

WHAT ABOUT BLOG? PROBLEMATIC INTERNET USE
AND PERSONALITY IN BLOGGERS

by

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"I publish my life on the fucking Internet and it doesn't make people want to be with me. It makes people not trust me....I'm alone because of what I did, and I'm [going] to be alone [be]cause of what I'm doing."

– Justin Hall, "Dark Night"

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ABSTRACT

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The purpose of the current study was to compare bloggers' personalities to the personalities of non-bloggers, and to determine whether it is possible to identify individuals who are more likely to use the Internet in a problematic way. A sample of bloggers (N = 231) and non-bloggers (N = 248) completed a series of online surveys including the Big Five Inventory (BFI), the Online Cognition Survey (OCS), and a questionnaire about general Internet use. I found that bloggers scored significantly higher on the Big Five Trait Openness to Experience than did non-bloggers. Bloggers also reported higher scores of the Distraction subscale of the Online Cognition Scale (OCS). Unexpectedly, Extraversion was positively related to scores on the Distraction and Dependency subscales of the OCS. Individuals who had experienced problems at work due to something written or said online in general or on a blog had lower scores on the Dependency subscale of the OCS, as did individuals who reported meeting an Internet acquaintance in real life. Individuals who reported having experienced interpersonal problems due to something they had done online had lower scores on the distraction subscale of the OCS. Limitations and future directions are discussed, including longitudinal studies and an examination of possible positive outcomes associated with blogging.

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CHAPTER 1

INTRODUCTION

In January of 2005, a blogger named Justin Hall posted a ten-minute confessional vlog (video blog) to the website he had been maintaining for 11 years (Rosenberg, 2009). During the course of the video, Hall cried, screamed, and cursed at a web camera, questioning his relationship with the Internet, as exemplified in the quote above. After posting the video, Hall “quit” the Internet for several years, and when his blog resurfaced, it was in a less confessional and prolific form. Despite the obvious emotionality and distress expressed by Hall during the video, he still chose to post it to the Internet, telling a friend “you know what should give you hope? I’ve been videotaping myself going through this today...at least I should make some fucking media out of this” (Hall, 2005).

Why did Justin Hall share so much of himself with individuals on the Internet, despite his recognition that this behavior alienated others? Why was his first instinct to record an apparent nervous breakdown and share it with the Internet? An “armchair psychologist” might watch Hall’s performance and attempt to ascribe several diagnoses to him, such as “raging narcissist,” “shut-in,” or “Internet addict.” However, little research exists that examines bloggers’ Internet use and personality characteristics.

The purpose of the current study is to compare bloggers’ personalities to the personalities of non-bloggers, and to determine whether it is possible to identify individuals who are more likely to use the Internet for blogging – and, more specifically, to do so in a problematic way. I begin by exploring the medium of blogging, including its brief history and the research findings and methods that are related to it. Next, I examine Problematic Internet Use, its definition, and individual differences that might characterize those who may have it. Finally, I will examine the relationship between blogging and narcissism as a response to the Internet

“folk wisdom” which frequently evokes this connection, and then review literature related to narcissism, its definition, and some of its behavioral correlates. The research proposed here was undertaken as an attempt to determine whether Justin Hall is a representative blogger or whether he is the “exception to the rule.” To that end, I explored the relationships between personality (both the Big Five definition of personality and the personality trait of narcissism), blogging, and problematic Internet use.

1.1 An Introduction to Blogging

Blogging is a relatively new form of personal expression that allows an individual to share his or her thoughts, preferences, feelings, ideas, and more with a wide audience on the Internet. A blog, or weblog, is a personal journal of sorts whose entries appear in reverse-chronological order (i.e. newest entries first; Rosenberg, 2009, Baron, 2008). Sources disagree slightly on the origin of blogs, but most place the first blogs in the mid- to late-1990s (Baron, 2008; Rosenberg, 2009). In addition, most sources credit Jon Barger with coining the phrase “web log,” which later was shortened to “blog” (Baron, 2008; Rosenberg, 2009). Rosenberg (2009) traces blogging as it appears in its current form to a college student named Justin Hall (yes, *that* Justin Hall) who began posting links to other pages and personal information about himself on the burgeoning Internet in 1994 (p. 17). It is unlikely that Hall or any of his early readers could have imagined the explosion of this medium over the next decade and a half.

Blogs are frequently compared to diaries or personal journals (e.g. Baron, 2008), but they have several characteristics that make them notably distinct from diaries. First and foremost, blogs tend to be an example of “public” expression. Although some blog authors password-protect their blog entries to limit access to others, a large number of blogs exist on the Internet as “public” material, available for anyone to read (Viégas, 2006). Second, blogs take advantage of the medium in which they are conceived: the Internet. Some of the earliest blogs are thought to have been lists of links to web pages about a particular topic (Rosenberg, 2009); the act of linking to other websites is a pervasive trend in blog writing, and may take the

form of links to another blogger's specific post or to their blog in general. Third, blogs differ from journals or diaries in that they allow for a "conversation" between the author and his or her audience (Rosenberg, 2009); the majority of blog platforms provide readers with the ability to comment, either publically (i.e. in a comments section) or privately (i.e. via e-mail message) on the blogs that are posted.

Baron (2008) provided a thoughtful comparison of blogs to other forms of communication. For instance, she compared blogging to the public speaking that occurs at Speaker's Corner in Hyde Park in London, where anyone is allowed to express his or her views on any topic. Baron also compared blogging to writing letters to the editor, although she noted that this comparison is somewhat flawed: letters to the editor are, by definition, selected by an editor, even though they allow a wide range of individuals (i.e. of differing classes) to express their opinions on a subject. Baron also compared blogging to participation in modern talk radio shows, in which individuals are invited to call the radio station and express their opinions on a particular topic. She went on to note, however, that talk radio shows screen or select the callers who are allowed on-air, and that those with profane, extreme, or opposing views might not be allowed to speak on air. Blogging, it seems, is the only public medium in which an individual, as Porter (2007) has noted, "[has] complete editorial control."

The word "blog," despite being relatively new to the lexicon, is now ubiquitous. Our tech-savvy President has a blog for the White House, and bloggers are often the "first responders" to world events. For instance, the events of September 11th, 2001 were reported in real time by a blogger working in a building with a view of the Twin Towers (Rosenberg, 2009). This blogger, James Marino, purportedly published the first account of the events, beating the Associated Press to the news by a few minutes (Rosenberg). More recently, blogs have provided a "man on the street" perspective, reporting on events such as the deliberate "ditching" of a passenger plane into the Hudson River and political conflicts in Iran in 2009. Blogs are

inexpensive, flexible, and easy to update from anywhere, making them an ideal medium for individuals who are interested in frequently and quickly sharing information with others.

1.2 Who Blogs?

Technorati, a blog-tracking website, publishes an annual report called “State of the Blogosphere,” which polls bloggers on a variety of metrics, including demographic characteristics and blog usage (Technorati, 2009). Although this survey is limited to a sample of volunteers who are registered with Technorati, it provides a demographic description of individuals who use blogs. In addition to this demographic information, research has been conducted by personality psychologists who are interested in the personality traits of bloggers. Because blogging is a relatively new behavior, more research exists on the use of the Internet in general than on blogging per se, and that research is discussed below in terms of whether and how it can be generalized to blogging.

1.2.1 Demographic Characteristics of Bloggers

Reports on the demographic characteristics of bloggers vary widely in their description of the “average” blogger. For example, according to Technorati, the majority of bloggers are male, whereas other studies such as a 2004 study by Cohn, Mehl, and Pennebaker have reported that females comprise the majority of bloggers. Other recent studies drawing on a random selection of bloggers indicate that the majority of individuals who write blogs are indeed male (Viégas, 2006; Stefanone & Jang, 2008). Part of the confusion may be that women may be more likely to be personal bloggers than corporate or professional bloggers (Technorati, 2009); therefore, studies focusing on personal blogs may report greater numbers of female bloggers than would be found if all types of blogs were included. Additional demographic characterizations of bloggers that have been reported include the observations that 60% of bloggers are aged 18-44 years and that 75% have a college degree (Technorati, 2009). These demographic characteristics are presented with the caveat that different samples of blogs have been shown to provide somewhat different demographic profiles.

1.2.2 Personality Characteristics of Bloggers

Guadagno, Okdie, and Eno (2008) reported that blogging is significantly related to the Big Five personality trait of Openness to Experience. The authors propose that this finding reflects the tendency for individuals who are “open to experience” to be willing to try new things, such as using a new technology.

Guadagno et al. (2008) also found a non-significant but positive relationship between blogging and neuroticism. This finding is consistent with the results of previous studies of general Internet use, which tend to find that loneliness, an emotional state associated with the personality trait of neuroticism, is associated with increased Internet use (Amichai-Hamburger & Ben-Artzi, 2003). The interpretation of this association is complicated, however, by the fact that there are several competing theories regarding the tendency for individuals who are high in neuroticism to use the Internet more. An oft-cited study by Kraut and colleagues (1998) reported a positive relationship between neuroticism and Internet use, which the authors interpreted as showing that Internet use causes loneliness and depression. This interpretation caused much consternation in the field of Internet psychology, and an effort was made to discredit this causal order and to offer an alternative explanation: individuals who are more neurotic and depressed tend to be drawn to the Internet in order to receive emotional support (Wästlund, Norlander, & Archer, 2006). A later study by Kraut and colleagues (2002) found that the effects of the Internet on the levels of loneliness experienced by individuals who had recently started using it tended to decrease over time, leading to further doubts about the causal ordering proposed by the 1998 study.

Blogging has yet to be studied in the context of other personality traits; therefore, the current study sought to replicate the results reported by Guadagno et al. (2008) and to extend the study of blogging to include its relationship to the personality trait of narcissism.

1.2.3 Types of Blogs

According to Herring, Scheidt, Wright, and Bonus (2005), blogs tend to fall into three categories: personal, K-logs, and filters. Personal blogs are, as their name indicates, blogs that are usually written by a single individual who is writing about his or her personal life, activities, thoughts, and feelings (Herring, & Paolillo, 2006). It is estimated that personal blogging is the single largest category of blogs on the Internet (Herring et al., 2005). K-logs (short for knowledge logs) are blogs that focus on a specific topic on which the author has some expertise (Herring et al., 2005). Finally, filter blogs are ones where the authors provide compiled links that they believe may be interesting to their readers (Herring et al., 2004). Justin Hall, described at the beginning of this paper, wrote what was primarily a filter blog. The links on these blogs may point to other blogs, news sites, or other types of websites of interest.

1.3 Blogging Research

Blogging has attracted considerable research interest in recent years. A search of PSYCINFO in early 2010 using the search term “blog*” revealed that 350 articles and book chapters have been published whose title or abstract make a reference to blogs. The asterisk included at the end of the word “blog” indicates to the search engine that any result beginning with the characters “blog” should be returned; this allows one search to provide results for other terms related to “blog” such as “blogging,” “blogosphere,” “blogger,” and “blogroll.” Peer-reviewed articles made up the majority of the reported results ($N = 211$), and nearly half of those articles were published in 2009 ($N = 104$). The study of blogs was also popular among individuals writing theses and dissertations ($N = 82$), and a smaller number of books and book chapters were published on the topic ($N = 48$). Although the literature on this topic is somewhat limited, researchers have already made great strides in developing methodologies for studying bloggers and blog use.

The literature reviewed for this project revealed many different methods for studying blogging, including methods in which bloggers were contacted directly and methods in which

blog entries were used as raw data. Baker and Moore (2008) directly contacted Myspace users in their study, and asked them whether or not they intended to start a blog; this question allowed the researchers to compare “intending” bloggers with Myspace users who had no intentions of starting a blog. Stefanone and Jang (2008) used a similar method of directly contacting bloggers who were registered on the U.S. blog management service, Blogger.com, for a study examining the use of blogs to achieve interpersonal goals.

Technorati’s annual study of bloggers is conducted by contacting individuals who are registered with Technorati; these are bloggers who have chosen to have their blogs tracked and ranked by Technorati, and they constitute an admittedly self-selecting sample. Guadagno and colleagues (2008) used the subject pool at a university to recruit participants; they were able to collect a sample that was made up of 25% bloggers and 75% non-bloggers, and perform comparisons between the two groups. Hookway (2008) provided a fairly extensive guide for conducting blog research, in which he recommended using bulletin boards or other communication methods within the blogging community to contact bloggers who have password-protected blogs. Miura and Yamashita (2007) collaborated with the owners of a Japanese blogging service, Haetna Diary, to contact all registered users of the service and ask them to complete a survey study intended to explore why individuals write blogs.

Other studies have used individuals’ blogs as data sources without ever contacting the bloggers themselves. For instance, Clarke and van Amerom (2008) used a search engine and the search term “depression blog” to generate a sample for use in their study; they argued that because the blogs were neither password-protected nor copyrighted, they can be considered “public.” Clarke and van Amerom downloaded selected blogs on two occasions; however, in order to protect their authors’ anonymity, they changed names or places that might have led to the identification of the author. Hevern (2004) collected a non-random sample of blogs “from a variety of sources” for use in a qualitative analysis of blog content. A study by Du and Wagner (2006) identified blogs to include in their study using the rankings reported on Technorati and

other blog-tracking websites. Herring et al. (2005) used a random blog generator that no longer exists to identify blogs for use in their study about blog genres. Finally, Cohn et al. (2004) conducted a linguistic analysis of over 1,000 public blogs to explore changes in language use that occurred after the events of September 11th, 2001.

Several researchers have probed the issue of privacy online, and have reported on the “ethical issues” that are raised by using blogs as a data source. Hookway (2008) addressed this topic, noting that some researchers believe that information published to blogs is done so with the assumption of privacy, and therefore should be treated as such. However, a perusal of the popular blog management service Blogger.com’s content privacy policy reveals that “information that is already available elsewhere on the Internet or in public records is not considered to be private or confidential under our policies” (Blogger.com, 2009). Viégas (2006) found that the majority of bloggers do not make an attempt to limit others’ access to what they post, despite the fact that the same study revealed a significant relationship between posting very personal information online and getting into trouble as a result of information posted to a blog.

1.4 Problematic Internet Use

As mentioned above, it remains unclear whether there is a causal link between Internet use and psychological well-being (in particular, increased loneliness and depression), or whether the reverse causal ordering holds. In the process of grappling with this issue, several researchers have made attempts to examine and define what they regard as “problematic Internet use” (PIU; e.g. Davis, Flett, & Besser, 2002; Ceyhan, Ceyhan, & Gürcan, 2007; Caplan, 2005).

For example, Davis (2001) proposed a cognitive-behavioral model of problematic Internet use that identifies behavioral *and* psychological (cognitive) symptoms of problematic Internet use (PIU). This model includes four factors thought to define the concept of problematic Internet use: diminished impulse control, loneliness/depression, distraction, and

social comfort. The *diminished impulse control factor* refers to a tendency for individuals with problematic Internet use to lack control over their time spent online and to experience negative cognitions related to their Internet use (e.g. "I want to stop using, but I can't"). The *loneliness/depression factor* refers to feelings of worthlessness and depressive cognitions related to the Internet (e.g. "I'm only a worthy person when I'm online"). The *social comfort factor* refers to the extent to which individuals are able to derive support and feel "safe" in an on-line setting; this factor is also related to individuals' use of the Internet to explore social relationships in a manner that may not be feasible for them off-line. Finally, the *distraction factor* refers to use of the Internet as a way to escape or avoid stressful events or cognitions.

One of the key components of the cognitive-behavioral model of PIU is that an individual has negative cognitions about his or her use of the Internet. These cognitions may include excessive thoughts about the self, thinking about the problems that are associated with Internet use, trying to understand problematic Internet use (i.e. reading about PIU or speaking with friends about it), and using the Internet to elicit positive responses about the self from others in a non-threatening setting (Davis, 2001). Individuals with PIU may also engage in all-or-nothing thinking about the Internet itself, such as "I'm only worthy of others' attention when I'm online." For the behavioral component of the cognitive-behavioral model, individuals who have PIU may spend large amounts of money on access to the Internet, spend less time doing enjoyable activities that are not online, isolate themselves from friends or family in order to spend more time online, and may lie to their family or friends about their Internet use.

Caplan (2005) has proposed that PIU stems from a preference for online social interaction (POSI) as opposed to being attributable to loneliness, as was suggested by previous research on general Internet use (e.g. Wästlund et al., 2001; Kraut et al., 2002). Caplan (2005) suggested that instead of lonely individuals being drawn to the Internet to fulfill social needs, it is actually social anxiety that leads individuals to use the Internet more frequently, which in turn causes them to develop a preference for online social interaction. In Caplan's model of PIU,

both excessive Internet use and compulsive Internet use are presumed to be caused by maladaptive cognitions that result in the negative outcomes for the user. Caplan (2002, 2005) has assessed PIU with the Generalized Problematic Internet Use Survey, which consists of seven scales: mood alteration, perceived social benefit, perceived social control, withdrawal, compulsivity, excessive use, and negative outcomes. To support the hypothesized connection between PIU and Preference for Online Social Interaction (POSI), Caplan has found that POSI can significantly predict several PIU outcomes including mood alteration, compulsive use, withdrawal symptoms, and negative outcomes related to Internet use.

Problematic Internet Use may be considered an addiction similar to those described in the DSM-IV (i.e. pathological gambling; Beard & Wolf, 2001). Beard and Wolf proposed that in order to be diagnosed with Internet addiction, an individual should meet all of the following criteria: "Is preoccupied with the Internet," "Needs to use the Internet with increased amounts of time in order to achieve satisfaction," "Has made unsuccessful efforts to control, cut back, or stop Internet use," "Is restless, moody, depressed, or irritable when attempting to cut down or stop Internet use," and "Has stayed online longer than originally intended." This set of criteria describes behaviors or cognitions that are generally associated with addiction but that do not necessarily impair functioning (Beard & Wolf). According to Beard and Wolf, an individual must also have at least one of the following symptoms to be diagnosed with Internet addiction: "Has jeopardized or risked the loss of a significant relationship, job, educational, or career opportunity because of the Internet," "Has lied to family members, therapist, or others to conceal the extent of involvement with the Internet," or "Uses the Internet as a way of escaping from problems or of relieving a dysphoric mood." This second set of criteria describes a dysfunctional component of Internet addiction that affects daily functioning and disrupts normal life activities (Beard & Wolf).. Although the models described above represent separate areas of inquiry into the topic of problematic Internet use, they possess several similarities and made a strong case for the use of a "hybrid model" that was appropriate for application in the current study. For instance, both

Beard and Wolf (2001) and Davis (2001) describe PIU as being largely influenced by negative cognitions about Internet use; the tendency for individuals with PIU to spend a longer time online than they planned is present in each of these definitions of PIU. Both of these models also identify the tendency for individuals with PIU to use the Internet as a method of avoiding or procrastinating unpleasant thoughts, events, tasks, etc. (Beard & Wolf; Davis). Caplan's work extends upon Davis' cognitive-behavioral model by suggesting possible predictors and mediators of PIU. Given the relative ease of measuring PIU with the Online Cognitions Scale (OCS) that was developed by Davis et al. (2002), and its similarity to Beard and Wolf's addiction model of PIU, Davis' cognitive-behavioral model of PIU was used for this study.

The Davis (2001) model of problematic Internet use has been studied in relation to a variety of behavioral and psychosocial variables. For example, Davis et al. (2002) found that the four subscales of problematic Internet use (PIU) described above significantly predicted the amount of time that an individual spent online each week. Specifically, individuals who scored higher on the loneliness/depression and diminished impulse control scales tended to spend more hours online each week. Moreover, individuals who scored higher on the distraction and social comfort subscales tended to spend more hours online each week. The social comfort subscale was found to be positively related to loneliness in this study, and the distraction subscale was positively related to procrastination. Finally, Davis et al. found that impulsivity was significantly predicted by scores on the impulse control and distraction subscales of PIU; both of these scales were positively correlated with impulsivity. This finding provides evidence of concurrent validity for the impulse control scale of the OCS; in other words, individuals who use the Internet for the purposes of distraction or procrastination may have a harder time controlling their impulse to use the Internet or other impulses in general.

Another study of problematic Internet use by Gordon, Juang, and Syed (2007) found that the amount of Internet use is less important than the type of Internet use in the prediction of well-being. Although the Internet users in this study reported lower levels of psychological well-

being when they used the Internet for purposes of coping, the researchers noted that the direction of this finding could not be interpreted without further research. More recent research on problematic Internet use, including its definition and measurement, has led to a slight refinement of the cognitive behavioral theory of problematic Internet use. Jia and Jia (2009) made a compelling argument for the reduction of the four-factor model proposed by Davis and colleagues (2002) to a two-factor model that collapses the three factors of diminished impulse control, depression/loneliness, and social comfort into a single factor called *dependency*, while retaining as distinct the remaining factor called *distraction*. Jia and Jia argue that the factor analytic methods used in the development of the OCS may have resulted in an overfactoring of the construct, and that a ten-item measure of PIU more succinctly loads onto the two factors described above.

