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Research Article

A Qualitative Exploration of Facebook Addiction: Working toward Construct Validity

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Abstract

Empirical research has emerged that supports the existence of Facebook addiction. However, most studies have methodological limitations. In particular, the assessment of Facebook addiction is often varied and unjustified, which compromises construct validity. The purpose of the current study is to perform a qualitative exploration of Facebook addiction using seven core symptoms of Internet addiction (negative consequences, loss of control, online social enhancement, preoccupation, mood alteration, withdrawal, and excessive use) as a foundation. Participants were 417 self-identified excessive Facebook users (131 male, 286 female) aged between 18 and 80 ($\bar{X} = 31.57$, $SD = 9.33$). All participants were recruited from Facebook and online discussion boards. Data were collected using open-ended online survey questions. Thematic analysis of the responses has provided preliminary support for the existence of seven core symptoms of Internet addiction among excessive Facebook users. This study is among the first to conduct an in-depth qualitative exploration of Facebook addiction using a sample of Facebook users. The findings have helped move Facebook addiction research closer towards construct validity, which will allow for more focused research in this area.

Keywords

Internet • Behavioral addiction • Social networking sites • Social media • Qualitative research • Phenomenology • Facebook

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The social networking site, Facebook, is a worldwide phenomenon. It is currently the third most frequently viewed website in the world after Google and YouTube (Alexa Internet, Inc., 2016), boasting a membership of 1.04 billion daily active users (Facebook, 2015). The ubiquity of Facebook use is also obvious; current statistics indicate that 1.44 billion people use Facebook mobile products every month (Facebook, 2015). As a result of this popularity, the question of whether Facebook use can become addictive has been increasingly discussed. A Google search returns hundreds of news articles on the topic of *Facebook addiction* that describe people who are self-admitted addicts or interview the psychologists who treat them (e.g., India Today Online, 2014; Irving, 2013; Renganayar, 2010; Valdes, 2009). But do these experiences really demonstrate an addiction that needs treatment, or are they instead instances of unregulated usage that can be overcome (LaRose, Kim, & Peng, 2010)?

While addiction has been traditionally thought to refer to dependence upon ingested substances (Brenner, 1997), a subset of addictions researchers have long argued that it is also possible to develop addictions to behaviors (i.e., Griffiths, 1996; Brown, 1997). This notion is supported by the fact that some individuals develop the same kind of symptoms seen in substance-related addictions (i.e., salience, euphoria, tolerance, withdrawal, conflict, and relapse) when they engage in repetitive behaviors. Behavioral addiction is therefore defined as addictive patterns of behavior that occur in the absence of an addictive substance (Albrecht, Kirschner, & Grüsser, 2007) and include gambling (Griffiths, 1990; Griffiths, 1996), exercise (Berczik et al., 2012; Warner & Griffiths, 2006), video-game play (Chappell, Eatough, Davies, & Griffiths, 2006; Hussain, Griffiths, & Baguley, 2012), and Internet addiction (Griffiths, 1999; 2000), among others.

Although the legitimacy of behavioral addiction has not always been widely accepted (Davis, 2001; Griffiths, 1996), recent changes to disorder classifications in the American Psychiatric Association's (APA; 2013) Diagnostic and Statistical Manual of Mental Disorders have provided more concrete support for its existence. In the latest version of the manual (DSM-5), *gambling disorder* has been included under the classification of addictive disorders, which paves the way for the inclusion of other behavioral addictions in future versions. While Internet addiction was initially considered for inclusion, the editorial committee recommended that more longitudinal research studies focusing on treatment, comorbidity, and relapse rates need to be performed (O'Brien, 2010). Facebook addiction researchers should also take heed of the comments of the committee and work to provide conclusive, rigorous evidence of the existence of this disorder.

Theoretically, online addiction occurs when individuals fail to regulate their own usage and experience negative outcomes as a consequence. According to Caplan's

(2010) social skill model of generalized pathological Internet use, deficient self-regulation of online activities most commonly occurs when individuals enjoy communicating in online environments more than they do face-to-face. The risk of addiction is heightened when these individuals use online social applications as a means of escaping from negative moods, such as loneliness or anxiety. Oftentimes, this act results in alleviating the negative mood (known as mood alteration), which may cause behavioral reinforcement.

Although Caplan's (2010) theory relates to social uses of the Internet in general, there is some evidence to suggest that Facebook addiction may develop similarly. For example, Lee, Cheung, and Thadani (2012) found that having a preference for online social interactions and using Facebook for mood alteration explained 35% of the variance in scores measuring deficient self-regulation of Facebook use. In turn, deficient self-regulation of Facebook use had a direct outcome on the experience of negative life outcomes. Moreover, the results of other research studies have suggested that Facebook addiction is associated with relationship dissatisfaction (Elphinston & Noller, 2011), depression (Hong, Huang, Lin, & Chin, 2014; Koc & Gulyagci, 2013), anxiety (Koc & Gulyagci, 2013), and low levels of subjective happiness and vitality (Uysal, Satici, & Atkin, 2013). Although these results do not indicate causation, these undesirable outcomes are possibly a result of Facebook addiction.

