Lost in a crowded room: A correlational study of Facebook & social anxiety

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Pacific University
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Abstract
Social Phobia is characterized by fear of embarrassment and judgment in social and/or performance situations. In turn, individuals with social phobia often avoid these situations, thus limiting social contact. However, the Internet and social networking sites, such as Facebook, have eliminated the face-to-face component of communication while still allowing for social interaction. The researcher hypothesized that a positive relationship would exist between time spent on Facebook and social anxiety, as well as between perceived ease of online communication and social anxiety. A correlational study between social anxiety and use of Facebook was conducted. A significant correlation was found between social anxiety and both time spent on Facebook, as well as perceived ease of online communication.

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Thesis

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LOST IN A CROWDED ROOM:
A CORRELATIONAL STUDY OF FACEBOOK & SOCIAL ANXIETY

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JULY 23, 2010

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Tamara Tasker, Psy.D.
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Abstract

Social Phobia is characterized by fear of embarrassment and judgment in social and/or performance situations. In turn, individuals with social phobia often avoid these situations, thus limiting social contact. However, the Internet and social networking sites, such as Facebook, have eliminated the face-to-face component of communication while still allowing for social interaction. The researcher hypothesized that a positive relationship would exist between time spent on Facebook and social anxiety, as well as between perceived ease of online communication and social anxiety. A correlational study between social anxiety and use of Facebook was conducted. A significant correlation was found between social anxiety and both time spent on Facebook, as well as perceived ease of online communication.

Keywords: Social phobia, Facebook, social networking, anxiety
Acknowledgments

The credit for this paper must be split five ways:

To my dad, mom, and sister – Thank you for all your support from phone calls and finances to hugs whenever I see you. I love you.

To my thesis chair, Tamara – Thank you for mentoring me through this process.

And to R.M. – For all those Friday and Saturday nights when you asked what I would like to do and I replied, “My thesis.” Your love and support keep me going.
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Individuals with Social Phobia fear performance and social situations and are hyper-aware of physiological cues, such as blushing, trembling, and sweating (Turk, Heimberg, & Hope, 2001). This hyper-awareness and fear of judgment and embarrassment often leads to avoidance of social situations. However, with the advent of the Internet, and more specifically social networking sites, these individuals are now able to converse with others while safely removed from face-to-face contact. While this may decrease anxiety while at the computer, the long-term effects of using social networking sites with regard to social anxiety are unknown.

Currently, the Diagnostic and Statistical Manual, 4\textsuperscript{th} Edition, Text Revision (DSM-IV TR) characterizes Social Phobia as (a) a marked and persistent fear of one or more social or performance situations in which the person is exposed to unfamiliar people or to possible scrutiny by others, and that he or she will act in a way that will be humiliating or embarrassing; (b) exposure to the feared social situation almost invariably provokes anxiety, which may take the form of a situationally predisposed Panic Attack; (c) the person recognizes that the fear is excessive or unreasonable; and (d) the feared social or performance situations are avoided or else are endured with intense anxiety or distress (American Psychiatric Association, 2000).

The lifetime prevalence rate for Social Phobia in the United States is estimated to be between 3-13\% (APA, 2000). Around the world, researchers have found similar prevalence rates. For example, in Nigerian students, the lifetime prevalence was estimated to be 9.4\% (Bella & Omigbodun, 2009); in Australians over the age of 18, the 12-month prevalence is estimated to be 2.3\% (Lampe, Slade, Issakidis, & Andrews, 2003); in Finnish adolescents a 12-month prevalence rate of 3.2\% was found (Ranta, Kaltiala, Rantanen, & Marttunen, 2009). Similarly, researchers found a prevalence rate of 4.4\% in Swedish adolescents (Gren-Landell, Tillfors, Furmark, Bohlin, Andersson, & Goran, 2009). Conversely, in Hong Kong researchers estimate the
prevalence to be much higher, approximately 28.7% among individuals ages 15 to 45 (Lee, Ng, Kwok, & Tsang, 2009).