1.5 Narcissism

What does narcissism have to do with blogging? Being a narcissist is a charge that is frequently levied against individuals who “share” their lives with the world online through a blog or other social media platform. Author Scott Rosenberg was quick to admit that “calling [Justin] Hall a narcissist was understandable” (2009, p. 36), even though Rosenberg generally addresses Hall with the detachment of a social scientist or the pity of an older, if not more knowledgeable, brother. Rosenberg also pulls no punches when documenting Hall’s nervous breakdown, which clearly demonstrated some of the negative aspects of narcissistic blogging including emotional distress and interpersonal upheaval. In a slightly more subtle description of narcissistic bloggers, Kauffman (2010) notes:

I think blogging is a terrific arena for narcissists, if not the best arena imaginable. Narcissistic bloggers can get a constant stream of admiration from complete strangers in the form of comments after each blog post. The blogger doesn’t have to value the commentator or form a relationship with the commentator. In fact, the commentator is helping to feed the narcissistic blogger’s addiction for instant admiration. And comments that are too critical can easily be deleted.

Although this may initially appear to be an endorsement of blogging behavior as a good outlet for narcissists, Kaufmann’s accusation that bloggers do not value their relationships with

commentators, and that commentators are enabling an “addiction” to feedback indicate that he shares Rosenberg’s view that, for narcissists, blogging may be a cause of inter- or intrapersonal problems. Although these observations about blogging behavior and narcissism have been made, no effort has yet been undertaken to empirically test them. One of the goals of this study was to provide empirical evidence to support this widely-shared "commonsense" hypothesis.

Narcissism is a frequently studied personality trait in the field of psychology. Although clinical researchers study the pathological Narcissistic Personality Disorder (NPD), the interest of social and personality psychologists lies largely in the study of narcissistic personality traits, as measured by the Narcissistic Personality Inventory (NPI; Miller & Campbell, 2008; Brown, Budzek, & Tamborksi, 2009). Miller and Campbell (2008) have noted that the NPI is unrelated to measures of general psychopathology; however, the NPI is, of course, related to measures of pathological narcissism.

Although measures of pathological narcissism exist, such as the Pathological Narcissism Inventory (PNI; Pincus et al., 2009), the NPI measure served the purposes of the current study most directly because I was not attempting to diagnose pathological narcissism. For this reason, I used the term narcissism to refer to the presence of narcissistic personality traits rather than the presence of NPD. Similarly, the term narcissist was used to refer to an individual who possesses a high level of narcissistic personality traits, rather than to an individual who has been diagnosed with NPD.

In recent years, there has been some disagreement in the field of personality psychology about the most appropriate measure of narcissism and the factor structure of this construct. The NPI-16, introduced by Ames, Rose, and Anderson (2006), measures narcissism using only 16 items from the original 40-item NPI; this scale focuses on measuring an overall level of narcissism while not allowing for the examination of narcissistic sub-factors. Narcissism has been measured with as many as seven subscales (i.e. Raskin, & Terry, 1988), and as few as two subscales (i.e. Corry, Merritt, Mrug, & Pamp, 2008). There are also studies in which

narcissism has been treated as a single-factor construct (i.e. Carroll, Corning, Morgan, & Stevens, 1991), or as four-factor construct (Emmons, 1987). The results of a study by Corry and colleagues (2008) support those of a previous study by Kubarych, Deary, and Austin (2004), which found that the NPI exhibited a hierarchical factor structure that includes an overarching measure of narcissism (narcissism total) in addition to two to three other factors.

Corry and colleagues (2008) argue that previous attempts at identifying the factor structure of narcissism have been inadequate because the factor-analytic techniques that were used may have led to the construct (narcissism) being over-factored; the researchers in this study also found evidence for a hierarchical factor structure that includes an overall narcissism score and two sub-factors. Both Corry and colleagues and Kubarych and colleagues (2004) describe these two factors as Leadership/Authority and Exhibitionism/Entitlement. Although research exists that supports each of the factor-structures mentioned above, in the current study the two-factor model described by Corry et al. will be used in addition to the “overall” narcissism score (all items, summed). A further examination of overall narcissism and the two factors as described by Corry et al. follows.

1.5.1 Total Narcissism Score

The total narcissism score refers to a main narcissism factor that is measured by all 40 items of the NPI. Across multiple studies, it has been found that males tend to score higher on the NPI than do females (e.g. Ames et al., 2006; Corry et al., 2008; and Miller & Campbell, 2008). Corry et al. examined the relationship between the total narcissism score and the NEO-FFI personality constructs (Costa & McCrae, 1992). They reported that the total NPI score correlated positively with extraversion, negatively with neuroticism, and negatively with agreeableness. Kubarych et al. (2004) reported similar relationships between total NPI scores and the NEO-FFI; they also reported a positive relationship between total NPI scores and openness to experience.

As a personality trait, narcissism has been shown to be related to a variety of behaviors and cognitions, both healthy and unhealthy. For instance, narcissists appear to experience higher levels of interpersonal problems; Carroll et al. (1991) found that individuals who viewed a narcissistic woman engaging in a psychotherapy session reported not wanting to interact with her in the future. Some of the interpersonal problems experienced by narcissistic individuals may also be due to the tendency for individuals who score high on the total NPI to experience greater fluctuations in negative affect on a daily basis than do individuals who score lower on the total NPI (Emmons, 1987). The language narcissists use also suggests a preoccupation with self that may play a role in interpersonal difficulties. Raskin and Shaw (1988) found that individuals who scored high on narcissism used a larger proportion of first-person singular pronouns and a smaller proportion of first-person plural pronouns in a monologue task; this finding suggests that individuals who are high on narcissism tend to focus on “me” rather than “we.” In the same study, the authors found that narcissists were more likely to speak about personal topics than impersonal ones.

The interpersonal problems experienced by narcissists may be exacerbated by a disconnect between the narcissist’s view of him- or herself and others’ perceptions of him or her. Gabriel, Critelli, and Ee (1994) found that both narcissistic males and narcissistic females tended to inflate their self-ratings of intelligence and attractiveness, compared to objective measures of their intelligence and attractiveness. This outcome suggests that narcissists tend to have an overly high opinion of themselves, believing that they are smarter and more attractive than they objectively appear to be – a phenomenon that the authors describe as “narcissistic grandiosity” (Gabriel et al., p. 151). Rhodewalt and Morf observed the phenomenon of narcissistic grandiosity in their 1995 study on the subject. The researchers found that narcissists tend to make more positive or self-aggrandizing evaluations of themselves. Negative behavior of narcissists is not limited to self-directed attention. For instance, Ashe, Maltby, and McCutcheon (2005) found that individuals in the U.K. who scored

higher on the NPI were more likely to engage in celebrity-worship, in some cases to a nearly pathological degree.

Some studies have examined fairly neutral behaviors in relation to narcissism. For example, Atlas and Them (2008) found that individuals who score higher on narcissism are more likely to seek out feedback of any type, regardless of its valence. Interestingly, a study including 200 celebrities revealed that this group, in general, tends to score higher on the NPI than non-celebrities (Young and Pinsky, 2006). However, the authors noted that it was impossible in this correlational study to determine whether narcissism was a prerequisite for celebrity or a result of it. Finally, Brown et al. (2009) found that individuals who scored high on general narcissism were more likely to cheat on a task than were individuals who scored lower.

Although there is some evidence to this effect, not all research findings indicate that narcissists have inter- or intra-personal problems. For example, Brown et al. (2009) found that the total NPI score is negatively related to depression and pessimism, and is positively related to life-satisfaction, optimism, and self-esteem. The positive relationship between narcissism and self-esteem has been confirmed by several other researchers (e.g. Konrath, Bushman, & Grove, 2009; Miller & Campbell, 2008). Moreover, studies by Sedikides, Rudich, Gregg, Kumashiro, and Rusbult (2004) and Zuckerman and O'Loughlin (2009) found that self-esteem fully mediated the relationship between narcissism and well-being; in other words, a "healthy" level of narcissism led to a healthy level of self-esteem, which led in turn to greater reported psychological well-being.

1.5.2 Exhibitionism/Entitlement Scale on the NPI

Corry et al. (2008) examined the relationship between the exhibitionism/entitlement factor that they derived from the NPI and the factors of the NEO-FFI (Costa & McCrae, 1992). Corry et al. found that the exhibitionism/entitlement scale was positively correlated with extraversion but negatively correlated with agreeableness, indicating that individuals who

scored higher on this subscale of narcissism are likely to be extraverted but somewhat disagreeable.

As defined by Corry et al. (2008), the exhibitionism/entitlement subscale of the NPI includes 14 items from the original 40-item NPI, including: "I would do almost anything on a dare."; "I know that I am good because everyone keeps telling me so."; "I like to be the center of attention."; "I insist on getting the respect that is due to me."; "I like to show off my body."; "I like to look at my body."; "I will usually show off if I get the chance."; "I expect a great deal from other people."; "I will never be satisfied until I get all I deserve."; "I like to start new fads and fashions."; "I like to look at myself in the mirror."; "I really like to be the center of attention."; "I get upset when other people don't notice how I look when I go out in public."; and "I am more capable than other people."

1.5.3 Narcissism Online

There is a small body of research that examines the behavior of narcissistic individuals online. One such study examined how narcissists displayed information about themselves on a social networking site (Buffardi & Campbell, 2008). Buffardi and Campbell found that individuals who scored higher on the NPI tended to select more attractive, sexy, and self-promoting pictures of themselves to post to an online social networking site than did individuals who scored lower on the NPI. In a study of e-mail addresses, Back, Schmukle, and Egloff (2008) found that personality traits including narcissism were even discernable from an individual's e-mail address alone. Specifically, narcissists tend to select more self-aggrandizing words (i.e. "sexy" or "awesome") to include in their e-mail addresses.

If one espouses the view of narcissism expressed by authors such as Rhodewalt and Morf (1995) and Emmons (1987), the typical narcissist is an individual who is extremely interested in self-promotion and who will go to great lengths to receive adoration, possibly at the sacrifice of existing interpersonal relationships. In the context of Internet use, a narcissist may use the Internet for purposes of self-promotion (i.e. posting flattering pictures, writing self-

promoting stories about themselves on a blog, accruing many friends on a social networking site), possibly injuring or even sacrificing existing face-to-face relationships in the process. An important goal of this study was to determine whether the Internet could be considered an aid to individuals trying to fulfill such narcissistic needs.

The Internet also offers narcissists the unique opportunity for feedback, both positive and negative. Atlas and Them (2008) reported that narcissists crave feedback, regardless of its valence. On the Internet, the responses to information posted on social networking and personal websites can help narcissists to achieve this feedback-related goal. Blogs in particular, with their interactive nature (i.e., allowing comments by readers and providing contact information for the bloggers) should have a particular draw for narcissists who can use them to self-promote and receive feedback. Bloggers report receiving both positive and negative feedback (Rosenberg, 2009); therefore, it is possible that narcissists are drawn to blogging or, conversely, that individuals who start blogs become more narcissistic over time.

In summary, there is evidence that individual differences between bloggers and non-bloggers exist (Guadagno et al., 2008), but no formal test of the frequently cited hypothesis that bloggers are more narcissistic than non-bloggers (Rosenberg, 2009; Kaufmann, 2010) has been undertaken. Accordingly, to further explore the individual differences between bloggers on a variety of personality traits, I conducted the pilot study that is reported below.

CHAPTER 2

PILOT STUDY

The pilot study was undertaken to examine the personality traits of bloggers. The study drew heavily upon the previous work by Guadagno et al. (2008), and was intended to replicate the findings from that study, as well as to test the presumed relationship between blogging and narcissism which writers such as Kaufmann (2010) have taken for granted. In order to test for these predicted individual differences in the Big Five personality traits of bloggers (as were originally reported in the Guadagno et al. study), and to test the commonsense hypothesis that there will be differences in levels of narcissism between bloggers and non-bloggers, the following hypotheses were proposed:

2.1 Hypotheses

2.1.1 Hypothesis P1

Individuals with higher levels of narcissism will be more likely to have a blog than individuals with lower levels of narcissism.

Blogging has several characteristics that make it a likely behavior for narcissists to adopt. As noted previously, narcissists are more likely than non-narcissists to talk about themselves and about issues that are pertinent to themselves (Raskin & Shaw, 1988). A personal blog gives an individual an opportunity to discuss personal issues at length, and as Rosenberg has noted, “no one is in a position to tell [them] to shut up” (p. 336, 2009). Therefore, narcissistic individuals may use a blog as the perfect opportunity to talk about their favorite subject: themselves. A blog also provides narcissists with the opportunity to receive feedback in the form of comments, links, and e-mailed communication, a behavior in which Atlas and Them (2008) found narcissistic individuals to be more likely to engage. Finally, a blog

offers an individual who is more narcissistic the opportunity to present themselves in a particularly positive light, as they are wont to do, according to Buffardi and Campbell (2008).

2.1.2 Hypothesis P2

Individuals with higher levels of the Big Five Factor neuroticism will be more likely to have a blog than individuals with lower levels of the Big Five Factor neuroticism.

As described above, Guadagno et al. (2008) reported a number of findings related to bloggers' personality traits. Of particular interest, they found that blogging was related to several factors on the Big Five personality inventory, including higher levels of neuroticism and higher levels of openness to experience (Guadagno et al., 2008). Guadagno et al.'s explanation for the relationship between blogging and neuroticism related to the relationship between neuroticism and Internet use in general that has been reported in the literature. The Guadagno et al. study reported only a marginal relationship between blogging and neuroticism, which may reflect the muddled findings about Internet use and depression (there is differing evidence on whether or not individuals who use the Internet are more depressed than those who use it less, whether using the Internet causes depression, etc.).

2.1.3 Hypothesis P3

Individuals with higher levels of the Big Five Factor openness to experience will be more likely to have a blog than individuals with lower levels of the Big Five Factor openness to experience.

The Guadagno et al. (2008) study also reported a relationship between blogging and the openness to experience factor of the Big Five inventory, which was suggested to reflect the tendency for individuals who are open to experience to be more likely to adopt new technology in general.

2.2 Method

2.2.1. Participants

The participants were (N = 261) undergraduate students at the University of Texas at Arlington who were enrolled in one or more introductory-level courses in the psychology department. They ranged in age from 18 to 49, with an average age of 21.67. They were mainly female (78.5%) and Caucasian (40.2%).

2.2.2 Materials

The participants completed a series of surveys in this study including the Narcissistic Personality Inventory (NPI; Raskin & Terry, 1988), the Big Five Inventory (BFI; John & Srivastava, 1999), and a series of questions regarding their blog reading and blog writing behaviors. All surveys used in the pilot study are presented in Appendix A. The Narcissistic Personality Inventory consists of 40 forced-choice items that require participants to select one of two choices for each item. One of the choices in each pair is presumed to represent a behavior that is more narcissistic than the other. The number of “narcissistic” choices endorsed by an individual is summed and used as a measure of degree of narcissistic personality traits. An example of a pair of statements is: “The thought of ruling the world frightens the hell out of me (non-narcissistic)./If I ruled the world, it would be a better place (narcissistic).” In the present sample, the NPI had an acceptable level of reliability, $\alpha = 0.84$. As noted above, two subscales of the NPI were computed in addition to the total NPI score. These subscales, labeled “Leadership/Authority” and “Entitlement/Exhibitionism” displayed lower, but still acceptable, levels of reliability, $\alpha = 0.76$ and $\alpha = 0.70$, respectively.

The Big Five Inventory (BFI) measures the degree to which an individual possesses each of the Big Five personality traits: openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism. The participants responded to each of the 44 BFI items on a five-point scale, choosing from a set of alternative responses that varied from “disagree strongly” to “agree strongly.” Each item on the BFI loads onto one of the Big Five

factors (see John & Srivastava, 1999 for details). A sample item from and reliabilities for each subscale follow: “I see myself as someone who tends to be lazy” (conscientiousness, $\alpha = 0.82$), “I see myself as someone who is talkative” (extraversion, $\alpha = 0.87$), “I see myself as someone who is generally trusting” (agreeableness, $\alpha = 0.76$), “I see myself as someone who is inventive (openness to experience, $\alpha = 0.75$),” and “I see myself as someone who can be moody” (neuroticism, $\alpha = 0.83$).

Finally, the participants in the pilot study completed two set of questions, one regarding their blog reading behavior (i.e. how many blogs they read, how often they read them) and one regarding their own blogging behavior (i.e. for how long they have been blogging, how frequently they blog, and what topics they tend to blog about).

2.2.3 Procedure

All participants were recruited through the SONA system, an automated online system that recruits and schedules experimental participants from a pool of available students. All students who expressed interest in participating in the study were directed to an online SurveyMonkey survey where they were asked to read an informed consent document that described the surveys they would be completing during the course of the study. Those participants who agreed to participate were then asked to respond to the questions described above. Participants who declined to participate were thanked for their interest and directed to return to the SONA system to select a different study in which to participate. All of the participants in this sample received course credit for their participation in the study.

2.3 Results

2.3.1 Data Screening

Each continuous variable was screened for normality and outliers. Descriptive statistics for the variables of interest appear in Table 2.1. None of the continuous variables appeared to violate the assumption of normality; therefore, no transformations were performed.

Table 2.1 Descriptive Statistics for Variables in Pilot Study (N = 261)

Variable	Mean	SE	Skew	Kurtosis
Openness	3.61	0.04	-0.21	-0.04
Conscientiousness	3.81	0.04	-0.30	-0.55
Extraversion	3.28	0.05	-0.07	-0.68
Agreeableness	4.08	0.04	-0.78	0.70
Neuroticism	2.81	0.05	-0.10	-0.46
NPI	15.21	0.40	0.38	-0.26
NPI – Leadership	4.40	2.32	0.26	-0.93
NPI – Entitlement	3.36	2.56	0.64	-0.38

2.3.2 Data Analysis

In order to test Hypotheses P1-P3, I conducted a hierarchical binary logistic regression analysis. The predictor variables in this analysis were scores on each of the Big Five subscales, gender, and scores on the two NPI subscales and on the NPI total. The outcome variable in this analysis was a dichotomous (yes, no) measure on which the participants indicated whether or not they write blogs. The model that included the predictor variables listed above was marginally significant, $\chi^2(9) = 15.83, p = 0.07$. Several individual variables proved to be significant predictors of blog writing.

Consistent with Hypothesis P1, narcissism significantly predicted blogging, $b = 0.21, se = 0.10, Wald(1) = 4.60, p = 0.03$. The odds ratio for narcissism was 1.23, indicating that for each unit increase in narcissism, the probability of writing a blog increased by 23%. This finding supported Hypothesis P1, which predicted that individuals who scored higher on narcissism would be more likely to write a log than individuals who scored lower on narcissism. Hypothesis P2, that individuals who scored higher on neuroticism would be more likely to write blogs than individuals who were lower on neuroticism, was not supported. Neuroticism did not significantly predict blogging in this sample, $b = 0.03, se = 0.04, Wald(1) = 0.73, p = 0.39$.

Openness to experience was a marginally significant predictor of blogging, $b = 0.07, se = 0.04, Wald(1) = 3.30, p = 0.07$. The odds ratio for openness to experience was 1.08, indicating that for each unit increase in openness to experience, an individual was about 8% more likely to write a blog. This finding marginally supports Hypothesis P3, that individuals who

scored higher on openness to experience would be more likely to write a blog than individuals who scored lower on openness to experience.

In an unexpected result, extraversion significantly predicted *not* writing a blog, $b = -0.11$, $se = 0.04$, $Wald(1) = 5.82$, $p = 0.02$. The odds ratio for extraversion was 0.90, indicating that for each unit increase in extraversion, an individual was 10% less likely to write a blog. This effect was not hypothesized, but it will be addressed further in the following discussion section. No other main effects were significant; the results of this set of analyses are reported in Table 2.2.

Table 2.2 Results from Pilot Study Logistic Regression

Variable	$b (SE)$	Wald z	p -value	O.R. (C.I.)
Extraversion	-0.11 (0.04)	5.82	0.02	0.90 (0.83, 0.98)
Agreeableness	-0.03 (0.04)	0.59	0.44	0.97 (0.89, 1.05)
Conscientiousness	-0.04 (0.04)	1.00	0.32	0.96 (0.89, 1.04)
Neuroticism	0.03 (0.04)	0.73	0.39	1.03 (0.96, 1.11)
Openness to experience	0.07 (0.04)	3.30	0.07	1.08 (0.99, 1.16)
NPI	0.21 (0.10)	4.60	0.03	1.23 (1.02, 1.49)
NPI – Leadership	-0.08 (0.17)	0.23	0.63	0.92 (0.66, 1.29)
NPI – Entitlement	-0.26 (0.16)	2.51	0.11	0.78 (0.57, 1.06)
Gender	-0.70 (0.59)	1.42	0.23	0.50 (0.16, 1.57)

The interactions between each of the personality variables and gender were entered in the second step of the hierarchical logistic regression. The model including the interaction terms was not significant, $\chi^2(45) = 43.97$, $p = 0.52$; because the overall model was non-significant, the coefficients for the interaction terms were not examined further.

2.4 Discussion

The purpose of the pilot study described above was to establish a relationship between blogging and narcissism, and to replicate previously observed relationships between blogging and Big Five personality traits. The data supported Hypothesis P1, that individuals who were higher in narcissism would be more likely to blog. The data did not support Hypothesis P2; they revealed that individuals with higher neuroticism were *not* more likely to blog. Finally, Hypothesis P3 was marginally supported; individuals who were higher in openness to experience were marginally more likely to blog.