Currently, the existing body of research related to Facebook addiction is limited and, as some scholars have argued (Ryan, Chester, Reece, & Xenos, 2014), plagued by methodological inconsistencies. One of the more substantial issues is a lack of consistency with regard to measurement. Researchers have used various modified instruments from conceptually related behavioral addictions, such as Internet addiction (Çam & İşbulan, 2012; Lee et al. 2012; Hong et al., 2014; Koc & Gulyagci, 2013), mobile phone addiction (Elphinston & Noller, 2011), and gambling disorder (Andreassen, Torsheim, Brunborg & Pallesen, 2012). This approach is problematic for a number of reasons: there is often scant justification provided to support the selection of one of these conditions over another, it results in the creation of myriad instruments measuring different combinations of symptoms, and it may result in the exclusion of symptoms relevant to Facebook addiction.

With regard to the last point, some instruments of Internet addiction, such as the Online Cognitions Scale (Davis, Flett, & Besser, 2002), include items that measure the desire to maintain relationships in an online space. Given that Facebook is commonly used to engage in social activities (Kuss & Griffiths, 2011) and that having a preference for online social interaction is a vital element of Caplan's (2010) social-skill model, this symptom is likely to also be relevant in developing Facebook addiction (Ryan et al., 2014). However, aside from Lee et al. (2012), no other researchers have included

this symptom in their measure of Facebook addiction. This casts doubts on the content and construct validity of the majority of existing measures.

Oftentimes, an exclusive reliance on deductive reasoning and confirmatory techniques fails to uncover novel observations (Stebbins, 2001). To avoid such limitations, Ryan et al. (2014) recommended that exploratory qualitative research studies of Facebook addiction are needed, as they are better suited for establishing the core symptoms of Facebook addiction. Unless efforts are made to obtain a solid understanding of the unique aspects involved in Facebook addiction, it will be impossible to create a measure or set of diagnostic criteria that attains an acceptable level of content validity. For this reason, this study has been designed to further develop the construct of Facebook addiction by using an exploratory qualitative approach.

According to Stebbins (2001), the purpose of exploratory research is the development of theory that has been informed by data. Proceeding in this way, exploratory research does not usually need to take influence from existing theory. However, for the purposes of this study, literature from the field of Internet addiction research was drawn upon. This direction was chosen because Facebook is an application of the Internet, therefore much of the research related to Internet addiction will plausibly bear some relevance. In particular, theory and research related to social uses of the Internet (e.g., Caplan, 2010) seem worthy of further exploration. As such, the following research question was posed: Can the symptoms of Internet addiction be used to identify Facebook addicts?

Questions around the construct validity of Facebook addiction can be addressed by performing exploratory research. It should then be possible to obtain a clearer picture about the condition as a whole. This is potentially advantageous to Facebook addicts as it will enable a more accurate diagnosis. Furthermore, mental health professionals will be able to formulate more useful clinical interventions if they understand the unique elements of the condition in question rather than extrapolating information from conceptually similar disorders. Finally, findings from a qualitative study should also benefit researchers and provide a first step towards generating a theory related to Facebook addiction.

Method

Design

For the purposes of this study, a phenomenological approach was selected. Phenomenological studies can be conducted with multiple participants without investing substantial amounts of money or time, and they involve asking participants directly about their own experiences (Howitt, 2010). This particular qualitative approach seems appropriate as it allows for the exploration of both cognition and behavior.

Table 1
Potential Symptoms of Facebook Addiction

Theme	Derived from	Definition	Open-ended Questions
Negative consequences	Internet Addiction Test ^a Generalized Problematic Internet Use Scale ^b Internet Related Problems Scale ^c Problematic Internet Use Questionnaire ^d Problematic Internet Use Questionnaire ^e	The undesirable outcomes that occur from excessive and addictive Facebook use, such as using Facebook instead of performing other important activities, reducing recreational activities to spend more time on Facebook, and instances where excessive Facebook use has caused problems within interpersonal relationships.	Can you think of any instances when your Facebook use interfered with your normal daily activities? If yes, please provide details. Can you think of any instances when your Facebook use caused problems with your personal relationships? If yes, please provide details
Loss of control	Generalized Problematic Internet Use Scale Internet Related Problems Scale Problematic Internet Use Questionnaire ^d Online Cognitions Scale ^f	The experience of having trouble limiting Facebook use.	Have you ever been told by someone you use Facebook problematically? If yes, please provide details. Do you have any concerns about your own Facebook use? If yes, what sort of concerns do you have?
Online social enhancement	Generalized Problematic Internet Use Scale Problematic Internet Use Questionnaire ^d Online Cognitions Scale	Indicated by the feeling that communicating on Facebook is preferable to interacting face-to-face, or that it was necessary to obtain a sense of social connectedness. References to feeling safer, more efficacious, more confident, more comfortable, considering oneself to have higher levels of social control, or feeling reliant on Facebook for social interaction were considered to be indicative of online social enhancement.	Do you think that socializing on Facebook differs from socializing in real life? If yes, please explain.
Preoccupation	Problematic Internet Use Questionnaire ^d Problematic Internet Use Questionnaire ^e Online Cognitions Scale	Refers to the experience of persistent thoughts about using Facebook again, or planning the next time Facebook use will occur.	Do you ever think about Facebook when you are not using it? If yes, what sort of thoughts have you had?
Mood alteration	Generalized Problematic Internet Use Scale Internet Related Problems Scale Online Cognitions Scale	Repeated use of Facebook to escape from dysphoric mood states, such as loneliness, depression, anger, and anxiety.	Would you say that you are generally in a particular mood or frame of mind when you decide to check Facebook, update your status, or use Facebook (for your usual activities)? If yes, what sort of moods?
Withdrawal	Internet Addiction Test Generalized Problematic Internet Use Scale	Unpleasant physical or emotional effects that occur when Facebook use is ceased for a significant period of time.	Have you ever been in situation where you couldn't or didn't access Facebook for a long period of time (i.e., a week or longer)? If yes, please explain (a) why you couldn't/didn't access Facebook, (b) how long you were without Facebook access, and (c) how you felt during this time. If not, please explain how you think you would feel if you couldn't access Facebook for a long period of time.
Excessive Use	Internet Addiction Test Generalized Problematic Internet Use Scale	The experience of spending longer amounts of time on Facebook than intended.	Have you ever been told by someone that you spend too much time using Facebook? If yes, please provide details.

