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## 3 Feeling Anxious without It: Characteristics of People Prone to Facebook Addiction

**Abstract:** Previous research has found that Facebook can provide its users with a place for self-presentation and increase their perceived social support, self-esteem, and subjective well-being. It is argued in this research that the margin of gratification Facebook brings to its users is lower for those who are higher in subjective well-being or self-esteem and higher for those feeling lonely, shy, or concerned with others' perceptions of them. Therefore, those with low subjective well-being or low self-esteem, and those feeling lonely, shy, or concerned about how others perceive them, are hypothesized to feel more anxious than their counterparts if they cannot use Facebook for three days. Using a probability sample, undergraduate students at a state university in Utah were solicited to take an online survey in April and May 2012. The findings supported all of the hypotheses. The results indicated that those with high subjective well-being or high self-esteem are less likely to have the problem of Facebook addiction, while those people feeling lonely, shy, or concerned with others' perceptions of them are more likely to have this problem.

### 3.1 Introduction and Literature Review

Previous research has indicated that Facebook brings some benefits to its users, such as strengthening perceived social and emotional support (Ellison, Steinfield, & Lampe, 2007; Manago, Taylor, & Greenfield, 2012), boosting self-esteem (Gonzales & Hancock, 2011; Valkenburg, Peter, Schouten, 2006), and enhancing subjective well-being (Kim & Lee, 2011). In addition, Facebook provides a place for self-presentation (Nadkarni & Hofmann, 2012) and entertainment (Special, Li-Barber, 2012). Because of the benefits Facebook provides to its users, some people gradually become addicted to it. For example, on June 19, 2014, when Facebook was down for a brief period of time, many people around the world experienced some anxiety. The purpose of this research is to identify the people who are prone to Facebook addiction; specifically, this study identifies the characteristics of individuals who would feel anxious if they could not use Facebook for three days.

One reason why some people get addicted to Facebook is because of the rewards they receive when using it. As mentioned above, Facebook can increase individuals' happiness or subjective well-being (Kim & Lee, 2011). Individuals who already have a high level of subjective well-being, however, may experience less reward from Facebook than their counterparts of low subjective well-being. Put differently,



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the margin of gratification Facebook contributes to the former is lower than that to the latter. Therefore, happy people are less likely to feel anxious if they cannot use Facebook.

In the same way, if Facebook is used to boost self-esteem, those with low self-esteem might find using Facebook more rewarding than those with high self-esteem, since Facebook brings a larger margin of gratification to the former. As previous research has found, those low in self-esteem spend a greater amount of time on Facebook (Kalpidou, Costin, & Morris 2011; Mehdizadeh, 2010), have a higher frequency of logins or updates on their Facebook page (Mehdizadeh, 2010), accumulate a larger number of Facebook friends (Lee, et al. 2012), and include more strangers on their Facebook page than those with high self-esteem (Acar, 2008). Therefore, they are more likely to feel anxious if their access to Facebook is denied. Based on this argument, the first two hypotheses were formulated:

Hypothesis 1. Those who are happy are less likely to feel anxious if they cannot use Facebook for three days.

Hypothesis 2. Those who have high self-esteem are less likely to feel anxious if they cannot use Facebook for three days.

Another benefit Facebook brings to its users is perceived social and emotional support (Ellison, Steinfield, & Lampe, 2007; Manago, Taylor, & Greenfield, 2012). Following the logic of margin of gratification, those who feel lonely or shy might find Facebook more attractive. Previous research has found that those who feel lonely are more likely to use Facebook (Ryan & Xenos, 2011), and they also have more Facebook friends than their counterparts (Skues, Williams, & Wise); shy people spend more time on Facebook (Orr, et al., 2009) and express more favorable attitudes toward Facebook (Orr, et al., 2009). Therefore, when Facebook access becomes unavailable, lonely or shy people are more likely to feel anxious than their counterparts. Based on the arguments above, the following two hypotheses were formulated:

Hypothesis 3. Those who feel lonely are more likely to feel anxious if they cannot use Facebook for three days.

