Validation of the Thai version of Bergen Facebook Addiction Scale (Thai-BFAS)

Muthita Phanasathit MD, FRCPsychT*.**,
Mereerat Manwong MPh****, Nitt Hanprathet MSc**.****,
Jiraporn Khumsri MSc**.****, Rungmanee Yingyeun MSc**.****

** Department of Preventive and Social Medicine, Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand *** College of Medicine and Public Health, Ubon Ratchathani University, Ubon Ratchathani, Thailand

**** Department of Health Education, Faculty of Physical Education, Srinakharinwirot University, Bangkok, Thailand

**** Nopparat Rajathani Hospital, Bangkok, Thailand

***** Prasrimahabhodi Psychiatric Hospital, Ubon Ratchathani, Thailand

Objective: To determine the validity of the Thai version of the Bergen Facebook Addiction Scale (Thai-BFAS) using Facebook addiction screening in Thai high school students.

Material and Method: The original BFAS was authorized for translation and validation in Thai. After content validity and usability were approved by three Thai psychiatrists, the Thai-BFAS was adjusted again by the authors and back translated by an English expert. This final version was investigated using the internal consistency method among 874 high schools students in Bangkok, Chiang Mai, Ubon Ratchathani and Songkhla, and confirmatory factor analysis (CFA) was employed to prove that the six-component model could be representative of addiction behaviors. In addition, test-retest reliability was performed separately among 30 pilot high school students in Bangkok.

Results: The Thai-BFAS has six items, which are each scored on a 5-point scale with total score ranges from 0 to 24; the cutoff score for Facebook addition stands at least 12 points. The Cronbach's alpha coefficient was 0.91 (95% CI; 0.90, 0.92) and the inter-class correlation coefficient was 0.80 (95% CI; 0.49, 0.92). The CFA showed that the six items accurately represent the six-component model of addiction such as salience, mood modification, tolerance, withdrawal, relapse and conflict.

Conclusion: The Thai-BFAS is consistent as a screening test for Facebook addiction among high school students due to good reliability and validity. It also conforms well to the original version. The six items in the Thai-BFAS are a good representation of the addiction behaviors. Further studies should be undertaken in cases of sensitivity and specificity when compared with other similar tests of addiction as well as in various additional populations and circumstances.

Keywords: Validation, Bergen Facebook Addiction Scale, High school students

J Med Assoc Thai 2015; 98 (Suppl. 2): S108-S117 Full text. e-Journal: http://www.jmatonline.com

Facebook is an online social network site (SNS), launched in February 2004 by Mr. Mark Zuckerberg⁽¹⁾. In September 2012, there were one billion monthly active members and people had made 140 billion friend connections on Facebook⁽²⁾. In Thailand, a website called Zocial Rank surveyed social network use during the year 2013 and reported that about 25

Correspondence to:

Phanasathit M, Department of Psychiatry; Center of Excellence of Applied Epidemiology, Faculty of Medicine, Thammasat University (Rangsit Center), 95 Paholyotin Road, Klongluang, Pathumthani 12120, Thailand.

Phone: +66-2-9269204, Fax: +66-2-9269485

 $E\text{-}mail:\ muthita.ph@gmail.com$

million from 66 million Thai people were internet users, while 18 million people were SNS users. Facebook users accounted for 85%, Twitter 10% and Instagram 5% of the total SNS population. The use of SNS dramatically increased and when it was compared to the same period a year ago (April 2012 vs. April 2013), it was found that Facebook usage increased by 24%, Twitter usage grew 53% and Instagram usage increased by 178%⁽³⁾. In addition, there was a survey conducted regarding the behaviors of Thai internet users in 2013 which showed that the top 3 most popular SNSs were Facebook, Google+ and Line, whereas the most frequent SNS activities were chatting, sharing experiences and ideas, tracking and updating information about popular events and uploading/sharing photos and videos,

^{*} Department of Psychiatry, Center of Excellence of Applied Epidemiology, Faculty of Medicine, Thammasat University, Pathumthani, Thailand

respectively⁽⁴⁾. This massive increase in the amount of SNS usage coupled with a huge social change in communication and leisure time drew many researchers to be interested in "Social Network Site (SNS) addiction" and "Facebook addiction"; two terms which can be used interchangeably⁽⁵⁾.