^a Developed by Young, 1998. ^b Developed by Caplan, 2002. ^c Developed by Armstrong, Phillips, and Saling, 2000. ^d Developed by Thatcher and Goolam, 2005. ^e Developed by Demetrovics, Szeredi, and Rózsa, 2008. ^f Developed by Davis et al., 2002.

Participants

Participants were required to be current Facebook members over 18 years old, proficient in written English, and able to independently access the Internet. The overall sample consisted of 417 participants (131 males, 286 females) ranging in age from 18 to 80 ($\bar{X} = 31.57$, $SD = 9.33$). The majority of participants resided in Australia (77%) while the remaining participants were from the United Kingdom (8%), Ireland (5%), Canada (3%), or other countries (7%).

Materials

An online survey was used as part of a wider mixed-methods study on Facebook addiction. The survey was hosted by *Qualtrics* (www.qualtrics.com) and consisted of 31 closed and open-ended items. However, in order to provide a focused answer to the research question, the current paper only analyzed data obtained from 13 of the open-ended questions. These questions were based on seven common symptoms of Internet addiction (negative consequences, loss of control, online social enhancement, preoccupation, mood alteration, excessive use, and withdrawal), which were selected by performing a systematic review of popular and psychometrically sound Internet addiction instruments, as well as a thematic analysis of the underlying factors. Table 1 provides further information about how these symptoms were derived, their definitions, and the corresponding open-ended questions.

Procedure

Three recruiting methods were used in this study. The first was a Facebook advertisement. In an attempt to recruit potential Facebook addicts, the advertisement read “Do you use Facebook too much?” Second, the link to the online survey was posted as a status update to the first author’s personal Facebook profile page, and Facebook friends were invited to share the link on their own profile. Sharing the post exposed it to a new audience who were then able to share the link again. In this way, the survey link reached many Facebook users using a snowball-like method. Third, recruitment advertisements were posted on the forums of 10 large online discussion boards (Best Recipes, Boards.ie, Bubhub, Canadaka, Essential Baby, FasterLouder, The Facebook Forum, The Social Networking Forum, The Student Room, and Whirlpool). Individual discussion boards were selected because they either had a high number of members (>25,000), or were related to social-networking site use. Permission was obtained from discussion board administrators before posting the recruitment advertisements. This study was approved by the RMIT University Human Research Ethics Committee.

Data Analysis

Open-ended survey data were imported into the qualitative data analysis software program NVivo for thematic analysis. The first step in analysis was to code the responses from each open-ended question into broad themes. No theoretical themes were used for this initial process; instead themes were allowed to emerge naturally. Following this, the range of broad themes were reviewed and refined. Themes that seemed to fit within any of the seven potential symptoms of Facebook addiction (based on the definitions provided in Table 1) were identified and defined (for a more detailed explanation of the thematic analysis process, see [Braun and Clarke, 2006](#)). The researcher who conducted the thematic analysis was experienced with this technique and was a Facebook user. As a reliability and validity check, two external researchers were recruited to independently assess the responses to the same data and to code for the presence or absence of the seven proposed symptoms of Facebook addiction. Raters were provided with coding criteria, examples of quotes that should be positively coded, and exclusion criteria. In line with [Landis and Koch's \(1977\)](#) guidelines, kappa coefficients were calculated with an acceptance level set at .61.

Findings and Discussion

Table 2 displays the frequencies and percentages of survey respondents who provided responses indicative of the seven proposed symptoms of Facebook addiction. As can be seen, the majority of participants' responses tapped in to negative consequences and preoccupation, while the other five symptoms were less frequently endorsed. The wording of the open-ended questions relating to negative consequences and preoccupation were more direct than the other questions (see Table 1), which may have influenced the frequency of responses for these particular symptoms.