In Turkey, Izgic, Akyuz, Dogan, and Kugu (2004) sought to determine the lifetime prevalence rate of social phobia among college students and its relationship to self-esteem and body image. The researchers surveyed a total of 1,003 students and found a lifetime prevalence rate of 9.6%, which falls within the range set forth by the DSM-IV TR. A negative correlation was found between social phobia and self-esteem and social phobia and body image. The researchers proposed that individuals with higher self-esteem will be more comfortable in social situations and have less social apprehension. Conversely, they proposed that individuals with social phobia may have lower self-esteem due to negative thoughts about the self, thus leading to increased self-dissatisfaction (Izgic, Akyuz, Dogan, & Kugu, 2004).

Purdon, Antony, Monteiro, and Swinson (2001) studied the frequency of symptoms of social anxiety among college students, as well as others’ perception of an anxious individual. A total of 81 undergraduate students volunteered to participate. The volunteers had a mean age of 25 years and consisted of 60 women and 21 men. From data obtained on five questionnaires pertaining to social anxiety, the researchers came to several conclusions. First, that all of the participants endorsed experiencing symptoms of social anxiety at one time or another in their lives. Additionally, individuals reported that another’s symptoms of anxiety would not have a negative impact on his or her appraisal of the individual’s intelligence, ambition, reliability, or mental health. Interestingly, those participants who ranked themselves as highly anxious were likely to view others with anxiety as less attractive. Finally, the researchers concluded that knowledge about the high rate of social anxiety may help individuals who suffer from this disorder feel less isolated.
Turk, Heimberg, and Hope (2001) noted that individuals with Social Phobia avoid social and performance situations in order to avoid perceived embarrassment or humiliation. Individuals with this disorder may avoid very specific tasks such as public speaking, or may avoid engaging in motor behaviors, such as eating, drinking, or writing, in the presence of others. Additionally, these individuals may fear overt, physiological “clues” to their anxiety, including blushing, stammering, or trembling. Avoidance of these social and performance situations often leads to impairment in occupational and social settings, thus negatively impacting the individual. As expected, such fear and impairment leads to marked distress in these individuals as they withdraw from social and occupational settings (Schulz, Meuret, Loh, & Hofmann, 2007).

However, with the advent of the internet and social networking sites, individuals with social phobia now have a method by which to avoid face-to-face communication while still interacting with others. Communication done via the computer allows the individual more control over the situation than does face-to-face communication. For example, individuals can slow conversation, allowing them to think through a response and delete it if desired. He or she can get up and leave the computer and thus the conversation if they wish. Additionally, overt physiological symptoms of blushing, sweating, trembling, and voice quivering are safely hidden from view (Schulz, Meuret, Loh, & Hofmann, 2007). Currently, research is limited on the use of social networking sites as computer-based communication in individuals with social phobia.

According to Boyd and Ellison (2007), a social networking site is a website that allows individuals to create a profile and create a list of other users (“friends”) with whom to converse and share information. In 2004, Mark Zuckerberg, a student at Harvard University, created Facebook, a social networking site that allowed students to connect with their peers (Facebook, 2010). Within 24 hours of its inception, 1,200 Harvard students had joined the site and it was
quickly extended to other universities around the country. By 2006, the social networking site was extended beyond students to include anyone with an email address over the age of 13.

On Facebook, an individual’s profile has a predetermined layout that includes a profile picture of the individual, a “wall” on which friends may post comments, weblinks, or photos, a list of the individual’s friends, and photos that either the individual or his or her friends have posted. The user can determine who can and who cannot see his or her profile, thus limiting it to only friends or leaving it public.

Between 2004 and 2009, Facebook accrued more than 21 million registered users and 1.6 billion page views per day (Sheldon, 2008). Currently, the site boasts over 400 million active users, with an average of 500 billion minutes spent on the site per month (Facebook, 2010). This increase in popularity has prompted researchers to study the appeal of social networking. Recent studies have focused on topics ranging from broad characteristics of the typical site user to the use of these sites in the treatment of mental illness. One area that has gained particular attention is the rich-get-richer hypothesis, which states that those who are extroverted are the most likely to benefit from social networking sites (Sheldon, 2008). Thus far, there have been mixed findings with respect to this hypothesis (Baker and Moore, 2008; Kramer and Winter, 2008).

Raacke and Bonds-Raacke (2008) conducted a study to uncover characteristics of typical social network users, reasons for site use, and gratifications obtained from site use. A total of 116 university students with a mean age of 19.7 years participated by filling out a hard-copy questionnaire. Each student who reported using a social networking site was asked general information about his or her personal homepage, as well as motives for use. They were also asked to predict why a student might not use a site. Nonusers were asked reasons for nonuse as
well as reasons others might participate in using these sites. All participants were asked to report on demographic information.