In the pilot study, I was only able to partially replicate Guadagno, et. al.'s (2008) findings regarding the personality traits of bloggers. Although I observed that individuals who were more open to experience were more likely to write blogs, I did not find that individuals who were more neurotic were more likely to write a blog. In Guadagno, et al.'s study, the effect of neuroticism was reported as a trend; therefore, it is possible that the results reported in their study were spurious (i.e. were due to chance). Regardless, the effect of neuroticism was in the same direction as the finding reported in the Guadagno et al study. Finally, I obtained a serendipitous finding indicating that individuals who were higher on extraversion were *less* likely to write a blog than individuals who were lower on extraversion. This finding is interesting, but in retrospect perhaps not that surprising. Evidence correlating extraversion with social activity suggests that extraverts spend much of their discretionary time affiliating with others directly, as opposed to engaging in online pursuits (Watson, Clark, McIntyre, & Hamaker, 1992). This time spent in the presence of others no doubt limits the amount of time they could devote to the solitary activity of writing a blog.

There were several limitations to the pilot study, the first of which was sample size. It is possible that with a larger sample, the overall model would have been significant, which would have allowed me to be less cautious about my interpretation of the findings. Another factor that might have affected the outcome of the logistic regression is the small number of bloggers observed in my sample. Only 11% of the participants in the sample reported writing a blog, which increased the ability of the *null model* (i.e. the model without any predictors) to correctly classify an individual into the blogging or non-blogging group correctly. It should be useful going forward to ensure that the number of bloggers and the number of non-bloggers are approximately the same.

As expected, the results of the pilot study indicated that individuals who were higher in narcissism were more likely to write a blog. This finding sets the stage for a more focused

investigation in which the relationship between blogging, extraversion, narcissism, and problematic Internet use will be explored.

CHAPTER 3

THE CURRENT STUDY

Based on the literature reviewed above and the results of the pilot study, the current study sought to examine the relationships between blogging, problematic Internet use, and personality traits. I proposed to answer the questions posed as hypotheses below by asking a group of bloggers and a group of non-bloggers (i.e., individuals who do *not* write a blog) to respond to a series of questionnaires about their Internet use and personality characteristics. I used the responses to these questionnaires to evaluate individual differences between bloggers and non-bloggers and individuals with different levels of several personality traits on the criterion variable of Problematic Internet Use (PIU).

In the pilot study, although the effect of the entered predictor variables on the criterion variable of blogging was marginally significant for the overall model, the effect of narcissism on blogging was significant in the predicted direction: individuals who were more narcissistic were more likely to write a blog than individuals who were less narcissistic. In the current study, I attempted to replicate and extend this finding using a larger sample that contained a larger proportion of bloggers, in order to address some of the limitations that may have affected the significance of the results in the pilot study. I also attempted to provide further support for the unexpected negative correlation between the personality trait of extraversion and blogging.

In the current study, I was not only interested in replicating the results related to narcissism, extraversion, and blogging. To extend upon the hypotheses tested in the pilot study, I added Problematic Internet Use into the set of variables being examined. In addition to examining the “main effect” of blogging on PIU, I was also interested in examining how the personality variables of narcissism and extraversion may have interacted with blogging to affect PIU.

Finally, I was interested in identifying potential mediators of the relationship between blogging and PIU.

As noted above, my first goal in the proposed study was replication. I hoped to find additional support for the effects found in the pilot study, including the effect of narcissism on blogging, the effect of extraversion on blogging, and the effect of openness to experience on blogging. To that end, I tested the following replication hypotheses in the proposed follow-up study:

3.1 Replication Hypotheses

3.1.1 Hypothesis R1

Individuals who write a blog will be significantly more narcissistic on average than individuals who do not write a blog.

In the pilot study, I found that individuals who scored higher on the NPI were significantly more likely to write a blog than individuals who scored lower on the NPI. These results were in line with what I expected to find. Blogging appears to offer individuals an opportunity to engage in the behaviors described in the Buffardi and Campbell (2008) study, which revealed that narcissists present an online “varnished” image of themselves that included photos that were more attractive than non-narcissists, and more self-aggrandizing information than non-narcissists. This behavior is consistent with the findings reported by Gabriel et al. (2004) who reported that narcissistic individuals tend to believe that they are more attractive, intelligent and successful than an objective rater would give them credit for.

In other words, I expected to find that individuals who write a blog would score significantly higher on the NPI than individuals who do not write a blog.

3.1.2 Hypothesis R2

Individuals who write a blog will be significantly more narcissistic in terms of engaging in exhibitionist and exploitative behavior than individuals who do not write a blog.

The Exploitative/Exhibitionism scale of the NPI has been reported to index the most pathological component of narcissism (Rhodewalt & Morf, 1995). As described by Corry et al. (2008), the exhibitionism/entitlement of the NPI taps individuals' tendencies to believe that they are physically attractive and to enjoy being the center of attention. A blog arguably gives an individual the opportunity to be the center of attention by addressing his or her readers and receiving feedback from his or her audience. Perhaps more importantly, however, the exhibitionism component of this scale is particularly relevant to bloggers who have been known to "overshare" (e.g., Justin Hall), posting extremely intimate details of their lives on the Internet (Rosenberg, 2009). Although no empirical evidence yet exists linking blogging with the Exhibitionism/Entitlement scale, the hypothesized relationship between the two is a commonsense link.

In other words, I expected to find that individuals who write blogs would score significantly higher on the exploitation/exhibition subscale of the NPI than individuals who do not write blogs.

3.1.3 Hypothesis R3

Individuals who write a blog will be significantly more open to experience than individuals who do not write a blog.

In the pilot study, I found marginal support for the hypothesis that individuals who scored higher on the BFI openness to experience scale would be more likely to blog than individuals who scored lower on this scale. As described in Guadagno et al. (2008), this hypothesis relates to the expectation that individuals who are open to experience will be more likely to adopt new technologies and engage in new behaviors like blogging. Although Guadagno et al. found clear support for this hypothesis, the results of my Pilot Study only marginally supported this relationship. I therefore chose to test this hypothesis in the main study with the larger sample to attempt to further clarify the relationship between blogging and openness to experience.

In other words, individuals who write a blog were expected to score significantly higher on the Openness to Experience scale of the Big Five Inventory (BFI) than individuals who do not write a blog.

3.1.4 Hypothesis R4

Individuals who write a blog will be observed to be significantly less extraverted than individuals who do not write a blog.

Although I did not expect to find an effect for extraversion on blogging, I did find that extraversion was a significant *negative* correlate of blog writing in the pilot study. This effect may be explained by the general relationship between Internet use and the relative preference for online versus face-to-face social interaction described by Caplan (2001, 2004). In general, individuals who are less extraverted tend to spend more time on the Internet. Blogging is one behavior in which an individual can engage while spending time on the Internet; therefore, it makes sense that individuals who write a blog may be less extraverted than their non-blogging counterparts.

In other words, I expected to find that individuals who write a blog would score significantly lower on the Extraversion scale of the BFI than individuals who do not write a blog.

The second goal of the current study was to extend the findings of the pilot study by testing new hypotheses that concerned Problematic Internet Use (PIU) as an additional criterion (outcome) variable. Some of these extension hypotheses concerned predicted interaction effects that certain of the personality and behavioral (i.e. blogging) variables introduced above may have had on PIU, while others proposed some potential mediators of the relationship between blogging and PIU. To that end, I proposed that the following extension hypotheses be tested in the current study:

3.2 Extension Hypotheses

3.2.1 Hypothesis E1

Individuals who write a blog will have significantly higher levels of PIU than individuals who do not write a blog.

Although there has been no specific research examining the relationship between problematic Internet use (PIU) and blogging, there are several characteristics of blogging that seem to make it more likely that individuals who write a blog will experience higher levels of PIU. For one, blogs are updated on a frequent basis, which requires bloggers to spend a considerable amount of time on the Internet. In addition, many bloggers use source information from other blogs or webpages, which requires them to spend more time online and less time engaging in enjoyable offline activities.

Because blogging allows individuals to maintain as much or as little anonymity as they desire, bloggers may feel more efficacious online than off, making statements on a blog that they would never consider making in real life. For instance, on an anonymous blog called "Waiter Rant," in which the author, a waiter in New York City, airs his displeasure with the working conditions at his restaurant. His tirades, such as "Order off the menu. If I went to your house would I tell you how to cook the food?" are things any individual hoping to keep their job would steer clear of in real life. The author, Steve Dublanica, confirmed that he was unlikely to say these things in a real life setting in an interview with the Los Angeles times, telling them "My anonymity was very important to me. I needed to keep my identity under wraps so I wouldn't lose my job or compromise the livelihoods of the people who worked with me" (jacket copy, 2008). Essentially, Dublanica found an outlet online for things that he would never do in real life, one of the characteristics of the Social Comfort component of PIU identified by Davis et al. (2002).

In other words, I expected to find that individuals who write a blog would score significantly higher on the Online Cognitions Survey (OCS; the measure of PIU being used in this study) than individuals who do not write a blog.

3.2.2. Hypothesis E2

Individuals who are less extraverted will report higher levels of problematic Internet use.

Caplan has found a significant relationship between PIU and the tendency for individuals to prefer interacting via computer-mediated communication to interacting in a face-to-face setting. This relationship is mediated (explained) by social anxiety. In other words, individuals who are more socially anxious tend to prefer interacting online, which can lead to PIU. Although social anxiety and introversion are by no means synonymous, researchers have found some effects for introversion that have similarities to the social anxiety finding reported by Caplan. For instance, Rice and Markey (2009) found that individuals who were low or moderate on extraversion (i.e. more introverted) reported a greater difference in anxiety following a computer-mediated (versus a face-to-face) interaction than did individuals who were high on extraversion. In other words, although extraverted individuals did not experience anxiety following either a FtF or CMC interaction, introverted individuals were more anxious following a FtF interaction than a CMC-based one. Finally, Mottram and Fleming (2009) found a “weak but significant” negative relationship between extraversion and a measure of Internet addiction; one goal of the current study is to show that this relationship exists within the cognitive-behavioral conception of PIU as well.

In other words, I expected to observe a significant and negative relationship between the OCS and scores on the extraversion scale of the BFI.

3.2.3 Hypothesis E3

More narcissistic bloggers will report the highest level of PIU among bloggers and non-bloggers.

In Hypothesis E1, I described the expected finding that bloggers will have greater levels of PIU than non-bloggers. I wanted to take that hypothesis a step further by suggesting that there may be moderators of this relationship between blogging and PIU: in particular, narcissism. Although the Internet offers many opportunities for all individuals to behave in a narcissistic fashion (posting lots of information about themselves including attractive photos and self-promoting information, such as the behavior noted in Buffardi and Campbell, 2008), blogging seems to offer a particularly compelling opportunity for individuals to behave in a narcissistic manner. By writing a personal blog in which he or she is the focus, the individual becomes a default center of attention, which is one of the characteristics (desire to be the center of attention) that Rhodewalt and Morf (1994) have noted to be specific to narcissistic individuals. This behavior may become problematic when an individual lacks the ability to fulfill this need offline. One of the characteristics of PIU is that affected individuals feel that they are “better” online than they are in real life (Davis et al., 2002). Narcissistic individuals who crave the spotlight but cannot effectively attract it in real life, may use a blog to garner the attention they crave, which may result in them feeling better about their online life than their “real” life, which is one of the aforementioned characteristics of individuals with problematic Internet use. In other words, I expected to observe an effect of the interaction between scores on the NPI and blogging (the dichotomous variable) on scores on the OCS.

3.2.4 Hypothesis E4

Among bloggers, exaggerating information on a blog, “oversharing,” problems in interpersonal and/or professional life, opportunities for feedback, a focus on others reading or following their blogs, and spending time editing or selecting attractive photos will mediate the relationship between narcissism and problematic Internet use.

In Hypothesis E3, I predicted that bloggers who are narcissistic will have the highest levels of PIU. With Hypothesis E4, I attempted to explain this proposed relationship. I expected to find that narcissistic bloggers would engage in several behaviors that would result in them

having a higher level of PIU than less narcissistic bloggers. I was particularly interested in examining some behaviors that may be involved in contributing to the self-aggrandizing behavior of narcissistic individuals. Given Buffardi and Campbell's (2008) finding that narcissists select more attractive and sexy photos of themselves to put on social networking sites, I suspected that narcissists who blog would report engaging in this behavior (i.e., spend time picking attractive photos) or, alternately, editing their photos to make them appear more attractive. I also expected more narcissistic bloggers would report that they tend to exaggerate the information that they report on their blogs in order to make their stories more interesting. Based on the finding that narcissists crave feedback regardless of its valence (Atlas & Them, 2008), I also expected more narcissistic bloggers to report frequently engaging with their readers through e-mails, reading comments, or engaging in other feedback-seeking behaviors. In addition to seeking feedback, I expected that more narcissistic bloggers would be interested in keeping track of the number of readers or followers that they have (i.e. assessing their own online popularity). Finally, I expected that more narcissistic bloggers would report having experienced interpersonal or professional problems based on information that they have posted on their blog.

3.2.5 Hypothesis E5

Individuals who do not write a blog and are more extraverted will have the lowest levels of PIU among individuals who write and do not write blogs.

In Hypothesis E2, I predicted that those who scored higher on extraversion would have lower levels of PIU than individuals who scored lower on extraversion. For the current hypothesis, I introduced a potential moderator of this relationship: blogging. I expected to find that although individuals who write a blog and are extraverted may have reported some level of PIU, individuals who are extraverted and do not write a blog would be lower on PIU than their blogging counterparts.

For those individuals who are less extraverted and write a blog, PIU may take the form of saying things online that they would not say in real life, but for those individuals who do not write a blog, PIU may still occur in the form of the individual being dependent upon online social relationships. On the other hand, for individuals who write a blog and are extraverted, I expected to observe some level of PIU that was associated with an individual writing a blog and therefore spending more time online and possibly engaging in PIU-related behaviors. However, I expected that extraverts who are non-bloggers would report the lowest levels of PIU, because these individuals are likely to be engaged in activities with people off-line, leaving them less time to engage in PIU-related behaviors.

In other words, I expected to observe an effect of the interaction between extraversion scores on the BFI and blogging (the dichotomous variable) on OCS scores.

3.2.6 Hypothesis E6

A history of meeting Internet acquaintances in real life, and interpersonal and professional problems will mediate the relationship between extraversion and PIU.

In Hypothesis E5, I expected to find that individuals who are more extraverted and do not write a blog would report the lowest levels of Problematic Internet Use (PIU). I expected that some of the reasons that individuals who are more extraverted report lower levels of PIU would include a lower level of interpersonal problems due to things said/done on the Internet and that they would be less likely to report having met an Internet acquaintance in real life. These predictions were derived in part from work by Watson, Clark, McIntyre, and Hamaker (1992) who found that more extraverted individuals tend to engage in more social activities (i.e. with other people). Therefore, I expected that individuals who are more extraverted and do not blog would report lower levels of PIU that would coincide with reduced tendencies to experience interpersonal problems due to online behavior.

3.3. Method

3.3.1 Participants

The data were collected from two samples. The first sample consisted of $N = 248$ students at the University of Texas at Arlington, who were offered course credit for their participation in the study. These participants were recruited using SONA, an on-line research participant management system. When a student expressed interest in the study, he or she was directed to an external survey website, SurveyMonkey, where he or she was consented online, completed the surveys described below, and was then debriefed. Those individuals ($N = 17$) from the student sample who indicated that they write a blog were included in the blogger sample described below. The non-blogging ($N = 231$) sample was mostly female (66.67%) and age 18-24 (90.04%).

The blogger sample consisted of $N = 205$ individuals recruited from the Internet and $N = 17$ individuals from the UT Arlington sample (total $N = 222$). Bloggers were operationally defined as individuals who had written a blog for at least six months and who updated that blog on average at least once per week (i.e. four blog posts per month) at the time when the research was conducted. To be included in this study, the blogs also had to include text-only entries and had to be primarily “personal” in nature, i.e. not on a topic such as sports, computers, food, or fashion. The blogging sample was mostly female (90.99%) and age 35-54 (50.90%).

3.3.2 Materials

Participants were asked to complete several surveys for this study, including the Narcissistic Personality Inventory (NPI; Raskin & Terry, 1988), the Brief Self Control Scale (BSCS; Tangney, Baumeister, & Boone, 2004), the Online Cognition Scale (OCS; Davis et al., 2002), and the Big Five Inventory (John & Srivastava, 1999). The NPI and Big Five surveys are described at length in the method section of the pilot study, and will not be re-described here.

The OCS is a 36-item measure used to assess problematic Internet usage. Respondents use a seven-point Likert-type scale to indicate the extent to which they agree with a series of statements relating to their Internet use. Sample items include “I say or do things on the Internet that I could never do offline” and “I feel helpless when I don’t have access to the Internet.” As described in this article’s introductory chapter, Davis et al. initially identified four factors measured by the OCS; however Jia and Jia (2009) have recently suggested that this solution may be the result of overfactoring. Because the underlying factor structure of the OCS is still in question, an exploratory factor analysis was conducted to determine the most appropriate factor structure for this construct, which was then used to test the hypotheses described above. The results of this factor analysis are described in the results section below.

3.3.3 Procedure

Undergraduate students at the University of Texas at Arlington comprised the non-blogging sample for this study. Participants were recruited through SONA, an on-line participant-management system. The students signed up for the study and then were given a link to an external survey website, SurveyMonkey. The participants completed the surveys at the remote site, and were granted credit for their participation by the researcher. The non-blogging sample completed the Big Five Inventory, the NPI, and the OCS. They were also asked to respond “yes” or “no” to the question “Do you write a blog?” as a form of manipulation check. Anyone who responded “yes” to this question was included in the blogging sample, as opposed to the non-blogging sample.

Bloggers were recruited by individual messages to the e-mail address listed under “contact” on their blog. The response rate from contacted bloggers was 20%; this rate is relatively similar to the response rates reported in previous studies. Reports of response rate to requests made by researchers of bloggers vary; Baker and Moore (2008) received 20% participation in the sample that they contacted. Other investigators (i.e. Clarke & van Amerom, 2008 and Herring & Paolillo) did not contact bloggers whose data were used, but rather

collected the data that were already available on the Internet. Other studies, such as that by Guadagno et al. (2008) used a sample from an undergraduate university; however, based on the results of the pilot study, this method was undesirable, due to the small percentage of individuals in the available subject pool who actually author a blog.

In order to obtain the sample of $N = 205$ bloggers recruited from the Internet who participated in the current study, 1,027 bloggers were contacted. The blogging service, Blogger, has a function that directs readers to “blogs of note,” which are identified by the staff at Blogger and described as a “list of blogs [we]’ve happened to come across and found interesting for one reason or another. This reason need not be substantial. It could be [we] liked a particular post. It could be the blog seems to have good writing, or good design, or original content or concept, or [we] just like the name.”

The “blogs of note” function was used to identify blogs to serve as the “initial” blog set. The authors of the initial blogs identified using the Blogger “blogs of note” button were contacted, and the authors of each blog on their blog roll were also contacted for participation in this study, similar to the method described as a “snowball” sample in the study by Herring and Paolillo (2006)

Potential participants were solicited via e-mail (see Appendix B), and were given a link to a SurveyMonkey survey. They were consented online, and then were asked to complete the Big Five Inventory, the NPI, the BCSC, and the OCS (all questionnaires appear in Appendixes A and B). Finally, the participants were asked to complete an “online behavior survey” that assessed the degree to which they engage in several behaviors. There were two versions of this survey: one for the blogging sample and one for the non-blogging sample. Questions such as “I rarely read the responses or comments that people have made on my blog” were responded to on a five-point Likert-type scale, with higher scores indicating “strongly agree” and lower scores indicating “strongly disagree.” Both versions of the questionnaire are provided for review in Appendix A.

After they completed the surveys, participants were thanked for their time and provided with contact information for the Primary Investigator. After each of the bloggers completed the survey, I visited their respective blogs and collected several data points from their profile information. The Blogger blog service allows writers to enter some basic profile information that includes age, gender, and geographic location. To the extent that the blog author provided this information, I collected it and entered it into a database. These profile variables were used in the analyses below.

I also downloaded two blog entries from each blogger who agreed to participate in the study. These entries consisted of the most recent blog entry that an individual had written prior to taking my survey, along with another entry made at least a week before. These entries were coded by raters for “oversharing” and self-aggrandizing statements. “Oversharing” was described as “sharing information that you would not expect a stranger to give you in a casual meeting.” “Self-aggrandizing” statements were described as “statements that appear to be bragging or made for the sole purpose of impressing others.”

3.4 Proposed Analyses

3.4.1 Confirmatory Factor Analysis of the OCS

Because a widely agreed-upon factor structure for the OCS does not yet exist, I conducted a confirmatory factor analysis on the OCS using the models described by Davis et al. (2002), and Jia and Jia (2009). I examined the fit statistics for these models and determined which model describes the latent construct, Problematic Internet Use, most effectively. The results of the factor analysis and the selection of a factor structure for use in hypothesis testing are described in the Results section below.

3.4.2 Replication Hypotheses

The Replication Hypotheses were tested using two binomial logistic regression models. The independent variable for this analysis was the dichotomous variable of whether or not an individual writes a blog. The dependent variables for this analysis were the individual’s score on

overall narcissism on the NPI or the individual's score on the exhibition/entitlement subscale of the NPI; the individual's score on the extraversion subscale of the BFI; and the individual's score on the openness to experience subscale of the BFI.

3.4.3 Extension Hypotheses

Extension Hypotheses 1, 2, 3, and 5 were tested using a moderated multiple regression model. This model used the participants' scores on the dependence scale of the Online Cognition Scale (OCS) as the major criterion (outcome) measure. The predictor variables in the model included the dichotomous variable "blog" (whether or not the individual writes a blog), and the continuous variables of the participants' score on the exhibition/entitlement scale of the NPI and the Extraversion score on the BFI. The model also included several interaction terms of theoretical interest, including the interaction between blogging and extraversion, the interaction between blogging and narcissism, and the interaction between extraversion and narcissism. For this analysis, single-predictors were entered in the first step, followed by the two-way interactions in the second step.