Most of the symptoms in Table 2 were supported by multiple themes, as illustrated in Figure 1. Each of these themes has been discussed in further detail below, with quotes provided for illustrative purposes. The following basic demographic information is provided for each quoted participant: sex, age, and level of daily Facebook use (*light*: usage < 30 min; *moderate*: usage > 30 min to < 2 hrs; *heavy*: usage > 2 to < 4 hrs; *very heavy*: usage > 4 hrs).

Table 2
Frequency and Percentage of Responses Corresponding with the Seven Potential Symptoms of Facebook Addiction

Symptom	<i>n</i>	%
Negative consequences	275	66
Preoccupation	225	54
Excessive use	85	20
Withdrawal	81	19
Mood alteration	81	19
Online social enhancement	63	15
Loss of Control	24	6

Negative Consequences

Interference with daily activities

Education

Work

Chores

Problems with relationships

Romantic

Children

Social

Preoccupation

Checking for new content

Updates

Notifications

Adding content

Status updates

Photos

Messages

Check-ins

Links

Games

Excessive use Withdrawal

Unpleasant feelings

Trouble staying away

Mood alteration

Loneliness

Unhappiness

Online social enhancement

Socializing on Facebook is easier

Facebook socializing offers more social control

Loss of control

Figure 1. Coding tree illustrating the symptoms, themes, and subthemes that emerged during thematic analysis.

Negative Consequences

Interference with daily activities. Many participants made reference to the fact that Facebook use had interfered with their educational pursuits. For example, they admitted using Facebook when they were meant to be studying, concentrating in class, or completing coursework. There were two common types of responses throughout this subtheme. First, Facebook was commonly used to procrastinate from studies: “Facebook is a fantastic procrastination tool! I would often check Facebook instead of doing my university assignments” (Female, 27, Moderate). Second, Facebook is a major source of distraction: “[When] completing assignments, it can easily distract me as I can endlessly browse and read things as Facebook is constantly updated” (Male, 18, Heavy).

Similarly, a large proportion of participants admitted that they used Facebook at work. For example, “When I am meant to be working on the computer, I constantly have Facebook open in the background and find myself regularly checking for notifications” (Female, 24, Very Heavy). As with the education subtheme above, some participants also mentioned using Facebook to procrastinate at work: “When I get tired of work, I use Facebook” (Male, 25, Light). In addition, a high proportion of participants mentioned that Facebook is a source of distraction from work: “Often when I open a webpage at work, I can’t stop myself going to Facebook first up, then looking up whatever I went online for. It’s distracting and time-consuming” (Female, 23, Moderate).

The comments above demonstrate how some individuals have trouble limiting their use of Facebook, which is indicative of loss of control (discussed further below). As shown here, this can potentially lead to negative consequences. However, none of these participants indicated that their Facebook use had caused negative outcomes at work, although one admitted that she thought she was about to be reprimanded due to her excessive Facebook use. Another acknowledged she had been late to work because she was using Facebook. In regards to interference with other important daily activities, some participants made general comments such as, “In the evening, once I sit and get on Facebook, it is really hard to get motivated to do ANYTHING ELSE” (Female, 28, Very Heavy).

However, the majority of comments within this subtheme referred explicitly to housework. These responses were generally made by women, and indicated that Facebook was used as a form of distraction or procrastination: “I sometimes skimp on doing housework, or just do the minimum to spend time on Facebook” (Female, 48, Very Heavy). In general, it seems as though Facebook is commonly used as a tool to procrastinate or distract from important tasks. Similar themes also emerged in a small qualitative study on Facebook addiction ([Zaremohzzabieh, Samah, Omar, Bolong, & Kamarudin, 2014](#)).

Problems with relationships. Elphinston and Noller (2011) reported that intrusive Facebook use could be related to problems in romantic relationships. In support of this finding, the most common types of responses relating to problems with personal relationships indicated that participants' romantic partners were bothered by them spending too much time on Facebook or using Facebook during time that could have been spent together: "My partner hates me using it because it means I'm not paying him attention" (Female, 30, Moderate). Some of the participants recognized that their Facebook use had caused them to be less attentive to their children: "I was playing [Facebook Games] so much that my 12 year old daughter felt I was becoming withdrawn from her" (Female, 35, Moderate).

It is worth noting that all but one of the responses coded into this subtheme were made by women. This may be because women more frequently adopt the caregiver role in the family; however, further research is needed to confirm this. The sole male who provided a response on this topic recognized that his behavior was problematic after seeking therapy:

I started to see a therapist who made me realize the frequency at which I was using Facebook and how I was failing to actually connect with people in reality. Sometimes I would be more interested in browsing Facebook than talking to my wife or family. It was not healthy. (Male, 29, Light)

A number of participants noted that Facebook use interfered with their level of engagement in social situations: "I always tend to check Facebook when I am out socializing" (Female, 25, Very Heavy). Others recognized that they were being rude to the people around them, but they still checked Facebook anyway: "Sometimes when I'm in company I find myself on Facebook. My manners are appalling because of Facebook and my need to know what's happening on it" (Female, 32, Very Heavy). Taking this idea further, one participant admitted that he avoided social situations in favor of checking Facebook: "Instead of meeting co-workers from work for lunch, [I go] off and [check] Facebook messages on my phone" (Male, 46, Very Heavy). Some participants also noted that using Facebook had resulted in them limiting offline communication with friends, simply because they already knew what was going on in their lives: "It has stopped me from talking to people in real life because I feel as though I have interacted with them through Facebook" (Female, 19, Heavy).