In 1999, Young defined cyber-relationship addiction or SNS addiction as one of five kinds of Internet addiction⁽⁶⁾ and in 2009 described the criteria for "Facebook Addiction Disorder" such as neglect of personal life, mental preoccupation, escapism, mood modifying experiences, tolerance, and concealing addictive behavior⁽⁷⁾. In 2009, Kesici and Sahin found that college students who were classified as "Internet Addicted" used the Internet more for social functions, leisure functions, and virtual emotional functions, when compared to students considered as "Internet Nonaddicted"(8). Furthermore, many studies reported that not only excessive use of electronic media caused delayed bedtimes and insomnia but poor sleep quality also impaired academic performance⁽⁹⁾. Thereby, Andreassen et al proposed that a Facebook addiction scale should be developed to identify features of this phenomenon. The "Bergen Facebook Addiction Scale (BFAS)" was created in 2012⁽⁹⁾ which was employed as a screening test for Facebook addiction in both epidemiology studies and clinical trials in many countries.

In Thailand, several studies were conducted which indicated that the prevalence of Internet addiction in adolescents ranged from 22.0 to 43.2(10-12). Nevertheless, those previous studies can be questioned over their reliability and their adherence to international standards for Facebook addiction assessment. Many teenagers are now accessing internet and SNS more than ever before and some recent studies in Thai teenagers have discovered many negative consequences from addictive online behaviors; for example quality of sleep(10,11), academic performance, inappropriate manner, negative emotional expression(12-14), impairment of family and social functions and mental health problems^(13,15,16). In order to confirm these reasons, the basis of this study was to determine the validity of the Thai version of Bergen Facebook Addiction Scale (Thai-BFAS) for Facebook addiction screening in Thai high school students. Proof of a valid judgement of Facebook addiction using the Thai-BFAS could be applied for planning and determining sensible guidelines of Internet/SNS usage and preventing detrimental consequences from Facebook addiction in the future.

Material and Method

Study design and population

This study was a diagnostic study consisting of 4 steps.

Step 1: translation and back translation

The original Bergen Facebook Addiction Scale was authorized for translation and validation in a Thai version. This questionnaire was translated into Thai by one of the authors who is a practicing psychiatrist. The principles of translation and back translation were to retain the concept of the original BFAS and maintain the colloquial language consistent with Thai teenagers. The Thai-BFAS was back translated accurately by an English expert from the Chulalongkorn Language Institute (Appendix 1).

Step 2: content validity and usability by expert committee

The Thai-BFAS was assessed by three Thai psychiatrists: one general psychiatrist and two child and adolescent psychiatrists. The objective was to identify the accuracy and usability by using the Index of Item Objective Congruence (IOC) which accepts the item if the IOC value is greater than 0.5.

Step 3: reliability

This final version was investigated using the internal consistency method among 992 high school students randomized by multistage cluster sampling technique; 20 students declined to participate in the survey. The first stage was a randomized selection which selected 4 from the top ten provinces with the greatest economic prosperity in Thailand⁽¹⁷⁾; Bangkok, Chiang Mai, Ubon Ratchathani and Songkhla. Then one of the large secondary schools in each province was randomly selected. "Large secondary school" was defined by using the reference from the Office of the Basic Education Commission, Thai Ministry of Education⁽¹⁸⁾. Two classrooms per stratum, 10th, 11th and 12th grade, were randomly selected. The participants, who were current high school students, were included while the participants who did not complete the Thai-BFAS questionnaire were excluded. The sample size was estimated using a population proportion formula⁽¹⁹⁾. The variables in this formula were denoted as $Z_{\alpha/2} = 1.96$, prevalence of Facebook addiction (p) = $0.43^{(20)}$, q = 1 - p = 0.57, acceptance error (d) = 0.05 and design effect = $2^{(19)}$. According to the formula, the number of samples was multiplied by the design effect which was 756 participants. However, the authors prevented error in the data sampling by increasing the sample size by 10 per cent of sample size; therefore, the final sample size stood at 832 participants. The internal consistency, Cronbach's alpha coefficient, indicated inter-relatedness among items. If the value of Cronbach's alpha coefficient is greater than 0.70 it means that the relationship of all items is good⁽²¹⁾.

