Does Being an Open Person Help to Reduce Stress?

A Research Study of the Relationship Between Level of Openness and Perceived Stress

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Abstract

The purpose of this study is to determine the relationship between openness in communication, both computer-mediated and face-to-face with stress level. This study seeks to test four different hypotheses; the first is that the greater the willingness to be open and self-disclose with a wide group of friends, the lower the perceived levels of stress. The second hypothesis predicts that when there is lower concern for privacy, there are lower perceived levels of stress. The third is that greater willingness to share both negative and positive information about oneself would be related to lower perceived levels of stress. Lastly, the study sought to test if participants’ openness on Facebook would be positively associated with their general attitudes about openness. The study was comprised of 599 participants who possessed a Facebook profile and were above the age of 18, who answered questions about their openness, stress, and Facebook activity. The first three hypotheses in this study are not supported by the data; it was found that there is no significant relationship between any of the openness variables and stress. The findings suggest that being an open and emotive person is not as beneficial to health, and specifically stress, as previous studies have shown. However, the research found that there is a significant relationship between one’s openness on Facebook and his or her general attitude about openness. The result of the analysis has led us to believe that openness and its benefits are more contextual than previously known.
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An essential aspect of human nature is the ability to communicate and share important life events with the people around you. Humans are continuously making subconscious decisions about whether or not they will share information. The necessity for constant decision making in regards to the degree of openness that is most beneficial. This need has led to an abundance of research on the benefits and downsides of being open, and how the degree of openness one exhibits can affects the individual’s emotional well being. Previous studies, like the Fever Model, examine how sharing secrets can provide a cathartic and relieving effect to someone who has been suppressing them, (Stiles, Shuster, & Harrigan, 1992). The Fever Model states that people are more likely to disclose when a secret is causing them psychological distress, and the revelation of that secret helps to relieve the stress and discomfort they were experiencing. However, there is little research that looks at how the tendency towards openness can generally affect health and perceived stress levels. This area of study is important because the disclosure of secrets has been shown to have a positive health effect. There are many people who have a predisposition towards privacy that might actually experience negative physical effects when deciding whether or not they will disclose information brings.

In the digital age, it would be negligent to research openness without studying the computer-mediated aspect of communication. Facebook is currently the largest social media network in the world with 699 million daily active users globally (Facebook, 2013). The predominance of Facebook necessitates research on the openness concept in a computer-mediated setting. Previous research (Derks, Fischer, & Bos, 2008; McKinney, Kelly, & Duran, 2012) on computed mediated communication has shown that an online setting makes people
more willing to openly communicate than in face-to-face scenarios. It will be interesting to examine the relationship between the tendencies to be open in face-to-face communication as it is compared to computer-mediated communication.

The current study seeks to determine whether a person’s tendency towards openness will predict lower levels of perceived stress. If it is found that lower perceived stress is connected to greater levels of openness, it could lead to important ideas on how communication apprehension should be handled and diminished in order to improve health. However, if openness cannot be connected to lower levels of perceived stress it will produce a need for further research into the personality types that benefit from openness and those that are hindered by it. The current study also explores to find if a person’s openness in a face-to-face context will be connected to their openness on Facebook.

**Openness**

The first aspect of this study seeks to understand participants’ general attitudes about openness when sharing information. The larger variable, “attitude about openness”, is broken into three individual concepts to better understand the nuances of participants’ openness. Openness has previously been studied in varying contexts. One prevailing aspect of the previous research on this variable is sometimes referred to as “Unwillingness to Communicate” which is defined as a predisposition towards chronic avoidance and undervaluing oral communication (Burgoon, 1976). Burgoon created the unwillingness to communicate concept from the constructs of anomia, alienation, introversion, self-esteem and communication apprehension. In her research, Burgoon uses these constructs to identify characteristics of a person who would be unwilling to communicate. Overall, a person who is unwilling to communicate feels anxious in social situations due to: (a) a failure to internalize society’s norms
and values, (b) a higher value on introspection over communication, (c) low self-esteem, and (d) a fear of failure in communication situations. Along similar lines, the current study examines openness through the constructs of reveal, privacy and valence, which will be explained in more detail later in this paper. Instead of seeking to identify characteristics that predict openness in individuals our study will examine how openness affects health, and more specifically stress. However, it is important to look at characteristics that produce predispositions towards certain behaviors that could further explain the health effects.