The quotes above demonstrate prioritizing virtual relationships over offline relationships. Furthermore, respondents were often aware that their behavior was inappropriate, but they felt unable to control themselves. Again, such examples are indicative of loss of control. Overall, the responses in this theme demonstrate that it is not unusual for Facebook use to interfere with or cause problems in users' lives. However, there was not a great deal of evidence to demonstrate that these issues are perceived as seriously detrimental. For

example, none of the participants mentioned that their Facebook use was responsible for them failing a course, losing a job, or ending a relationship. This may have been because there were no actual instances of this occurring or simply because the wording of the survey questions was too broad. While media reports have suggested that intense Facebook use can lead to severe negative consequences such as depression (Aruna, 2012) and suicide (India Today Online, 2014), more empirical evidence is still required to confirm these outcomes of Facebook addiction.

Preoccupation

Checking for new content. One of the strongest themes related to preoccupation was that participants thought about checking Facebook for new content. A high proportion of responses suggested that most individuals were interested in whether anything new had occurred on Facebook since the last time they had checked it. In some cases, it is likely that these thoughts led to actual Facebook-checking behavior. In fact, even though participants were not directly asked about this, some respondents indicated that this was the case. For example, “[I think that I] should check Facebook, then I usually do check it” (Female, 29, Heavy). It is possible that thoughts about checking Facebook could become recurring and compulsive, as illustrated in the following quote: “I feel compelled to check [Facebook] fairly often when I have nothing better to do” (Female, 29, Heavy).

The above responses indicate that a cycle of Facebook-related thoughts and Facebook-checking behavior could manifest in some users. It is possible that this cycle could be triggered by looking at new content on Facebook, which provides an escape from unwanted mood states (considered in-depth, below). This process can be explained through Outcome Expectancy Theory, which states that individuals will perform a particular behavior in anticipation of a reinforcing effect (Jones, Corbin, & Fromme, 2001). Reinforcement of this behavior could theoretically arise due to a *variable-ratio schedule* that occurs when reinforcement is provided after a random number of responses or behaviors (Schoenfeld, Cumming, & Hearst, 1956). This is the same type of reinforcement seen in gambling disorder (Committee on the Social and Economic Impact of Pathological Gambling, Committee on Law and Justice, Commission on Behavioral and Social Sciences and Education, National Research Council, 1999). The quotes below are suggestive of a variable-ratio schedule of reinforcement for checking Facebook:

I keep clicking in [to Facebook] even though often there is nothing interesting to read or see there... even when I find my Facebook newsfeed boring, instead of just leaving it alone, I keep looking for something interesting. (Female, 27, Moderate)

I find myself logging in multiple times a day (sometimes nearly a dozen) just to “check in.” I even do this late at night when I know there will be no updates since the last time I checked, usually less than an hour before. (Male, 19, Moderate)

Some participants acknowledged that they feel irritated when they check Facebook but do not receive reinforcement (in the form of new updates): “I log on to Facebook as a force of habit when I use my laptop or phone. I get frustrated when there is not a lot going on on Facebook or I do not have many notifications” (Female, 19, Heavy). “I am on Facebook several times a day and get a little peeved when there are no status updates since last login” (Female, 28, Moderate).

A small group of participants indicated that they had thought about notifications when they were not using Facebook. Two types of notifications were most frequently mentioned: comments and messages. In relation to comments, participants generally noted that they had recently posted a status update, photo, or some other type of content and were expecting to receive comments or “likes” as a result of this. In regards to anticipating messages, participants referred to thinking about whether they had received a message from another user, or a response to a message they had sent themselves. Although further research is needed, cognitions of this kind could possibly be indicative of preoccupation. In support of this, some participants indicated that Facebook-related thoughts increased when content was posted: “If I have recently posted something I think about checking it more often” (Female, 29, Moderate). In these situations, the anticipation or expectation of receiving notifications on Facebook may lead to more frequent checking and heavier levels of use. If a notification is received, reinforcement of the posting behavior could occur.

Adding content. The second strongest preoccupation theme related to thoughts about adding content on Facebook. Most of the quotes coded within this theme mentioned thoughts about posting status updates, such as “[I think about] witty status updates that I might like to share” (Female, 31, Moderate). While the act of thinking of a potential status update does not immediately point to preoccupation, it might if these thoughts become recurrent and intrusive. In fact, as discussed above, it may be the case that some individuals are highly motivated to post status updates as they are seeking social contact from their friends.