The Thai-BFAS was separately investigated using the test-retest reliability among 30 pilot high school students in one of the big secondary schools in Bangkok⁽²²⁾. After 3 weeks, test-retest reliability was administered to reflect the agreement of the results in all of the participants, using an inter-class correlation coefficient. Good and excellent reliability are represented by an inter-class correlation coefficient valuing 0.60-0.80 and greater than 0.80 respectively⁽²¹⁾.

Step 4: confirmatory factor analysis (CFA)

CFA was performed to test a six component model of addiction where each item represents core addictive criteria such as salience, mood modification, tolerance, withdrawal, conflict, and relapse. CFA was computed through the Verimax Orthogonal Rotation method. Model fit was assessed using the Kaiser-Meyer-Olkin measure of sampling adequacy (KMO) and Battlett's test of sphericity. Interpretations for the KMO measure of sampling adequacy are: higher than 0.80 as excellent, between 0.60 to 0.70 as fair, and below 0.50 as unacceptable. Bartlett's test of sphericity tests whether the correlation matrix is an identity matrix, which would indicate that the factor model is inappropriate(23). CFA was administrated in high school students in Bangkok, Chiang Mai, Ubon Ratchathani and Songkhla.

Measurement

The Bergen Facebook Addiction Scale (BFAS) was developed in 2011 by Cecilie Schou Andearssen, Torbjorn Torsheim, Geir Scott Brunborg, and Stale Pallesen from the Department of Psychosocial Science at the University of Bergen in Norway. The original questionnaire was created in English and applicable for use in screening Facebook addiction in epidemiology studies and clinical settings. The BFAS was studied for its validity and reliability in 423 Norwegian college students (227 women). Their mean age was 22.0±4.0 years; as a result, this questionnaire can be applied for screening Facebook addiction in high school students as well. Cronbach's alpha coefficient of the BFAS is 0.83 and the three-week testretest reliability coefficient is high (r = 0.82)⁽⁹⁾.

BFAS is a self-report questionnaire. The six items are representative of the six core components proposed by Brown (1993) and Griffiths (1996) such as: 1) salience-the activity dominates thinking and behavior, 2) mood modification-the activity modifies/ improves mood, 3) tolerance-increasing amounts of the activity are required to achieve previous effects, 4) withdrawal-the occurrence of unpleasant feelings when the activity is discontinued or suddenly reduced, 5) conflict- the activity causes conflicts in relationships, in work/education and other activities, 6) relapse-a tendency to revert to earlier patterns of the activity after abstinence or control⁽⁹⁾. BFAS's wording imitated the diagnostic criteria for pathological gambling produced by the American Psychiatric association⁽²⁴⁾ and in the Game Addiction Scale⁽²⁵⁾. Each item is scored on a 5-point scale; 1 = Very rarely, 2 = Rarely, 3 = Sometimes, 4 = Often, 5 = Very often. The total score ranges from 0 to 24 points. The cutoff score for Facebook addiction is at least 12 points (e.g. scoring 3 or above on at least four of the six items) which use a polythetic scoring method in order to a liberal approach. The BFAS scores were positively related to neurotic and extraverted personality traits, and negatively related to conscientiousness. High scores were also associated with delayed bedtimes and rising times⁽⁹⁾.

Data collection

The data were collected from March to June 2014. Permission was granted to administer this questionnaire from homeroom teachers in each school.

The present study was approved by the Human Ethics Research Committee of Thammasat University; MTU-EC-PS-2-009/57.

Statistical analysis

Statistical Package for the Social Science (SPSS) version 16.0 was used to analyze descriptive statistics such as frequency, percentage, mean, median, standard deviation (SD), 95% confidence intervals (95% CI) and the statistical significance was set at p < 0.05.

Results

Content validity, usability

Content validity and usability of Thai-BFAS were approved by three Thai psychiatrists. The IOC of the six items ranged from 0.67 to 1.00 except one item, "Used Facebook in order to forget about personal problems?", which was valued at 0.33. Two experts commented that this item might not only be specific for Facebook addiction but also could also be found in

other addictions and stress reactive behaviors. However, all experts approved that the Thai-BFAS could be used for Facebook addiction screening in Thai adolescents.

