlation and simple linear regression were applied to discuss findings and results.

Descriptive Statistics for Problematic Internet Use of Pre-service Teachers

Pre-service teachers' problematic internet use scores were reported by means of descriptive statistics.

Table 1 Descriptive Statistics for Problematic Internet Use of Pre-service Teachers

Variable	<i>N</i>	Minimum	Maximum	Mean	Std. Deviation
Problematic internet use (Total)	600	19	73	43.28	6.00

Since the total mean score is lower than the theoretical mean score, there is a little problem concerning with the use of internet of the pre-service teachers.

Mean Comparison for Problematic Internet Use of Pre-service Teachers by Gender

The mean and standard deviations of males and females pre-service teachers were described in the Table 2.

Table 2 Descriptive Statistic for Problematic Internet Use of Pre-service Teachers by Gender

Variable	Gender	<i>N</i>	Mean	<i>SD</i>
Problematic Internet Use	Male	300	43.75	6.02
	Female	300	42.81	5.97

In order to determine whether these differences were significant or not, the independent samples *t* test was used. The results were mentioned in Table 3.

Table 3 The Result of Independent Samples *t* test for Problematic Internet Use by Gender

Variable	Gender	<i>N</i>	<i>t</i>	<i>df</i>	<i>p</i>	Mean Difference
Problematic Internet Use	Male	300	1.908	598	.057	.94
	Female	300				

Based on the result of independent samples *t* test, there was no significant difference in problematic internet use according to gender.

Mean Comparison for Problematic Internet Use of Pre-service Teachers by Grade

To find out mean difference in problematic internet use of pre-service teachers by grade, descriptive statistics was made. (see Table 4)

Table 4 Descriptive Statistic for Problematic Internet Use of Pre-service Teachers by Grade

Variable	Grade	<i>N</i>	Mean	<i>SD</i>
Problematic Internet Use	First Year	300	43.50	6.34
	Second Year	300	43.06	5.65

In order to determine whether these differences were significant or not, the independent samples *t* test was used. The results were mentioned in Table 5.

Table 5 The Result of Independent Samples *t* test for Problematic Internet Use by Grade

Variable	Grade	<i>N</i>	<i>t</i>	<i>df</i>	<i>p</i>	Mean Difference
Problematic Internet Use	First Year	300	.911	598	.363	.44
	Second Year	300				

Based on the result of independent samples *t* test, there was no significant difference in problematic internet use according to grade.

Mean Comparison for Problematic Internet Use of Pre-service Teachers by Education College

To be able to compare problematic internet use of pre-service teachers by Education Colleges, descriptive statistics was first used in this study. (see Table 6)

Table 6 Mean and Standard Deviation for Problematic Internet Use of Pre-service Teachers by Education College

Variable	Education College	<i>N</i>	Mean	<i>SD</i>
Problematic Internet Use	College 1	200	42.36	5.96
	College 2	200	43.27	6.24
	College 3	200	44.22	5.64
	Total	600	43.28	6.00

In order to reveal whether there was statistically significant difference in problematic internet use of pre-service teachers according to Education College, One-way Analysis of Variance (ANOVA) was worked out. The results of the analysis were displayed in Table 7.

Table 7 The Results of ANOVA for Problematic Internet Use by Education College

Variable		Sum of Squares	df	Mean Square	F	p
Problematic Internet Use	Between Groups	345.99	2	172.99	4.86**	.008
	Within Groups	21246.97	597	35.59		
	Total	21592.96	599			

Note: **. The mean difference is significant at the 0.01 level.

As above mentioned ANOVA result in Table 7, it was found that there was significant difference in problematic internet use among Education Colleges at 0.01 significant level.

To investigate more specifically how pre-service teachers' problematic internet use differed in relation to their Education College, Post Hoc Test was carried out by Tukey HSD method. The results were shown in Table 8.

Table 8 The Results of Tukey HSD test of Multiple Comparison for Pre-service Teachers' Problematic Internet Use

Variable	Education College (I)	Education College (J)	MD (I-J)	p
Problematic Internet Use	College 3	College 1	1.86**	.005
		College 2	.95	.253

Note: **. The mean difference is significant at the 0.01 level.

Post Hoc Tukey HSD test revealed that the mean difference between Education College 1 and 3 was 1.86 and it was significantly different at 0.01 level.

Descriptive Statistics for Psychological Well-being of Pre-service Teachers

In term of descriptive statistics, mean standard deviation, minimum and maximum scores of psychological well-being were calculated to analyze data. (see Table 9)

Table 9 Descriptive Statistics for Psychological Well-being of Pre-service Teachers

Variable	N	Minimum	Maximum	Mean	SD
Psychological well-being	600	73	153	122.41	11.57

Since the total mean score is higher than the theoretical mean score. So, psychological well-being of the pre-service teachers was satisfactory.

