Self-Disclosure on Facebook: The Effects of Ego-Depletion and Audience Composition

Research Thesis

Presented in partial fulfillment of the requirements for graduation with research distinction in Psychology in the undergraduate colleges of The Ohio State University

by

Larissa C. Hall

The Ohio State University
April 2013

Project Advisor: Dr. Bradley M. Okdie, Department of Psychology
Abstract

The extent to which individuals disclose personal information about themselves online continues to rise. Along with this increase, the number of individuals disclosing potentially damaging information is also increasing. The purpose of the current study was to investigate why people use Facebook in order to disclose personal information about themselves that may lead to negative consequences. College students from The Ohio State University at Newark were instructed to watch a video that would engage their self-control resources. For some, the task depleted their regulatory resources. After watching this video, the participants were asked to write about a day in their life when they felt very upset. Participants were informed of whom the information would be sent to: close Facebook friends, Facebook acquaintances, random Facebook users, or no one. It was hypothesized that the self-disclosure of potentially damaging information on Facebook may be due to a failure in self-regulation and the potential audience of the self-disclosure. Results revealed that the composition of the audience, but not self-control, affected the amount of participants’ self-disclosure. Moreover, the predicted self-control by audience interaction did not increase participant self-disclosure. The results of the current study suggest that self-disclosure online may be motivated by self-presentation rather than caused by a failure in self-regulation.
Self-Disclosure on Facebook: The Effects of Ego-Depletion and Audience Composition

In 2010, a teacher in Massachusetts was fired for calling her students “germ bags” in a status update on Facebook. She also called her students’ parents “snobby” and “arrogant.” The teacher claimed that she did not realize this information would be made available to everyone and that there might be consequences for saying these things on Facebook (CBS News, 2010). There have been multiple instances where people have been fired from their jobs because of disclosing negative information online (CBS News, 2010; Smith & Kanalley, 2010; Dolak, 2013). While there is no shortage of media reports on the topic, very little empirical research has systematically examined why individuals may engage in behavior that could have such far reaching negative consequences.

As the use of technology for interpersonal communication continues to grow and advance, the potential for individuals to disclose potentially damaging information (i.e., negative self-disclosure) is also likely to increase. Social networking sites are one of the most popular ways to communicate online due to their prevalence and ease of use. The present study examined why people engage in negative online self-disclosure by manipulating self-control and the composition of the audience.

Self-Disclosure

On a daily basis, people inform others about what is happening in their lives. This sharing of information about oneself is termed self-disclosure and is a process essential to interpersonal relationships (Altman & Taylor, 1973). Owing to advances in technology, this sharing of information can now take place online or in face-to-face (FtF) contexts. Ample research has been conducted on how self-disclosure processes influence interpersonal relationships in FtF settings (Kelly & McKillop, 1996; Collins & Miller, 1994; Altman & Taylor, 1973). Research suggests
that individuals disclose more to those that they like and that they like those to whom they disclose (Collins & Miller, 1994). Moreover, females typically disclose more than males, and it has been suggested that certain personality types may contribute to more self-disclosure (Cozby, 1973).

Social penetration theory suggests that what a person decides to disclose is determined by the rewards or the costs of their actions (Altman & Taylor, 1973). Derlega, Wilson, & Chaikin (1976) found that individuals disclosing to strangers that had disclosed more intimate information were likely to reciprocate the same amount of self-disclosure. When meeting strangers it may be necessary to monitor one’s behavior and base the level of intimate self-disclosure on that of the stranger (Derlega, Wilson, & Chaikin, 1976). They also found that this reciprocation is not necessary when disclosing to close friends because these friendships do not require one to act in a certain way, and a sense of trust has already been formed (Derlega, Wilson, & Chaikin, 1976).