Internal consistency of Thai-BFAS

The Thai-BFAS was investigated using the internal consistency method in high school students in Bangkok, Chiang Mai, Ubon Ratchathani and Songkhla. There were 972 high school students who participated in this survey and 874 participants (89.90%) were current Facebook users. The number of female current Facebook users was 549 (62.80%) and their mean age was 16.72±1.03 years old (Table 1). This final Thai-BFAS version was The Cronbach's alpha coefficient was 0.91 (95%CI; 0.90, 0.92) which meant that the relationship of all items was good (Table 2).

Test-retest reliability of Thai-BFAS

Test-retest reliability of Thai-BFAS version was piloted with 30 high school students in Bangkok. The pilots aged 16.66±0.55 years old and there were 18 males and 12 females; 60% and 40%, respectively. The inter-class correlation coefficient was 0.80 reflecting that there was excellent agreement between the results in all of the participants (95%CI; 0.49, 0.92).

Confirmatory factor analysis (CFA) of Thai-BFAS

CFA was employed to prove that the sixcomponent model could be representative of addiction behaviors in 874 high schools students in Bangkok, Chiang Mai, Ubon Ratchathani and Songkhla (Table 1)

The criteria for CFA was met due to a KMO valued of 0.90, while Bartlett's test of sphericity

concluded that there were significant correlations in the data set ($\chi^2 = 3,405.98$, df = 15 and p < 0.001). In the correlation matrix among the six items, moderate correlations were observed because their coefficients ranged from 0.57 to 0.78 (Table 3). Using rotation method, Varimax with Kaiser Normalization, the total extraction sums of squared loadings valued nearly 1.0 (0.88-1.01). Therefore, it could be assumed that the sixcomponent model was acceptable. The six items were categorized into six components. The correlation coefficients of each relationship ranged from 0.79 to 0.88 that were considered as a good correlation. Based on CFA, it could be concluded that the Thai-BFAS was composed of the six core addiction criteria-salience, mood modification, tolerance, withdrawal, relapse and conflict. Their factor loading parameters were 0.83, 0.86, 0.78, 0.79, 0.86, and 0.88, respectively (Table 4).

Table 1. Demographic data (n = 874)

Variables	n (%)
Gender*	
Female	549 (63.3)
Level of education	
10 th grade	309 (35.4)
11 th grade	259 (29.6)
12 th grade	306 (35.0)
Area	
Bangkok	197 (22.5)
Chiang Mai	213 (22.8)
Ubon Ratchathani	199 (24.4)
Songkhla	265 (30.3)
Age (years) (mean \pm SD)	16.72±1.03

^{*} This variable had missing data; there were 7 participants (0.8%) who did not answer the question

Table 2. Item-total correlation of Thai-BFAS (n = 874)

English questions	Corrected item-total correlation	Cronbach's Alpha if item delated
1. Spent a lot of time thinking about Facebook or planned use of Facebook?	0.77	0.90
2. Felt an urge to use Facebook more and more?	0.79	0.89
3. Used Facebook in order to forget about personal problems?	0.74	0.90
4. Tried to cut down on the use of Facebook without success?	0.74	0.90
5. Become restless or troubled if you have been prohibited from using Facebook?	0.81	0.89
6. Used Facebook so much that it has had a negative impact on your job/studies?	0.71	0.91

Cronbach's Alpha coefficient = 0.91 (95% CI; 0.90, 0.92)

Discussion

The present study determined the validity of the Thai-BFAS for use with Facebook addiction screening in Thai high school students. Cronbach's alpha coefficient of Thai version was 0.91 (95%CI; 0.90, 0.92) and inter-class correlation coefficient of test-retest reliability was 0.80 (95%CI; 0.49, 0.92). Compared with the original version, Cronbach's alpha coefficient of the BFAS was 0.83, and its three-week test-retest reliability coefficient was 0.82. Both Cronbach's alpha coefficient and the test-retest reliability coefficient of the BFAS were similar to the Cronbach's alpha coefficients and test-retest reliability coefficient of the Thai version. These results showed that the Thai-BFAS has good reliability and validity, and conformed to the original version.