It is noteworthy that only female participants mentioned thinking about updating their status on Facebook. In light of this trend, women may be more likely to use this particular Facebook feature than men. In the context of previous research into gender differences in the use of social networking sites, this finding is not surprising. Women are more likely than men to use Facebook to maintain existing relationships (Sheldon, 2009) and feel they can express their feelings more easily on Facebook (Thompson & Loughheed, 2012). Further research might examine the relationship between gender and preoccupation with posting status updates.

Apart from thoughts about posting status updates, several other types of activities were on the minds of participants, such as posting photos, making contact with

friends, “checking in” at places, and sharing interesting content. All of these activities could also lead to receiving notifications from friends and could thus be activities that outcome expectancies reinforce.

Playing games. There were a small number of quotes related to thoughts about playing games on Facebook. Several respondents indicated thinking about how long they had to wait before returning to use a particular game. For example: “I think about whether the coins in the game I play will have been refilled” (Female, 39, Very Heavy). In cases where individuals become addicted to playing Facebook games, the forced act of waiting for a certain amount of time before using them again could potentially increase levels of preoccupation. It is important to distinguish whether addiction to Facebook games is a form of Facebook addiction (i.e., related to the particular properties of Facebook, such as social contact with offline friends), or simply another form of gaming addiction (Griffiths, 2012).

Excessive Use

A substantial number of survey respondents admitted that they used Facebook excessively. This result was expected, given that the recruitment advertisements asked for participants who felt that they spent too much time on Facebook. Furthermore, Zaremohzzabieh et al. (2014) reported that excessive Facebook users were personally aware of their high frequency of use. In general, responses coded within this theme simply acknowledged that the individual was aware that they use Facebook too much. A small number of respondents mentioned that recognizing this fact caused them to take a break from Facebook use:

[I stopped using Facebook because] I knew I had a problem with the amount of time I spent on Facebook. I actually got frustrated with people for not updating their statuses regularly giving me something to read, and it got boring, so I knew that it was time to give myself a break. (Female, 27, Moderate).

A sizable number of participants mentioned that they had been told by someone that they spend too much time on Facebook: “My husband thinks I spend too much time on Facebook and that I would get more done around the house if I wasn’t always on the computer” (Female, 33, Heavy). Similarly, a large number noted that their excessive use was a particular concern to them: “[My Facebook use] was eating into my day and I actually couldn’t control how often I checked it” (Female, 28, Moderate). “I use [Facebook] too much and it’s addictive, I get concerned when I consider other useful things I could be doing with my time” (Female, 20, Very Heavy).

Finally, a few participants referred to excessive Facebook use as a catalyst for negative consequences like relationship problems: “Being on [Facebook] at night instead of

spending time with my husband meant that we felt ‘less close’ and were less intimate than before” (Female, 26, Moderate). These responses provide evidence that excessive Facebook use does occur. In many cases, it seems that the excessive use is noted either by the user themselves, or by their friends or loved ones. While this recognition can cause some users to take a break from Facebook, most respondents appeared to continue their use.

Withdrawal

Unpleasant feelings. Many participants acknowledged experiencing unpleasant feelings when they were not able to access Facebook. For example, they admitted feeling depressed, moody, anxious, and irritable: “[I stopped using Facebook and] during downtime from doing activities I felt depressed; times when I would normally check Facebook were awkward for me and felt as if I was suffering from the withdraw” (Male, 18, Heavy). This quote suggests that mood-related withdrawal symptoms do occur in response to the absence of Facebook use. In addition, several survey respondents who had never been without Facebook access were able to imagine that this situation would cause them distress:

I would probably suffer anxiety [without Facebook] as it has become a habit to check it every few minutes - once an hour is generally the longest I go during the day - and only when in a meeting or class is it this long. (Female, 37, Heavy)

For all of these users, Facebook use seems to be so ingrained in their daily lives that taking it away did (or would) have an undesirable impact.

Trouble staying away. Given the negative emotions associated with giving up Facebook use, it is not surprising that respondents indicated that they had (or would have had) trouble cutting back their use. As per the definition provided in Table 1, these responses were also categorized as withdrawal. It is worth noting that all responses in this theme were made by women in their mid-to-late thirties, and all were heavy or very heavy Facebook users. An example is provided as follows: “I feel very connected and ‘in the loop’ by using FB, so wouldn’t want to be without it. If I didn’t have internet access at home, I’d find an internet cafe or Wi-Fi” (Female, 39, Very Heavy). Such comments reveal how important and habitual Facebook use can become. Similar findings have been reported in previous quantitative studies of university students from the United States of America (Debatin, Lovejoy, Horn, & Hughes, 2009; Ellison, Steinfield, & Lampe, 2007; Pempek, Yermolayeva, & Calvert, 2009).

The data presented here suggest withdrawal from Facebook is possible but manifests as cognitive feelings rather than physiological symptoms. This is not surprising, given that Facebook addiction would be classified as behavioral, rather than substance-based, addiction.

