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# The Impact of Facebook Access Motivation on Facebook Addiction among High School Students: The Mediator Role of Online Self-Disclosure

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## Abstract

*Online self-disclosure was hypothesized as a mediating variable, explaining the relationship between Facebook access motivation (relationship expansion, curiosity about others' life, maintenance of social connection, social pressure from others, habitual use, impression management, searching for information, and content sharing) and Facebook addiction. Data came from 407 high school students in the Busan, and Gyeongnam provinces. Structural analysis was used to specify the relations among measured construct. Facebook access motivation of curiosity about others' life, Facebook access motivation of maintenance of social connection, Facebook access motivation of social pressure from others, Facebook access motivation of habitual use, and Facebook access motivation of impression management were significant predictors of Facebook addiction. Online self-disclosure mediates between Facebook access motivation of curiosity about others' life, Facebook access motivation of social pressure from others, Facebook access motivation of searching for information & Facebook access motivation of content sharing and Facebook addiction. Viewing online self-disclosure as a mediator has important implications for social media addiction counseling practice*

*Keywords: online self-disclosure, Facebook addiction, Facebook access motivation.*

## 1. Introduction

A Facebook is the leading social networking site, with more than 2.38 billion active users every month [1]. Facebook could provide users with better opportunities for communication, information, entertainment, and social interactions [2]. However, with Facebook access becoming wide spread, problematic Facebook use is increasingly being reported. It has been suggested that excessive Facebook use could represent addictive behavior with mental health problem [3]. It has been shown that social networking sites use can lead to a variety of negative consequences, such as decreased participation in real life communities, negative academic performance, and relationship problems [4]. Reasonable degrees of social networking sites utilization may be risk-free but an immoderate time spent on Facebook or similar platforms bring about detrimental effects [5].

Facebook has had an enormous impact on the virtual life of its users, and through this some people have developed an addiction to Facebook [6]. Facebook addiction is an excessive involvement in Facebook activities

and a frequent cause of problems in in every day social functioning [7]. A review of 24 studies [8] showed that the most popular reasons for using Facebook are relationship maintenance, passing time, entertainment, and companionship. Ryan et al [3] proposed that the most popular motives for Facebook use are relationship maintenance, passing time, entertainment, escape and companionship. And they proposed that these motivations may be related to Facebook addiction through use that is habitual, excessive or motivated by a desire for mood alteration. Sofiah, Omar, Bolong and Osman [9] found that passing time, entertainment and communication motives were the strong predictors of Facebook addiction. Facebook addiction predictors were most prominent online interpersonal relationships (positive) and neuroticism (negative) [10]. Therefore, they concluded that further research should be performed to establish the links between use and gratification and Facebook addiction.

The effects of online communication on interpersonal relationships can be explained by reduction hypothesis (Locke; as cited in Kwon, Yook, Woo and Cho) [11] and stimulate hypothesis [12]. In the reduction hypothesis, the use of the Internet is not more beneficial than the relationship with the offline actual friends because it only strengthens the superficial relationship with strangers, and furthermore, because of the online exchange, it has a negative effect on the interpersonal relationship because it interferes with the relationship with the real friends. On the other hand, the stimulation hypothesis explains that because there is little nonverbal communication on the Internet, people can express their inner feelings more easily in reality [12], and this self-disclosure is an important factor in forming intimacy [13]. In other words, the Internet promotes intimate self-disclosure among friends in real world, which eventually creates a successful interpersonal relationship [14].

Facebook addiction was positively associated with online social support [10]. Chon and Lee [15] found a positive relationship between social networking sites addiction and using social networking sites for self-display and expression. Online self-disclosure is a form of communication that offers information on oneself through the social network system. Users often communicate with others about topics through the social network system, they rarely discuss in a face to face contexts. Online self-disclosure had a direct, positive relationship with Facebook addiction [16, 17].