In order to verify that the Thai-BFAS also contained all six core components of addiction as the original BFAS, CFA was performed on 874 high schools students randomized by multistage cluster sampling technique. Using rotation method, the Varimax with Kaiser Normalization, it could be concluded that the Thai-BFAS could represent the six core addiction criteria (salience, mood modification, tolerance, withdrawal, relapse and conflict).

BFAS was used to assess Facebook addiction in students in colleges and universities in the Philippines and Italy^(2,26). From a review of those studies, reliability and validity were not assessed. Consequently, the authors could not compare between Thai-BFAS and other language BFAS versions.

The strengths of the present study were an adequate sample size and multicenter collaboration. The authors calculated the sample size since we had designed this study in order that it is large enough to ensure adequate power and precision of the results. Additionally, the present study design involved multicenter collaboration, which allowed for a larger sample size and improved generalizability of the outcome.

There were several limitations of the present study. First, the cultural difference between Norwegian and Thai, in terms of language and lifestyle, may affect the accuracy of Thai-BFAS. Second, the 5-point scales, which are representative of the frequency of Facebook using behaviors, could influence accuracy as well. Due to the subjective nature of the choices, each person could interpret it in a different way. The authors suggested that giving the description of each option could reduce discrepancy; for example, "Very rarely = less than once a month, Rarely = less than once a week,

 Table 3.
 Confirmatory factor analysis of Thai-BFAS; correlation matrix; correlation coefficient (r)

English questions	Salience	Tolerance	Mood modification	Relapse	Withdrawa	Withdrawal Conflict
Spent a lot of time thinking about Facebook or planned use of Facebook?	1.00	0.78	0.64	09.0	99.0	0.57
Felt an urge to use Facebook more and more?	0.78	1.00	0.65	0.63	0.68	0.58
Used Facebook in order to forget about personal problems?	0.64	0.65	1.00	0.64	0.65	0.57
Tried to cut down on the use of Facebook without success?	0.60	0.63	0.64	1.00	89.0	0.59
Become restless or troubled if you have been prohibited from using Facebook?	99.0	89.0	0.65	89.0	1.00	0.71
Used Facebook so much that it has had a negative impact on your job/studies?	0.57	0.58	0.57	0.59	0.71	1.00

Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO); 0.89. Barttlett's test of Sphericity: Chi-square (χ^2) = 2,561.13, df = 15, p<0.001

Table 4. Confirmatory factor analysis of Thai-BFAS

Component			Rotated component matrixa	onent matrix ^a			Communality
	Conflict	Conflict Relapse	Mood modification	Salience	Tolerance	Tolerance Withdrawal	
1. Spent a lot of time thinking about Facebook or planned use of Facebook?	0.22	0.22	0.25	0.83	0.33	0.22	1.00
2. Felt an urge to use Facebook more and more?	0.22	0.25	0.26	0.36	0.80	0.23	1.00
3. Used Facebook in order to forget about personal problems?	0.22	0.26	0.86	0.24	0.23	0.22	1.00
4. Tried to cut down on the use of Facebook without success?	0.24	98.0	0.26	0.21	0.21	0.23	1.00
5. Become restless or troubled if you have been prohibited from using Facebook?	0.34	0.29	0.26	0.24	0.24	0.79	1.00
6. Used Facebook so much that it has had a negative impact on your job/studies?	0.88	0.22	0.21	0.20	0.18	0.25	1.00

Sometimes = more than once a week but not every day, Often = once a day and Very often = more than once a day". Thirdly, the authors did not find a cut-off point for Thai people. At present, the authors used the original cut-off point from the BFAS; therefore, any differences between culture and nationality could affect the results as well. Further studies should explore the cut-off point for the Thai population and include sensitivity and specificity compared with the standard addiction criteria and other addiction assessments such as "Substance-Related and Addictive Disorders" in the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) or "Mental and behavioral disorders due to psychoactive substance use" in the Tenth Revision of the International Classification of Diseases and Health Problems (ICD-10). Moreover, all participants were high school students from four provinces with high economic prosperity in Thailand; they cannot refer to Facebook addiction in other age groups. The reason why the authors selected this specific population was that adolescents have highrisk for internet, online games and Facebook addiction and they are vulnerable to health and social consequences (13,27-33). Additionally, the authors hypothesized that higher economic prosperity areas will have easier access to the internet. Thus, future research should be done in various additional populations and circumstances.