Extension Hypotheses 4 and 6 were proposed to be tested using two separate multiple mediation models. However, during the course of the research, I found that the variables I proposed as mediators of these relationships were actually more suited to be measured categorically (dichotomously, in fact) than continuously. For instance, it is probably less important to know how many of an individual's relationships have suffered due to something that an individual has written or done on-line, than it is to know that any of an individual's relationships have suffered for this reason. In the current study, experiencing interpersonal or work-related problems due to something that an individual wrote or did online; meeting an online acquaintance in real life; seeking feedback related to one's blog; focusing on others reading one's blog; and spending time editing photos of oneself were all measured dichotomously (i.e. "Yes, I do this," or "No, I do not do this"). Therefore, moderated multiple regression models were used to test these hypotheses. Specifically, in Extension Hypothesis 4,

I examined the main and moderated effects of narcissism, oversharing, exaggeration, interpersonal problems, work problems, seeking feedback on a blog, focusing on others reading one's blog, and editing photos posted on one's blog on Problematic Internet Use. In Extension Hypothesis 6, I examined the main and moderated effects of Extraversion, meeting others in real life, experiencing interpersonal problems, experiencing problems at work, and writing a blog on Problematic Internet Use.

CHAPTER 4

RESULTS

4.1 Data Screening

Subscales of the OCS, NPI, BCSC, and BFI were calculated using the methods described previously. Data were screened for normality and outliers, and the results indicated that no transformations were required and that no observations needed deletion (see Table 4.1 for descriptive statistics). Two scales of the NPI were of particular interest in this study: the overall narcissism score, and the exhibitionism/exploitation score. These scales both exhibited an acceptable level of internal reliability, $\alpha = 0.87$ and $\alpha = 0.75$, respectively. The Extraversion and Openness subscales of the Big Five Inventory were used in testing the replication and extension hypotheses reported below, and were found to exhibit acceptable levels of internal consistency, $\alpha = 0.86$ and $\alpha = 0.77$, respectively.

Table 4.1 Descriptive statistics for variables in main study ($N = 453$)

Variable	Mean	SE	Skew	Kurtosis
Openness	3.83	0.59	-0.19	-0.60
Extraversion	3.40	0.86	-0.10	-0.60
NPI	14.60	7.20	0.46	-0.20
NPI – Exhibition/Entitlement	3.42	2.78	0.83	0.19
OCS – Dependency	4.85	0.90	-0.45	0.04
OCS – Distraction	4.20	1.23	0.05	-0.26
OCS – Diminished Impulse Control	5.40	1.03	-0.78	0.12
OCS – Social Comfort	4.54	1.02	-0.36	0.22
OCS - Depression/Loneliness	4.59	1.12	-0.13	-0.39

4.2 Factor Analysis of the Online Cognition Scale

As mentioned in the Proposed Analyses section, I conducted a confirmatory factor analysis of the Online Cognition Scale, using the competing models described by Davis et al. (2002) and Jia and Jia (2009). This factor analysis was conducted using AMOS 17.0.

4.2.1 The Hypothesized Models

The two alternative models are depicted in Figure 4.1 (Davis model) and Figure 4.2 (Jia & Jia model). In these figures, the latent variables, Problematic Internet Use (PIU), and the subscales of PIU (dependency, distraction, social comfort, loneliness/depression, and diminished impulse control) are depicted as ovals, whereas the actual scale items on the OCS are depicted as rectangles (observed variables). In the Davis et al. model, distraction, social comfort, loneliness/depression, and diminished impulse control were treated as indicators of PIU. In the Jia and Jia model, dependency and distraction were treated as indicators of PIU.

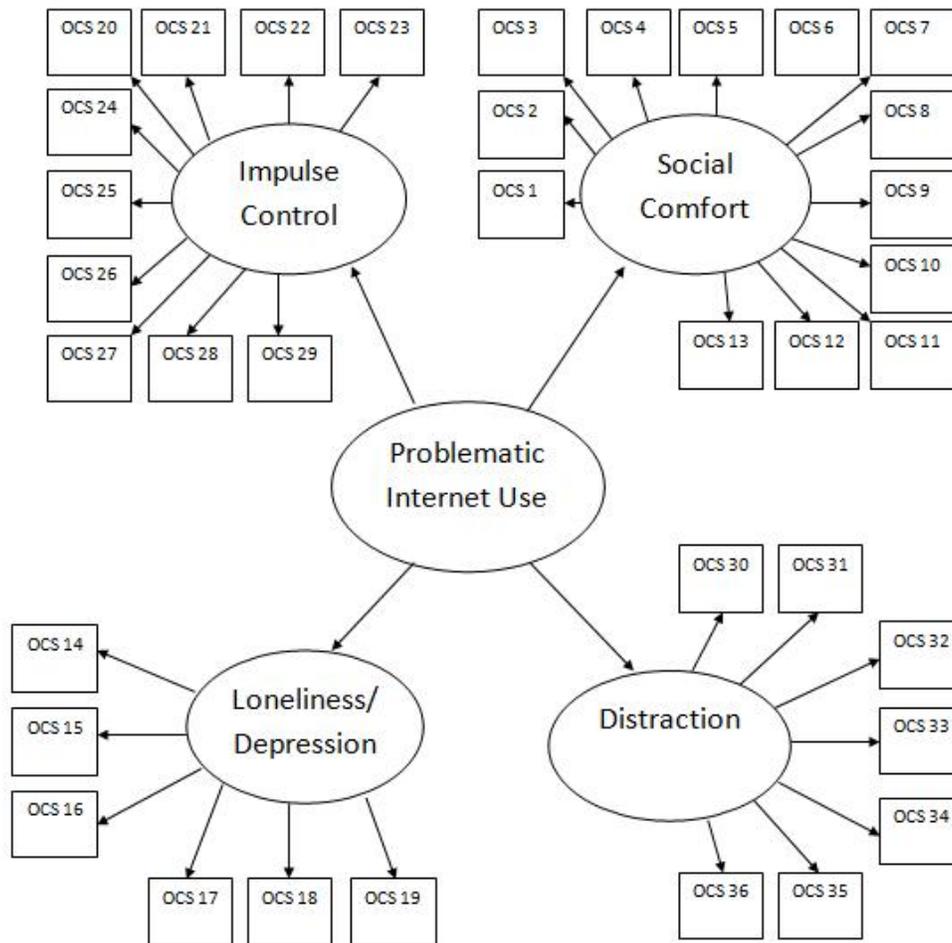


Figure 4.1 Factor structure for the Online Cognition Scale as defined by Davis, Flett, & Besser (2002)

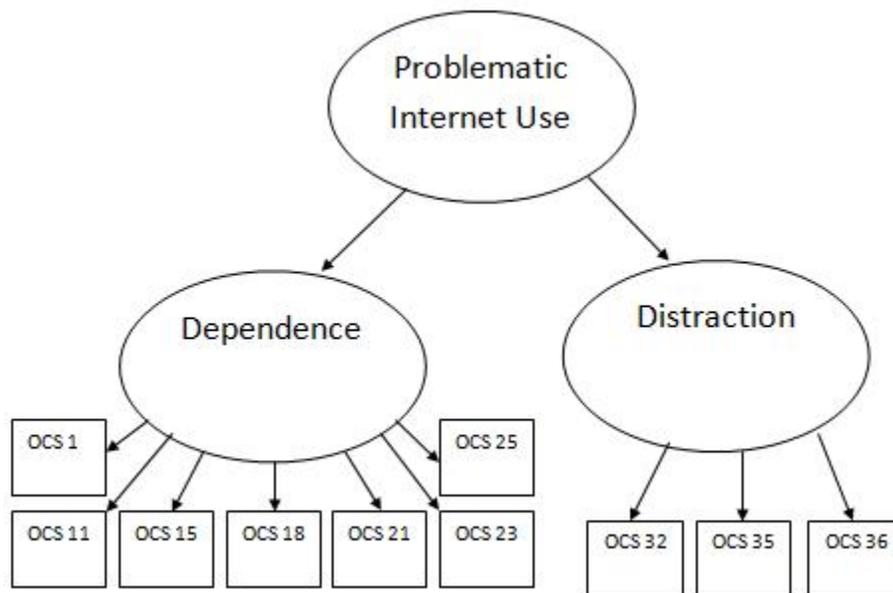


Figure 4.2 Factor structure for the Online Cognition Scale as defined by Jia & Jia (2009).

Each indicator variable was evaluated for normality and linearity, and it was determined that no transformations were necessary. There did not appear to be any observations that were outliers, either through an examination of the raw data, or through an examination of the Mahalanobis distances of multivariate outliers (as described in Tabachnick & Fidell, 2007). The competing factor structures were evaluated using structural equation modeling (SEM). Missing data points were imputed using mean replacement. The data from $N = 453$ individuals were used in the analysis.

4.2.2 Model Estimation

I used maximum likelihood estimation (MLE) to estimate each model. For the Davis model, the overall model chi-square test was significant, $\chi^2(601) = 3,807.46, p < 0.001$, indicating that the model may not be a good fit to the data. According to Tabachnick and Fidell (2007), “with large samples, trivial differences between sample and estimated population covariance matrices are often significant because the minimum of the function is multiplied by $N-1$.” Therefore, despite the significance of the χ^2 test, additional goodness of fit measures were evaluated. The GFI for this model was 0.27, suggesting a poor fit; this was further

confirmed by examination of the AGFI for the model, which was 0.23. The PGFI for this model was 0.25. This model had a standardized RMR of 0.79, which is considered a poor fit (a value less than 0.08 is considered a good fit, according to Tabachnick and Fidell (2007), who cite Hu and Bentler (1999) for this guideline). The RMSEA for this model was 0.15, which also indicates a model that is not a good fit; RMSEA values less than 0.06 constitute a good fit. The AIC and CAIC indices told slightly different stories about the fit of our model. For these indices, it is expected that the values for the default model will be smaller than the values for the saturated model, which will be smaller still than the values for the independent model. This pattern was observed for the CAIC (default = 4,270.56, saturated = 4,745.04, independence = 4,270.56), but was not observed for the AIC (default = 3,937.46, saturated = 1,332.00, independence = 7,433.19). Other than the CAIC, none of the fit indices suggested that the Davis model was a good fit of the data.

For the Jia and Jia model, the overall chi-square test was significant, $\chi^2(36) = 170.82$, $p < 0.001$, indicating that the model may not be a good fit to the data. The GFI for this model was 0.54, suggesting a poor fit; this was further confirmed by examination of the AGFI for the model, which was 0.44. The PGFI for this model was 0.44. This model had a standardized RMR of 0.92, which is considered a poor fit. The RMSEA for this model was 0.24, which indicates a model that is not a good fit. The AIC and CAIC indices told slightly different stories about the fit of our model. The pattern that would denote a good fit was observed for the CAIC (default = 306.02, saturated = 391.37, independence = 1262.14), but was not observed for the AIC (default = 208.82, saturated = 110, independence = 1210.98). The CAIC was the only fit statistic that indicated that the Jia and Jia model was a good fit of the data.

Neither of the models used to describe problematic Internet use fit the data very well. However, a meaningful comparison between the two is somewhat difficult due to the fact that the Davis et al. (2002) model used the entire 40-item OCS, and the Jia and Jia (2009) model used a smaller 10-item subset of the OCS. Despite the poor fit of the models for PIU, I only

administered one scale to measure PIU; therefore, it was necessary to choose one of these models to use for testing my extension hypotheses. Although the internal reliability for the Davis et al. scale was somewhat higher than that of the Jia and Jia scale (see Table 4), the Davis scale also had a greater number of items, which increases the value of Chronbach's alpha; additionally, the Chronbach's alpha values for both models were "good." I therefore chose to use the Jia and Jia conception of the OCS for the extension hypotheses in this study, as it was the more concise of the two scales, and it still exhibited a high level of internal consistency.

4.3 Tests of the Replication Hypotheses

To test Replication Hypotheses 1-4, I conducted several hierarchical binary logistic regression analyses. I used scores on the BFI measures of Extraversion and Openness to Experience in all of the analyses, and used either the overall NPI score or the score on the exhibitionism subscale of the NPI as predictor variables, due to the high correlation of total NPI score and exhibitionism/exploitation score on the NPI ($r = 0.84$). I conducted each analysis twice, once using the overall NPI as a predictor, and once using the exhibition/exploitation subscale on the OCS as a predictor, to avoid problems that could arise due the multicollinearity of the two narcissism scales. There was a significant relationship between gender and blogging ($\chi^2(1) = 39.80, p < 0.001$); specifically, women were significantly more likely to write a blog, and men were significantly less likely to write a blog. There was also a significant relationship between age and blogging ($\chi^2(3) = 277.43, p < 0.001$); specifically, individuals who were age 18-24 were significantly less likely to write a blog, while individuals who were over age 25 were significantly more likely to write a blog. Due to the significance of these relationships, I included age and gender as covariates in each model. As mentioned in the Participants section, the blogging sample was predominantly female (over 90%) and older than the non-blogging group, so these relationships are not surprising.

The model including participants' standardized scores on the Big Five Extraversion and Openness to Experience scales, participants' standardized scores on the overall NPI, and gender and age as covariates, was significant, $\chi^2(7) = 348.08, p < 0.001$. This model correctly predicted non-bloggers 91% of the time and correctly predicted bloggers 86% of the time; the overall classification rate of 88% was fairly good. Hypothesis R1, that bloggers would score higher on overall narcissism than non-bloggers, was not supported by the results of this model (see Tables 5-8). Hypothesis R3, that bloggers would score higher on Openness to Experience, was supported (see Tables 4.2-4.5). The odds ratio for this variable was 2.01, indicating that for standard deviation increase in the Openness to Experience score, an individual was about twice as likely to write a blog. Hypothesis R4, that individuals who scored higher on Extraversion would be more likely to write a blog, was not supported by the results of this model (see Tables 4.2-4.5). An examination of the bivariate correlations between blogging and the independent variables in this model did not suggest the presence of suppressor effects.

Table 4.2 Results of the Replication Hypotheses Regressions (Scales on the NPI Analyzed Separately) with Effects Codes Using "Age 18-24" as the Reference Group

Model/Variable	<i>b</i>	<i>Se</i>	Wald(1)	<i>p</i>	O.R.	95% C.I.
Model with NPI Total						
Extraversion	-0.06	0.18	0.09	0.77	0.95	0.67, 1.35
NPI Total	-0.08	0.19	0.18	0.67	0.92	0.63, 1.34
Openness	0.70	0.17	16.26	*	2.01	1.43, 2.83
Gender	0.63	0.21	8.85	0.003	1.87	1.24, 2.82
Compare 18-24 to 25-34	-0.10	0.36	0.08	0.78	0.90	0.44, 1.84
Compare 18-24 to 35-54	1.66	0.43	14.80	*	5.24	2.25, 12.19
Compare 18-35 to 55+	1.51	0.80	3.58	0.058	4.53	0.95, 21.65
NPI Exhibitionism/Exploitation						
Extraversion	-0.06	0.18	0.13	0.72	0.94	0.67, 1.32
NPI – Ex/Ex	-0.07	0.18	0.14	0.71	0.93	0.66, 1.33
Openness	0.69	0.17	16.22	*	2.00	1.43, 2.81
Gender	0.63	0.21	8.98	0.003	1.87	1.24, 2.82
Compare 18-24 to 25-34	-0.11	0.36	0.09	0.07	0.90	0.44, 1.83
Compare 18-24 to 35-54	1.66	0.43	14.86	*	5.25	2.26, 12.21
Compare 18-35 to 55+	1.52	0.80	3.64	0.057	4.58	0.96, 21.83

Table 4.3 Results of the Replication Hypotheses Regressions (Scales on the NPI Analyzed Separately) with Effects Codes Using "Age 25-34" as the Reference Group

Model/Variable	<i>b</i>	<i>Se</i>	Wald(1)	<i>p</i>	O.R.	95% C.I.
NPI Total						
Extraversion	-0.06	0.21	0.09	0.77	0.94	0.62, 1.42
Narcissism	-0.01	0.27	0.18	0.67	0.99	0.94, 1.04
Openness	1.18	0.29	16.26	*	3.26	1.84, 5.79
Gender	0.63	0.21	8.85	0.003	1.87	1.24, 2.82
Compare 25-34 to 18-24	-3.07	0.34	82.90	*	0.47	0.02, 0.09
Compare 25-34 to 35-54	1.66	0.43	14.80	*	5.24	2.25, 12.19
Compare 25-34 to 55+	1.51	0.80	3.58	0.058	4.53	0.95, 21.65
NPI Exhibitionism/Exploitation						
Extraversion	-0.07	0.20	0.13	0.72	0.93	0.62, 1.39
Narcissism	-0.03	0.07	0.14	0.71	0.98	0.86, 1.11
Openness	1.17	0.29	16.22	*	3.23	1.83, 5.71
Gender	0.63	0.21	8.98	0.003	1.87	1.24, 2.82
Compare 25-34 to 18-24	-3.07	0.34	84.30	*	0.05	0.02, 0.09
Compare 25-34 to 35-54	1.66	0.43	14.86	*	5.25	2.26, 12.21
Compare 25-34 to 55+	1.52	0.80	3.64	0.06	4.58	0.96, 21.83

Table 4.4 Results of the Replication Hypotheses Regressions (Scales on the NPI Analyzed Separately) with Effects Codes Using "Age 35-54" as the Reference Group

Model/Variable	<i>b</i>	<i>se</i>	Wald(1)	<i>p</i>	O.R.	95% C.I.
NPI Total						
Extraversion	-0.06	0.21	0.09	0.77	0.94	0.62, 1.42
Narcissism	-0.01	0.03	0.18	0.67	0.99	0.94, 1.04
Openness	1.18	0.29	16.26	*	3.26	1.84, 5.79
Gender	0.63	0.21	8.85	0.003	1.87	1.24, 2.82
Compare 35-54 to 18-24	-3.07	0.34	82.90	*	0.05	0.02, 0.09
Compare 35-54 to 25-34	-0.10	0.36	0.08	0.78	0.90	0.44, 1.84
Compare 35-54 to 55+	1.51	0.80	3.58	0.058	4.53	0.95, 21.65
NPI Exhibitionism/Exploitation						
Extraversion	-0.07	0.20	0.13	0.72	0.93	0.62, 1.39
Narcissism	-0.03	0.07	0.14	0.71	0.98	0.86, 1.11
Openness	1.17	0.29	16.22	*	3.23	1.83, 5.71
Gender	0.63	0.21	8.98	0.003	1.87	1.24, 2.82
Compare 35-54 to 18-24	-3.07	0.34	84.30	*	0.05	0.02, 0.09
Compare 35-54 to 25-34	-0.11	0.36	0.09	0.77	0.90	0.44, 1.83
Compare 35-54 to 55+	1.52	0.80	3.64	0.06	4.58	0.96, 21.83

Table 4.5 Results of the Replication Hypotheses Regressions (Scales on the NPI Analyzed Separately) with Effects Codes Using “Age 55+” as the Reference Group

Model/Variable	<i>b</i>	<i>se</i>	Wald(1)	<i>p</i>	O.R.	95% C.I.
NPI Total						
Extraversion	-0.06	0.21	0.09	0.77	0.94	0.62, 1.42
Narcissism	-0.01	0.03	0.18	0.67	0.99	0.94, 1.04
Openness	1.18	0.29	16.26	*	3.26	1.84, 5.79
Gender	0.63	0.21	8.85	0.003	1.87	1.24, 2.82
Compare 55+ to 18-24	-3.07	0.34	82.90	0.05	0.02	0.09
Compare 55+ to 25-34	-0.10	0.36	0.08	0.78	0.90	0.44, 1.84
Compare 55+ to 35-54	1.66	0.43	14.80	*	5.24	2.25, 12.19
NPI Exhibitionism/Exploitation						
Extraversion	-0.07	0.20	0.13	0.72	0.93	0.62, 1.39
Narcissism	-0.03	0.07	0.14	0.71	0.98	0.86, 1.11
Openness	1.17	0.29	16.22	*	3.23	1.83, 5.71
Gender	0.63	0.21	8.98	0.003	1.87	1.24, 2.82
Compare 55+ to 18-24	-3.07	0.34	84.30	*	0.05	0.02, 0.09
Compare 55+ to 25-34	-0.11	0.36	0.09	0.77	0.90	0.44, 1.83
Compare 55+ to 35-54	1.66	0.43	14.86	*	5.25	2.26, 12.21

The model including Extraversion, Openness to Experience, and the score on the exhibition/exploitation scale of the NPI as predictor variables, and gender and age as covariates, was significant, $\chi^2(7) = 348.04$, $p < 0.001$. This model correctly predicted non-bloggers 66% of the time and correctly predicted bloggers 64% of the time; the overall classification rate of 65% was mediocre. Hypothesis R2, that bloggers would score higher on the exhibition/exploitation subscale of the NPI, was not supported by the results of this model (see Tables 4.2-4.5). An examination of the bivariate correlations between blogging and the independent variables in this model did not suggest the presence of suppressor effects.