Individuals may also disclose based on the sensitivity of the information (Kelly & McKillop, 1996). Most of the time, people will not engage in intimate self-disclosure if they do not know the person well. More sensitive information may be inappropriate when talking to someone that one just met in comparison to someone they have known for years. Disclosing information that is too intimate may be detrimental to any relationship. Some have suggested that disclosing a “medium” amount may indicate that an individual desires a close relationship. Disclosing too much may lead to a perception that the individual lacks discretion and is likely to be seen as untrustworthy (Levin & Gergen, 1969). Increasing the intimacy of self-disclosure may be rewarding, but it also comes with a cost to the relationship if too much intimacy is disclosed too soon (Cozby, 1973).
Little research has been conducted on how self-disclosure operates when one is interacting in an online environment. Self-disclosure may operate differently online than it does in FtF situations. There are many ways to disclose online. People use instant messaging, e-mail, and, perhaps the most popular places, social networking sites (an online platform for creating networks of friends). On these sites, individuals can disclose in numerous ways such as writing a blog, updating their status, sharing pictures, and socially approving (i.e., like) posts that were created by others. It is even possible to disclose your exact location to anyone around the world making online self-disclosure inherently different from FtF self-disclosure. Additionally, there are, potentially, millions of people that one could be disclosing to in a single incidence of online self-disclosure—a situation highly unlikely to occur in FtF communication. Moreover, communication online allows individuals to remain anonymous and communicate with anyone around the world regardless of geographical distance. Research indicates that individuals who blog and refrain from giving personal information that could identify them feel more anonymous and self-disclose more (Qian & Scott, 2007). Moreover, if one indicates their age, gender, and relationship status on social networking sites (such as Facebook) they are more likely to self-disclose in general (Nosko, Wood, & Molema, 2010). This indicates that there may be a motive for disclosing or that there are certain personalities in which people disclose more intimate information. People that do not disclose these things are being more discrete and will therefore be less likely to self-disclose (Nosko, Wood, & Molema, 2010). Thus, there may be personality differences between individuals that would lead to differential self-disclosure.

Beyond personality differences, self-disclosure in online environments can be motivated by self-presentation as well as showing off and entertainment (Lee, Im, & Taylor, 2008). These motivations are very similar to motivations to disclose in FtF interactions. As stated, a goal of
FtF self-disclosure may be to increase liking (Kelly & McKillop, 1996). When individuals are motivated to increase liking they are also more likely to engage in self-presentation. In order to self-disclose one has to be motivated to share, and that motivation may stem from self-presentational concerns. However, it is possible that there are differences in the motivations behind text-based online self-disclosure because while communicating online, one does not see the face of the person they are communicating to, and others cannot see them. Thus, individuals may engage in selective self-presentation and present themselves favorably to others (Guadagno, Okdie, & Kruse, 2012).

**Self-control**

While much research has examined self-disclosure in a general sense, little research has identified the possible psychological mechanisms responsible for negative self-disclosure online. One possibility for the existence of negative self-disclosure may be a failure to regulate one’s behavior. Some research suggests that self-regulation may be a limited resource and that once this regulatory pool of resources is depleted, engaging in subsequent self-control becomes increasingly difficult. Multiple studies have supported this resource depletion model (Baumeister, Bratslavsky, Muraven, & Tice, 1998; Masicampo & Baumeister, 2008; Muraven & Baumeister, 2000; Tice, Baumeister, Schmueli, & Muraven, 2007). In one study, participants arrived in the lab to find a plate of freshly baked cookies and a bowl of radishes on the table. Those whose self-regulation was being depleted were told that they could have all of the radishes they wanted but no cookies—this required most participants to engage in self-regulation to refrain from eating the cookies. Engaging in self-regulation by resisting the urge to consume the cookies led to a reduction in the individuals’ available pool of self-regulatory resources. Immediately following the self-regulation manipulation, participants were given an unsolvable
puzzle task and told to persist at the task for as long as they could. Participants who had previously engaged in self-regulation (i.e., used up some of their regulatory pool of resources), spent less time trying to solve puzzle than those who were not depleted. The authors interpreted this result as support for the resource depletion model (Baumeister, Bratslavsky, Muraven, & Tice, 1998). Thus, it appears that engaging in behaviors or activities that lessen this pool is likely to lead to an inability to control future behavior.

One behavior that individuals may be unable to regulate when their self-regulatory resources have been depleted is self-disclosure. That is, individuals may be more likely to engage in negative self-disclosure after a situation in which they have engaged in self-regulation due to a lack of available resources. Therefore, individuals may engage in negative self-disclosure because their self-regulation resources have been depleted. Thus, individuals who lack self-regulatory resources may be likely to disclose more than they intended.

A study done by Vohs, Baumeister, and Ciarocco (2005) revealed that a lack of self-regulatory resources can lead to increased self-disclosure. The authors report that those whose resources had been depleted, and then were asked to self-disclose, either disclosed with too much intimacy or not enough to form a favorable impression. Participants tended to present themselves as egotistical and arrogant due to their lack of self-control. Therefore, when self-control resources are depleted it is more difficult to present oneself in a socially desirable manner when self-disclosing (Vohs, Baumeister, & Ciarocco, 2005).