Mood Alteration

Loneliness. A small number of participants indicated that their Facebook use was motivated by loneliness. These references were often brief, and provided little insight into this experience. However, some participants indicated that using Facebook when lonely could be useful for reestablishing a sense of connection: “[I decide to use Facebook when I’m feeling] loneliness from the outside world. When I want to socialize I open Facebook” (Male, 18, Heavy). “[I decide to use Facebook when I’m] feeling loneliness or feeling disconnected and wanting to reconnect with people” (Female, 19, Moderate).

Some of these comments refer to the fact that physical isolation spurred-on Facebook use: “Lonely is too strong a word, but sometimes, if I’ve been working at home by myself or otherwise spent some time alone, I’ll check Facebook as a way of feeling connected with some friends” (Male, 51, Light). “[I decide to use Facebook when I’m] wanting to catch up on family and friends news, as I live on my own, far from close family and friends” (Female, 62, Moderate). The participant who provided this quote further noted that Facebook browsing helped her feel “sensations of enjoyment and connection, being able to have news of family and friends.” Therefore, it seems that simply browsing the status updates of Facebook friends is an effective method of alleviating loneliness for some people.

Aside from browsing Facebook, several participants mentioned that they posted status updates when they felt lonely or were seeking attention: “When I used to update, I found I would update most when lonely. I used to travel for work constantly and found updating my profile to be a bit of a cry for attention” (Male, 29, Light). “Honestly, if I ever update my status it’s because I want some form of attention. I think most people are the same, whether or not they would choose to admit it” (Female, 20, Heavy).

Based on these references, some Facebook users seem to achieve mood alteration (e.g., from lonely or attention-seeking states) if social contact is received through the act of posting a status update. For some, such behavior could be reinforced through the outcome expectancy of mood alteration. While online-addictions researchers have not explicitly referred to the theory of outcome expectancies when discussing mood alteration, scholars from the field of substance-related addictions have identified that mood change may be an outcome expectancy linked to alcohol (Jones et al., 2001) and nicotine addiction (Colvin & Mermelstein, 2010). This supports results presented by Lee et al. (2012), who reported a significant relationship between using Facebook for mood regulation and deficient self-regulation of use. However, more research is needed in this area, as the survey questions used here did not specifically ask whether using Facebook actually led to mood alteration.

Unhappiness. Outcome expectancies may also explain why people use Facebook when they are unhappy. Respondents noted that checking or using Facebook can be a useful method of distraction or escape from an unhappy mood:

When I am sad or disturbed by some family matters I decide to check Facebook. I generally don't check Facebook when I am happy. For me Facebook is a good thing by which I can divert my attention from the real world. (Male, 19, Moderate)

Research has shown that distracting oneself from rumination is a useful strategy for reducing the effects of dysphoria (Vickers & Vogeltanz-Holm, 2003; Williams & Moulds, 2010). Seeking distraction through Facebook could occur through socially passive activities such as checking for new content (as mentioned earlier). While this behavior may lead to positive effects initially, more frequent Facebook checking may be necessary over time to achieve the same level of mood alteration. As similar effects occur in substance-related addiction disorders (i.e., tolerance), further research of this concept is warranted.

Aside from distraction, individuals who use Facebook when unhappy might be trying to seek relief by gaining a sense of social support. The presence of social support can buffer against depression (George, Blazer, Hughes, & Fowler, 1989) and the negative effects of stressful life events (Cohen & Wills, 1985). In support of this expectation, some individuals did admit to updating their Facebook status when feeling sad. Similarly, others also referred to updating their Facebook status in order to release annoyance: "On occasion (I would say 4/10 times) I will update my status about something that has really frustrated me and caused me to want to vent, which is why I am writing on Facebook" (Female, 24, Very Heavy). If not reinforced, however, such behavior can result in a negative spiral:

[I use Facebook when I feel] very sad/anxious and in need of support. Though I have been trying to restrain myself from posting when feeling bad, as it can often make me feel worse when support is not offered, and worried that I may be affecting other people with my sad post. (Female, 33, Moderate)

While there is nothing inherently wrong with seeking social support on Facebook, this behavior could also be reinforced through the achievement of mood alteration. In fact, researchers have previously indicated that social-support seeking is a relevant factor in Internet addiction (Kaliszewska-Czeremska, 2011). As people who have a strong sense of offline social support would presumably not need to rely on Facebook to increase their moods, this behavior may be more common among people who have a strong preference for online interaction, or those who are physically isolated from others.

Online Social Enhancement

Facebook socialization is easier. While many of the responses within this theme were brief and did not elaborate on why Facebook socialization was easier, a subset indicated that Facebook communication lessens inhibitions and enhances social confidence. Given this situation, many of the individuals who felt that Facebook communication was easier may be shy or socially anxious in real life. The following quotes support this argument: “[It is] sometimes easier talking online due to social anxiety” (Female, 23, Moderate). “I am quite a shy person in real life, but not on Facebook” (Female, 29, Heavy).