4.4 Tests of the Extension Hypotheses

In order to test Extension Hypotheses 1, 2, 3, 5, and 6, a moderated multiple regression model was used. Because I was interested in the scores on both the Distraction and Dependency subscales, I ran two separate models with each of the scores as the dependent variable, and with the same predictor variables: whether an individual writes a blog (dichotomous variable); whether an individual has met an online acquaintance in person

(dichotomous variable); whether or not a person has experienced interpersonal problems because of something they wrote online (dichotomous variable); whether a person has experienced problems at work because of something that they wrote online; the score on the BFI dimension of Extraversion; the total score on the NPI; and the interactions between blogging and Narcissism, blogging and Extraversion, Extraversion and meeting an Internet acquaintance in person, Extraversion and interpersonal problems, and Extraversion and problems at work. Extension Hypotheses 6 was tested using a separate moderated multiple regression model because this hypothesis applied exclusively to the blogging sample.

4.4.1 Problematic Internet Use – Dependency

The model including dependency as the dependent variable and blogging, extraversion, narcissism, and their interactions as independent variables was significant, $F(3,449) = 12.04, p < 0.001$. The R^2 for this model was 0.07, indicating that approximately 7% of the variance in the dependency scale of Problematic Internet Use (PIU) was explained by the model. Hypothesis E1, that bloggers would have higher reported PIU was not supported by the results of the model including dependency as the dependent variable, $b = -0.48, se = 0.11, t(452) = -4.49, p < 0.001$. In fact, the opposite of the predicted effect was observed; individuals who write a blog scored lower on the dependency scale of the OCS than individuals who do not write a blog. Hypothesis E2, that more extraverted individuals would score lower on the OCS, was also not supported for the dependency scale of the OCS, $b = 0.31, se = 0.07, t(452) = 4.52, p < 0.001$. In fact, the opposite of the predicted effect was observed; individuals who were more extraverted scored higher on the dependency scale of the OCS than individuals who were less extraverted. See Table 4.6 for the results of the additional predictors in the model.

Table 4.6 Results of the Regression Models Predicting the Dependency and Distraction Scales of the OCS

Model/Variables	<i>B</i>	<i>SE B</i>	β	s^2
Dependency				
Extraversion	0.31	0.07	0.23	0.21
Narcissism	-0.01	0.01	0.06	-0.05
Blogging	-0.48	0.11	0.21	-0.20

Table 4.6 *Continued*

Extraversion X Narcissism	0.00	0.01	-	0.01
Extraversion X Blogging	-0.12	0.14	-	-0.04
Bloggng X Narcissism	0.00	0.02	-	0.00
Distraction				
Extraversion	0.28	0.10	0.14	0.13
Narcissism	-0.02	0.12	-0.10	-0.09
Bloggng	0.34	0.16	0.10	0.10
Extraversion X Narcissism	0.01	0.01	-	0.02
Extraversion X Blogging	-0.14	0.20	-	-0.03
Bloggng X Narcissism	-0.03	0.02	-	-0.05

The model including the interactions between blogging, extraversion, and narcissism was significant, $F(6, 446) = 6.15, p < 0.001$; however, the ΔR^2 was not significant, $\Delta F(3, 449) = 0.32, p = 0.81$, indicating that there was no incremental improvement in the amount of variance explained by adding the interaction variables as predictors. Hypothesis E3, that the interaction between narcissism and blogging would predict PIU, was not supported, $b = 0.001, se = 0.02, t(452) = 0.08, p = 0.93$. Hypothesis E5, that the interaction between blogging and scores on extraversion would predict PIU, was also not supported, $b = -0.12, se = 0.14, t(452) = -0.87, p = 0.38$. (see Table 4.6 for all results).

4.4.2 Problematic Internet Use - Distraction

The model including the distraction scale of the OCS as the dependent variable and extraversion, narcissism, blogging, and their interactions as predictor variables was significant, $F(3, 449) = 5.60, p = 0.001$. The R^2 for this model was 0.04, indicating that the model explained approximately 4% of the variance in the distraction scale of the OCS. For the distraction scale of the OCS, Hypothesis E1, that bloggers would have higher levels of Problematic Internet Use, was supported, $b = 0.34, se = 0.16, t(452) = 2.16, p = 0.03$; individuals who blog scored higher on the distraction scale of the OCS than individuals who do not blog. For the distraction scale of the OCS, Hypothesis E2, that individuals who are more extraverted would report lower levels of Problematic Internet Use, was not supported, $b = 0.28, se = 0.10, t(252) = 2.77, p = 0.006$. In fact, the opposite pattern of results was observed; individuals who scored higher on

extraversion also reported higher levels of PIU on the distraction component (see Table 4.6 for all results pertaining to this regression model).

The model including the predictors listed above and their interactions was also significant, $F(6,446) = 8.76$, $p = 0.003$; however, ΔR^2 between this model and the previous model was not significant, $\Delta F(3, 446) = 1.14$, $p = 0.33$. Hypothesis E3, that the interaction of blogging and narcissism would predict scores on the OCS, was also not supported for the distraction scale, $b = -0.03$, $se = 0.02$, $t(452) = -1.17$, $p = 0.24$. Hypothesis E5, that the interaction of blogging and extraversion would predict scores on the OCS, was not supported for the distraction scale, $b = -0.14$, $se = 0.20$, $t(452) = -0.69$, $p = 0.49$ (see Table 4.6 for all results pertaining to this regression model).

4.4.3 Examination of Narcissism/PIU-Dependency Relationship

In testing Extension Hypothesis 2, I expected to find a relationship between narcissism and Problematic Internet Use, and Extension Hypothesis 4 was designed to examine the expected relationship between these two variables. Despite the fact that I found no effect of narcissism on Problematic Internet Use, I examined several possible interaction effects between narcissism and a variety of self-reported behavioral variables that were proposed to be associated with PIU. These variables included oversharing, exaggeration, interpersonal problems, work problems, seeking feedback on a blog, focusing on others reading one's blog, and editing photos posted on one's blog.

I conducted a hierarchical multiple regression analysis in which main effects were entered in the first step, and interaction variables were entered in the second step. In a preliminary analysis, I tested to see whether there was an effect of age or gender on PIU, to determine whether or not these variables ought to be included in the regression model as covariates using a two-way ANOVA. I found that there was not a significant effect of age ($F(3,445) = 2.21$, $p = 0.09$), gender ($F(1,445) = 1.18$, $p = 0.28$), or the interaction between age

and gender ($F(3,445) = 0.71, p = 0.55$) on the dependency scale of PIU; therefore, these variables were not included as covariates in the analyses described below.

In the first step of the regression, the following variables were entered as independent variables: oversharing (as rated by independent coders), problems in interpersonal relationships (dichotomous variable), problems in professional life (dichotomous variable), reading comments made on the blog (dichotomous variable), knowing how many people follow the blog (dichotomous variable), knowing how many people link back to the blog (dichotomous variable), editing photos prior to posting them to the blog (dichotomous variable), overall score on the NPI. The dependent variable for this regression was scores on the dependency scale of the OCS. The model containing the variables described above significantly predicted scores on the dependency scale of the OCS, $F(8, 148) = 2.42, p = 0.017$. Only one of the variables in the model was a significant predictor of the scores on the dependency scale of the OCS: an individual having experienced problems at work due to something written on his or her blog, $b = -0.73, se = 0.22, t(156) = -3.37, p = 0.001$. Specifically, individuals who reported having experienced problems at work due to something written on their blogs scored lower on the dependency subscale of the OCS than did individuals who did not report having experienced problems at work due to something written on their blogs. I did not observe a significant effect of any of the other variables on scores on the dependency subscale of the OCS (see Table 4.7 for all results).

Table 4.7 Results for the Moderated Multiple Regression of PIU

Model/Variables	<i>B</i>	<i>SE B</i>	β	sr^2
Dependency				
Extraversion	0.11	0.19	0.08	0.26
Meet in real life	-0.25	0.06	-0.22*	0.14
Problems at work	-0.27	0.17	-0.10	0.04
Interpersonal problems	0.01	0.06	0.004	0.07
Extraversion X Meet IRL	0.05	0.07	-	0.04
Extraversion X Work Prob.	-0.20	0.19	-	-0.05
Extraversion X Personal Prob.	-0.001	0.07	-	0.00

The model containing the interactions of each variable described above with narcissism was significant, $F(15,141) = 2.21$, $p = 0.008$. This model was a marginally significant improvement over the model containing main effects only, $\Delta R^2 = 0.075$, $\Delta F(7, 141) = 1.86$, $p = 0.08$. The effect of the interaction between narcissism and whether or not a blogger knows on how many others' blog rolls he or she appears on scores on the dependency scale of the OCS was significant, $b = 0.04$, $se = 0.21$, $t(156) = 2.00$, $p = 0.047$ (See Figure 4.3). A further examination of this effect revealed that, for the group that reported not knowing how many other bloggers' blog rolls they appear on there was no significant effect of narcissism on the dependency subscale of the OCS, $F(1,16) = 0.52$, $p = 0.48$. For the group that reported that they do know how many other bloggers' blog rolls they appear on, there was also no significant effect of narcissism on the dependency subscale of the OCS, $F(1,184) = 1.06$, $p = 0.30$. Although neither of the simple effects at each level of the blog roll variable were significant, it is possible that the slopes of these two effects were significantly different from each other, which would account for the observed effect of the interaction between narcissism and blog rolls on the dependency subscale of the OCS. Other possible explanations of this effect are offered in the Discussion section.

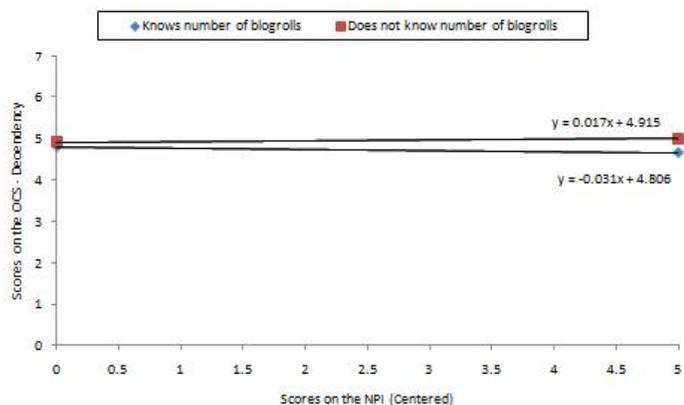


Figure 4.3 Effect of Interaction of an Individual's Score on the NPI and Whether or not he or she Knows on How Many Blog Rolls he or she Appears on the Dependency Subscale of the OCS

There was a marginal effect of the interaction between narcissism and an individual experiencing problems at work due to something written on his or her blog on scores on the dependency subscale of the OCS, $b = -0.06$, $se = 0.03$, $t(156) = -1.87$, $p = 0.064$ (See Figure 4.4). A further examination of this effect revealed that, for individuals who had reported not experiencing problems at work due to something written on their blog, there was a marginally significant relationship between narcissism and scores on the dependency subscale of the OCS, $F(1,170) = 3.65$, $p = 0.06$. Specifically, individuals in this subgroup who were more narcissistic also scored higher on the dependency subscale of the OCS, $b = 0.02$, $se = 0.01$, $t(171) = 1.91$, $p = 0.06$. For individuals who reported experiencing problems at work due to something written on their blog, there was a marginally significant relationship between narcissism and scores on the OCS, $F(1,7) = 4.89$, $p = 0.06$. Specifically, individuals who were more narcissistic scored lower on the dependency subscale of the OCS, $b = -0.13$, $se = 0.06$, $t(7) = -2.21$, $p = 0.06$.

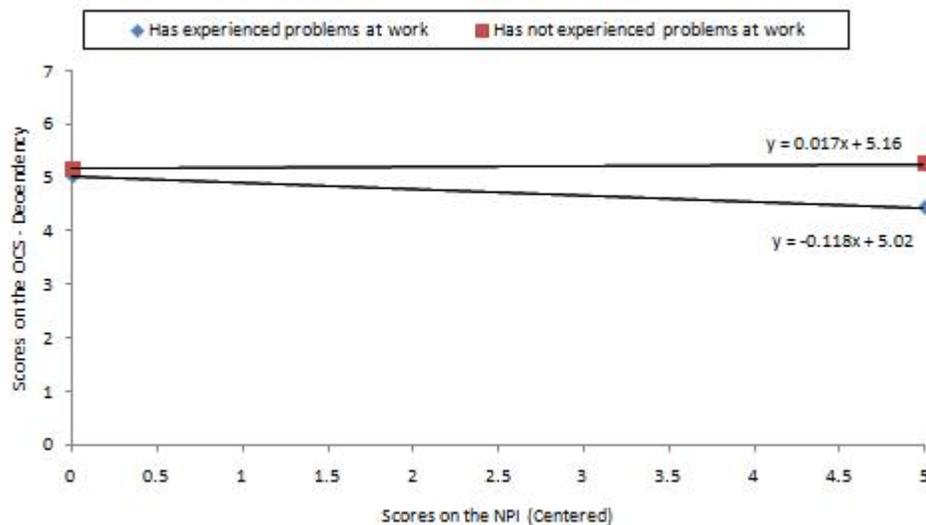


Figure 4.4 Effect of Interaction of an Individual's Score on the NPI and Whether or Not he or she has Experienced Problems at Work Due to Something Written on his or her Blog on the Dependency Subscale of the OCS

No other interaction variables had a significant effect on scores on the dependency subscale of the OCS (See Table 4.7 for all results).

Therefore, Hypothesis E4, that the interaction between narcissism and several behavioral variables associated with blogging would predict problematic internet use, was partially supported for the dependency subscale of the OCS.

4.4.4 Examination of Narcissism/PIU-Distraction Relationship

Before conducting the full analysis, I used a two-way ANOVA to examine the relationship between the potential covariates age and gender, and the dependent variable, the distraction subscale of Problematic Internet Use. While there was no significant effect of gender ($F(1, 445) = 0.12, p = 0.73$) or the interaction between age and gender ($F(3, 445) = 0.20, p = 0.90$), there was a significant effect of age on the distraction subscale of Problematic Internet Use ($F(3, 445) = 5.32, p = 0.001$). A post-hoc comparison of means using a Bonferroni correction revealed that individuals in the 18-24 year age group had the lowest scores on the distraction subscale of Problematic Internet Use ($M = 3.94, SE = 1.57$). Their scores on this scale were significantly lower than individuals age 25-34 ($M = 4.63, SE = 1.48$), 35-54 ($M = 4.55, SE = 1.72$) or individuals over age 55 ($M = 5.25, SE = 1.54$) at an alpha level of $p = 0.05$. There were no other significant differences observed between the age groups. Because this effect was observed, age was used as a covariate in the analyses described below.

In the first step of the regression, the following variables were entered as independent variables: oversharing (as rated by independent coders), problems in interpersonal relationships (dichotomous variable), problems in professional life (dichotomous variable), reading comments made on the blog (dichotomous variable), knowing how many people follow the blog (dichotomous variable), knowing how many people link back to the blog (dichotomous variable), editing photos prior to posting them to the blog (dichotomous variable), overall score on the NPI, and age. The dependent variable for this regression was scores on the distraction scale of the OCS. The second step of the regression included the interactions of the variables described above with narcissism.

The model including main effects only was not significant, $F(11,145) = 1.43, p = 0.17$. The model including main effects and interactions was also not significant, $F(18, 138) = 1.36, p = 0.16$. Therefore, Hypothesis E4, that the interaction between narcissism and several behavioral variables associated with blogging would predict problematic internet use, was not supported for the distraction subscale of the OCS.

4.4.5 Examination of Extraversion/PIU-Dependency Relationship

To test Extension Hypothesis 6, I used a moderated multiple regression model. In a preliminary analysis, I tested whether there was an effect of age or gender on PIU, to determine whether or not these variables ought to be included in the regression model as covariates using a two-way ANOVA. I found that there was not a significant effect of age ($F(3,445) = 2.21, p = 0.09$), gender ($F(1,445) = 1.18, p = 0.28$), or the interaction between age and gender ($F(3,445) = 0.71, p = 0.55$) on the dependency scale of PIU; therefore, these variables were not included as covariates in the analysis described below.

To further examine the relationship between PIU and extraversion, I conducted a moderated multiple regression analysis in which the dependency subscale of PIU was the dependent variable, and the predictor variables included Extraversion, whether or not a person has experienced interpersonal problems due to something they have done online (dichotomous), whether or not a person has experienced problems at work due to something they have done online (dichotomous), whether or not a person has met someone in real life whom they originally met online (dichotomous), and the interactions between Extraversion and each of the dichotomous variables. The model including only main effects was significant, $F(4,357) = 10.43, p < 0.001$. The R^2 for this model was 0.11, indicating that the model including main effects accounted for 11% of the variance in the dependency scale of PIU. The model including the interaction effects in addition to the main effects was also significant, $F(7,354) = 6.15, p < 0.001$ (see Table 4.7). However, the ΔR^2 between these models was not significant, $\Delta F(3,354) = 0.50, p = 0.69$, indicating that the addition of the interaction terms to the model did

not significantly improve the ability to predict the dependency scale of PIU. Therefore, the model including main effects only is interpreted below.

There was no significant effect of experiencing interpersonal problems due to something said or done online on the dependency subscale of Problematic Internet Use ($b = 0.003$, $se = 0.06$, $t(361) = 0.05$, $p = 0.96$). There was a significant effect of experiencing work problems due to something said or done online on the dependency subscale of Problematic Internet Use ($b = -0.36$, $se = 0.14$, $t(361) = -2.59$, $p = 0.01$). Individuals who reported experiencing problems at work due to something that they wrote online had lower scores on the dependency scale of PIU ($M = 4.24$, $SE = 0.30$) than individuals who did not report experiencing problems at work due to something that they had written online ($M = 5.16$, $SE = 0.06$). Finally, individuals who reported having met someone in real life whom they originally met online reported lower scores on the dependency scale of PIU than individuals who reported not having met someone whom they originally met online ($M = 5.09$, $SE = 0.06$).

4.4.6 Examination of Extraversion/PIU-Distraction Relationship.

I used a moderated multiple regression model to test Extension Hypothesis 6. Before conducting the full analysis, I used a two-way ANOVA to examine the relationship between the potential covariates age and gender, and the dependent variables, the distraction subscale of Problematic Internet Use. Although there was no significant effect of gender ($F(1, 445) = 0.12$, $p = 0.73$) or of the interaction between age and gender ($F(3, 445) = 0.20$, $p = 0.90$), there was a significant effect of age on the distraction subscale of Problematic Internet Use ($F(3, 445) = 5.32$, $p = 0.001$). A post-hoc comparison of means using a Bonferroni correction revealed that individuals in the 18-24 year age group had the lowest scores on the distraction subscale of Problematic Internet Use ($M = 3.94$, $SE = 1.57$). Their scores on this scale were significantly lower than individuals age 25-34 ($M = 4.63$, $SE = 1.48$), 35-54 ($M = 4.55$, $SE = 1.72$) or individuals over age 55 ($M = 5.25$, $SE = 1.54$) at an alpha level of $p = 0.05$. There were no

other significant differences observed between the age groups. Because this effect was observed, age was used as a covariate in the analyses described below.

The model including the distraction subscale of Problematic Internet Use as the dependent variable and age, Extraversion, experiencing interpersonal problems because of something done online (dichotomous), experiencing problems at work because of something done online (dichotomous), meeting someone an individual originally met online in real life (dichotomous), and the interactions between Extraversion and the dichotomous variables as predictors and age as a covariate significantly predicted the distraction subscale of Problematic Internet Use (PIU), $F(7,354) = 4.93, p < 0.001$. The R^2 value for this model was 0.09, indicating that this model explained 9% of the variance in the distraction subscale of PIU. The model including main effects and interaction effects also significantly predicted scores on the distraction scale of PIU, $F(11, 350) = 8.57, p < 0.001$. However, there was not a significant ΔR^2 between the model with main effects only, and the model including main effects and interaction effects, $\Delta F(4, 350) = 0.93, p = 0.45$. Therefore, the results reported below are for the model including main effects only.

There was a significant effect of experiencing interpersonal problems due to something that an individual has said or done online on the distraction scale of PIU ($b = -0.34, se = 0.09, t(360) = -3.68, p < 0.001$). Individuals who reported not experiencing interpersonal problems due to something that they did online reported higher levels of the distraction subscale of PIU ($M = 4.52, SE = 0.10$) than did individuals who reported having experienced interpersonal problems due to something that they did online ($M = 3.74, SE = 0.13$). There was no significant effect of experiencing problems at work due to something an individual has done on the internet on the distraction subscale of PIU ($b = -0.18, se = 0.21, t(360) = -0.87, p = 0.38$). There was no significant effect of having met an internet acquaintance in real life ($b = -0.10, se = 0.09, t(360) = -1.05, p = 0.29$).

CHAPTER 5

DISCUSSION

The purpose of this study was to examine personality traits of bloggers. Of particular interest were personality traits measured by the Big Five Inventory (John & Srivastava, 1999) and the Narcissistic Personality Inventory (Raskin & Terry, 1988). Results of the hypothesis tests are discussed below, along with possible limitations experienced in the current study and future directions for this area of study.

5.1 Replication Hypotheses

In Replication Hypothesis 1, as was observed in the pilot study, I expected to find that overall score on the NPI would significantly predict whether or not a person writes a blog. I did not find that the results supported this hypothesis. In Replication Hypothesis 2, I expected to find that score on the Exhibition/Entitlement subscale of the NPI would predict whether or not an individual writes a blog; I did not find that the results supported this hypothesis. In Replication Hypothesis 3, I expected to find that the Big Five factor of Openness to Experience would significantly predict whether or not an individual writes a blog. The results supported this hypothesis; a higher score on Openness to Experience significantly predicted writing a blog. Finally, in Replication Hypothesis 4, I predicted that, as in the pilot study, the Big Five factor of Extraversion would predict whether or not an individual writes a blog (where lower scores on Extraversion would be associated with writing a blog). The results did not support this hypothesis.