Based on the aforementioned rationale, the conceptual framework in this study is depicted in Figure 1
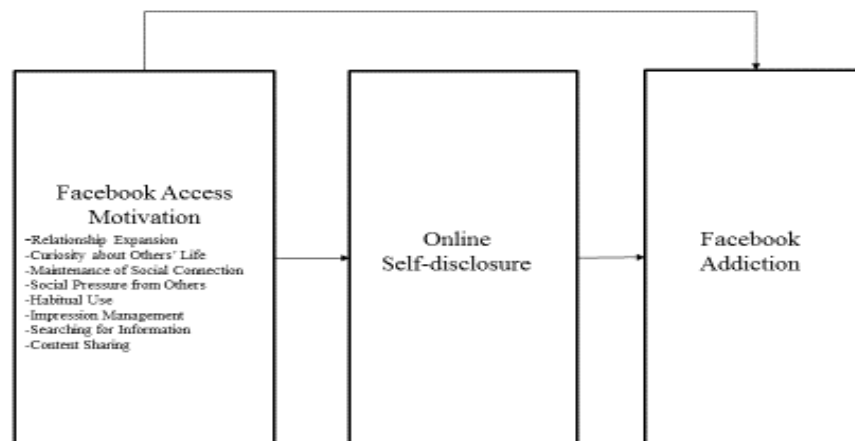


**Figure 1**. Conceptual Framework among Facebook Access Motivation, Online Self-disclosure, and Facebook Addiction

It was hypothesized that (1) High school students' Facebook motivation (relationship expansion,

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curiosity about others' life, maintenance of social connection, social pressure from others, habitual use, impression management, searching for information, and content sharing) will directly and positively influence their online self-disclosure. High school students having higher Facebook motivation (relationship expansion, curiosity about others' life, maintenance of social connection, social pressure from others, habitual use, impression management, searching for information, and content sharing) will exhibit more online self-disclosure. (2) High school students' Facebook motivation (relationship expansion, curiosity about others' life, maintenance of social connection, social pressure from others, habitual use, impression management, searching for information, and content sharing) will directly and positively influence their Facebook addiction. High school students having higher Facebook motivation (relationship expansion, curiosity about others' life, maintenance of social connection, social pressure from others, habitual use, impression management, searching for information, and content sharing) will report a higher level of Facebook addiction. (3) High school students' online self-disclosure will mediate the relations between high school students' Facebook motivation (relationship expansion, curiosity about others' life, maintenance of social connection, social pressure from others, habitual use, impression management, searching for information, and content sharing) and the Facebook addiction. High school students having higher Facebook motivation (relationship expansion, curiosity about others' life, maintenance of social connection, social pressure from others, habitual use, impression management, searching for information, and content sharing) will exhibit more online self-disclosure, which in turn will be associated with a higher levels of Facebook addiction.

## 2. Method

### 2.1 Participants
Data were obtained from 407 high school students (254 male and 153 female) at five high schools in the Busan, and Gyeongnam provinces in Korea. All respondents were given a brief oral description of the study and its purposes prior to providing informed consent. Before their inclusion in the study, all participants gave voluntary consent for their participation. Participants' age ranged from 17 to 19 years (M=17.52, SD=.51). They had on average 16.2 months of Facebook experience. And they spent average 84 minutes and logged 8.7 times per day.

### 2.2 Measures

**Facebook addiction.** A 5-items scale from Chon, Lee, & Sang's research [18] were used to measure Facebook addiction (overuse, withdrawal, intolerance, awareness of problem): "I continue to use Facebook despite my intention to stop", "I have unsuccessfully tried to spend less time on Facebook", "I think about Facebook even when not online", "I feel restless, frustrated, or irritated when I cannot use Facebook". The 5 item scale is rated on a 5-point scale ranging from how much the item "is true for you" (1=not at all, 5=all the time). Cronbach's alpha for the 5-items scale was .87.
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**Facebook access motivation**. A 38-items scale from Lee [19] was used to measure Facebook access motivation. The Facebook access motivation contains 38 items that measure 8 components of Facebook access motivation: relationship expansion 6 items, curiosity about others' life 5 items, maintenance of social connection 5 items, social pressure from others 5 items, habitual use 5 items, impression management 5 items, searching for information 4 items, and content sharing 3 items. Item are scored along a 5-point scale ranging from how much the item "is true for you" (1=not at all, 5=all the time). Cronbach's alpha for the 8 Facebook access motivation subscales were .88 for relationship expansion, .88 for curiosity about others' life, .90 for maintenance of social connection, ,86 for social pressure from others, .87 for habitual use, .88 for impression management, .82 for searching for information, and .77 for content sharing.