**Audience Composition**

Additionally, the regulation of the disclosure of personal information may also be affected by audience composition. The presence of an audience can affect what people do and say in many situations. Past research suggests that having an audience helps individuals to do
better on simple tasks and worse during complicated non-procedural tasks (Bond & Titus, 1983). Additionally, participants might be more likely to present themselves in a favorable manner in order to seem competent. People do better on tasks they are good at and do worse on tasks they are unfamiliar with even in the presence of a virtual human (Park & Cantrambone, 2007). Thus, there is some evidence that the audience effects that have been demonstrated in the FtF research may transfer to online settings.

Outside of general audience effects, the composition of the audience may also matter. That is, individuals may be more likely to engage in negative self-disclosure when the audience is made up of close friends rather than strangers. Research suggests that audience size, familiarity, and dissimilarity affect audience anxiety (Ayres, 1990). If one is presenting in front of a large audience, they are more likely to be anxious. They are also more likely to be anxious if they are not familiar with the group, or if they are presenting in front of a group that is not similar to themselves.

In a study done on self-disclosure and computer mediated communication, it was found that when women are disclosing to other women that their conversations were much different if they were in a mixed gender group (Savicki & Kelley, 2000). In an online environment it is more difficult to choose to whom one wishes to disclose. One may be more comfortable disclosing to one group and not another. The ability to disclose differently to different groups allows an ease of self-presentation that is absent from some forms of online communication, such as Facebook, where individuals are faced with an arena in which they are presented with multiple audiences.

**Current Study**

It is clear that, despite the potential consequences, individuals continue to engage in intimate online self-disclosure. Why might individuals continually engage in a behavior that has
the potential to engender negative consequences? It is proposed that this continued engagement in risky behavior might be driven by a failure in self-regulation as well as the composition of the audience that one perceives they are disclosing to.

It is hypothesized that:

1. Participants whose regulatory resources have been depleted will disclose more personal information than those whose regulatory resources have not been depleted.
2. Participants will disclose more intimate information to close friends than they will to acquaintances, random Facebook users, or no audience.
3. The interaction between the ego-depletion and audience composition will be described in the following table. The “+” indicates intimate self-disclosure, and the “-” indicates little or no self-disclosure.

<table>
<thead>
<tr>
<th>Depletion</th>
<th>Close Friends</th>
<th>Acquaintances</th>
<th>Random Users</th>
<th>No Audience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depletion</td>
<td>++</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>No-Depletion</td>
<td>+</td>
<td>-</td>
<td>_ _</td>
<td>+</td>
</tr>
</tbody>
</table>

Method

Participants

One hundred and seventy-one students (69 Men, 102 Women) from The Ohio State University Newark campus enrolled in Psychology 1100 participated in this study for partial course credit. Participants’ age ranged from 18-45 with a mean age of 18.84 (SD=2.72).

Participants reported their ethnicity: 126 were Caucasian, 20 were African American, 1 was Hispanic, and 24 identified as Other.

Design
A 2 (Self-regulation: depletion vs. no-depletion) by 4 (Audience Composition: close friends, acquaintances, random Facebook users, and no audience) between subjects design was used in this study.

**Procedure**

During Phase 1, after giving informed consent, participants were presented with a series of questionnaires that contained personality measures and other necessary information such as demographics and questions about each participant’s Facebook usage. This was done to ensure that the participants’ regulatory resources would not be depleted during Phase 2 of the experiment. All measures given during Phase 1 were part of a larger study and were not used in the current study.

During Phase 2, participants were informed that the study was dealing with nonverbal assessments of personality and were assigned to either the depletion condition or the no-depletion condition. Those in both conditions were instructed to watch a 6-minute video without sound of a woman being interviewed by an interviewer that is off camera. As the woman is interviewed a series of words appears in the lower right portion of the screen. Those placed in the depletion condition were instructed to avoid looking at the words in the lower right part of the screen, and if they did look at the words to immediately direct their attention back to the woman being interviewed. Participants in the no-depletion condition were given no instructions. Those told to avoid reading the words in the lower right portion of the screen are forced to control the implicit urge to read the words using up some of their available self-regulatory resources. The video has been used successfully in past studies and was adapted for the current study (Masicampo & Baumeister, 2008; Schmeichel, Vohs, Baumeister, 2003).
After watching the video, participants were then presented with the following prompt—“Describe a day in your life when you felt very upset.” This prompt was chosen to allow for sufficient variance in participant self-disclosure and to ask participants to disclose self-information that they would normally not be motivated to disclose in public. Participants were told that their response to the prompt would be presented to 1 of 3 audiences: 15 of their closest Facebook friends, 15 of their Facebook acquaintances, or 15 random users on Facebook. Participants in the control group were simply given the prompt and asked to write. To avoid confounding group composition with group size, group size was held constant for each level of composition. After writing about the prompt, those in audience conditions were reminded that their writing would be sent to their assigned group and were then asked to submit their writing.