**Reveal.** The first sub-variable, which we will refer to as the ‘reveal’ variable, studies participants’ willingness to be open and self-disclose with a wide group of friends. Openness is the personality trait of being comfortable with sharing personal life details with others, and in this variable, “wide group of friends”, is left up to the discretion of the participant and not conceptualized in the survey. The Revelation Risk Model (RRM), developed by Afifi and Steuber (2009), found that the more a person lacks closeness with the target of a secret they are revealing, the less likely they are to reveal that secret because of a higher risk assessment. The RRM model supports the idea that people are more comfortable sharing information with only close friends, but the number of people that an individual deems as close can vary greatly. In our study, the reveal variable seeks to determine if an individual will be willing to share information outside of their close group of friends, the findings from the RRM would suggest that most people would be less likely to be open with people that aren’t as close to them. This indicates that many people will have a lower level of openness in our study due to the reveal subset.

**Privacy.** The second sub-variable of openness is referred to as the ‘privacy’ variable, and measures participants’ concern for discretion. Concern for privacy refers to the opinion of how much information should be allowed to be public. Previous studies have shown that
individuals who are more concerned with what others will do with their private information are less likely to be revealing with others and acknowledges that there is an emotional component to self-disclosure (Ross, Hesse, & Rauscher, 2013). Individuals develop rules for handling private information according to the Communication Privacy Management Theory, which was used as a basis for the study (Hesse, & Rauscher, 2013). However, the effects of a privacy orientation on mental and physical health were not analyzed, creating a need for further research. This is important to the current study because the level of uncertainty that an individual experiences when losing control of their personal information can predict a habitual tendency towards privacy that could develop and hinder future openness, the effects of which are not known. Privacy is based on the degree an individual believes others have the right to know their personal information and the autonomy that they wish to maintain over that information (Kennedy-Lightsey, Martin, Thompson, Himes, & Clingerman, 2012). This subset of openness is based on how individuals predict the information they give out to others will be treated. Some individuals do not care if their personal details are widely known while others have very strict privacy rules within their group of friends that have to be respected. The degree to which an individual values privacy could be very strongly connected with the level of anxiety they will experience once that information is given out, whether to a close friend or a wide group.

Valence. The final sub-section of the openness variable is valence, which is defined as the willingness to share both positive and negative information about oneself with others. The valence measures were adapted from McKinney, Kelly, and Duran (2012). Previous research (Stiles, Shuster, & Harrigan, 1992) suggests that sharing negative information can have a cathartic effect that comes from sharing the burden of a secret with someone who can offer some relief. However, the valence of the information being shared is considered in a purely
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Instrumental sense as a tool to diminish stress and anxiety, and does not consider the self-presentation aspect of revealing negative information (Stiles et al., 1992). When individuals decide what information they will share with others, the expected reaction and the risk of a negative reaction is usually one of the first concerns (Afifi & Steuber, 2009). Therefore, people are more likely to share positive than negative information. However, the liberating effect that sharing negative information, an assumption can be made that the sharing of both positive and negative information can be beneficial to health.

**Perceived Stress**

The second aspect of this study seeks to examine participants’ perceived levels of stress when sharing information. The variable specifically looks at the degree to which the participants deem certain life-situations stressful. Stress is defined as “negative, cognitive, and emotional states elicited when people realize that the demands placed on them by the environment exceed their ability to cope” (Ng, Diener, Aurora, & Harter, 2008, p. 258) and is seen as “an inevitable consequence of social organization” (Aneshensel, 1992, p. 16). While stress covers a broad variety of topics and psychological feelings, the concept of perceived stress examines a participant's determined level of self-esteem. In general, stress levels will elevate when participants are unhappy (Ng et al., 2008). Past studies on stress levels (Aneshensel, 1992; Segrin & Passalacqua, 2010) examine various factors that attribute to this psychological state of being. These factors include levels of loneliness, willingness to seek social support, economic status, social status, as well as understanding the differences between acute and chronic stress.