The effect of Openness to Experience observed in the pilot study was replicated in this follow-up study; individuals who were more open to experience were significantly more likely to write a blog than individuals who were less open to experience. This finding verifies effects observed by previous researchers (such as Guadagno, et al., 2008). Correa, Hinsley, and

Zúñiga (2010) found that Openness to Experience is related to the use of social media in general, of which blogs are a subset. The results of their study also revealed age differences in the effect of openness to experience on social media use; Openness tends to have an effect when an individual is over 30; however, for individuals who are younger, Openness to Experience does not impact their use of social media.

This is similar to the effect of Openness to Experience on blog writing observed in the current study. The individuals in the blogging group were older than the individuals in the non-blogging group, and had a higher score on Openness to Experience. However, there was incremental variance in whether or not a person writes a blog that was explained by Openness to Experience. In other words, after controlling for age, I still found that Openness to Experience predicts blogging, indicating that regardless of age, bloggers in the current study were more open to experience than individuals who do not write a blog. As noted in Correa, et al., this finding is likely due to “the novel nature of th[is] technolog[y];” however, because this relationship has been observed and replicated across multiple studies at this point, it would be interesting in future research to attempt to dissect it beyond this explanation.

Given the strength of the effect observed in the pilot study, and the considerable empirical and common-sense arguments that can be made for the relationship between writing a blog and Narcissism, I was surprised not to observe this relationship in the main study. I considered several possible explanations for the lack of observed relationship in this study. For one, the proposed hypothesis was based, at the outset, on “Internet folk wisdom.” As I noted in the Introduction to this paper, Kaufmann (2010) argues this point by saying that “I think blogging is a terrific arena for narcissists, if not the *best* arena imaginable.” Although I attempted to provide evidence that would support this conjecture, it remains just that – conjecture. Despite the agreement of several sources that bloggers appear or ought to be more narcissistic than the general public, the results of my study simply do not support this common-sense hypothesis.

It is also possible that the bloggers in this study did not constitute the “most narcissistic” bloggers, who are the exemplars that most pundits and commentators think of when they make the claim that bloggers are more narcissistic. This “narcissistic blogger” group may be a small sub-group of the general blogging population at large that, due to their attention-grabbing antics, remains salient and is used to make generalizations about all other bloggers. This explanation is similar to that provided by Berndsen, van der Pligt, Spears, and McGarty (1996) in the description of the data-based or distinctiveness-based illusory correlation; they explained that when observers perceive a minority group, more distinctive behaviors are more salient to an observer, are more effectively encoded, and are consequently more easily remembered. The illusory correlation provides a viable explanation for why there were no differences observed on levels of narcissism between bloggers and non-bloggers; it is possible that no individual differences exist, only that there is the assumption of those differences by observers (Sherman, et al., 2009).

One other possibility is that the sample examined in this study did not really constitute a random sample of bloggers in general. The sampling method of this study was designed so that all of the blogs in the study were referred from another blogger who was contacted in the study (the modified-snowball sample described in the methods section that used blog-roll as a source for additional blogs). In a recent study by Li and Chignell (2010), the researchers found that individuals report an attraction to bloggers with whom they perceive they share similar personality traits. If such a relationship really exists, then it is possibly that the bloggers in this study tend to read the blogs of other individuals who have similar personalities to their own and place these blogs on their blog-rolls; therefore, I may have unwittingly sampled blogs written by individuals with similar personalities, and not captured enough variation in personality traits of bloggers to observe significant differences.

Just as no relationship was observed between blogging and an overall measure of Narcissism, there was also no relationship observed between blogging and a more specific

measure of the Exploitative/Exhibitionist facet of Narcissism. The reasons that this expected relationship was not observed are likely similar to those offered for the lack of relationship between overall Narcissism and blogging. Of particular relevance to the finding of a lack of relationship between blogging and the Exploitative/Exhibitionist component of narcissism is the argument made above that because some bloggers may be extreme narcissists and behave in a manner that is shocking, these bloggers are more salient, and held as the exemplars of the behavior, despite the fact that they are likely the exception rather than the rule.

Finally, I did not find support for the marginal effect of Extraversion observed in the pilot study; that individuals who were more extraverted were less likely to write a blog. The research supporting this hypothesis, a study by Watson, Clark, McIntire, and Hamaker (1992) is close to 20 years old at this point in time, and therefore cannot take into account the explosion of Internet activity that has occurred in the meantime. The majority (79%) of American adults use the Internet (Pew Research Center, 2010), so it is possible that the variability in *who* is using the Internet has decreased over the 18 years since Watson's study.

Among the replication hypotheses, evidence was found to support the hypothesis that the personality trait, Openness to Experience would predict blogging. This effect was observed even when age and gender were controlled. The remaining replication hypotheses, in which I posited that Narcissism and Extraversion would predict blogging, were not supported.

5.2 Extension Hypotheses

I found partial support for Extension Hypothesis 1, that individuals who write a blog would exhibit higher levels of problematic internet use than individuals who do not write a blog. With regards to the distraction subscale of the Online Cognition Survey (OCS), I found support for Extension Hypothesis 1. Specifically, individuals who write a blog scored significantly higher on the distraction subscale of the OCS than individuals who do not write a blog. With regards to the dependency subscale of the OCS, I found the opposite of the predicted effect; individuals

who write a blog scored lower on the dependency subscale of the OCS than individuals who do not write a blog. Therefore, Extension Hypothesis 1 was partially supported.

I did not find support for Extension Hypothesis 2, that individuals who are less extraverted would report higher levels of Problematic Internet Use. With regards to the distraction subscale of the OCS, I found that extraversion positively predicted scores on the distraction subscale of the OCS, which is the opposite of the predicted effect. With regards to the dependency subscale of the OCS, I found that extraversion positively predicted scores on the dependency subscale of the OCS, which is the opposite of the predicted effect. Therefore, Extension Hypothesis 2 was not supported.

I did not find support for Extension Hypothesis 3, that the interaction between blogging and narcissism would predict scores on the OCS; there was no significant effect of the interaction between blogging and narcissism on either the dependency or the distraction subscales of the OCS. Therefore, Extension Hypothesis 3 was not supported.

I found some support for Extension Hypothesis 4, an exploratory hypothesis that examined effects of the interaction between various behavioral variables and narcissism on Problematic Internet Use. With regards to the dependency scale of the OCS, I found that bloggers who had experienced problems at work due to something that they had written on their blog scored lower on the dependency subscale of the OCS than bloggers who had not experienced problems at work due to something they had written on their blog. Among bloggers who know on how many others' blog rolls they appear, higher levels of narcissism were associated with higher levels of problematic internet use. Among bloggers who do *not* know on how many others' blog rolls they appear, higher levels of narcissism were associated with lower levels of problematic internet use. Among bloggers who have experienced problems at work due to something written on their blog, higher levels of narcissism were associated with lower levels of problematic internet use. Among individuals who have *not* experienced problems a work due to something written on their blog, higher levels of narcissism were

associated with higher levels of problematic internet use. I did not find that an individual's knowledge of whether they appear on others' blog rolls, editing photos to make them more attractive, oversharing, experiencing problems at work, experiencing interpersonal problems, or narcissism had an effect on the distraction scale of the OCS. Therefore, Extension Hypothesis 4 was somewhat supported.

Extension Hypothesis 5, that individuals who are more extraverted and do not write a blog would have the lowest levels of problematic internet use, was not supported.

Extension Hypothesis 6, an examination of several moderators of the relationship between extraversion and problematic internet use, was partially supported. This hypothesis was applied to both bloggers and non-bloggers. Individuals who reported having experienced a problem at work due to something that they have done online had lower levels of the dependency aspect of problematic internet use than individuals who did *not* report having problems at work due to something done online. Additionally, individuals who reported having met an on-line acquaintance in real life reported lower levels of the dependency aspect of problematic internet use than individuals who reported *not* having met an on-line acquaintance in real life. Individuals who reported *not* having experienced interpersonal problems due to something that they had done online had higher levels of the distraction subscale of problematic internet use than individuals who reported having experienced interpersonal problems due to something that they had done online. Therefore, Extension Hypothesis 6 was partially supported.

In testing Extension Hypothesis 1, I found that individuals who write a blog score higher on the distraction subscale of the OCS. Items that make up the distraction subscale tend to deal with using the Internet as a means of avoiding other tasks that one should be doing, or that are unpleasant (Jia & Jia, 2009). In other words, bloggers may be using their blogs as a means of procrastination to a greater extent than other individuals. The blog posts analyzed in this study presumably take some time to write, and would keep an individual from engaging in other activities during the time that he or she was composing a blog entry. Many of the blogs also

contained photographs, the use of which requires uploading the photos from a camera to a computer, which can also be time-consuming. More than half of the bloggers in this sample reported working on their blogs during a time when they were supposed to be working, which supports the interpretation of this finding to mean that bloggers are more likely than non-bloggers to use the Internet as means of procrastination or avoiding other work, and that at least some of this time is spent working on their blogs.

On the other hand, bloggers scored lower on the dependency subscale of the OCS, which is made up of items that involve feelings of comfort related to using the Internet, and feelings of unpleasantness or anxiety associated with not being able to use the Internet. Although blogging requires frequent updating of content, reading blogs, and interacting with others, the bloggers in this sample felt *less* dependent on the Internet than did non-bloggers. The interpretation of this effect would benefit from further research and clarification; specifically, it would be valuable to understand the behaviors that both bloggers and non-bloggers engage in on-line to understand what behaviors lead to individuals feeling dependent on the Internet. These could include behaviors like e-mailing, browsing, chatting, using social networking sites like Facebook and Twitter, and others. In future research, it would be valuable to understand how individuals are spending their time online and how much time they are spending online in relation to feeling dependent on the Internet. Are there particular activities (such as role-playing games or chatrooms) that are associated with people reporting higher levels of dependency? The results of the current study suggest that blogging is *not* one of the behaviors that are associated with feeling dependent on the Internet. In sum, I found that while bloggers are more likely to use the Internet for procrastination purposes, they are less likely to use the Internet because they feel that they need to.

In testing Extension Hypothesis 2, I observed the opposite of the predicted effect; individuals who were more extraverted reported higher levels of problematic internet use (both distraction and dependency) than individuals who were less extraverted. One possible

explanation for this effect lies in the recent surge of “social” applications online. Research performed in the 1990s painted a picture of an Internet user who was introverted, lonely, and lacking in social skills (Caplan, 1997). With the virtual explosion of social networking sites like Facebook in the past decade, the Internet is no longer reserved for individuals who are socially awkward, and it is possible that extraverts, who are more outgoing in real-life situations, may also engage in extraverted behavior in the on-line social world. For instance, a recent study on personality and Facebook use found that individuals who were more extraverted tend to join more groups on Facebook (Ross et al., 2009); although this study did not find that extraverts spent more time on Facebook. Further research is necessary to clarify how extraverts behave in social networking settings, but one possible explanation for the counterintuitive finding that they are more likely to use the Internet as a procrastination tool and to feel dependent on the Internet.

I was disappointed not to find any support for Hypothesis 3, that the interaction between blogging and narcissism would predict scores on the OCS. In this Hypothesis, I predicted that more narcissistic bloggers would report the highest levels of Problematic Internet Use, but did not find support for this effect for either the dependency or distraction subscales of the OCS. One of the reasons that I posed this hypothesis was that I expected to replicate the main-effect relationship between narcissism and blogging that was observed in the pilot study. Because this effect was not replicated in the main study, I was not surprised that the proposed interaction effect was also not significant. A discussion of the reasons that the relationship between blogging and narcissism was not replicated is provided in the “Replication Hypotheses” section above.

Extension Hypothesis 4 was largely an exploratory hypothesis. This hypothesis was originally proposed as a mediation model; however, the questions that were used to assess this hypothesis were written as “yes/no” questions, yielding a dichotomous response. Unfortunately, this design error made assessing a mediation model impractical. I therefore chose to use the

variables originally proposed as mediators as main-effect and moderator variables in combination with scores on the narcissism scale. Although this approach did not allow a test of the hypothesis as originally proposed, it did allow for a further examination of the relationship between PIU and a variety of potentially related variables. However, there was no relationship observed between narcissism and problematic internet use, which was the relationship that I had originally proposed to mediate.

This hypothesis was only applicable to the behavior of the bloggers in this study. I found that bloggers who had experienced a problem at work due to something written on their blog actually had lower scores on the dependency subscale of the OCS than bloggers who reported *not* having experienced a problem at work due to something written on their blog. Although this effect was significant, I choose to interpret it with caution. The number of individuals who reported having experienced a problem at work due to something written on their blog was very small: nine out of 181 bloggers who provided a valid answer to this question. Because the group reporting having experienced problems at work due to something written on their blogs was so small, and because the effect is in the opposite of the expected direction, I would suggest that further research is needed to clarify this finding. If this effect holds in future research, a few explanations are possible, although that this point they are mere speculation. The dependency subscale of the OCS refers to individuals feeling as though they need to use the Internet and that they are more “themselves” online. An individual who is writing negative things about co-workers or a job may be using a blog as a place to vent negative feelings, but may also feel that this medium is not an accurate representation of who they themselves really are. Blogs can be anonymous and are sometimes “snarky,” and under the cover of anonymity, individuals may feel more empowered to state their opinions in a less-than-diplomatic fashion, behavior that is somewhat described by Suler (2004) in his theory of “Dissociative Anonymity”. The current study did not examine whether or not the blog authors were writing anonymously or

under their real names, but future research should attempt to tease apart the distinction between anonymous and non-anonymous bloggers.

With regards to Extension Hypothesis 4, I also found that knowing how many blog rolls one appears on moderated the relationship between narcissism and the dependency scale of the OCS. Specifically, for bloggers who were aware of how many others' blogrolls they appeared on, there was a positive relationship between narcissism and dependency on the Internet, such that those who were *more* narcissistic reported higher levels of dependency. This relationship is a logical one. Appearing on someone's blogroll is a form of recognition and attention; it indicates that the recommending blogger reads the recommended blog on a regular basis and can drive traffic to the recommended blog. According to Bushman and Baumeister (1998), narcissists may seek out confirmation of their generally inflated opinions of themselves; therefore, appearing on another bloggers' blogroll may satisfy that desire of a narcissistic individual, because it could be viewed as an explicit endorsement. Because this narcissistic desire is fulfilled by a behavior engaged in on-line, it may follow that narcissists are spending more time online in order to fulfill their needs, possibly through recognition on others' blogs, which leads to them reporting feeling dependent on using the Internet. This explanation clearly needs further exploration through future research, but is a plausible explanation for the pattern of results observed in this study.

A second moderator between narcissism and problematic internet use was whether or not an individual had experienced problems at work due to something written on his or her blog. As described above, the results for reported problems at work must be interpreted with caution because of the small number of individuals (nine) who actually reported experiencing problems at work due to something written on their blog. For bloggers who experienced problems at work due to something written on their blog, there was a negative relationship between narcissism and problematic internet use. In contrast, for bloggers who reported *not* experiencing problems at work due to something written on their blogs, there was a positive relationship between

narcissism and problematic internet use. Again, because of the small number of individuals who actually reported experiencing problems at work, and because this hypothesis was only marginally supported, I would suggest that further exploration of this relationship is required to draw any meaningful conclusions.

For Extension Hypothesis 5, I expected to observe an effect of the interaction between blogging and Extraversion on Problematic Internet Use. Specifically, I expected to find that individuals who are more extraverted and do not write a blog would have the lowest levels of PIU. Although I did find that bloggers differed from non-bloggers with regards to PIU, I did not find that more extraverted individuals had higher levels of PIU than less extraverted individuals. In the discussion of Hypothesis 2, I proposed reasons why extraverted individuals may not have reported higher levels of PIU than introverted individuals, mainly, that the Internet is becoming an increasingly social climate that is not relegated to use by introverts. I suspect that the failure to find support for Extension Hypothesis 5 may be in part due to a higher baseline Internet usage for *most* individuals, regardless of their tendency towards extraversion, that makes this personality variable one which does not distinguish between people who use or overuse the Internet and people who do not, as had been proposed in the past (i.e. Kraut et al. 1998).

I found several significant effects related to Extension Hypothesis 6. I observed that for individuals in general (and not bloggers exclusively), those who reported having experienced problems at work due to something said or done online actually reported lower scores on the dependency subscale of the OCS than did individuals who reported *not* experiencing problems at work due to something said or done online. As described above, a very small number of individuals reported having experienced problems at work due to something said or done online (approximately 20 from both samples combined), so these results should be interpreted with caution. The dependency subscale of the OCS is related to an individual feeling as though they need to use the Internet, or feeling anxious about not being able to use the Internet. One possible explanation for this effect is that individuals who have experienced a problem at work

due to something done online are now overly cautious about what they say and do online to avoid future incidents. Replication and further examination of this effect is necessary to provide a meaningful conclusion. It is also possible that, as a new generation “grows up on Facebook,” there will be a higher incidence of individuals reporting work-related problems due to something said or done online, and that future research will have the opportunity to capture such an effect.

I also found that those who reported meeting an Internet acquaintance in real life reported lower levels of dependency on the Internet than individuals who had *not* met an Internet acquaintance in real life. Although this finding may seem counter-intuitive, there may be a logical explanation, albeit an explanation that requires more examination to be accepted as valid. McKenna and Bargh (1999) noted that some individuals use the Internet to present an idealized image of themselves to others. If an individual presents an image of him- or herself online that is consistent with the offline self, then he or she should have no problem meeting an online acquaintance in real life. On the other hand, if the self that is constructed in an on-line forum is not consistent with the “real life” self, it would be very risky for an individual to meet Internet acquaintances in real life. It may therefore be the case that individuals who choose to meet Internet acquaintances in real life are less dependent on the Internet because they have not constructed an idealized version of themselves online. In contrast, individuals who are more dependent on the Internet may have constructed an idealized version of the self online and are consequently hesitant to meet Internet acquaintances in real life because they run the risk of that inconsistencies between the online self and the “real life” self could be identified.

Finally, I found that individuals who reported *not* experiencing interpersonal problems because of something written or done online reported higher scores on the distraction subscale of the OCS than individuals who reported experiencing interpersonal problems because of something written or done online. The distraction subscale of the OCS is related to using the Internet when one should be doing other activities, such as work, or using the Internet to avoid unpleasant activities. This finding is particularly counter-intuitive, because it seems as though

the Internet would be a place where an individual could “vent” or complain about problems in their lives, and that such behavior would translate into the reporting more behaviors on the distraction subscale of the OCS (i.e. rather than confronting a friend in real life over a conflict, writing about it online, which could lead in turn to reporting experiencing a problem due to something written or said online). A possible explanation for this effect is that the individuals who reported not experiencing interpersonal problems due to things that they write online are writing or doing things in an anonymous forum, so that their complaints against friends/family/partners cannot be recognized. It is also possible that individuals who reported using the Internet for procrastination/avoidance purposes do not use the Internet as a place to vent about their problems, but do use the Internet to avoid confronting specific problems in their real lives. This effect, while interesting, requires replication and further examination in order to yield a meaningful interpretation.

5.3 Limitations

No study is impervious to error and limitations of research. To that end, there are several instances in this study where limitations may have affected the outcomes of the study. One of the major limitations of this study was the age difference between bloggers and non-bloggers. Individuals who were age 18-24 were significantly less likely to write a blog, whereas individuals who were over age 25 were significantly more likely to write a blog. The non-blogging sample in this study was composed of college students, so it is unremarkable that this group was generally between the ages of 18 and 25. What was surprising was that the blogging sample was so much older; only 11 respondents in the blogging sample were between the ages of 18 and 25. This pattern may reflect a larger trend of younger individuals moving away from traditional online mediums like blogging and e-mail towards mobile-enabled mediums such as microblogging (i.e. Twitter) and text-messaging (Kopytoff, 2011). A very valuable future direction would be to collect personality data from a sample on non-bloggers

who are the same age (i.e. above 25) as the bloggers surveyed in this study. This would allow a more rigorous comparison of the personality traits of bloggers and non-bloggers.

It is difficult to verify that the sample of blogs studied in this project was truly a random sample. Although the selection of blogs was based on the blog meeting a number of criteria, blogs were still accepted or rejected at my discretion. Although every attempt was made to identify a truly random sample of blogs, without conducting an actual random selection of every blog on the Blogger platform, obtaining a truly random sample is impossible. In my opinion, the blogs selected for this study tended to skew towards “mommy blogs,” or blogs that women write about motherhood. These blogs most frequently contained information about day-to-day activities, which was the intended focus of this study. Although other individuals write blogs of this nature, because so many “mommy blogs” were included in the study, and were likely to link to one another, a large number of the blogs included in this study were of this nature.