**Online self-disclosure**. Online self-disclosure scale, developed by Valkenburg and Peter [20], was translated into Korean by Lee [21]. Online self-disclosure contains that measure 2 components of online self-disclosure: breath of online communication and depth of online communication. The 7 item scale is rated on a 5-point scale ranging from how much the item "is true for you" (1=not at all, 5=all the time). Cronbach's alpha for the 7 item scale was .91.

### 2.3. Statistical Analyses

A latent variable model was used to test the structural relationships among the constructs of interests. The primary research question was whether online self-disclosure mediates the relationship between the exogenous variables of 8 Facebook access motivation subscales (relationship expansion, curiosity about others' life, maintenance of social connection, social pressure from others, habitual use, impression management, searching for information, and content sharing), endogenous, outcome variable of Facebook addiction. The analyses were conducted using the LISREL 8.50 computer program.

On the basis of a prior factor analysis of the measures of each scale using data from the present investigation, I divided items from the each scale into two parcels and summed together to form two measured variables. To develop these item parcels. I fit a one-factor model to the 5 items assessing Facebook addiction, 7 items assessing online self-disclosure, 6 items assessing Facebook access motivation of relationship expansion, 5 items assessing Facebook access motivation of curiosity about others' life, 5 items assessing Facebook access motivation of maintenance of social connection, 5 items assessing Facebook access motivation of social pressure from others, 5 items assessing Facebook access motivation of habitual use, 5 items assessing Facebook access motivation of impression management, 4 items assessing Facebook access motivation of searching for information, and 3 items assessing Facebook access motivation of content sharing. I then rank-ordered items on the basis of their loadings on this factor and assigned items to parcels to equate the average loadings of each parcel of items on the factor. This procedure was necessary to reduce the number of parameters estimated in the measurement models (e.g., Russell, Kahn, and Altmaier [22]; Lee and Kim [23]).

Data were sets with absolute values of univariate skewness indexes greater than 3.0, absolute value of univariate kurtosis indexes greater than 10.0 seem to be extremes [24]. As Table 1 indicates, there were no extreme scores in this sample. I used a covariance matrix generated by the PRELIS 2 program as input LISREL to analyze the path model. Several statistics were used to evaluate model fit. An overall chi-square measure and its associated degrees of freedom and probability levels, TLI (Tuker-Lewis Index or None Non-Normed Fit Index), CFI (Comparative Fit Index), and the RMSEA (Root Mean Square Error of Approximation). Typically the value of TLI and CFI should be higher than .90, and the value of RMSEA should be lower than .10.

## 3. Results

Means, standard deviations, and correlations among the measured variables are presented in Table 1. The pattern and direction of these intercorrelations were as expected and suggested that little multicollinearity among the exogenous variables.

**Table 1. Pearson Correlations Among and Descriptive Statistics for Study Variables**

| Variable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. Relationship Expansion | — | | | | | | | | | |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 2. Curiosity about Others' Life | .48** | — | | | | | | | | |
| 3. Maintenance of Social Connection | .52** | .38** | — | | | | | | | |
| 4. Social Pressure from Others | .30** | .44** | .29** | — | | | | | | |
| 5. Habitual Use | .07 | .25** | .11* | .30** | — | | | | | |
| 6. Impression Management | .67*** | .52** | .59** | .34** | .11* | — | | | | |
| 7. Searching for Information | .27** | .22*** | .34** | .19** | .39** | .27** | — | | | |
| 8. Content Sharing | .34** | .18*** | .31** | .27** | .36** | .37** | .62** | — | | |
| 9. Online Self-disclosure | .33** | .33*** | .24** | .38** | .24** | .35** | .15** | .36** | — | |
| 10. Facebbok Addiction | .25** | .20*** | .17* | .40** | .58** | .32** | .25** | .37** | .45** | — |
| *Mean* | 2.73 | 2.33 | 3.23 | 2.42 | 3.33 | 2.61 | 3.31 | 2.62 | 2.10 | 2.15 |
| *D* | .90 | .93 | .84 | .87 | .93 | .91 | .85 | .94 | .78 | .91 |
| Skewness | -.06 | .52 | -.43 | .20 | -.20 | .17 | -.32 | .10 | .55 | .70 |
| Kurtosis | -.28 | -.43 | .61 | -.21 | -.37 | -.14 | .42 | -.21 | .34 | .19 |

*Note.* $N=404\text{~}407$. *$p<.05$. **$p<.01$.