While examining the relationship between loneliness and perceived levels of stress, Segrin and Passalacqua (2010) determined that with stress as a health factor, rising stress levels lead to worse physical and mental health. Research also concluded that the lonelier a participant
is, the less likely he/she will seek out social support. Perceived levels of stress are determined by age as well. Elderly participants are found to suffer from chronic stress, whereas younger participants experience greater amounts of acute stress (Aneshensel, 1992). Acute stress includes variances in participants’ lifestyles as well as general life aspirations (Aneshensel, 1992).

Past examinations on perceived levels of stress touch on several variables that share a relationship with stress levels; however, research has yet to examine the direct relationship between openness and perceived levels of stress. Although Segrin and Passalacqua (2010) examine levels of stress with social support and loneliness, their conclusions do not directly discuss whether participants’ perceived levels of stress would decrease with greater amounts of openness.

**Rationale.** Although anxiety and stress are inescapable, both can be very challenging for individuals on a day-to-day basis. The reality and struggle of stress makes it a topic worth studying. Past research has been conducted on the relationship between openness and perceived levels of stress for an individual. According to the fever model of self-disclosure, individuals tend to disclose more when they are distressed, in an attempt to relieve anxiety symptoms (Stiles et al., 1992). This research shows that disclosing negative information can help reduce stress levels. The Fever Model led us to believe that stress levels can be reduced when one is open about all topics, instead of only negative issues. Openness about negative topics helps reduce stress, so it can be inferred that if one is more open about positive events it will also correlate to lower perceived levels of stress.

Numerous events in life can be perceived as distressing and thus individuals attempt to relieve their stress through any method possible. According to a recent study, individuals often
share information on Facebook in an attempt to receive emotional support from others, which in turn reduces stress levels (Wright, 2012). Although emotional support from others helps lower stress levels, the current study focuses more on individuals with openness tendencies and its effects on perceived levels of stress, rather than support from the outside. In addition to this, we believe lower concern for privacy when disclosing both positive and negative information will lower stress levels. As a result this study will test the following hypotheses:

\[ H_1: \text{Greater willingness to be open and self-disclose with a wide group of friends will be related to lower perceived levels of stress.} \]

\[ H_2: \text{Lower concern for privacy will be related to lower perceived levels of stress.} \]

\[ H_3: \text{Greater willingness to share both negative and positive information about oneself will be related to lower perceived levels of stress.} \]

**Facebook Openness**

Some researchers believe Facebook use may be considered a form of narcissism, while others argue that it is more of an intimacy-building tool (McKinney et al., 2012). Results indicating narcissism show that both the desire to have many Facebook friends and the belief that those friends are interested in what the individual does lead them to post self focused photos and status updates. On the other hand, these actions were not seen as narcissistic when researchers took into account the size of one's network and the number of photos posted, in connection to the personality trait of being an extrovert (McKinney et al., 2012). In addition to this finding, the researchers did determine that Facebook users demonstrated more egotistical traits than non-users; apparently the amount of time spent on Facebook is unrelated. Overall it was determined that if an individual is an extrovert, they are more likely to post more openly on Facebook, whereas an introvert is less likely, and neither are narcissists. It was found that Facebook
openness is mainly related to maintaining contact with one’s friends and their overall social network.

Another study found that computer-mediated emotional openness is directly related to one’s desire and ability to show his or her affection via the Internet (Ross et al., 2009). Internet communication also can reflect affection back onto oneself, as it is possible to join groups that are far beyond geographical reach. This fulfills individual’s desire for attention, among other things. It’s interesting to note that people who consider themselves better at communicating online, are more likely to build longer lasting relations with people they talk to online, and value these interactions more than those they have in person (Ross et al., 2009). It was determined that heavy users of Facebook tend to come from lower educational backgrounds and are more motivated by entertainment compared to the infrequent users of Facebook. Individuals that use Facebook more openly are not necessarily more or less educated, but Facebook usage is determined by the overall purpose of using the social media site. Overall people use Facebook to fulfill different needs, but openness is generally dependent on personality traits, and the goals individuals are trying to complete by sharing information online.