Acknowledgement

The authors wish to thank Wiroj Jiamjarasrangsi, Vitool Lohsoonthorn, Somrat Lertmaharit, Thanapoom Rattananupong, Thammasak Kojonna and Nunthawadee Niamnui, staff in the Department of Preventive and Social Medicine, Faculty of Medicine, Chulalongkorn University, for providing useful advice regarding the present study.

This study was supported by a research grant from Thammasat University; fiscal year 2014, contract No. 1/22/2557.

Potential conflicts of interest

None.

References

Rotation method; Varimax with Kaiser Normalization; Rotation converged in 5 iterations.

- Steinfield C, Ellison NB, Lampe C. Social capital, self-esteem, and use of online social network sites: a longitudinal analysis. J Appl Dev Psychol 2008; 29: 434-45.
- 2. Marcial DE. Are you a Facebook addict? Measuring Facebook addiction in the Philippine university.

- International Proceedings of Economics Development and Research 2013; 66: 1-4.
- Mobiledista. Thai social network [Internet]. 2013 [cited 2013 Nov 21]. Available from: http://mobiledista.com/infographic-stat-social-network-in-thailand-q1-2013/.
- Eletronic Transactions Development Agency (Public Organization). Thailand internet user profile 2013. Bangkok: Eletronic Transactions Development Agency (Public Organization) Ministry of Information and Communication Technology; 2013.
- Andreassen CS, Pallesen S. Social Network Site Addiction - An Overview. Current pharmaceutical design. 2013.
- Young KS. Internet addiction: evaluation and treatment. Student BMJ 1999; 7: 394-436.
- Young KS. FAD: Facebook addiction disorder? [Internet]. Bradford, PA: The Center for Online Addiction; 2009 [cited 2013 Nov 21]. Available from: http://netaddictionrecovery.blogspot.com/
- Kesici S, Sahin I. A comparative study of uses of the Internet among college students with and without Internet addiction. Psychol Rep 2009; 105: 1103-12.
- Andreassen CS, Torsheim T, Brunborg GS, Pallesen S. Development of a Facebook Addiction Scale. Psychol Rep 2012; 110: 501-17.
- Butraprom C. Factors affecting internet addiction behavior of adolescence in Bangkok Metropolis [thesis]. Bangkok: Chulalongkorn University; 2002.
- 11. Kongrach P. The study of teenagers' behaviors in using social networking sites (SNSs) in Thailand: a case study of facebook [thesis]. Bangkok: Collage of Innovation, Thammasat University; 2011.
- Thongkambunjong W, Choochom O, Intasuwan P, Sapparerkchaisakul N. Causal factors and effect of internet dependency behavior of high school students in Bangkok Metropolis. Journal of Behavioral Science 2011; 17: 103-20.
- 13. Aydm B, San SV. Internet addiction among adolescents: the role of self-esteem. Procedia-Social and Behavioral Sciences 2011; 15: 3500-5.
- Kuss DJ, Griffiths MD. Online social networking and addiction—a review of the psychological literature. Int J Environ Res Public Health 2011; 8: 3528-52.
- Yu L, Shek DT. Internet addiction in Hong Kong adolescents: a three-year longitudinal study. J Pediatr Adolesc Gynecol 2013; 26 (3 Suppl): S10-7.
- 16. Tsai HF, Cheng SH, Yeh TL, Shih CC, Chen KC,