Hypothesis 4. Those who are shy are more likely to feel anxious if they cannot use Facebook for three days.

Facebook provides a place for self-presentation (Nadkarni & Hofmann, 2012). Previous research has identified various strategies that internet users employ to present themselves in a favorable way, such as presenting an ideal self (Ellison, Heino, & Gibbs, 2006), managing the styles of their languages (Adkins & Brashers, 1995; Ellison, Heino, & Gibbs, 2006; Lea & Spears, 1992; Walther, 2007), carefully selecting pictures (Ellison, Heino, & Gibbs, 2006), highlighting positive attributes (Ellison, Heino, & Gibbs, 2006), showing connections with certain people or symbols

(Dominick, 1999; Schau & Gilly, 1999; Walther, et al., 2008), or having deeper self-disclosures (Tidwell & Walther, 2002). For those who are concerned about others' perceptions of them (high self-monitors), Facebook serves as a platform where they can present a desirable image as well as a channel through which they can receive others' approval. A relevant study found that those with a need to feel popular disclose more information on Facebook (Christofides, Muise, & Desmarais, 2012). Therefore, if they cannot use Facebook, they will lose one platform of self-presentation and one channel of social approval, which might make them anxious. Based on the argument above, the following hypothesis was formulated:

Hypothesis 5. Those who are concerned about how others perceive them are more likely to feel anxious if they cannot use Facebook for three days.

Previous research has found that the use of Facebook is related to certain demographic variables. For example, women have more Facebook friends than men (Acar, 2008), spend more time on Facebook than men (Acar, 2008), and are more likely than men to report losing sleep because of Facebook (Thompson & Loughheed, 2012), and feel addicted to Facebook (Thompson & Loughheed, 2012). Adolescents spend more time on Facebook than adults (Christofides, Muise, & Desmarais, 2012), and they also disclose more information on Facebook than adults (Christofides, Muise, & Desmarais, 2012). Therefore, gender and age, as well as marital status, were included in this research, and the frequency distribution of these demographic variables was mentioned previously in this chapter.

## **3.2 Method**

### **3.2.1 Participants**

An online questionnaire was sent to undergraduate students at a state university in Utah through the university's Institutional Research Department in April and May 2012. A probability sample of 8,000 students enrolled in Fall 2011 was chosen for this research; 1,059 of them responded to the survey, and 830 completed all of the questions asked in the survey. Among these participants, 44% were men, and 84.3% were White. The mean age was 27.71. About 10% of the respondents were single with a steady dating partner, and 31% were married at the time of the survey. The demographic information is presented in the Appendix.

### 3.2.2 Measures

The dependent variable, Facebook addiction, was measured by this statement, “I would feel very anxious if I could not use Facebook for 3 days.” Strongly disagree was coded as 1; disagree was coded as 2; Don’t know was coded as 3; Agree was coded as 4; and Strongly Agree was coded as 5. The independent variables were all measured by a 5-point Likert scale. Respondents were asked to rate their level of agreement with some statements, and 1 indicated strongly disagree; 2 indicated disagree; 3 indicated don’t know or no opinion; 4 indicated agree; and 5 indicated strongly agree. Happiness or subjective well-being was measured by the statement, “I am a very happy person” (mean = 4.15; standard deviation = .79); self-esteem was measured by the statement, “I believe I can succeed in everything I do” (mean = 4.00; standard deviation = .89); self-monitor was measured by the statement, “I am very concerned about how others perceive me” (mean = 2.9; standard deviation = 1.18); loneliness was measured by the statement, “I feel very lonely” (mean = 2.29, standard deviation = 1.16); and shyness was measured by the statement, “I am very shy” (mean = 2.48; standard deviation = 1.20).