**Rationale.** Social media is quickly becoming a part of how individuals primarily communicate with others. Facebook is one of the many platforms of social media, where people can “friend” other users and stay connected by sharing status updates, photos, and other life experiences. In this study, we will examine how the ability to share information online is connected to participant’s general attitudes about openness. This led us to the fourth hypothesis: $H_4$: Participants’ openness on Facebook will be positively associated with their general attitudes about openness.
Methods

Participants

The sample (N = 599) consists of 442 females and 114 males (did not respond n = 43) with an average age of 26.22 years (SD = 10.843, range = 18-70). The race/ethnicity breakdown is White (n = 389), Asian (n = 67), Hispanic Latino (n = 47), Bi/multiracial (n = 28), Black or African American (n = 14), American Indian or Alaska native (n = 5), Native Hawaiian or other Pacific Islander (n = 4), and other (n = 1; did not respond n = 44). Participant’s choices for the education level demographic include high school degree or GED (n = 13), some college (n = 292), college (n = 150), some graduate school (n = 31), graduate school (n = 68, did not respond n = 45). The number of participants that are currently college students is (n = 332) and those not attending college/university is (n = 216; did not respond n = 51).

In the section of the study observing participant social network usage participants answered questions such as, “about how many total Facebook friends do you have currently have?” The average mean number of Facebook friends is 702.65 (SD = 505.333, range = 20-4900). Another question included in the study about Facebook behavior asked, “On average, approximately how many minutes per day do you spend on Facebook?” Participants choose from six valid options, ranging from less than 10 minutes to more than three hours. Participants report the amount of time spent on Facebook per day by choosing one of the following options: less than 10 minutes (n = 52), 10-30 minutes (n = 154), 31-60 minutes (n = 160), 1-2 hours (n = 149), 2-3 hours (n = 51), more than 3 hours (n = 31, did not respond n = 2).

Another question about social network usage asked, “which site do you consider to be your primary social network (i.e., the one where you spend the most time and where you tend to engage in the most interaction with other users?” The breakdown of social network usage is:
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Facebook \((n = 406)\), Instagram \((n = 120)\), Twitter \((n = 38)\), Tumblr \((n = 21)\), LinkedIn \((n = 8)\), and other social media \((n = 4, \text{ did not respond } n = 2)\).

**Measures**

**General attitude about openness.** Participants’ general attitudes about openness including the subsets of reveal, valence, and privacy are assessed. The general attitude about openness variable is adapted from a combined 14-item scale from McKinney, Kelly, and Duran (2012). When asked how generally open participants’ are, they answered questions analyzing their attitudes about privacy, including willingness to share information with others. All items are scored on a 1 to 7 scale, with 1 being strongly disagree and 7 being strongly agree. Participants are asked questions including “I generally let people know only the good things about me” to assess their willingness to reveal. The reveal variable has a mean of 3.67, a standard deviation of 1.20, and a Cronbach’s alpha score of .83 on a 6-item scale. When analyzing the valence variable the survey asks participants’ questions including, “I let very few people know what I’ve been up to lately.” The valence variable has a mean of 4.37, a standard deviation of 1.11, and a Cronbach’s alpha score of .68 on a 4-item scale. The privacy variable contained questions including, “people worry too much about their privacy.” The privacy variable has a mean of 4.99, standard deviation of 1.14, and a Cronbach’s alpha score of .69 on a 4-item scale.

**Perceived stress level.** The general perceived stress level variable is assessed using a 4-item short-form measure from Cohen, Kamarck, and Mermelstein (1983). All stress items are measured on a scale of 1 to 5, with 1 being never and 5 being often. Participants answer questions regarding general perceived levels of stress including, “in the last month how often
have you felt that you were unable to control the important things in your life?” This variable has a mean of 2.58, standard deviation of .80, and a Cronbach’s alpha of .79.

**Facebook openness.** Openness on Facebook is established through a 3-item measure from Dainton (2013). All Facebook openness items are measured on a scale of 1 to 7, with 1 being strongly disagree and 7 being strongly agree. Each variable is analyzed by several questions in the survey including, “when I have good news I post about it on Facebook.” This variable has a mean of 3.57, standard deviation of 1.56, and a Cronbach’s alpha of .67.