The researchers found that 87.1% of their sample had used either a Facebook or MySpace account and 74.3% had used both. Users reported spending an average of three hours per day on these sites and reported logging in an average of four times per day. Users reported using the site to keep in touch with both old and new friends and to meet new people. Nonusers reported refraining from use of the sites mainly due to lack of either desire or time. Users and nonusers were accurately able to predict reasons for use or nonuse by the other group. Although the researchers were able to compile some characteristics of the typical user, they called for further research on personality characteristics of typical site users and nonusers.

In a similar study, Pempek, Yermolayeva, and Calvert (2009) used a qualitative approach to discover how and why college students use Facebook. The researchers surveyed 92 undergraduate students with a mean age of 20.59 years. Each student was given a diary-like measure in which the student recorded total time spent on Facebook, as well as what activities the student engaged in on the site. They were asked to complete the measure at the end of each day and then asked to return the diaries at the end of one week. Upon turning in the diary, they were given 24 hours to complete a paper-and-pencil survey concerning their Facebook use. It consisted of 54 questions about their activity on Facebook and their demographic information.

Pempek, Yermolayeva, and Calvert (2009) found that participants spent an average of 27.93 minutes per day on weekdays and 28.44 minutes per day on the weekend. They also found that students were using Facebook to keep in contact with pre-established relationships and were not using the site to meet new people. Additionally, students did not use Facebook to converse with parents or professors making the site a peer-to-peer network. Finally, the researchers found
that while students do activities on the site (e.g., posting information, uploading pictures, and updating profiles), it is far more common to observe others’ actions without interacting.

Building on this research, Seder and Oishi (2009) hypothesized that ethnic homogeneity in college students’ friendships on Facebook would be positively correlated with subjective well-being. A total of 93 first-year undergraduates, with a mean age of 17.98 years, participated by completing the Satisfaction with Life Scale, the Felt Understanding and Felt Misunderstanding scales, and the Positive and Negative Affect Scale. The participants were also assessed on Big Five personality traits in addition to religiosity and political conservatism. Their Facebook profiles were then saved and coded to assess for ethnic diversity among their Facebook friends. However, ethnic identity was surmised by the researchers based on each friend’s profile information, and was not stated explicitly. Of the participants, 51.6% were European American, 18.3% were Asian, 15.1% were Multi-Ethnic, 8.6% were African American, 3.2% were Latino, and 2.2% were Middle Eastern.

Seder and Oishi (2009) found that homogeneity of European-Americans’ friends was associated with higher levels of life satisfaction, positive affect, and lower levels of felt misunderstanding. However, for non-European American participants, no significant relationships were found between friends and levels of subjective well-being. Additionally, the researchers found that political conservatism among European Americans was positively associated with homogeneity of Facebook friends as well as with life satisfaction.

To ascertain the relationship between various personality traits and self-presentation online, Kramer and Winter (2008) surveyed 58 StudiVZ users, the German equivalent to Facebook. The participants completed an online questionnaire consisting of items related to self-esteem, self-efficacy, and extraversion. Their StudiVZ profiles were saved and coded on
variables such as number of friends and groups, number of photos, and number of words on the profile. The researchers found that those with medium extraversion had the highest group membership, whereas introverts were more reserved in profile content and presentation. Additionally, the researchers found a positive correlation between self-efficacy and number of online friends, $F(2,57) = 7.125; p = .002$. Finally, self-esteem did not correlate with use or style of the user’s profile.

Building on knowledge of user personality, Sheldon (2008) conducted a study to determine if unwillingness to communicate in face-to-face interactions would generalize to self-presentation on a social networking site. She employed Burgoon’s (1976) definition of unwillingness to communicate: “a chronic tendency to avoid and/or devalue oral communication and to view the communication situation as relatively unrewarding” (Sheldon, 2008).