There also exists a possibility that individuals who were included in this study had different characteristics from bloggers in general due to their willingness to be contacted and subsequently participate in this study. I estimate that I reviewed close to 10,000 blogs in order to generate the list of 1,027 bloggers that I contacted for participation. The most common reason for rejecting a blog for contact was that the blogger did not report contact information on his or her blog. Therefore, it is possible that the bloggers in this sample represent a subset of bloggers who are more “open” with their information, in that they provide contact information to the public. To take this line of reasoning a step further, it is also possible that the personalities of the bloggers who answered this survey differed from those of the remaining bloggers who were contacted but did not answer the survey, and the remaining group who were unable to be contacted. This survey was not “short” by any means, requiring the respondents to commit a fair amount of time to its completion, with no benefit accruing to them. Several of the bloggers did reach out to me to ask about the purpose of the study, and wished to receive a report of the final outcomes, so curiosity about the subject of the research project may have motivated some

to participate. In short, it is unclear whether the results of this study can be generalized to individuals who chose not to participate, and to individuals who were disqualified from participation due to lack of contact information on this blog, because I do not have any data from these groups.

5.4 Future Directions

One of the benefits of working in a field that is relatively nascent in its development is that the possibilities for future research are copious, if not endless. Although I am tempted to expound at length upon these possibilities, for brevity's sake, I will discuss only three areas of possible future exploration: longitudinal studies, examination of blog readers and commentators, and examination of the positive effects of blogging.

Cohn, Mehl, and Pennebaker (2004) have already established that blogs can provide evidence of a change in psychological well-being over time, merely through an evaluation of the language used therein. Specifically, the researchers in this 2004 study found that blog entries written in the days following the events of September 11th referred to more negative emotions and higher levels of cognitive and social engagement than blog entries written prior to this event. If such changes are captured through language use, it is possible that they would also be evident through the administration of surveys at different points in time. Some possible phenomena that could be examined with a longitudinal study might include changes in well-being (discussed below), friendships, frequency and types of self-disclosure, and Internet usage.

Blog readers represent a population that has not been widely studied. Many of the individuals in this study who wrote blogs also read blogs, which was evidenced both by their response to questionnaire and by their tendency to link to other blogs and to include other blogs on a list like a blog roll. The information presented on blogs is often highly personal, and it would therefore be interesting to examine the personality and other behavioral traits of

individuals who read strangers' blogs and engage these strangers through comments on their blogs.

The commercial blog, Gawker.com provides an intriguing case study in its commenting format. Individuals can make comments on the articles posted on the blog, and frequently do; a post is considered "hot" when more than 1,000 comments have been made to it. Gawker has established a tiered commenting system on their blogs, such that individuals who have made multiple comments that, in the opinion of the editors, are pithy and relevant may receive a "star." The star denotation allows commentators to comment without moderation by the site's authors (considered to be a privilege). This star also allows these commentators to moderate un-starred commentators' comments; they may approve an un-starred commentators' comment so that it appears on the article. Starred commentators must proceed with caution, however, as Gawker can take away the stars that it has handed out.

The blog also has the ability to ban commentators from the site (usually accomplished by banning a certain IP address that is assumed to be associated with the computer of the individual who is making the comment). Comments that are deemed offensive may be "disemvoweled," a process in which the vowels are removed from all of the words in a comment. The comment can still be deciphered, but is not readily discernable. What constitutes an offensive comment varies from editor to editor, as the site often publishes posts and comments full of bad language and offensive statements. Banning and "disemvowelment" seem to be reserved for those comments that are blatantly racist or that suggest violence against a specific person. Interestingly, many of the commentators on Gawker are anonymous individuals, who comment under pseudonyms like "Dorothy Mantoath" or "LOLCait," but whose real-life identity remains shielded. Based on studies of anonymity in real-life situations, it is interesting to observe the behavior of anonymous individuals on a website.

One facet of blogging that was purposely avoided in the current research was possible positive outcomes of writing a blog. Although this topic was of considerable interest to me as I

wrote the proposal for this study, I felt that its inclusion in the current project was well beyond the scope of an achievable study. As I reviewed blogs for their use in the current study, I encountered many that were devoted to a specific topic, such as an individuals' struggle with cancer or the loss of a child or spouse. These "coping" blogs were different from the "personal blogs" that I examined in my study because they did not merely report day-to-day events, but dealt solely with events related to illness or death. There is evidence that writing about stressful events in ones' life can have a therapeutic effect (e.g. Lepore, 1997). To that end, this subset of blogs may be an Internet-era form of expressive writing.

To the extent that writing about stressful life events is therapeutic, it would also be interesting to determine whether writing about day-to-day stressors is also therapeutic, especially when in the form of an online diary. Using a longitudinal design, it would be possible to examine the effects that blogging has on well-being over time. It would be of particular interest to study the changes in psychological well-being of individuals who are just starting to blog, and to compare individual differences in the frequency and persistence of blogging (i.e. whether or not a person keeps writing their blog) to see whether these factors affect the potential gains in psychological well-being that bloggers may experience. Beyond these possible future directions, there are as many topics and studies as one can imagine. Blogger personality and behavior is an area of study that is likely to provide researchers with an abundance of material for the foreseeable future.

To conclude, let's return to a discussion of Justin Hall, the blogger quoted in the epigraph of this paper. The question that I posed in the Introduction – the question that drove me to pursue this research – was whether Hall is typical of bloggers in general, or whether he represents an extreme case – an outlier, if you will. While this question is not answered in its entirety by this study, it seems fair to characterize the bloggers in this study as generally different from Hall. Contrary to the piece of Internet "folklore" -- one which is perpetuated by bloggers themselves -- that bloggers are Narcissists, I found no evidence that bloggers are

more narcissistic than your average college student who does not write a blog. Although Justin seemed disturbed, depressed, and generally distressed in his video log, "Dark Night," I did not find that bloggers in general felt more cognitive distress related to their use of the Internet than your average college student. Blogging offers individuals the unique opportunity to share their opinions and lives with the public at large via the Internet. A determined writer no longer needs a book deal or a newspaper column in order to be broadcast to a wide audience, and the current research does not indicate that bloggers are being caused distress by their online activities. It seems that although Hall provides a compelling and dramatic story of blogging, Narcissism, and Problematic Internet Use, his experience is unique when compared to the experience of most individuals who write blogs.

APPENDIX A
NARCISSISTIC PERSONALITY INVENTORY

Read each pair of statements, and select the one that comes closest to describing your feelings and beliefs about yourself. You may feel that neither statement describes you well, but pick the one that comes the closest. Please try to answer all of the questions.

1. I have a natural talent for influencing people.
I am not good at influencing people.
Decline to answer
2. Modesty doesn't become me.
I am essentially a modest person.
Decline to answer
3. I would do almost anything on a dare.
I tend to be a fairly cautious person.
Decline to answer
4. When people compliment me I sometimes get embarrassed.
I know that I am good because everyone keeps telling me so.
Decline to answer
5. The thought of ruling the world frightens the hell out of me.
If I ruled the world, it would be a better place.
Decline to answer
6. I can usually talk my way out of anything.
I try to accept the consequences of my behavior.
Decline to answer
7. I prefer to blend in with the crowd.
I like to be the center of attention.
Decline to answer
8. I will be a success.
I am not too concerned with success.
Decline to answer
9. I am no better or no worse than most people.
I think I am a special person.
Decline to answer
10. I am not sure if I would make a good leader.
I see myself as a good leader.
Decline to answer
11. I am assertive.
I wish I were more assertive.
Decline to answer
12. I like to have authority over other people.
I don't mind following orders.
Decline to answer

13. I find it easy to manipulate people.
I don't like it when I find myself manipulating people.
Decline to answer
14. I insist on getting the respect that is due me.
I usually get the respect that I deserve.
Decline to answer
15. I don't particularly like to show off my body.
I like to show off my body.
Decline to answer
16. I can read people like a book.
People are sometimes hard to understand.
Decline to answer
17. If I feel competent, I am willing to take responsibility for making decisions.
I like to take responsibility for making decisions.
Decline to answer
18. I just want to be reasonably happy.
I want to amount to something in the eyes of the world.
Decline to answer
19. My body is nothing special.
I like to look at my body.
Decline to answer
20. I try not to be a show off.
I will usually show off if I get the chance.
Decline to answer
21. I always know what I am doing.
Sometimes I am not sure of what I am doing.
Decline to answer
22. I sometimes depend on people to get things done.
I rarely depend on anyone else to get things done.
Decline to answer
23. Sometimes I tell good stories.
Everybody likes to hear my stories.
Decline to answer
24. I expect a great deal from other people.
I like to do things for other people.
Decline to answer
25. I will never be satisfied until I get all that I deserve.
I take my satisfactions as they come.
Decline to answer

26. Compliments embarrass me.
I like to be complimented.
Decline to answer
27. I have a strong will to power.
Power for its own sake doesn't interest me.
Decline to answer
28. I don't care about new fads and fashions.
I like to start new fads and fashions.
Decline to answer
29. I like to look at myself in the mirror.
I am not particularly interested in looking at myself in the mirror.
Decline to answer
30. I really like to be the center of attention.
It makes me uncomfortable to be the center of attention.
Decline to answer
31. I can live my life in any way I want to.
People can't always live their lives in terms of what they want.
Decline to answer
32. Being an authority doesn't mean that much to me.
People always seem to recognize my authority.
Decline to answer
33. I would prefer to be a leader.
It makes little difference to me whether I am a leader or not.
Decline to answer
34. I am going to be a great person.
I hope I am going to be successful.
Decline to answer
35. People sometimes believe what I tell them.
I can make anybody believe anything I want them to.
Decline to answer
36. I am a born leader.
Leadership is a quality that takes a long time to develop.
Decline to answer
37. I wish somebody would someday write my biography.
I don't like people to pry into my life for any reason.
Decline to answer
38. I get upset when people don't notice how I look when I go out in public.
I don't mind blending into the crowd when I go out in public.
Decline to answer

39. I am more capable than other people.
There is a lot that I can learn from other people.
Decline to answer
40. I am much like everybody else.
I am an extraordinary person.
Decline to answer

APPENDIX B
THE BIG FIVE INVENTORY

Here are a number of characteristics that may or may not apply to you. For example, do you agree that you are someone who likes to spend time with others? Please indicate the extent to which you agree with each statement.

1. I see myself as someone who is talkative
 - a. Disagree strongly
 - b. Disagree a little
 - c. Neither agree nor disagree
 - d. Agree a little
 - e. Agree strongly
 - f. Decline to answer

2. I see myself as someone who tends to find fault with others.
 - a. Disagree strongly
 - b. Disagree a little
 - c. Neither agree nor disagree
 - d. Agree a little
 - e. Agree strongly
 - f. Decline to answer

3. I see myself as someone who does a thorough job.
 - a. Disagree strongly
 - b. Disagree a little
 - c. Neither agree nor disagree
 - d. Agree a little
 - e. Agree strongly
 - f. Decline to answer

4. I see myself as someone who is depressed, blue.
 - a. Disagree strongly
 - b. Disagree a little
 - c. Neither agree nor disagree
 - d. Agree a little
 - e. Agree strongly
 - f. Decline to answer

5. I see myself as someone who is original, comes up with new ideas.
 - a. Disagree strongly
 - b. Disagree a little
 - c. Neither agree nor disagree
 - d. Agree a little
 - e. Agree strongly
 - f. Decline to answer

6. I see myself as someone who is reserved.
 - a. Disagree strongly
 - b. Disagree a little
 - c. Neither agree nor disagree
 - d. Agree a little
 - e. Agree strongly
 - f. Decline to answer

7. I see myself as someone who is helpful and unselfish with others.
 - a. Disagree strongly
 - b. Disagree a little
 - c. Neither agree nor disagree
 - d. Agree a little
 - e. Agree strongly
 - f. Decline to answer

8. I see myself as someone who can be somewhat careless.
 - a. Disagree strongly
 - b. Disagree a little
 - c. Neither agree nor disagree
 - d. Agree a little
 - e. Agree strongly
 - f. Decline to answer

9. I see myself as someone who is relaxed, handles stress well.
 - a. Disagree strongly
 - b. Disagree a little
 - c. Neither agree nor disagree
 - d. Agree a little
 - e. Agree strongly
 - f. Decline to answer

10. I see myself as someone who is curious about many different things.
 - a. Disagree strongly
 - b. Disagree a little
 - c. Neither agree nor disagree
 - d. Agree a little
 - e. Agree strongly
 - f. Decline to answer

11. I see myself as someone who is full of energy.
 - a. Disagree strongly
 - b. Disagree a little
 - c. Neither agree nor disagree
 - d. Agree a little
 - e. Agree strongly
 - f. Decline to answer

12. I see myself as someone who starts quarrels with others.
 - a. Disagree strongly
 - b. Disagree a little
 - c. Neither agree nor disagree
 - d. Agree a little
 - e. Agree strongly
 - f. Decline to answer

13. I see myself as someone who is a reliable worker.
 - a. Disagree strongly
 - b. Disagree a little
 - c. Neither agree nor disagree

- d. Agree a little
 - e. Agree strongly
 - f. Decline to answer
14. I see myself as someone who can be tense.
- a. Disagree strongly
 - b. Disagree a little
 - c. Neither agree nor disagree
 - d. Agree a little
 - e. Agree strongly
 - f. Decline to answer
15. I see myself as someone who is ingenious, a deep thinker.
- a. Disagree strongly
 - b. Disagree a little
 - c. Neither agree nor disagree
 - d. Agree a little
 - e. Agree strongly
 - f. Decline to answer
16. I see myself as someone who generates a lot of enthusiasm.
- a. Disagree strongly
 - b. Disagree a little
 - c. Neither agree nor disagree
 - d. Agree a little
 - e. Agree strongly
 - f. Decline to answer
17. I see myself as someone who has a forgiving nature.
- a. Disagree strongly
 - b. Disagree a little
 - c. Neither agree nor disagree
 - d. Agree a little
 - e. Agree strongly
 - f. Decline to answer
18. I see myself as someone who tends to be disorganized.
- a. Disagree strongly
 - b. Disagree a little
 - c. Neither agree nor disagree
 - d. Agree a little
 - e. Agree strongly
 - f. Decline to answer
19. I see myself as someone who worries a lot.
- a. Disagree strongly
 - b. Disagree a little
 - c. Neither agree nor disagree
 - d. Agree a little
 - e. Agree strongly
 - f. Decline to answer

20. I see myself as someone who has an active imagination.
- Disagree strongly
 - Disagree a little
 - Neither agree nor disagree
 - Agree a little
 - Agree strongly
 - Decline to answer
21. I see myself as someone who tends to be quiet.
- Disagree strongly
 - Disagree a little
 - Neither agree nor disagree
 - Agree a little
 - Agree strongly
 - Decline to answer
22. I see myself as someone who is generally trusting.
- Disagree strongly
 - Disagree a little
 - Neither agree nor disagree
 - Agree a little
 - Agree strongly
 - Decline to answer
23. I see myself as someone who tends to be lazy.
- Disagree strongly
 - Disagree a little
 - Neither agree nor disagree
 - Agree a little
 - Agree strongly
 - Decline to answer
24. I see myself as someone who is emotionally stable, not easily upset.
- Disagree strongly
 - Disagree a little
 - Neither agree nor disagree
 - Agree a little
 - Agree strongly
 - Decline to answer
25. I see myself as someone who is inventive.
- Disagree strongly
 - Disagree a little
 - Neither agree nor disagree
 - Agree a little
 - Agree strongly
 - Decline to answer
26. I see myself as someone who has an assertive personality.
- Disagree strongly
 - Disagree a little
 - Neither agree nor disagree

- d. Agree a little
 - e. Agree strongly
 - f. Decline to answer
27. I see myself as someone who can be cold and aloof.
- a. Disagree strongly
 - b. Disagree a little
 - c. Neither agree nor disagree
 - d. Agree a little
 - e. Agree strongly
 - f. Decline to answer
28. I see myself as someone who perseveres until the task is finished.
- a. Disagree strongly
 - b. Disagree a little
 - c. Neither agree nor disagree
 - d. Agree a little
 - e. Agree strongly
 - f. Decline to answer
29. I see myself as someone who can be moody.
- a. Disagree strongly
 - b. Disagree a little
 - c. Neither agree nor disagree
 - d. Agree a little
 - e. Agree strongly
 - f. Decline to answer
30. I see myself as someone who values artistic, aesthetic experiences.
- a. Disagree strongly
 - b. Disagree a little
 - c. Neither agree nor disagree
 - d. Agree a little
 - e. Agree strongly
 - f. Decline to answer
31. I see myself as someone who is sometimes shy, inhibited.
- a. Disagree strongly
 - b. Disagree a little
 - c. Neither agree nor disagree
 - d. Agree a little
 - e. Agree strongly
 - f. Decline to answer
32. I see myself as someone who is considerate and kind almost every time.
- a. Disagree strongly
 - b. Disagree a little
 - c. Neither agree nor disagree
 - d. Agree a little
 - e. Agree strongly
 - f. Decline to answer

33. I see myself as someone who does things efficiently.
- Disagree strongly
 - Disagree a little
 - Neither agree nor disagree
 - Agree a little
 - Agree strongly
 - Decline to answer
34. I see myself as someone who remains calm in tense situations.
- Disagree strongly
 - Disagree a little
 - Neither agree nor disagree
 - Agree a little
 - Agree strongly
 - Decline to answer
35. I see myself as someone who prefers work that is routine.
- Disagree strongly
 - Disagree a little
 - Neither agree nor disagree
 - Agree a little
 - Agree strongly
 - Decline to answer
36. I see myself as someone who is outgoing, sociable.
- Disagree strongly
 - Disagree a little
 - Neither agree nor disagree
 - Agree a little
 - Agree strongly
 - Decline to answer
37. I see myself as someone who is sometimes rude to others.
- Disagree strongly
 - Disagree a little
 - Neither agree nor disagree
 - Agree a little
 - Agree strongly
 - Decline to answer
38. I see myself as someone who makes plans and follows through with them.
- Disagree strongly
 - Disagree a little
 - Neither agree nor disagree
 - Agree a little
 - Agree strongly
 - Decline to answer
39. I see myself as someone who gets nervous easily.
- Disagree strongly
 - Disagree a little
 - Neither agree nor disagree

- d. Agree a little
 - e. Agree strongly
 - f. Decline to answer
40. I see myself as someone who likes to reflect, play with ideas.
- a. Disagree strongly
 - b. Disagree a little
 - c. Neither agree nor disagree
 - d. Agree a little
 - e. Agree strongly
 - f. Decline to answer
41. I see myself as someone who has few artistic interests.
- a. Disagree strongly
 - b. Disagree a little
 - c. Neither agree nor disagree
 - d. Agree a little
 - e. Agree strongly
 - f. Decline to answer
42. I see myself as someone who likes to cooperate with others.
- a. Disagree strongly
 - b. Disagree a little
 - c. Neither agree nor disagree
 - d. Agree a little
 - e. Agree strongly
 - f. Decline to answer
43. I see myself as someone who is easily distracted.
- a. Disagree strongly
 - b. Disagree a little
 - c. Neither agree nor disagree
 - d. Agree a little
 - e. Agree strongly
 - f. Decline to answer
44. I see myself as someone who is sophisticated in art, music.
- a. Disagree strongly
 - b. Disagree a little
 - c. Neither agree nor disagree
 - d. Agree a little
 - e. Agree strongly
 - f. Decline to answer

APPENDIX C
BLOGGING BEHAVIOR SURVEY – PILOT STUDY

- 1) Do you read blogs written by other people?
 - a. Yes
 - b. No
 - c. Decline to answer

(Those who respond “no” or “decline to answer” are routed to question 5 below. Those who respond “yes” respond to questions 2-5.)

- 2) About how many weblogs/blogs written by other people do you read each week?
 - a. I don't read other people's blogs.
 - b. 1-5
 - c. 6-10
 - d. 11-15
 - e. 16-20
 - f. More than 20
 - g. Decline to answer
- 3) How often do you compare yourself and your life to the view of other people and their lives that appear in their blogs?
 - a. I don't read other people's blogs.
 - b. Never
 - c. Every once in a while, but not often
 - d. Often
 - e. Constantly
 - f. Decline to answer
- 4) Which of the following labels describe your view of what blogging should be? (Please check all that apply.)
 - a. A sharing of one's personal experience with others
 - b. An opportunity for self-promotion and positive self-presentation
 - c. An attempt to get as much attention as possible
 - d. An opportunity to contribute something to the World Wide Web
 - e. An opportunity to present a false but idealized image of self to the world
 - f. Decline to answer
- 5) Do you write a blog/weblog?
 - a. Yes
 - b. No
 - c. Decline to answer

(Those who respond “no” or “decline to answer” will be routed to the debriefing section. Those who respond “yes” answer questions 6-17.)