## Model Fit

Inspection of the fit statistics for this study reveals that online self-disclosure mediated model proved to be very acceptable [$\chi^2$ (125, $N$ = 407) = 366.94, $p<.001$, TLI = .930, CFI = .954, RMSEA = .069]. Furthermore, for the entire model, the multiple correlations was .82 ($R^2$ = .69), which suggest that 69% of the variable in this model was accounted for by the relationships I hypothesized.

## Parameter Estimates

To estimate the hypothesized relationships among the latent variables, each of the endogenous variables were simultaneously regressed on their hypothesized casual antecedents. The unique contribution of the various constructs is represented by the standardized path coefficients. Structural path coefficients for the maximum likelihood solution are presented in Figure 2 and Table 2. Ten of the seventeen predicted relationships were statistically significant in the predicted directions.
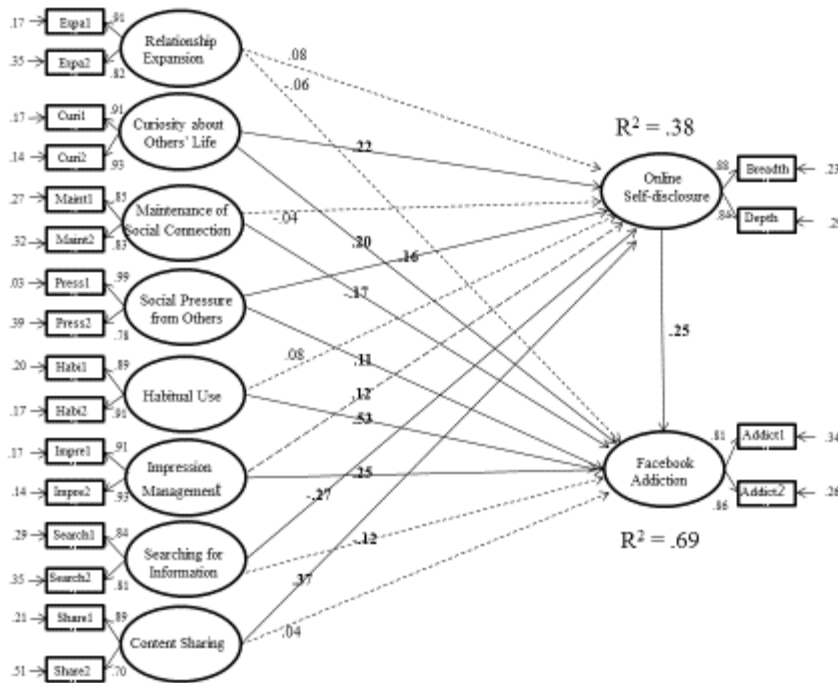
**Figure 2**. Structural Equation Model of Hypothesized Model (N = 407). All path coefficients are in standard metric.

### Table 2. Path Coefficients of the Hypothesized Model

| Criterion Variable<br>    Predictor Variable | Unstandardized(SE) | Standardized | $t$ | SMC |
|---|---|---|---|---|
| **Online Self-disclosure** | | | | **.38** |
| Relationship Expansion | .08(.09) | .08 | .93 | |
| Curiosity about Others' Life | .22(.07) | .22 | 3.03** | |
| Maintenance of Social Connection | -.05(.08) | -.04 | -.56 | |
| Social Pressure from Others | .14(.05) | .16 | 2.74** | |
| Habitual Use | .08(.06) | .08 | 1.36 | |
| Impression Management | .11(.09) | .12 | 1.21 | |
| Searching for Information | -.28(.11) | -.27 | -2.56* | |
| Content Sharing | .37(.11) | .37 | 3.26** | |
| **Facebook Addiction** | | | | **.69** |
| Relationship Expansion | -.05(.06) | -.06 | -.84 | |
| Curiosity about Others' Life | .17(.05) | .20 | 3.25** | |
| Maintenance of Social Connection | -.16(.05) | -.17 | 2.56* | |
| Social Pressure from Others | .08(.04) | .11 | 2.18* | |
| Habitual Use | .45(.05) | .53 | 9.67** | |
| Impression Management | .21(.07) | .25 | 3.06** | |

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| | | | |
|---|---|---|---|
| Searching for Information | -.11(.08) | -.12 | -1.38 |
| Content Sharing | .04(.08) | .04 | .48 |
| Online Self-disclosure | .23(.05) | .25 | 4.35** |

*Note.* $N=407$. *$p<.05$. **$p<.01$.