Mean Comparison for Psychological Well-being of Pre-service Teachers by Gender

The mean and standard deviations of males and females pre-service teachers were described in the Table 10.

Table 10 Descriptive Statistic for Psychological Well-being of Pre-service Teachers by Gender

Variable	Gender	N	Mean	SD
Psychological Well-being	Male	300	120.89	11.66
	Female	300	123.93	11.29

In order to determine whether these differences were significant or not, the independent samples *t* test was used. The results were mentioned in Table 11.

Table 11 The Result of Independent Samples *t* test for Psychological Well-being by Gender

Variable	Gender	<i>N</i>	<i>t</i>	<i>df</i>	<i>p</i>	Mean Difference
Psychological Well-being	Male	300	-3.249**	598	.001	.37
	Female	300				

Note: **. The mean difference is significant at the 0.01 level.

Based on the result of independent samples *t* test, there was significant difference in psychological well-being according to gender.

Mean Comparison for Psychological Well-being of Pre-service Teachers by Grade

To find out grade difference in psychological well-being of pre-service teachers, descriptive statistics was made.

Table 12 Descriptive Statistic for Psychological Well-being of Pre-service Teachers by Grade

Variable	Grade	<i>N</i>	Mean	<i>SD</i>
Psychological Well-being	First Year	300	122.17	11.57
	Second Year	300	122.65	11.58

In order to determine whether these differences were significant or not, the independent samples *t* test was used. The results were mentioned in Table 13.

Table 13 The Result of Independent Samples *t* test for Psychological Well-being by Grade

Variable	Grade	<i>N</i>	<i>t</i>	<i>df</i>	<i>p</i>	Mean Difference
Psychological Well-being	First Year	300	-.512	598	.609	-.48
	Second Year	300				

Based on the result of independent samples *t* test, there was no significant difference in psychological well-being according to grade.

Table 14 Mean and Standard Deviation for Psychological Well-being of Pre-service Teachers by Education College

Variable	Education College	<i>N</i>	Mean	<i>SD</i>
Psychological Well-being	College 1	200	123.88	11.37
	College 2	200	120.98	12.39
	College 3	200	122.38	10.76
	Total	600	122.41	11.57

In order to reveal whether there was statistically significant difference in psychological well-being of pre-service teachers according to Education College, One-way Analysis of Variance (ANOVA) was worked out. The results of the analysis were displayed in Table 15.

Table 15 The Results of ANOVA for Psychological Well-being of Pre-service Teachers by Education College

Variable		Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	<i>p</i>
Psychological Well-being	Between Groups	841.33	2	420.67	3.17*	.043
	Within Groups	79267.63	597	132.76		
	Total	80108.96	599			

Note: *. The mean difference is significant at the 0.05 level.

As above mentioned ANOVA result in Table 15, it was found that there was significant difference in psychological well-being among Education Colleges at 0.05 significant level.

To investigate more specifically how pre-service teachers' psychological well-being differed in relation to their Education College, Post Hoc Test was carried out by Tukey HSD method. The results were shown in Table 16.

Table 16 The Results of Tukey HSD test of Multiple Comparison for Pre-service Teachers' Psychological Well-being

Variable	Education College (I)	Education College (J)	MD (I-J)	<i>p</i>
Psychological Well-being	College 1	College 2	2.90*	.032
		College 3	1.50	.395

Note: *. The mean difference is significant at the 0.05 level.

Post Hoc Tukey HSD test revealed that the mean difference between Education College 1 and 2 was 2.90 and it was significantly different at 0.05 level.

The Relationship between Problematic Internet Use and Psychological Well-being of Pre-service Teachers

In order to explore the relationship between problematic internet use and psychological well-being of pre-service teachers, the Pearson Product-Moment Correlation Coefficient was computed. The results were shown in Table 17.

Table 17 The Relationship between Problematic Internet Use and Psychological Well-being of Pre-service Teachers

Variable	Problematic Internet Use	Psychological Well-being
Problematic Internet Use	-	-.221**
Psychological Well-being	-.221**	-

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

According to the results, there was a negative correlation between problematic internet use and psychological well-being because the correlation coefficient was statistically significant at 0.01 level.

Results of Simple Linear Regression on Problematic Internet Use and Psychological Well-being of Pre-service Teachers

To examine how problematic internet use can predict psychological well-being of pre-service teachers, simple linear regression was calculated.

Table 18 Model Summary for Problematic Internet Use and Psychological Well-being

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.221 ^a	.049	.047	11.288

a. Dependent Variable: Psychological Well-being

According to Table 18, the simple linear regression coefficient (R) was .221 and adjusted R square was .047. It can be concluded that 5% of psychological well-being can be predicted

from problematic internet use. To get more exact information, the results can be seen in the following Table 19.