- 6) For how long have you written this weblog?
 - a. 0-3 months
 - b. 3-6 months
 - c. 6-12 months
 - d. 1-2 years
 - e. 2-3 years
 - f. 3-4 years
 - g. 5 or more years
 - h. Decline to answer

- 7) On average, how many posts do you write (and post to your blog) per day?
- 1 post
 - 2 posts
 - 3 posts
 - 4 posts
 - 5 posts
 - More than five posts
 - I don't post to my blog daily.
 - Decline to answer
- 8) On average, how many posts do you write (and post to your blog) per month?
- 0-4 posts
 - 5-8 posts
 - 9-12 posts
 - 13-16 posts
 - More than 16 posts
 - I don't post to my blog monthly.
 - Decline to answer
- 9) How accessible is your blog to the public?
- I don't share my blog with anyone; it is password protected.
 - I share my blog with a few people who have the password to read it.
 - I share my blog with anyone who asks, but it is still password-protected.
 - I don't tell anyone about my blog, but it is not password protected.
 - I share my blog with a few people, but it is not password protected.
 - I tell everyone about my blog and it is not password protected.
 - Decline to answer
- 10) How do you identify yourself on your blog?
- By my first and last name
 - By my first name only
 - By my last name only
 - By a pseudonym that is related to my name
 - By a pseudonym that is a real name, but is not my name
 - By a pseudonym that is not a real name
 - Decline to answer
- 11) What kind of image(s) represent(s) you on your blog?
- A clear picture of me (i.e. a picture where your face is identifiable)
 - A modified picture of me (i.e. face blurred, feet only, etc.)
 - A picture of someone other than me (i.e. a celebrity)
 - A picture of something other than me (i.e. a pet or a car)
 - A graphic, such as a drawing or icon
 - There is no picture on my blog.
 - Decline to answer
- 12) How would you classify your blog?
- My blog is a personal blog: I write about personal topics not related to work.
 - My blog is a corporate blog: I write an official company blog for work.
 - My blog is a professional blog: I blog about work, but it's not an official blog for my company.

d. Decline to answer

13) Please list the five most frequent topics that you blog about. If you do not wish to provide an answer to this question, please leave the blanks empty.

- 1.
- 2.
- 3.
- 4.
- 5.

14) How many people do you estimate read your blog on a weekly basis?

- a. No one; I do not share my blog with anyone.
- b. 1-5 people
- c. 6-10 people
- d. 11-15 people
- e. 16-20 people
- f. 21-25 people
- g. More than 25 people
- h. Unknown—I have no idea.
- i. Decline to answer

15) Do you regularly keep track of the number of individuals who visit your blog on a weekly basis?

- a. Yes
- b. No
- c. Decline to answer

16) Which blogging platform do you use?

- a. Blogger/blogspot
- b. Wordpress
- c. Livejournal
- d. Blog on a social networking site (i.e. facebook, myspace)
- e. Tumblr
- f. Decline to answer
- g. Other (please specify):

17) Would you be willing to allow the researchers to examine your blog for information confirming the data that you have reported here? If you agree, only the primary investigator will view your blog. If any data are downloaded from your blog, they will not be associated with your name, and all identifiable information will be deleted.

- a. Yes
- b. No
- c. Decline to answer

(Those who respond “no” or decline to answer are routed to the debriefing section. Those who respond “yes” continue to question 18.)

What is the URL for your blog (e.g. www.dissertationdiva.blogspot.com)? If you do not wish to share your blog with the researcher, please leave this field blank.

APPENDIX D
ONLINE COGNITION SCALE

1. I am most comfortable online.
 - a. Strongly agree
 - b. Agree somewhat
 - c. Agree a little
 - d. Neither agree nor disagree
 - e. Disagree a little
 - f. Disagree somewhat
 - g. Strongly disagree
 - h. Decline to answer

2. I feel safest when I am on the Internet.
 - a. Strongly agree
 - b. Agree somewhat
 - c. Agree a little
 - d. Neither agree nor disagree
 - e. Disagree a little
 - f. Disagree somewhat
 - g. Strongly disagree
 - h. Decline to answer

3. You can get to know a person better on the Internet than in person.
 - a. Strongly agree
 - b. Agree somewhat
 - c. Agree a little
 - d. Neither agree nor disagree
 - e. Disagree a little
 - f. Disagree somewhat
 - g. Strongly disagree
 - h. Decline to answer

4. I often find it peaceful to be online.
 - a. Strongly agree
 - b. Agree somewhat
 - c. Agree a little
 - d. Neither agree nor disagree
 - e. Disagree a little
 - f. Disagree somewhat
 - g. Strongly disagree
 - h. Decline to answer

5. I can be myself online.
 - a. Strongly agree
 - b. Agree somewhat
 - c. Agree a little
 - d. Neither agree nor disagree
 - e. Disagree a little
 - f. Disagree somewhat
 - g. Strongly disagree
 - h. Decline to answer

6. I get more respect online than "in real life."
 - a. Strongly agree

- b. Agree somewhat
 - c. Agree a little
 - d. Neither agree nor disagree
 - e. Disagree a little
 - f. Disagree somewhat
 - g. Strongly disagree
 - h. Decline to answer
7. People accept me for who I am online.
- a. Strongly agree
 - b. Agree somewhat
 - c. Agree a little
 - d. Neither agree nor disagree
 - e. Disagree a little
 - f. Disagree somewhat
 - g. Strongly disagree
 - h. Decline to answer
8. Online relationships can be more fulfilling than offline ones.
- a. Strongly agree
 - b. Agree somewhat
 - c. Agree a little
 - d. Neither agree nor disagree
 - e. Disagree a little
 - f. Disagree somewhat
 - g. Strongly disagree
 - h. Decline to answer
9. I am at my best when I am online.
- a. Strongly agree
 - b. Agree somewhat
 - c. Agree a little
 - d. Neither agree nor disagree
 - e. Disagree a little
 - f. Disagree somewhat
 - g. Strongly disagree
 - h. Decline to answer
10. I wish my friends and family knew how people regard me online.
- a. Strongly agree
 - b. Agree somewhat
 - c. Agree a little
 - d. Neither agree nor disagree
 - e. Disagree a little
 - f. Disagree somewhat
 - g. Strongly disagree
 - h. Decline to answer
11. The Internet is more "real" than real life.
- a. Strongly agree
 - b. Agree somewhat
 - c. Agree a little

- d. Neither agree nor disagree
 - e. Disagree a little
 - f. Disagree somewhat
 - g. Strongly disagree
 - h. Decline to answer
12. I say or do things on the Internet that I could never do offline.
- a. Strongly agree
 - b. Agree somewhat
 - c. Agree a little
 - d. Neither agree nor disagree
 - e. Disagree a little
 - f. Disagree somewhat
 - g. Strongly disagree
 - h. Decline to answer
13. When I am online, I can be carefree.
- a. Strongly agree
 - b. Agree somewhat
 - c. Agree a little
 - d. Neither agree nor disagree
 - e. Disagree a little
 - f. Disagree somewhat
 - g. Strongly disagree
 - h. Decline to answer
14. Few people love me other than those I know online.
- a. Strongly agree
 - b. Agree somewhat
 - c. Agree a little
 - d. Neither agree nor disagree
 - e. Disagree a little
 - f. Disagree somewhat
 - g. Strongly disagree
 - h. Decline to answer
15. I am less lonely when I am online.
- a. Strongly agree
 - b. Agree somewhat
 - c. Agree a little
 - d. Neither agree nor disagree
 - e. Disagree a little
 - f. Disagree somewhat
 - g. Strongly disagree
 - h. Decline to answer
16. I cannot see myself ever without the Internet for too long.
- a. Strongly agree
 - b. Agree somewhat
 - c. Agree a little
 - d. Neither agree nor disagree
 - e. Disagree a little

- f. Disagree somewhat
- g. Strongly disagree
- h. Decline to answer

17. The Internet is an important part of my life.

- a. Strongly agree
- b. Agree somewhat
- c. Agree a little
- d. Neither agree nor disagree
- e. Disagree a little
- f. Disagree somewhat
- g. Strongly disagree
- h. Decline to answer

18. I feel helpless when I don't have access to the Internet.

- a. Strongly agree
- b. Agree somewhat
- c. Agree a little
- d. Neither agree nor disagree
- e. Disagree a little
- f. Disagree somewhat
- g. Strongly disagree
- h. Decline to answer

19. I am bothered by my inability to stop using the Internet so much.

- a. Strongly agree
- b. Agree somewhat
- c. Agree a little
- d. Neither agree nor disagree
- e. Disagree a little
- f. Disagree somewhat
- g. Strongly disagree
- h. Decline to answer

20. I often keep thinking about something I experienced online well after I have logged off.

- a. Strongly agree
- b. Agree somewhat
- c. Agree a little
- d. Neither agree nor disagree
- e. Disagree a little
- f. Disagree somewhat
- g. Strongly disagree
- h. Decline to answer

21. When I am on the Internet, I often feel a kind of "rush" or emotional high.

- a. Strongly agree
- b. Agree somewhat
- c. Agree a little
- d. Neither agree nor disagree
- e. Disagree a little
- f. Disagree somewhat
- g. Strongly disagree

- h. Decline to answer
22. I use the Internet more than I ought to.
- a. Strongly agree
 - b. Agree somewhat
 - c. Agree a little
 - d. Neither agree nor disagree
 - e. Disagree a little
 - f. Disagree somewhat
 - g. Strongly disagree
 - h. Decline to answer
23. People complain that I use the Internet too much.
- a. Strongly agree
 - b. Agree somewhat
 - c. Agree a little
 - d. Neither agree nor disagree
 - e. Disagree a little
 - f. Disagree somewhat
 - g. Strongly disagree
 - h. Decline to answer
24. I never stay on longer than I had planned.
- a. Strongly agree
 - b. Agree somewhat
 - c. Agree a little
 - d. Neither agree nor disagree
 - e. Disagree a little
 - f. Disagree somewhat
 - g. Strongly disagree
 - h. Decline to answer
25. When I am not online, I often think about the Internet.
- a. Strongly agree
 - b. Agree somewhat
 - c. Agree a little
 - d. Neither agree nor disagree
 - e. Disagree a little
 - f. Disagree somewhat
 - g. Strongly disagree
 - h. Decline to answer
26. The offline world is less exciting than what you can do online.
- a. Strongly agree
 - b. Agree somewhat
 - c. Agree a little
 - d. Neither agree nor disagree
 - e. Disagree a little
 - f. Disagree somewhat
 - g. Strongly disagree
 - h. Decline to answer

27. I can't stop thinking about the Internet.
- a. Strongly agree
 - b. Agree somewhat
 - c. Agree a little
 - d. Neither agree nor disagree
 - e. Disagree a little
 - f. Disagree somewhat
 - g. Strongly disagree
 - h. Decline to answer
28. Even though there are times when I would like to, I can't cut down on my use of the Internet.
- a. Strongly agree
 - b. Agree somewhat
 - c. Agree a little
 - d. Neither agree nor disagree
 - e. Disagree a little
 - f. Disagree somewhat
 - g. Strongly disagree
 - h. Decline to answer
29. My use of the Internet sometimes seems beyond my control.
- a. Strongly agree
 - b. Agree somewhat
 - c. Agree a little
 - d. Neither agree nor disagree
 - e. Disagree a little
 - f. Disagree somewhat
 - g. Strongly disagree
 - h. Decline to answer
30. When I am online, I don't think about my responsibilities.
- a. Strongly agree
 - b. Agree somewhat
 - c. Agree a little
 - d. Neither agree nor disagree
 - e. Disagree a little
 - f. Disagree somewhat
 - g. Strongly disagree
 - h. Decline to answer
31. When I have nothing better to do, I go online.
- a. Strongly agree
 - b. Agree somewhat
 - c. Agree a little
 - d. Neither agree nor disagree
 - e. Disagree a little
 - f. Disagree somewhat
 - g. Strongly disagree
 - h. Decline to answer
32. I find that I go online more when I have something else that I am supposed to do.

- a. Strongly agree
- b. Agree somewhat
- c. Agree a little
- d. Neither agree nor disagree
- e. Disagree a little
- f. Disagree somewhat
- g. Strongly disagree
- h. Decline to answer

33. When I am online, I don't need to think about offline problems.

- a. Strongly agree
- b. Agree somewhat
- c. Agree a little
- d. Neither agree nor disagree
- e. Disagree a little
- f. Disagree somewhat
- g. Strongly disagree
- h. Decline to answer

34. I sometimes use the Internet to procrastinate.

- a. Strongly agree
- b. Agree somewhat
- c. Agree a little
- d. Neither agree nor disagree
- e. Disagree a little
- f. Disagree somewhat
- g. Strongly disagree
- h. Decline to answer

35. I often use the Internet to avoid doing unpleasant things.

- a. Strongly agree
- b. Agree somewhat
- c. Agree a little
- d. Neither agree nor disagree
- e. Disagree a little
- f. Disagree somewhat
- g. Strongly disagree
- h. Decline to answer

36. Using the Internet is a way to forget about things I must do but don't really want to do.

- a. Strongly agree
- b. Agree somewhat
- c. Agree a little
- d. Neither agree nor disagree
- e. Disagree a little
- f. Disagree somewhat
- g. Strongly disagree
- h. Decline to answer

APPENDIX E
ONLINE BEHAVIOR SURVEY – BLOGGER VERSION

1. Something that I've written on my blog has caused problems in my personal life (i.e. relationships with others).
 - a. True for me
 - b. Not true for me
 - c. Not applicable
 - d. Decline to answer
2. Something that I've done online (NOT related to my blog; i.e. an e-mail sent or a post to my facebook page) has caused problems in my personal life (i.e. relationships with others)
 - a. True for me
 - b. Not true for me
 - c. Not applicable
 - d. Decline to answer
3. Something that I've written on my blog has caused problems in my professional life (i.e. workplace problems).
 - a. True for me
 - b. Not true for me
 - c. Not applicable
 - d. Decline to answer
4. Something I've done online (NOT related to my blog; i.e. an e-mail sent or a post to my facebook page) has caused problems in my professional life (i.e. workplace problems).
 - a. True for me
 - b. Not true for me
 - c. Not applicable
 - d. Decline to answer
5. The information that I post about myself on my blog is completely accurate.
 - a. True for me
 - b. Not true for me
 - c. Not applicable
 - d. Decline to answer
6. The information that I post about myself online (in places OTHER than my blog; i.e. to a facebook or myspace page) is completely accurate.
 - a. True for me
 - b. Not true for me
 - c. Not applicable
 - d. Decline to answer
7. I never read the responses or comments that people have made on my blog.
 - a. True for me
 - b. Not true for me
 - c. Not applicable
 - d. Decline to answer
8. I never read the responses or comments that people have made about me online (in places OTHER than my blog; i.e. to a facebook or myspace page).
 - a. True for me
 - b. Not true for me
 - c. Not applicable
 - d. Decline to answer
9. I have arranged to meet/have met someone who I met online in real life.
 - a. True for me
 - b. Not true for me
 - c. Not applicable
 - d. Decline to answer

10. I have exaggerated the things that I write about myself on my blog to make my life appear more interesting.
 - a. True for me
 - b. Not true for me
 - c. Not applicable
 - d. Decline to answer
11. I have exaggerated things that I write about myself online (in places OTHER than my blog; i.e. a facebook or myspace page) to make my life appear more interesting.
 - a. True for me
 - b. Not true for me
 - c. Not applicable
 - d. Decline to answer
12. I do not pay attention to whether or not other people read my blog.
 - a. True for me
 - b. Not true for me
 - c. Not applicable
 - d. Decline to answer
13. I keep track of how many "friends" I have on sites like myspace or facebook.
 - a. True for me
 - b. Not true for me
 - c. Not applicable
 - d. Decline to answer
14. I link to others' blogs solely so that they will return the favor
 - a. True for me
 - b. Not true for me
 - c. Not applicable
 - d. Decline to answer
15. I have no idea how many peoples' "blog rolls" I appear on.
 - a. True for me
 - b. Not true for me
 - c. Not applicable
 - d. Decline to answer
16. I have spent time editing (i.e. using photoshop or another editing software) before I posted or selecting the most attractive photos of myself before posting them to my blog.
 - a. True for me
 - b. Not true for me
 - c. Not applicable
 - d. Decline to answer
17. I have spent time editing (i.e. using photoshop or another editing software) before I posted or selecting the most attractive photos of myself before posting them online to somewhere OTHER than my blog (i.e. to a facebook or myspace page).
 - a. True for me
 - b. Not true for me
 - c. Not applicable
 - d. Decline to answer
18. I have spent time working on my blog when I was supposed to be working.
 - a. True for me
 - b. Not true for me
 - c. Not applicable
 - d. Decline to answer
19. I have spent time doing something online (i.e. reading personal e-mail, checking facebook) when I was supposed to be working.

- a. True for me
 - b. Not true for me
 - c. Not applicable
 - d. Decline to answer
20. I have deleted a negative comment (or more than one) that was made on my blog.
- a. True for me
 - b. Not true for me
 - c. Not applicable
 - d. Decline to answer
21. I have lost a friend or suffered major damage to a relationship with someone due to negative comments that they made on my blog.
- a. True for me
 - b. Not true for me
 - c. Not applicable
 - d. Decline to answer
22. I read others' blogs.
- a. True for me
 - b. Not true for me
 - c. Not applicable
 - d. Decline to answer
23. How often do you comment on other people's blogs?
- a. Never
 - b. Infrequently
 - c. Somewhat frequently
 - d. Very frequently
 - e. Decline to answer
24. Please rate your overall experience with blogging.
- a. My experience has been completely negative.
 - b. My experience has sometimes been positive, but has mostly been negative.
 - c. My experience has been a mix of positive and negative.
 - d. My experience has sometimes been negative, but has mostly been positive.
 - e. My experience has been completely positive.
 - f. Decline to answer
25. Please select the choice that best describes your current financial situation:
- a. I support myself with no support from outside sources.
 - b. I support myself for the most part, but my expenses are somewhat covered by a spouse, parent, or other source of income not related to employment.
 - c. My expenses are mostly covered by a spouse, parent, or other source of income not related to employment, but I do support myself a little bit.
 - d. My expenses are completely covered by a spouse, parent, or other source of income not related to employment.
 - e. Decline to answer

APPENDIX F
ONLINE BEHAVIORS SURVEY – NON-BLOGGER VERSION

- 1) Do you write a blog?
 - a. Yes
 - b. No
 - c. Decline to answer
- 2) Something that I have done online (i.e. an e-mail sent or a post to my facebook page) has caused problems in my personal life (i.e. relationships with others).
 - a. True for me
 - b. Not true for me
 - c. Not applicable
 - d. Decline to answer
- 3) Something that I have done online (i.e. an e-mail sent or a post to my facebook page) has caused problems in my professional life (i.e. workplace problems).
 - a. True for me
 - b. Not true for me
 - c. Not applicable
 - d. Decline to answer
- 4) The information that I post about myself online (i.e. to a facebook or myspace page) is completely accurate.
 - a. True for me
 - b. Not true for me
 - c. Not applicable
 - d. Decline to answer
- 5) I have arranged to meet/ have met someone who I met online in real life.
 - a. True for me
 - b. Not true for me
 - c. Not applicable
 - d. Decline to answer
- 6) I never read the responses or comments that people have made about me online (i.e. to a facebook or myspace page).
 - a. True for me
 - b. Not true for me
 - c. Not applicable
 - d. Decline to answer
- 7) I have exaggerated things that I write about myself online (in places OTHER than my blog; i.e. a facebook or myspace page) to make my life appear more interesting.
 - a. True for me
 - b. Not true for me
 - c. Not applicable
 - d. Decline to answer
- 8) I keep track of how many "friends" I have on sites like myspace or facebook.
 - a. True for me
 - b. Not true for me
 - c. Not applicable
 - d. Decline to answer
- 9) I have spent time editing (i.e. using photoshop or another editing software) before I posted or selecting the most attractive photos of myself before posting them online (i.e. to a facebook or myspace page).
 - a. True for me
 - b. Not true for me
 - c. Not applicable
 - d. Decline to answer
- 10) I read blogs/weblogs.

- a. True for me
 - b. Not true for me
 - c. Not applicable
 - d. Decline to answer
- 11) I have spent time doing something online (i.e. reading personal e-mail, checking facebook) when I was supposed to be working.
- a. True for me
 - b. Not true for me
 - c. Not applicable
 - d. Decline to answer
- 12) How often do you comment on other people's blogs?
- a. Never
 - b. Infrequently
 - c. Somewhat frequently
 - d. Very frequently
 - e. Decline to answer

APPENDIX G
LETTER SOLICITING BLOGGER PARTICIPATION

Dear Blogger,

I am a doctoral student in the psychology department at the University of Texas at Arlington. I am completing my dissertation research on the topic of the personality characteristics of bloggers. One of my goals for this study is to contact actual bloggers and record their self-reported personality traits, and view information posted to their blogs.

I am writing to ask you to take a few minutes to participate in this study. As a participant, you will be asked to follow the link in this e-mail to the Survey Monkey website, where you will complete several personality questionnaires, and provide some information about your typical Internet use. At the end of this survey, I will ask you to provide a link to your blog so that I can match the personality data that you provided with information that appears on your blog.

It is important for you to understand that no personal information will be collected in this project. You will not be asked to provide your name, address, e-mail, or any other identifying information. I will ask you to provide the URL to your blog so that I may access it after you complete the survey, and record information from your profile (such as gender, age, and location). I will also download two of your blog entries for further analysis; however, identifying names and information will be redacted. I will not specifically identify any single blogger in the reports of this research. In other words, I intend to talk about bloggers in general, but not any one individual in particular.

If you are interested in participating in this study, please follow the link below to the Survey Monkey website:

Thank you very much for your time. If you have friends or colleagues who you believe might be interested in participating in this study, feel free to forward this information on to them. You may also contact me with any questions that you have about this research project.

Best regards,

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BIOGRAPHICAL INFORMATION

Kathryn “Katy” Rollings received her B.A. from Colgate University in English with an emphasis in Creative Writing and Psychology. While at Colgate, Katy worked with Dr. Regina Conti, studying exercise and psychological well-being. This research experience led Katy to return to graduate school at The University of Texas at Arlington.

Katy received her M.S. from the University of Texas in Arlington under the advisement of Dr. William Ickes. Her project examined the Empathic Accuracy in computer-mediated-communication.

In addition to several academic publications, Katy is the author of an unpublished novel, *Fun Thursday*.