Of the exogenous variables, Facebook access motivation of curiosity about others' life, Facebook access motivation of social pressure from others, Facebook access motivation of searching for information and Facebook access motivation of content sharing were predictive of Facebook addiction ($\beta$ =.22, t = 3.03, p < .01; $\beta$ =.16, t = 2.74, p < .01; $\beta$ =-.27, t = 2.56, p < .05; $\beta$ =.37, t = 3.26, p < .01 respectively). Facebook access motivation of curiosity about others' life, Facebook access motivation of maintenance of social connection, Facebook access motivation of social pressure from others, Facebook access motivation of habitual use and Facebook access motivation of impression management were predictive of Facebook addiction ($\beta$ =.20, t = 3.25, p < .01; $\beta$ =-.17, t = 2.56, p < .05; $\beta$ =.11, t = 2.18, p < .05; $\beta$ =.53, t = 9.67, p < .01; $\beta$ =.25, t = 3.06, p < .01 respectively). Moreover, as predicted, the path from online self-disclosure to Facebook addiction was also significant ($\beta$ =.23, t = 4.35, p < .01).

### Effects of Facebook Motivation (Curiosity about Others' Life, Social Pressure from Others, Searching for Information, and Content Sharing) on Facebook Addiction

The direct effects of Facebook access motivation subscales are displayed are presented in Figure 2 and Table 2. A variable's direct effect is the portion of its total effect that is independent of other variables, whereas a variable's indirect effect is the portion of total effect that is mediated by other variables in the model.

**Table 3. Total and Indirect Effects of Curiosity about Others' Life, Social Pressure from Others, Searching for Information, and Content Sharing on Facebook Addiction.**

| Variable | Direct Effect | Indirect Effect | Total Effect |
|---|---|---|---|
| Curiosity about Others' Life | .20** | .06* | .26** |
| Social Pressure from Others | .11* | .04* | .15** |
| .Searching for Information | -.12 | -.07* | -.19* |
| Content Sharing | .04 | .09* | .13* |

*Note.* $N=407$. *$p<.05$. **$p<.01$

Present results (Table 3) indicate that Facebook access motivation of curiosity about others' life increase Facebook addiction (.20) and increase Facebook addiction through its effect on online self-disclosure (.22 ×.25 = .06). The total effects of Facebook access motivation of curiosity about others' life on Facebook addiction (.26) was partly direct (.20) and partly indirect (.06).

Facebook access motivation of social pressure from others decreases Facebook addiction through its effect on online self-disclosure (.16 ×.25 = .04). The total effects of Facebook access motivation of social pressure from others on Facebook addiction (.15) was partly direct (.11) and partly indirect (.04).

Facebook access motivation of searching for information decrease Facebook addiction through its effect on online self-disclosure (-.27 ×.25 = .07). The total effects of Facebook access motivation of searching for information was mainly indirect (.07). Facebook access motivation of content sharing increase Facebook addiction through its effect on online self-disclosure (.37 ×.25 = .09).

## 4. Discussion

The purpose of this study was to examine the direct and indirect effects of Facebook access motivation subscales (relationship expansion, curiosity about others' life, maintenance of social connection, social pressure from others, habitual use, impression management, searching for information, and content sharing) on Facebook addiction among high school students. The results obtained in this study partially confirmed predictions

Among the subscales of Facebook access motivation, five subscales (curiosity about others' life, maintenance of social connection, social pressure from others, habitual us and impression management) had a positive effect on Facebook addiction. However, the three subscales (relationship expansion, searching for information and content sharing) had no direct relationship with Facebook addiction.

These results are consistent with the results of previous study [25] that the relationship/communication motivation affects social network service addiction, but the information literacy motivation does not affect social network service addiction. The results of this study mean that if Facebook is used for the purpose of interpersonal relationship and communication, it will fall into Facebook addiction.