- Yang YC, et al. The risk factors of Internet addictiona survey of university freshmen. Psychiatry Res 2009; 167: 294-9.
- 17. The Bureau of Registration Administration. The report of demographic and household. Bangkok: Ministry of Interior, Thailand; 2012.
- Secondary Educational Online [Internet]. 2013
 [cited 2013 Dec 22]. Available from: http:// 210.246.188.154/mathayom/report/report001/ IVP0.php
- Lemeshow S, Hosmer DW Jr, Klar J, Lwanga SK. Adequacy of sample size in health studies. New York: Wiley; 1990.
- Nantawet R. Factors affecting internet addiction behavior of upper secondary school students in Bangkok Metropolish [thesis]. Bangkok: Chulalongkorn University; 2007.
- 21. Terwee CB, Bot SD, de Boer MR, van der Windt DA, Knol DL, Dekker J, et al. Quality criteria were proposed for measurement properties of health status questionnaires. J Clin Epidemiol 2007; 60: 34-42.
- One District One Scholarship (ODOS). 42 Offices of Basic Education Commission (OBEC) [Internet].
 2014 [updated 2014 Feb 28; cited 2014 Apr 1].
 Available from: http://www.odos.moe.go.th/news_detail.php?NewsTitleID=487
- 23. Vanichbuncha K. Factor analysis. advance statistical analyses by SPSS for windows. 9th ed. Bangkok: Thammasan; 2011.
- 24. American Psychiatric Association. Diagnostic and statistical manual of mental disorders: DSM-IV-TR. 4th ed. Washington, DC: American Psychiatric Association; 2000.
- Lemmens JS, Valkenburg PM, Peter J. Development and validation of a game addiction scale for adolescents. Media Psychology 2009; 12: 77-95.
- 26. Akter T. Social media addiction, resistance, and influence of awareness: measurement of psychology students' resistance to facebook addiction. Mediterranean Journal of Social Sciences 2014; 15: 456-64.
- 27. O'Keeffe GS, Clarke-Pearson K. The impact of social media on children, adolescents, and families. Pediatrics 2011; 127: 800-4.
- 28. Niemz K, Griffiths M, Banyard P. Prevalence of pathological Internet use among university students and correlations with self-esteem, the General Health Questionnaire (GHQ), and disinhibition. Cyberpsychol Behav 2005; 8: 562-70.

- 29. Johnson D, Wired: encourage positive aspects of social media for children, teens while guarding against risks. AAP News 2011; 32: 1-4.
- 30. Favaretto G, Morandin I, Gava M, Binotto F. [Internet and psychopathology: an analysis of the use of the Web by 1075 students at secondary school]. Epidemiol Psichiatr Soc 2004; 13: 249-54.
- 31. David-Ferdon C, Hertz MF. Electronic media, violence, and adolescents: an emerging public
- health problem. J Adolesc Health 2007; 41 (6 Suppl 1): S1-5.
- 32. Hardoff D. Health issues in adolescents' Internet use benefits and risks. Georgian Med News 2013; 99-103.
- 33. Ghassemzadeh L, Shahraray M, Moradi A. Prevalence of internet addiction and comparison of internet addicts and non-addicts in Iranian high schools. Cyberpsychol Behav 2008; 11: 731-3.

แบบสอบถามการติดเฟซบุคของ Bergen ฉบับภาษาไทย

คำชี้แจง: ตอบคำถามค้านลางโดยใช้ความรู้สึกของตนเองเกี่ยวกับการใช้เฟซบุค โดยคนสวนใหญ่ใช้เวลาทำแบบสอบถามประมาณ 1 นาที การตอบแบบสอบถามนี้ไม่จำกัดเวลา กรุณาตอบตามความรู้สึกที่แท้จริงเพื่อให้ได้ผลที่ถูกต้อง

คำถาม: ในช่วง 1 ปีที่ผ่านมา คุณมีพฤติกรรมแบบนี้บอยแค่ไหน

ขือ	คำถาม			ความถึ่		
		 น้อยมาก	น้อย	บางครั้ง	, , , คอนข้างบอย	, บอยมาก
		0	1	2	3	4

- 1 ฉันใชเวลามากในการคิดถึงเฟซบุ๊คหรือ วางแผนการใชเฟซบุ๊ค
- 2 ฉันรูสึกวามีแรงกระตุ้นให้ใช้เฟซบุคมากขึ้นเรื่อยๆ
- 3 ฉันใช*้*เฟซบุคเพื่อให*้*ลืมปัญหาส*่*วนตัว
- 4 ฉันพยายามลดการใช้เฟซบุคแล้วแต่ทำไม่สำเร็จ
- 5 ฉันเริ่มกระสับกระส[่]ายหรือไม*่*สบายใจ เมื่อถูกห*้*ามไม่ให้ใช_้เฟชบุค
- 6 ฉันใช้เฟซบุคือยางมากจนก่อให้เกิดผลเสียต่อ การงานหรือการเรียน