To test her hypothesis, a total of 172 university students from two communications courses completed a hard-copy questionnaire consisting of a 20-item unwillingness-to-communicate scale, an unspecified amount of gratification items, and questions pertaining to Facebook use and satisfaction. The average participant age was 20 years and of this sample, 93% had a Facebook account. Sheldon found that the primary motives for Facebook use were passing time and maintaining relationships regardless of the student’s unwillingness-to-communicate score. However, she did find that students who reported feeling anxious in face-to-face interactions were less likely to meet new people on Facebook and had fewer friends overall. These results support the rich-get-richer hypothesis.

Tong, Van Der Heide, Langwell, and Walther (2008) conducted a study to determine if a linear relationship exists between an individual’s number of Facebook friends and others’ perception of extraversion, physical attractiveness, and social attractiveness. A total of 153
undergraduate students voluntarily participated and were shown one of five mock Facebook profiles. Each profile was identical except for the number of friends which ranged from 102 to 902, and were based on the average number of Facebook friends according to research. After viewing the profile, the participants were asked to rate the individual on physical and social attractiveness, as well as extraversion.

While the researchers predicted a linear relationship, an inverted curvilinear relationship was found between number of friends and social attractiveness. For example, the profile with the fewest friends (102) received the lowest scores on social attractiveness. Similarly, the profile with the highest number of friends (902) also had low scores for social attractiveness. In contrast, those with a moderate amount of friends (302) received the highest ratings. With regard to extraversion, those with a moderate amount of friends (502), were rated highest on extraversion, whereas those with the highest number of friends (902), were rated low on extraversion. Finally, with regard to physical attractiveness, no significant relationships were found. The researchers posit that those with too few or too many friends are judged negatively.

As memberships to social networking sites like Facebook become increasingly popular, researchers have sought to understand the motives and rewards of such use. The scope of these studies has been broad: seeking motives behind use, uncovering common personality traits of user, and generalizing offline personality to one’s online persona. Researchers have found mixed results, declaring social networking sites as both helpful and hindering. The current study will go a step further to examine the relationship between Facebook use and social anxiety. More specifically, there are two hypotheses. First, it is hypothesized that there will be a significant, positive relationship between time spent on Facebook and scores on the Liebowitz Social Anxiety Scale. Secondly, it is hypothesized that there will be a significant, positive relationship
between individuals who find online communication easier and scores on the Liebowitz Social Anxiety Scale. This item will be coded such that higher scores will denote the degree to which online communication is easier than face-to-face communication. In sum, it is hypothesized that as time spent on Facebook increases, and perceived ease of online communication increases, social anxiety scores will also increase.

Method

Sample

To investigate both hypotheses, 428 online surveys were completed. Participants were recruited using flyers, email, and posts on the researcher’s personal Facebook page. Individuals completing the survey indicated they were over 18 years of age and had a Facebook account. Of the completed surveys, 91% (N=388) had a Facebook account, and 9% (N= 38) indicated that they did not have a Facebook. These individuals were not included in further analyses, leaving a total of 390 surveys for analysis. Of those who had a Facebook account, 74.4% (n = 290) were female , 25.4% (n=99) were male, and 1 individual chose the option “would rather not say.” Of those with a Facebook account, 85.9% (n=334) identified as Caucasian, 6.9% (n=27) identified as Asian American, 2.6% (n = 10) identified as ‘other’, 1.8% (n=7) identified as multiracial, 1.3% (n=5) identified as Hispanic, .8% (n=3) marked ‘would rather not say’, .5% (n=2) identified as American Indian/Alaskan Native, and .3% (n=1) identified as Pacific Islander/Native Hawaiian. African American was offered as an option, but was not endorsed. With regard to marital status, 47.3% (n=184) were single, 27.7% (n=108) were married, 19.0% (n=74) were cohabitating, 3.6% (n=14) were divorced, 1.3% (n=5) marked they would rather not say, and 1.0% (n=4) were separated. Widowed was offered as an option; it was not endorsed.
The average age of the participants was 29 ($M = 29.42$, $SD = 8.43$), with a range of 20 to 60 years of age.

Measures

Participants completed an online questionnaire on Facebook use, social anxiety, and demographic information using SurveyMonkey. Participation was voluntary and participants were able to exit the survey at any time. Because an assessment of Facebook use is currently not available and, given the exploratory nature of the study, the researcher created an 18-item questionnaire on basic Facebook use (see Appendix A). Items included estimating one’s number of friends, identifying uses for Facebook, and estimating time spent on Facebook. A score was coded for each item. For the purposes of this research, two items will be analyzed: time spent on Facebook and ease of online communication.