Facebook access motivation of habitual use had the most influence on Facebook addiction. This result is consistent with the results that social network service use predicts social network service addiction the most [26] and it is considered to support social network service addiction hypothesis [27]. In the social network service addiction hypothesis, when Internet users frequently access the service to get new information and pleasure every day, they form habits and this wrong habit leads to service addiction. Therefore, Addiction can be a potential outcome of over-practiced Social Networking Website use habit. The results of this study indicate that the habitual use of Facebook can be regarded as the most important factor of Facebook addiction formation.

Online self-disclosure mediated the effects of Facebook access motivation of curiosity about others' life, Facebook access of motivation of social pressure from others & Facebook access motivation of content sharing on Facebook addiction. This result is considered to support the reduction hypothesis that interpersonal relationships on the Internet reduce interpersonal relationships in the real world. In other words, as self-disclosure increases while communicating with interpersonal relationships on the Internet, self-disclosure in interpersonal relationships in the real world decreases and eventually falls into Facebook addiction. Online self-disclosure mediated the effects of Facebook access motivation of searching for information on Facebook addiction. This result means that the more the Internet is used for the purpose of information collection, the less self-disclosure on the online, and the less addicted to Facebook

From an applied perspective, these results may provide a guide line for social media addiction counselors on the most effective way to prevent the Facebook addiction. There were some limitations of this study. The results of the structural equation model are based on correlational data, it is not possible to draw any firm conclusions about the casual ordering of the constructs studied. Because these results are based on self-report measure, it is possible that the findings reflect the operation of mono-method bias. Although the results were theoretically sound, longitudinal designs enable tests for mediation effects in a more rigorous manner than cross-sectional designs.

In conclusion, the current study provided evidence that Facebook access motivation subscales were associated with more online self –disclosure and Facebook addiction. However this study was an initial test of a particular Facebook addiction model. Researchers should replicate these results and also examine the mediating factor in Facebook access motivation and Facebook addiction. In addition, researchers should explore important individual differences (e.g., self-esteem, neuroticism) to Facebook addiction.

## Acknowledgement

## References

[1] Statsitica, "Number of Daily Active Facebook Users Worldwide as of 1st Quarter 2019 (in Millions)," Retrieved from https://www.statista.com/statistics/264810/number-of-monthly-active-facebook-users-worldwide/

[2] B. Alzougool, "The Impact of Motives for Facebook Use on Facebook Addiction among Ordinary Users in Jordan, " *International Journal of Social Psychiatry*, Vol. 64, No. 6, pp. 528-535, 2018.

[3] T. Ryan, A. Chester, J. Reece, and S. Xenos, "The Uses and Abuses of Facebook: A Review of Facebook Addiction," *Journal of Behavioral Addictions*, Vol. 3, pp. 133-148, 2014.

[4] M. D. Griffiths, "Facebook Addiction: Concerns, Criticism and Colleagues," *Psychological Reports*, Vol. 110, No. 2, pp. 518-520, 2012.

[5] C. Marker, T. Gnambs, and M. Appel, "Active on Facebook and Failing at School? Meta-Analytic Findings on the Relationship between Online Social Networking Activities and Academic Achievement," *Educational Psychology Review*, Vol. 30, No. 3, pp. 651-677, 2018.

[6] A. Kulak-Bejda, N. Waszkiewicz, P. Kulak, and G. Bejda, "Risk of Addiction to Facebook among Medical University Students in Bialystok, Poland," *Progress in Health Sciences,* Vol 6, No 2, pp. 14-20, 2016.

[7] R. A. Elphinston, and P. Noller, "Facebook Intrusion and the implications for Romantic Jealousy and Relationship Satisfaction," *Cyberpsychology, Behavior, and Social Networking*, Vol. 14, pp. 631-635, 2011.

[8] B. K. Wiederhold, "What Predicts Facebook Addiction." *Cyberpsychology, Behavior, and Social Networking*, Vol. 20, No. 5, pp. 277, 2017.

[9] S. Sofiah, S. Z. Omar, and M. N. Osman, "Facebook Addiction among Female University Students." *Revista De Administratie Publica Si Polirici Sociale*, Vol 2, pp. 95-109, 2011.