In real life, shy people avoid communicating with others because they feel they lack social skills (Baker & Oswald, 2010). Due to this, they are more sensitive to the non-verbal cues that their conversational partners provide. Often, they negatively interpret these cues and assume that they are being harshly evaluated. In contrast, online communication protects these individuals from receiving non-verbal cues, which results in the alleviation of these concerns. The following quotes provide examples of this: “[It is] easier to make conversation [on Facebook; it is] less awkward than eye-to-eye contact” (Male, 20, Heavy). “[Socializing on Facebook is different because] you are hidden behind a computer screen. You have less inhibitions and are braver, more likely to say things that you wouldn’t in real life” (Female, 34, Heavy).

It seems that for some people, the lack of social cues afforded by Facebook communication increases social confidence and decreases inhibitions. This trend appears to be more prevalent among heavy and very heavy Facebook users. As previously mentioned, Lee et al. (2012) found that having a preference for online social interaction was tied to Facebook addiction. This is another area worth further investigation.

Facebook socialization offers more social control. Shy or socially anxious people also prefer communicating online, as the slow and asynchronous nature of text-based communication allows them to take their time to think about responses (Baker & Oswald, 2010; Caplan, 2002). As such, they feel greater levels of social control online than they do in face-to-face interactions. There were a small number of responses in this vein provided in the survey data. For example, “I find it easier [to socialize on Facebook] as I can revise what I say before I post it, whereas in real life I would just speak and then feel stupid after or spend ages analyzing what I just said and regretting it” (Female, 25, Moderate).

They are also provided with the ability to self-edit, which offers another level of control:

I act different on Facebook than I would in person because I am protected by the screen. I can speak my mind, then quickly change what I said by deleting that post. I don’t have that option in person. Facebook makes me appear more confident than I really am. (Female, 23, Light)

These responses illustrate why some shy and socially anxious people feel better able to communicate using Facebook. However, if they are frequently motivated to use the site for the purposes of mood alteration (i.e., if they are lonely), there is a risk that they could develop Facebook addiction. Further research is therefore needed to examine this potential association.

Loss of Control

As discussed earlier, several survey participants made reference to the fact that they spent longer on Facebook than they intended. In addition, some participants stated that they had trouble limiting their Facebook use. For example, “I wish I could restrict my access to a reasonable amount of time (15 minutes morning & evening)” (Female, 38, Very Heavy), and:

I carry my smartphone with me throughout the day and check it every 10-15 minutes, even during meetings. If I see the Facebook update icon, I become distracted and feel an almost compulsive need to check what the update is. (Male, 47, Moderate)

This theme’s emergence strengthens the argument that loss of control over Facebook use does occur. Furthermore, there were a few comments that directly mentioned the fact that participants felt addicted to Facebook: “I think it is an addiction. Sometimes I am checking Facebook when I should be giving my kids attention. I have also checked Facebook when driving, which is very concerning” (Female, 33, Moderate). “[I am concerned] that [Facebook] will break my husband and I up; it’s pretty addictive” (Female, 33, Very Heavy).

All of the quotes within this theme provide further validation of the existence of Facebook addiction, and demonstrate how loss of control may lead to negative consequences and cause personal concern. Researchers should therefore aim to examine this component of Facebook addiction more directly.

Conclusion

This paper presents a thematic analysis of qualitative data related to Facebook addiction, using Internet addiction as a conceptual basis. Overall, the findings seem to support the idea that some people experience negative consequences associated with Facebook use, become cognitively preoccupied with Facebook, experience withdrawal symptoms when they are not using Facebook, engage in excessive Facebook use, use Facebook to escape from dysphoric moods, and lose control over their Facebook use. As such, we propose that the core symptoms of Internet addiction discussed here are useful for studying Facebook addiction.

This study should be noted as having certain limitations. By using a survey, rather than a focus group or interview, questioning participants more directly in order to clarify or expand their responses was not possible. In addition, the fact that participants were self-selected may have introduced bias. Regardless of these limitations, the outcomes of this study are highly relevant to future Facebook-addiction research. By reporting rich, qualitative findings relating to the potential symptoms of Facebook addiction, teachers, parents, and at-risk individuals will be better able to recognize the potential manifestation of addiction symptoms, which may facilitate early intervention. In addition, these findings assist researchers who are focused on developing instruments by identifying the following symptoms of Facebook addiction: negative consequences, loss of control, online social enhancement, preoccupation, mood alteration, withdrawal, and excessive use.

Before further quantitative studies of Facebook addiction are performed, additional qualitative studies are needed to further confirm the relevant symptoms of Facebook addiction. Some Internet addiction instruments include symptoms such as tolerance, distraction, and relapse, and the relevance of these potential addictive components has not been explored here. By conducting interviews with self-acknowledged Facebook addicts, researchers could ascertain the importance of such additional symptoms. Additional qualitative research would also help to explore whether there are symptoms unique to Facebook addiction. For example, psychologists are beginning to note that the fear of missing out (FOMO) on interesting or important information can lead to preoccupation with Facebook (Przybylski, Murayama, DeHaan, & Gladwell, 2013). It would be worthwhile examining whether these or other Facebook related experiences are valid components of Facebook addiction. Therefore, this study should be viewed only as a starting point on a long road towards construct validity.

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