Table 19 Results of Simple Linear Regression on Problematic Internet Use and Psychological Well-being

Model	Unstandardized Coefficient		Standardized Coefficient	t	Sig.
	B	Std. Error	Beta		
1 (constant)	140.836	3.356		41.960	.000
Problematic Internet Use	-.426	.077	-.221	-5.543	.000

From the Table 4.26, it was found that the predictor problematic internet use significantly predicted psychological well-being. Therefore, the model can be expressed as the following equation.

$$PWB = 140.836 - .426 PIU$$

PIU = Problematic Internet Use, PWB = Psychological Well-being

Conclusion and Suggestion

According to the results of the descriptive analysis of the frequency distribution on problematic internet use questionnaire, the total mean score of problematic internet use was lower than the theoretical mean score of it. So, there is a little problem concerning with the use of internet of the pre-service teachers but it was satisfactory.

And there was no significant difference in pre-service teachers’ problematic internet use by gender and grade. Thus, the result indicated that both males and females could be had problems in their internet use. And the problematic internet use was not concerned with the pre-service teachers’ education level (i.e. grade) because they have chances to use internet equally and their education level are not so different. However, the present study found that pre-service teachers’ problematic internet use differs according to Education Colleges. Post Hoc result specifically described that Education College 3 had more problem in using internet than Education College 1. It may be that the pre-service teachers from Education College 3 come from rural area where they cannot access to internet. When they reach the urban area (Education College 3) in which they can access to internet, they may use the internet without limit. Thus, pre-service teachers from Education College 3 need to care in their internet use and to guide to use internet beneficially.

In studying psychological well-being, according to the results of the descriptive analysis of the frequency distribution on psychological well-being questionnaire, the total mean score of psychological well-being was higher than the theoretical mean score of it. Thus the psychological well-being of all pre-service teachers was satisfactory.

Furthermore, the present study found that there was significant difference in psychological well-being between males and females. The female pre-service teachers feel better psychological well-being than male pre-service teachers. It may be that psychological well-being is the state of happiness and it is concerned with their freedom. It may also be that the male pre-service teachers cannot stay to adapt with the rules of Education Colleges and they may not fix with the surroundings of Education Colleges. However, there was no significant difference in

psychological well-being of pre-service teachers by grade. Thus, all pre-service teachers from Education Colleges feel psychological well-being equally. It may be that all activities of Education Colleges in which they have are similar and they have freedom and opportunities equally.

Moreover, the present study found that psychological well-being of pre-service teachers affected by Education Colleges. Education College 1 feels better psychological well-being than Education College 2 and 3. Thus, it can be said that pre-service teachers from Education College 1 had more familiar relationships with their peer and teachers in many activities. Besides, psychological well-being of pre-service teachers may affect by surroundings and physical appearance of Education Colleges.

Finally, significant negative correlation was found between problematic internet use and psychological well-being. Thus, if the pre-service teachers' problematic internet use was higher, their psychological well-being would be lower. The finding of the study attributes psychological well-being as a factor which effects on problematic internet use of pre-service teachers.

For the predictor of psychological well-being to problematic internet use, simple linear regression was executed continuously. The results showed that the simple linear regression correlation coefficient (R)= 0.221 and adjusted R square was 0.049. It can be concluded that 5% of psychological well-being of pre-service teachers can be predicted from problematic internet use.

Pre-service teachers spend a large proportion of their time in using internet. Therefore, to be high psychological well-being has become important in their live. Based on findings of this research, there are some suggestions for teachers, Education Colleges and pre-service teachers.

- Teachers should create closely relationship with pre-service teachers.
- Teachers should treat all pre-service teachers fairly.
- Teachers should cultivate positive attitudes that are to try to come close to pre-service teachers' ideals.
- Education Colleges should support many interesting things that can attract pre-service teachers to be happy in Education Colleges.
- Education Colleges should have many interesting activities.

And then, pre-service teachers should be recommended in the following suggestions.

- The pre-service teachers should use internet systematically in their free time.
- The pre-service teachers should use internet to learn their profession.
- The pre-service teachers should understand the advantages and disadvantages of internet use.
- The pre-service teachers should avoid being internet addiction.
- The pre-service teachers should learn how to improve their psychological well-being.

Pre-service teachers' psychological well-being can be enhanced with proper guidance and providing opportunities to participate in Education Colleges' activities. Thus, it is recommended

that different training activities should be organized in Education Colleges to enhance pre-service teachers' psychological well-being in order to reduce problems in their internet use.

In order for pre-service teachers to achieve their life goals and reduce problematic internet use, it is important to be in a psychologically healthy condition. The results can aid Education Colleges in understanding the degree to which their pre-service teachers' psychological well-being and how to reduce their problematic internet use.

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