วิธีการแปลผล: หากมีคำตอบที่ได้คะแนนตั้งแต่ 3 คะแนนขึ้นไป จำนวนอยางน้อย 4 ข้อ ถือวา่ "ติดเฟซบุ๊ค"

ความเที่ยงตรงของแบบสอบถาม Bergen Facebook Addiction Scale ฉบับภาษาไทย (Thai-BFAS)

มุทิตา พนาสถิตย, เมรีรัตน ์มั่นวงส, นิต หาญประเทส, จิราภรณ ์คุ้มสรี, รุ้งมณี ยิ่งยืน

วัตลุประสงค์: เพื่อศึกษาความเที่ยงตรงของแบบสอบถาม Bergen Facebook Addiction Scale ฉบับภาษาไทย (Thai-BFAS) ในการคัดกรอง ภาวะติดเฟซบค์ในนักเรียนมัธยมศึกษาตอนปลายในประเทศไทย

วัสดุและวิธีการ: คณะผู้นิพนธ์ขออนุญาตใช้แบบสอบถาม BFAS แล้วนำมาแปลเป็นภาษาไทยและศึกษาความถูกต้องของเนื้อหา และความสามารถ ในการนำไปใช้โดยจิตแพทย์ 3 คน นำไปปรับแก้อีกครั้งแล้วแปลกลับเป็นภาษาอังกฤษ โดยผู้ทรงคุณวุฒิด้านภาษา แล้วนำไปศึกษาในนักเรียน ชั้นมัธยมปลายจำนวน 874 คนในโรงเรียนขนาดใหญ่ในกรุงเทพฯ เชียงใหม่ อุบลราชธานี และสงขลา เพื่อทดสอบหาความสอดคลองภายในและวิเคราะห์ Confirmatory factor analysis (CFA) ว่าแบบสอบถามแสดงถึงรูปแบบเฉพาะของพฤติกรรมเสพติด 6 ด้าน ส่วนการศึกษาความคงที่ ของการทดสอบซ้ำใน 3 สัปดาห์ถัดมานั้นนำไปศึกษาเฉพาะกลุ่มอาสาสมัครที่เป็นนักเรียนมัธยมศึกษาตอนปลาย ในโรงเรียนขนาดใหญ่ในกรุงเทพฯ จำนวน 30 คน

ผลการศึกษา: Thai-BFAS มีคำถาม 6 ข้อ แต่ละข้อมี 5 ตัวเลือก คะแนนรวมระหวาง 0 ถึง 24 คะแนน โดยคะแนนตั้งแต่ 12 คะแนนขึ้นไปถือว่า ติดเฟซบุคี มีคาความสอดคลองภายในเนื้อหามีคา Cronbach's alpha coefficient เท่ากับ 0.91 (95% CI; 0.90, 0.92) และ Inter-class correlation coefficient เท่ากับ 0.80 (95%CI; 0.488,0.921) ส่วน CFA แสดงให้เห็นวาแบบสอบถามมืองค์ประกอบของรูปแบบพฤติกรรมเสพติด 6 ด้าน คือ การให้ความสำคัญ การปรับเปลี่ยนอารมณ์ การต่อต้าน การถอน การกลับเป็นซ้ำ และปมคัดแย้ง

สรุป: Thai-BFAS มีค่าความเที่ยงตรงและความเชื่อถือได้ในระดับดีและไม่แตกต่างจากต้นฉบับจึงสามารถนำไปใช้คัดกรองการติดเฟซบุ๊ค ในนักเรียนมัธยมปลายได้ ซึ่งคำถามทั้ง 6 ข้อยังเป็นตัวแทนของพฤติกรรมเสพติด อยางไรก็ตามควรมีการศึกษาเพิ่มเติมเพื่อหาคาความไวและความจำเพาะ ของเครื่องมือโดยเทียบกับเกณฑ์มาตรฐานการติดสารเสพติดอื่น รวมถึงนำไปศึกษาในประชากรกลุ่มต่างๆ และในพื้นอื่นๆ ด้วย