### 3.3 Results

Among the 830 respondents who answered all of the questions, the majority of them indicated that they strongly disagree (56.6%) or disagree (29%), while 61 (or 7.3%) indicated that they agree, and 9 (or 1.1%) indicated that they strongly agree with the statement, “I feel very anxious if I could not use Facebook for 3 days.” In other words, 70 (or 8.4%) of the respondents appear to have had the problem of Facebook addiction; that is, they would feel very anxious if they could not use Facebook for 3 days.

The bivariate correlation coefficients are presented in Table 1. As predicted in hypotheses 1 and 2, happy people ( $r = -.11$ ;  $p < .01$ ) and those with higher self-esteem ( $r = -.14$ ;  $p < .001$ ) were less likely to feel anxious if they could not use Facebook for 3 days. Also, as predicted in hypotheses 3, 4, and 5, those feeling lonely ( $r = .21$ ;  $p < .001$ ), shy ( $r = .11$ ;  $p < .01$ ), or concerned about how others perceive them ( $r = .23$ ;  $p < .001$ ) were more addicted to Facebook. In addition, married, male, and older people were less likely to have the problem of Facebook addiction. A cross-tab analysis between gender and Facebook addiction revealed that women were twice as likely as men to experience Facebook addiction: About 11.3% of female participants and 4.6% of male participants would feel very anxious if they could not use Facebook for 3 days ( $t = 3.70$ ,  $p < .001$ ).

**Table 3.1.** Bi-variate correlation coefficient matrix

Variables	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. Feeling anxious without using Facebook	1.00									
2. Subjective well-being	-.11**	1.00								
3. Self-esteem	-.14***	.43***	1.00							
4. Loneliness	.21***	-.42***	-.28***	1.00						
5. Shyness	.11**	-.35***	-.23***	.46***	1.00					
6. Self-monitor	.23***	-.15***	-.12***	.41***	.26***	1.00				
7. Dating	.05	-.05	-.07*	-.01	.02	.05	1.00			
8. Married	-.07*	.10**	.09*	-.28***	-.14***	-.10**	-.23***	1.00		
9. Gender (male)	-.14***	-.04	.06	-.05	-.02	-.11**	-.05	.03	1.00	
10. Age	-.10**	-.04	-.00	-.07*	-.08*	-.10**	-.15***	.32***	.03	1.00

\*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$

Since Facebook addiction was related to gender, age, and marital status, and was also related to some independent variables, these demographic variables were controlled in the multiple regression analysis. The results of the multiple regression analysis are presented in Table 2. After controlling for the demographic variables, the association between Facebook addiction and these independent variables remained significant. As predicted in hypotheses 1 and 2, those with higher subjective well-being ( $\beta = -.11$ ;  $p < .01$ ) or higher self-esteem ( $\beta = -.13$ ;  $p < .001$ ) were less likely to feel anxious if they could not use Facebook for 3 days. In addition, those feeling lonely ( $\beta = .21$ ;  $p < .001$ ), shy ( $\beta = .10$ ;  $p < .05$ ), or concerned about how others perceived them ( $\beta = .21$ ;  $p < .001$ ) were more likely to have the problem of Facebook addiction, as expected in hypotheses 3, 4, and 5. Men were less likely than women, and older people were less likely than younger people to be addicted to Facebook.

**Table 3.2.** Multiple Regression Analysis of Facebook Addiction on Selected Independent Variables (Standardized Coefficients)

<i>Independent variables</i>					
Subjective well-being	-.11**				
Self-esteem		-.13***			
Loneliness			.21***		
Shyness				.10*	
Self-monitor					.21***
Dating	.02	.02	.04	.02	.02
Married	-.03	-.04	.02	-.04	-.03
Gender (male)	-.13***	-.11**	-.11**	-.12**	-.10**
Age	-.09*	-.08*	-.07	-.07	-.06
F-value	5.84***	6.45***	9.70***	5.45***	10.91***
R <sup>2</sup>	.04	.04	.06	.04	.07
N	717	714	710	707	710