[10] C-H. Tang, M-C. Yang, C-Y. Yang et al., "Personality Traits, Interpersonal Relationships, Online Social Support, and Facebook Addiction," *Telematics & Informatics*, Vol. 33, pp. 102-108, 2016.

[11] J-H. Kwon, S. Yook, S. Woo, and H. Cho, "The Effect of Offline and Online Interpersonal Relationships on Social Capital and Subjective Well-Bring," *Journal of Cybercommunication Academic Society*, Vol. 30, N0. 3, pp. 5-32, 2013.

[12] K. Y. A. McKenna, and J. A. Bargh, "Coming Out in the Age of Internet: Identity "Demarginaliation" Through Virtual Group Participation. *Journal of Personality and Social Psychology*, Vol. 75, No. 3, pp. 681-694, 1998.

[13] N. L. Collins, and L. C. Miller, "Self-Disclosure and Liking: A Meta-Analytic Review," *Psychological Bulletin*, Vo. 116, pp. 467-475, 1994.

[14] K. Y. A. McKenna, A. S. Green, and M. E. J. Gleason, "Relationship Formation on the Internet: What's Big Attraction?," *Journal of Social Issues*, Vol. 58, No. 1, pp. 9-31, 2002.          .

[15] B-S Chon, and J. K. Lee, "A study on Dispositional Use Motives for Facebook and Its Positive and Negative Effects: With a Focus on Change to Interpersonal Networks on Facebook and Facebook Addiction among Users in the Age Groups of 2039 and 4059," *Speech & Communication*, Vo. 24, pp. 112-140, 2014.

[16] J. W. Kang, "Compulsive Facebook Use: The Effects of Self-Disclosure, Sense of Coherence, and the Preference of Social Interaction Online," *The Journal of Social Science*, Vol 22, No. 2, pp. 31-54, 2015.

[17] H-J Kim, Y. Y. Kim, and E. Huh, "Feelings of Emptiness on Facebook Use," *Journal of Korean Content Association*, Vol. 16, No. 8, pp. 717-728, 2016.

[18] B-S C, J. K. Lee, and Y. Sang, "Facebook Addiction among Koreans: A Look at Communication-Related Variables," *Speech & Communication*, Vol. 23, pp. 243-272, 2014.

[19] E. Lee, "The Impact of Facebook Access Motivation on Offline Interpersonal Relationship Change and Continuance Usage Intention of Facebook," *The Journal of the Convergence on Culture Technology (JCCT)*, Vol. 4, No. 2, pp. 97-115, 2018.

[20] P. M. Valkenburg, and J. Peter, "Preadolescents' and Adolescents' Online Communication and Their Closeness to Friends," *Developmental Psychology*, Vol. 43, pp. 267-277, 2007.

[21] S. Lee, *Influences of Facebook Communication on Interpersonal Relationship Development and Facebook Continuous Usage: Mediating Role of Online Self-Disclosure*. Master's Thesis. Yonsei University, Seoul, Korea, 2015.

[22] R. D. Russell, J. H. Kahn, and E. M. Altmaier, "Analyzing Data from Experimental Studies: A Latent Variable Structural Equation Modeling Approach," *Journal of Counseling Psychology*, Vol. 45, pp. 18-29., 1998.

[23] E. Lee, and M. Kim, "Exposure to Media Violence and Bullying at School: Mediating Influences of Anger and Contact with Delinquent Friends," *Psychological Reports*, Vol. 95, pp. 659-672, 2005.

[24] R. B. Kline, *Principles and Practice of Structural Equation Modeling* (2$^{nd}$ ed.), New York: Guilford Press, 2005.

[25] H-B. Lee, D-W. Kim, J-Y. Choi, and M-H. Shin, "A Study on Teenagers' SNS USE Features and Addiction: Focus on Middle School Student of Gyenggi-do & Gangwon-do," *GRI Review*, Vol. 16, No. 1, pp. 365-392, 2014.

[26] B-S. Kim, and D-K, Kim, "A Study on Antecedents of SNS User's Addiction in the Age of Convergence: The Role of SNS Habit," *Journal of Digital Convergence,* Vol. 13, No. 8, pp. 161-168, 2015.

[27] O. Turel, and A. Serenko, "The Benefits and Dangers of Enjoyment with Social Networking Websites," *European Journal of Information Systems*, Vol. 21, pp. 512-528, 2012.