To assess social anxiety, the Liebowitz Social Anxiety Scale, Self-Report questionnaire was used (see Appendix B). This 48-item questionnaire is divided equally into two subscales, fear and avoidance, and can be further divided into 4 subcategories: performance fear, social fear, performance avoidance, and social avoidance. Additionally, the measure can provide scores related to social interaction fear and avoidance and public performance fear and avoidance. The participants were first asked to rate their fear or anxiety on 24 items on a 4-point Likert-type scale: none, mild, moderate, or severe. Participants were then instructed to rate their avoidance on 24 items using a 4-point Likert-type scale: never, occasionally (1 -33%), often (33 –67%), or usually (67% -100%). A fear/anxiety score, avoidance score, social score, performance score, and total social anxiety score were then calculated. Finally, participants filled out a demographic questionnaire, including age, ethnicity, marital status, and sex (see Appendix C).
Results

The researcher was interested in determining if a significant relationship existed between social anxiety scores and Facebook use. Specifically, scores on the Liebowitz Social Anxiety Scale (total social anxiety, total social avoidance, total performance anxiety, total performance avoidance, and overall anxiety total), with time spent on Facebook and with ease of online communication. There were two hypotheses: (1) there will be a significant, positive relationship between time spent on Facebook and scores on the Liebowitz Social Anxiety Scale (LSAS), and (2) there will be a significant, positive relationship between ease of online communication and scores on the LSAS.

For the first hypothesis, variables were analyzed using Pearson product moment correlations. Data was collected from 388 completed surveys. Using the Bonferroni approach to control for Type I error across the 5 correlations, a $p$ value of less than .01 (.05/5) was required for significance. The results of the correlational analyses indicated that two of five correlations were statistically significant (see Table 1). There was a significant positive relationship found between time spent on Facebook and total performance avoidance, $r(388) = .153$. This indicates that time spent on Facebook and performance avoidance vary together. A significant positive relationship was also found between time spent on Facebook and overall LSAS total, $r(388) = .132$, indicating that these two variables vary together. Relationships between time spent on Facebook and social anxiety, social avoidance, and performance anxiety were not found to be significant.
Table 1  
*Correlations Among Time Spent on Facebook, Social Anxiety, Social Avoidance, Performance Anxiety, Performance Avoidance, and Total LSAS score (n = 388)*

<table>
<thead>
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<th>1 (Time)</th>
<th>2 (S.Anx.)</th>
<th>3 (S. Av.)</th>
<th>4 (P. Anx.)</th>
<th>5 (P.Av.)</th>
<th>6 (LSAS)</th>
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<tr>
<td>1. Time spent on Facebook (Time)</td>
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<td>.105</td>
<td>.113</td>
<td>.105</td>
<td>.153*</td>
<td>.132*</td>
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<td>2. Social Anxiety Subscale (S.Anx.)</td>
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<td>3. Social Avoidance Subscale (S.Av.)</td>
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<td>4. Performance Anxiety Subscale (P.Anx.)</td>
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<td>5. Performance Avoidance Subscale (P.Av.)</td>
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<td>6. Total LSAS score (LSAS)</td>
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*p < .01

For the second hypothesis, variables were analyzed using Pearson product moment correlations. Data was collected from 388 completed surveys. Using the Bonferroni approach to control for Type I error across the 5 correlations, a $p$ value of less than .01 (.05/5) was required for significance. The results of the correlational analyses indicated that five of five correlations were statistically significant (see Table 2). There was a significant positive relationship between ease of online communication and overall LSAS total, $r(388) = .343$, indicating that these two variables vary together. A significant positive relationship was also found between ease of online communication and social anxiety, $r(388) = .351$. Additionally, a significant positive relationship was found between ease of online communication and social avoidance, $r(388) = .338$. A significant positive relationship was found between ease of online communication and
performance anxiety, $r(388) = .285$. Finally, a significant positive relationship was found between ease of online communication and performance avoidance, $r(388) = .275$.