\* p<0.05; \*\* p<0.01; \*\*\* p<0.001

### 3.4 Discussion and Conclusions

As previous research has found, Facebook can provide its users a place for self-presentation and increase their perceived social support, self-esteem, and subjective well-being. Based on previous research, in this study it was anticipated that the margin of gratification Facebook brings to its users would be low for those who were high in subjective well-being or self-esteem, and high for those feeling lonely, shy, or concerned about others' perceptions of them. The findings of this study supported these hypotheses. That is, people with high subjective well-being or high self-esteem were less likely to feel anxious if they could not use Facebook for three days, and people feeling lonely, shy, or concerned about how others perceived them were prone to Facebook addiction. In addition, women and younger people were more likely than men and older people to feel anxious if they could not use Facebook for three days, indicating that Facebook brought a higher margin of gratification to them than to their counterparts.

The results of this research imply that Facebook outage might serve as an assessment for individuals' psychological states. Compared with their counterparts, those who feel anxious without access to Facebook are less happy, have lower self-esteem, tend to feel lonely or shy, and have concern about how others perceive them.

While using Facebook might satisfy their needs, they can also think about alternative activities that enrich their lives, as well as find out some causes of their psychological traits that are associated with Facebook addiction. Either way, when Facebook is down, some alternatives rise up.

The current research has two major limitations. First, this research used a single question for each of the dependent and independent variables. Although this research did shed some light on the possible connections between personalities and Facebook addiction, future research could advance this study by using an established measurement of Facebook addiction, as well as some personality characteristics, such as happiness, self-esteem, loneliness, shyness, and self-monitoring. Second, although this research used a probability sample, recruiting undergraduate students taking classes from various academic disciplines, the participants' homogeneity limits the generalization of the results. Therefore, future research should examine people of different age groups and ethnic backgrounds, and people living outside Utah, to see whether similar patterns appear. These two major limitations open up opportunities for future research.

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## Appendix: Operationalization of Variables, Mean, and Standard Deviation

Variables	Survey items and coding	Min.	Max.	Mean	St.d.
1. Facebook addiction	Please rate your level of agreement with this statement, "I feel very anxious if I could not use Facebook for 3 days." 1. Strongly disagree; 2. Disagree; 3. Don't know. 4. Agree; 5. Strongly agree.	1	5	1.67	.95
2. Subjective well-being	Please rate your level of agreement with this statement, "I am a very happy person." 1. Strongly disagree; 2. Disagree; 3. Don't know. 4. Agree; 5. Strongly agree.	1	5	4.15	.79
3. Self-esteem	Please rate your level of agreement with this statement, "I believe I can succeed in everything I do." 1. Strongly disagree; 2. Disagree; 3. Don't know. 4. Agree; 5. Strongly agree.	1	5	4.00	.89
4. Loneliness	Please rate your level of agreement with this statement, "I feel lonely" 1. Strongly disagree; 2. Disagree; 3. Don't know. 4. Agree; 5. Strongly agree.	1	5	2.29	1.16
5. Shyness	Please rate your level of agreement with this statement, "I am very shy." 1. Strongly disagree; 2. Disagree; 3. Don't know. 4. Agree; 5. Strongly agree.	1	5	2.48	1.20
6. Self-monitor	Please rate your level of agreement with this statement, "I am very concerned about how others perceive me." 1. Strongly disagree; 2. Disagree; 3. Don't know. 4. Agree; 5. Strongly agree.	1	5	2.90	1.18
7. Dating	What is your current marital status: single with a steady dating partner was coded as 1; others were coded as 0.	0	1	.10	.30
8. Married	What is your current marital status: married was coded as 1; others were coded as 0.	0	1	.31	.46
9. Gender (male)	What is your gender? 1. Male; 0. Female	0	1	.44	.50
10. Age	What is your age?	18	73	27.71	9.14