After submitting their writing, the participants were given instructions to complete a survey. This survey mimicked something one might see on a social networking site such as Facebook. It asked participants a series of personal questions that would be seen on an online profile. Participants were told the survey was for creating a profile on the new Ohio State University social network. The instructions said, “The Ohio State University is starting a new social network. Because you are a student here, we would like you to join! Answer the following questions to create your profile. Feel free to leave any of the questions blank.” Questions like, “Where are you employed?” and “What is your sexual orientation?” were included in the survey. Also, there were sections where participants were able to type in their favorite musical artists and movies. After the survey was complete, participants were given course credit and dismissed.

A text analysis program entitled Linguistic Inquiry and Word Count (LIWC), was used to analyze the participant’s response to the prompt (Pennebaker, Booth, & Francis, 2007). LIWC processes text files and provides an output of the percentage of various words that are grouped
into categories such as personal pronouns, happy words, sad words, angry words, and using “I.” The program is also able to provide an exact word count for the text. For the purposes of this study, the category of personal pronouns was used to calculate the percentage of self-disclosure.

**Measures**

**Self-disclosure prompt.** A prompt was given in order to engage the participants in negative self-disclosure. The prompt states, “Describe a day in your life when you felt very upset.”

**Fictitious Facebook questionnaire.** This was given in order to give the participants another chance to self-disclose. It consists of twenty questions one would see on Facebook such as, “Where are you employed?” and “What high school did you go to?” Participants were not required to answer these questions.

**Demographics.** Four questions regarding demographics were presented as well as a question on how difficult the ego-depletion manipulation was to watch.

**Results**

To examine the effect of self-control and audience composition on self-disclosure a series of 2x4 between subjects ANOVA’s were conducted. Participant self-disclosure was operationalized as the extent to which individuals used personal pronouns in response to the prompt, the extent to which participants answered questions on the fictitious social networking questionnaire, and total word count.

**Personal Pronouns**

To examine the effect of audience composition and self-control on negative self-disclosure the number of personal pronouns used in participants response to the prompt were analyzed using LIWC (Pennebaker, Booth, & Francis, 2001). The predicted self-control main
effect was not significant, $F(1,163) = .61, p = .41, \eta^2 = .004$. However, the results revealed a significant main effect for audience composition, $F(3,163) = 5.518, p = .001, \eta^2 = .092$.

Specifically, the results show that those disclosing to acquaintances ($M = 12.27, SD = 5.68$) disclosed less personal information than those disclosing to close friends ($M = 15.98, SD = 6.87$), or no audience ($M = 16.41, SD = 5.43$), $p < .05$. The amount disclosed to acquaintances was not significantly different compared to random users, ($M = 16.01, SD = 4.78$). Moreover, the predicted audience type by self-control interaction was not significant, $F(3,163) = .34, p > .05, \eta^2 = .006$.

**Facebook Questionnaire**

In addition to disclosing to the given prompt, participants completed a questionnaire that is similar to what one would see on Facebook. They were informed that they did not have to answer any of the questions, so each answer was operationally defined as additional self-disclosure. Thus, self-disclosure was analyzed using the total amount of questions answered on the Facebook questionnaire as the dependent variable. The effect of audience composition was not used in this analysis as participants were informed that this information was not going to be displayed to the same audiences as the response to the prompt. The self-control main effect was not significant, $F(1,163) = .89, p = .34, \eta^2 = .01$.

**Personal Pronouns and Facebook Questionnaire Responses**

The number of personal pronouns and Facebook questionnaire responses are not highly correlated, $r(169) = -.12, p > .05$. However, in order to determine the total amount of self-disclosure provided by participants across the experimental procedure, the number of personal pronouns and the number of questions answered during the Facebook questionnaire were combined. Participants were informed that they were not required to fill out any of the questions
in the Facebook questionnaire. Thus, answering a question in any capacity was conceptualized as self-disclosure. Combining the number of personal pronouns and the number of answered questions in the Facebook questionnaire provides an index of total self-disclosure across the experimental procedure. The predicted self-control main effect was not significant, $F(1, 163) = .07, p = .78, \eta^2 < .001$. There was a significant main effect for audience type, $F(3, 163) = 3.67, p = .01, \eta^2 = .063$. Specifically, participants disclosed significantly less personal information to acquaintances ($M = 27.56, SD = 7.24$) than to close friends ($M = 31.22, SD = 6.52$), random users ($M = 29.76, SD = 6.97$), or no audience ($M = 32.02, SD = 6.94$), $p < .05$. The predicted audience type by self-control interaction was not significant, $F(3, 163) = .76, p = .51, \eta^2 = .014$.