**Procedures**

In order to participate in the survey for this study, individuals are expected to meet two requirements: be at least 18 years of age, and have a Facebook account. Members of the research team provided potential participants with a flyer discussing different aspects of the Facebook sharing study in detail. The flyer informs participants that participation is voluntary and that each participant remains anonymous during the research process. Individuals who agreed to the terms listed on the flyer were sent an email with a link to the survey. After the survey is accessed online, participants answer a variety of questions pertaining to sharing important news on Facebook, openness and stress. The entire survey took individuals about 15-20 minutes to complete.

For this study, a convenience sample technique was used; participants were recruited based on their close proximity and accessibility. A snowball sampling technique was also used; those who had already taken the survey recruited new participants through word of mouth. Posting the survey link on various social media sites allowed participants to easily access the survey and spread the word to other friends.
Results

To study the first three hypotheses, which examined the relationship between different aspects of openness and perceived levels of stress, the correlation between variables was tested. 

H1 predicted a negative relationship between one’s attitude about sharing information with a wide group of friends and perceived stress level, meaning the more likely one is to share information with a wide group, the lower the reported level of stress. The relationship between perceived stress levels and the reveal variable of openness was tested with a two-tailed bivariate test; the correlation was negative ($r = -0.02$) but not significant ($p = 0.36$). The relationship between perceived stress and the reveal variable was in the predicted direction but not significant. Therefore, H1 is not supported.

H2 predicted a positive relationship between privacy and perceived stress level, such that lower concern for privacy will be related to lower levels of perceived stress. The relationship between perceived stress levels and the privacy variable of openness was tested with a two-tailed bivariate test of correlation; the correlation was positive ($r = 0.01$), but not significant ($p = 0.43$). The relationship between privacy and stress was in the predicted direction, but not significant. Therefore, H2 was not supported.

H3 predicted a negative relationship between perceived stress level and valence, such that greater willingness to share both positive and negative information about oneself will lead to lower stress. The relationship between perceived stress levels and the valence variable of openness was tested with a two-tailed bivariate test of correlation; the correlation was negative ($r = -0.01$) but not significant ($p = 0.42$). The relationship between the variables was in the predicted direction, but not significant. Therefore, H3 was not supported.
H4 predicted a positive relationship between the openness on Facebook and general attitude about openness variables. The relationship between openness on Facebook and general openness was tested with a series of two-tailed bivariate tests of correlation. The relationship between Facebook openness and the reveal variable was positive ($r = .29$) and significant ($p = < .001$) showing that the more open one is with a wide group of people, the more open they will likely be on Facebook. The relationship between Facebook openness and the privacy variable was negative ($r = -.12$) and significant ($p = < .01$), showing that the more participants were found to be open on Facebook, the less concerned with privacy they were. The relationship between Facebook openness and the valence variable of openness was positive ($r = .03$) but not significant ($p = .15$), showing that there is not a strong enough correlation between Facebook openness and sharing positive and negative information behaviors. Therefore, H4 was partially supported.

**Discussion**

The primary purpose of this study was to analyze how different communication and openness behaviors are related to levels of stress. We aimed to look at these two variables in the context of both face-to-face interactions as well as computer-mediated communication. In doing so, we proposed several hypotheses that surrounded openness and its correlation to perceived stress levels. The results of our study indicate that the relationship between one’s openness to sharing information and his or her perceived stress levels is not significant and thus our hypotheses regarding these two variables are not supported. However, our research found that there is a significant relationship between one’s openness on Facebook and his or her general attitude about openness. The result of our analysis has led us to believe that openness and its benefits are more contextual than previously thought.
Stress and Openness

The study of communication and how it relates to stress is a very important area that can help in everyday communication scenarios. Stress is a huge concern and health risk factor in day-to-day life, and as such, there is a constant search to find methods that will alleviate or reduce stress levels. While none of our hypotheses led to fully conclusive results, the results achieved relating to stress and openness can help guide communication behaviors to strategically alleviate stress levels. The Fever Model of Disclosure and Anxiety (Stiles, Schuster & Harrigan, 1992) found that participants tend to disclose more when describing an anxiety-inducing event than when describing a happy event. These findings in conjunction with our findings suggest that disclosing information about stressful events may not only be cathartic in nature, but may also be more natural to share.