Table 2
*Correlations Among Ease of Online Communication, Social Anxiety, Social Avoidance, Performance Anxiety, Performance Avoidance, and Total LSAS score (n = 388)*

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<th>1 (OnComm)</th>
<th>2 (S.Anx.)</th>
<th>3 (S.Av.)</th>
<th>4 (P.Anx.)</th>
<th>5 (P.Av.)</th>
<th>6 (LSAS)</th>
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<tr>
<td>1. Ease of Online Communication (OnComm)</td>
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<td>.351*</td>
<td>.338*</td>
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<td>.275*</td>
<td>.343*</td>
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<td>2. Social Anxiety (S.Anx.)</td>
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<td>3. Social Avoidance (S.Av.)</td>
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<td>4. Performance Anxiety (P.Anx.)</td>
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<td>5. Performance Avoidance (P.Av.)</td>
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<td>6. Total LSAS score (LSAS)</td>
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*p < .01

**Discussion**

The researcher sought to determine if a significant relationship existed between time spent on Facebook and social anxiety, as well as perceived ease of online communication and social anxiety. Indeed, significant, positive relationships were found for each hypothesis. However, the direction of each relationship is unknown. More specifically, the research does not reveal if Facebook use leads to greater social anxiety, or conversely, if social anxiety leads to increased Facebook use. Furthermore, due to the correlational nature of the study, it is unknown if a causal relationship exists and to what extent.
As the researcher created the Facebook measure in collaboration with her advisor, the statistical properties are unknown. The measure did not undergo screening, nor was a panel employed to address potential questions or inconsistencies. Additionally, reading level of the questions was not formally addressed. Content of the questions was determined solely by the researcher to address specific research questions. A measure to assess use of social networking sites would lead to increased understanding of the impacts of site use and thus add to the field’s knowledge.

Due to the limited scope of the study, some information remains unknown. For example, dual diagnoses were not assessed for. While the LSAS does assess for social anxiety and avoidance, the researcher did not address additional diagnoses (e.g. Generalized Anxiety Disorder, Specific Phobia, Avoidant Personality Disorder) that may have confounded the data. In addition, the researcher did not query past or present use of anti-anxiety medications or participation in individual or group therapies. Such information could have created a more complete picture of individuals’ experience of anxiety. Additionally, participant geographic location is unknown. In order to obtain subjects, the researcher recruited through email to her graduate program, fliers posted in the greater Portland area, and an advertisement on the researcher’s personal Facebook page; as such, the sample may not be representative of the general population. While the demographic questionnaire assessed ethnicity, the researcher did not query the participant’s state or national citizenship. A future study might assess correlations between demographics (e.g., age, ethnicity, gender, and nationality), social anxiety, and use of social networking sites.

As the study was conducted via online survey, it is reliant on the participant’s perception of social networking site use, as well as the participant’s rating of his/her subjective experience
of social anxiety and avoidance (i.e. lack of corroboration of the severity of anxiety with friends or family members).

While many facets of social networking sites as it relates to social anxiety remain unknown, it is clear that a significant positive relationship exists between social anxiety and both use of these sites and perceived ease of online communication.
References


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Doi: 10.1016


Appendix A
Facebook use questionnaire

Please answer the following questions regarding Facebook.

1. Do you currently have an activated account on Facebook?
   a. Yes
   b. No – skip to the end

2. Please estimate the number of friends you have on Facebook.

3. Are you friends with people on Facebook that you have never met face-to-face?
   a. Yes
   b. No

4. I use Facebook
a. More than once a day
b. Once a day
c. A couple times per week
d. Once a week
e. A couple times per month
f. Once a month
g. Hardly ever

5. When I’m logged into Facebook, I usually spend…
   a. Less than 5 minutes
   b. About 15 minutes
   c. Approximately ½ hour
   d. About an hour
   e. A couple of hours
   f. More than 2 hours

6. When I’m logged into Facebook, I usually… (check all that apply)
   a. Read what others post
   b. Post my own status updates
   c. Post pictures
   d. Post links
   e. Post my own notes
   f. Look at others’ photos
   g. Use applications