However, the unsupported hypotheses in our findings suggest a more important idea: that communication may not be as important in helping to reduce stress as many other studies suggest it is. Previous studies (Stiles, Schuster & Harrigan, 1992; Hesse, Rauscher, 2013) suggest a cathartic effect from disclosing information that helps to reduce stress; however our findings show that in a study of a large population there is no significant connection between three different openness variables and stress. This could suggest that it is not simply the act of being open that helps reduce stress. The openness variables studied in correlation with stress may have been too broad to determine accurately the effects that openness have on stress, as certain personality factors were not taken into account.

Our findings suggest that the benefits of openness can be determined on a case-by-case basis. Those people that enjoy being open might receive benefits from sharing, while introverts may actually experience heightened stress levels at the thought of being open, face-to-face or
online. This idea was supported by our findings, as the only hypothesis that was partially supported is H4, which studies the connection between openness on Facebook and openness in face-to-face interactions. The results found that openness on Facebook could be connected to both the reveal and privacy subsets of openness observed in this study. It was found that the more open a person is with a wide group of people, the more open one is likely to be on Facebook.

**Implications**

With the results determining that openness on Facebook could be connected to aspects of general openness attitudes, this finding could help us better understand activity on Facebook and determine personality types based on Facebook activity alone. When a person is exceptionally open on Facebook, their activity can be viewed as an outlet where they can further share their feelings with a wide group. The cathartic effects of openness can be further enhanced for those with a proclivity towards openness through the use of Facebook if they are not getting the stimulation of openness that they require in a face-to-face context.

The second subset of openness that was found to be significantly related to stress is the privacy subset, it was found that the more concerned with privacy participants were, the less open they tend to be on Facebook. This finding is important because it suggests that there is a concern about the invasion of privacy on social media, particularly Facebook. In a digital age of sharing information online, this finding indicates that while participants are willing to upload much of their personal demographic information to Facebook, the frequency of sharing material and the kind of information that is shared is still contingent on the idea of protecting privacy.

The importance of privacy on Facebook can help us better understand the utility of Facebook and social media to users that are not looking to share information, but receive it.
Facebook can serve as an outlet for people with an inclination towards openness, or a source of information for those with high concern for privacy. The more individuals understand the possible outcomes of communication behaviors, the more strategically it can be used to benefit differing personality types. Our study offers just a glimpse into the purpose of openness and how it can be used as a cathartic release, or avoided to reduce communication anxiety.

**Limitations**

While the present study offers communicative contributions to the ways in which participants can share news on Facebook, limitations must be noted. One limitation of the study is that it is not a random representative sample of our population. Although there was a large sample size with 599 participants, the gender distribution of 442 females and 114 males was heavily skewed towards females. Another limitation is that participants control when and where they take the online-based survey. Therefore it is not a true random sample.

In terms of methodology, only specific aspects of openness in relation to stress were studied instead of a more overarching concept of openness that could have led to more conclusive results. Another limitation could be that the survey was focused on Facebook and we were studying social media in general. This could have potentially skewed results.

Although there was a wide age range of participants ranging from 18-70 years old, it might also be interesting to see how our study affects high school age teens. Teens under 18 years old will be useful to add to our study because they are more susceptible to sharing news on social media and Facebook, and are one of the most socially active demographics.
Conclusion

The goal of our study was to look at openness and how it related to Facebook activity and perceived stress levels. Our study did not result in many significant findings; but the lack of a connection between openness and stress necessitate further research into the topic to better understand the nuances of human interaction in relation to stress. The results of this study have led us to believe that there are more factors to consider in the relationship between the two variables. Further research into stress, openness and personality type could help to illuminate the benefits and costs of openness to different types of people via different mediums.

Our fourth hypothesis was supported, and it led to the conclusion that if an individual is open in real life with a large group of people, they’re more likely to be open on Facebook. The study suggests that further research into the relationship between stress level, openness and participation on social media is much needed.
References


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