7. I use Facebook primarily to…
   a. Find romance
      Disagree completely Disagree Neither Agree Agree Completely
      1 2 3 4 5
   b. Keep in touch with old friends
      Disagree completely Disagree Neither Agree Agree Completely
      1 2 3 4 5
   c. Meet new friends
      Disagree completely Disagree Neither Agree Agree Completely
      1 2 3 4 5
   d. Find and share information and interests
      Disagree completely Disagree Neither Agree Agree Completely
      1 2 3 4 5
   e. Learn about events
      Disagree completely Disagree Neither Agree Agree Completely
      1 2 3 4 5
8. I find online communication easier than face-to-face communication.
   Disagree completely  Disagree  Neither  Agree  Agree Completely
   1  2  3  4  5

9. I think Facebook is…
   a. A good way to decrease boredom
      Disagree completely  Disagree  Neither  Agree  Agree Completely
      1  2  3  4  5
   b. Informative
      Disagree completely  Disagree  Neither  Agree  Agree Completely
      1  2  3  4  5
   c. Fun
      Disagree completely  Disagree  Neither  Agree  Agree Completely
      1  2  3  4  5
   d. A waste of time
      Disagree completely  Disagree  Neither  Agree  Agree Completely
      1  2  3  4  5
   e. A great way to meet people
      Disagree completely  Disagree  Neither  Agree  Agree Completely
      1  2  3  4  5
   f. A potential tool for schools and universities
      Disagree completely  Disagree  Neither  Agree  Agree Completely
      1  2  3  4  5
   g. A good way to see what others are up to
      Disagree completely  Disagree  Neither  Agree  Agree Completely
      1  2  3  4  5

10. I feel less lonely when I’m on Facebook.
    Disagree completely  Disagree  Neither  Agree  Agree Completely
    1  2  3  4  5

11. I feel I have benefitted from having a Facebook account.
    Disagree completely  Disagree  Neither  Agree  Agree Completely
    1  2  3  4  5

12. On an average day, I spend the following number of hours on a computer.
    a. Less than 1
    b. 1-3
    c. 4-6
    d. 6-8
    e. 9-12
    f. Over 12

13. Do you have Facebook on your mobile device (e.g. cell phone, PDA, etc.)?
    a. Yes
    b. No

14. I have defriended others.
    a. Yes
b. No

15. I have been defriended by others.
   a. Yes
   b. No

16. Are you currently in, or have ever been, in a relationship on Facebook?
   a. Yes
   b. No – skip to next section

17. Have you ever ended or “cancelled” a relationship on Facebook?
   a. Yes
   b. No

18. Have you ever had a relationship ended or “cancelled” on Facebook?
   a. Yes
   b. No
Liebowitz Social Anxiety Scale

Fear or Anxiety:

0 = None  1 = Mild  2 = Moderate  3 = Severe

Avoidance:

0 = Never (0%)  1 = Occasionally (1-33%)  2 = Often (33-67%)  3 = Usually (67-100%)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Fear or Anxiety</th>
<th>Avoidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Telephoning in public</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Participating in small groups</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Eating in public places</td>
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<td></td>
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<tr>
<td>4. Drinking with others in public places</td>
<td></td>
<td></td>
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<tr>
<td>5. Talking with people in authority</td>
<td></td>
<td></td>
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<tr>
<td>6. Acting, performing, or giving a talk in front of an audience</td>
<td></td>
<td></td>
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<tr>
<td>7. Going to a party</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Working while being observed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Writing while being observed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Calling someone you don’t know very well</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
11. Talking with people you don’t know very well
12. Meeting strangers
13. Urinating in a public bathroom
14. Entering a room when others are already seated
15. Being the center of attention
16. Speaking up at a meeting
17. Taking a test
18. Expressing a disagreement or disapproval to people you don’t know very well
19. Looking at people you don’t know very well in the eyes
20. Giving a report to a group
21. Trying to pick someone up
22. Returning goods to a store
23. Giving a party
24. Resisting a high pressure salesperson.
Appendix C

Demographics

Please answer the following demographic questions.

1. Sex:
   a. Male
   b. Female

2. Age
   a. Please enter your age:

3. Ethnicity
   a. American Indian/Alaskan Native
   b. Asian
   c. Black/African American
   d. Caucasian/White
   e. Hispanic/Non-Caucasian
   f. Multiracial
   g. Pacific Islander or Native Hawaiian
   h. Would rather not say
   i. Other

4. Current Marital Status
   a. Cohabitating
   b. Divorced
   c. Married
   d. Separated
   e. Single
   f. Widowed
   g. Would rather not say