**Word Count**

To examine the effect of self-control and audience composition on self-disclosure at a general level, the total word count for each participant’s response to the prompt was calculated in LIWC. There was a significant gender by self-control by audience type three-way interaction, $F(3, 155) = 4.23, p = .007, \eta^2 = .076$. Specifically, males who did not have their regulatory resources depleted and thought that they were disclosing to close friends disclosed more ($M = 112.85, SD = 120.72$) than males who were not depleted and disclosing to acquaintances ($M = 57.55, SD = 30.78$), random people ($M = 42.29, SD = 37.80$), or no audience ($M = 34.11, SD = 34.25$). This is also different from females who were not depleted and disclosing to close friends ($M = 32.92, SD = 23.50$), acquaintances ($M = 35.25, SD = 50.42$), random people ($M = 52.56, SD = 21.97$), or no audience ($M = 85.31, SD = 46.43$) $p < .05$.

There was not a significant interaction among males that were depleted and disclosing to their close friends ($M = 21, SD = 14.79$), acquaintances ($M = 31.81, SD = 21.91$), random users ($M = 54.70, SD = 30.76$), or no audience ($M = 37.87, SD = 23.82$). Additionally, there was not a
significant interaction among depleted females disclosing to their close friends ($M = 48, SD = 46.85$), acquaintances ($M = 39.92, SD = 29.31$), random users ($M = 80.85, SD = 51.16$), or no audience ($M = 52.76, SD = 25.78$).

**Discussion**

The current study examined why individuals engage in online self-disclosure that has the potential for negative life consequences. It was thought that self-control and audience type would moderate the extent to which individuals would engage in negative online self-disclosure. Therefore, it was hypothesized that those who lacked self-control would engage in more negative self-disclosure. No support was found for this hypothesis. Results of the current study indicate that negative self-disclosure is not more likely to occur when an individual’s self-control resources have been depleted as hypothesized. There are several possible reasons why this effect failed to reach significance in the current study. It may be the case that self-control is unrelated to negative online self-disclosure or that individuals do not see negative online self-disclosure as something that they need to inhibit. That is, self-control should only affect negative online self-disclosure to the extent that individuals feel the need to inhibit what they are saying online and are aware of the potential negative consequences of disclosing potentially volatile information online. Recent research has noted that individuals often underestimate the size of their audiences in online environments (Bernstein, Bakshy, Burke, Karrer, 2013) which may lead to a decreased desire to control the content of the self-disclosure expressed in online environments. It may also be the case that the self-control manipulation was not powerful enough or did not have the desired effect of a reduction in self-control resources. The current data do not allow for a quantitative examination of this hypothesis as no manipulation checks were employed in the current study owing to the sensitivity of the self-control manipulation. However, this rationale is
unlikely given the manipulations successful use in other studies (Baumeister, Bratslavsky, Muraven, & Tice, 1998; Masicampo & Baumeister, 2008; Muraven & Baumeister, 2007; Tice, Baumeister, Schmueli, & Muraven, 2007).

Recent research has expressed concerns about the resource model of self-regulation (Inzlicht & Schmeichel, 2012). Specifically, it has been suggested that self-control is not a finite resource as the resource depletion model would suggest. For example, if people believe that willpower is self-renewing than they are unaffected by ego-depletion manipulations and do not lack control in their later actions (Inzlicht & Schmeichel, 2012). If self-control is not a resource that can be depleted, then it is possible that the manipulation used in the current study had no effect on the participants’ self-control. No measure was taken regarding participants views on self-control.

Finally, the manner in which the participants construed the task may have contributed to the lack of significance regarding self-control. If one has a high level of construal, they are thinking about distant events and planning for them. If one is thinking about the here and now, they are engaging in low level construal (Fujita & Carnevale, 2012). Construal level theory suggests that if one has a high level of construal than they will have more self-control (Fujita & Carnevale, 2012). Participants were told to whom they would be disclosing before they engaged in self-disclosure. This could have led the participants to think more about what they were saying and to whom they were disclosing to. Thinking of possible consequences for their disclosure could have led to a higher level of construal causing the self-control manipulation to be ineffective.

It was also proposed that individuals would disclose more to their close friends than to any other group. Partial support was found for this hypothesis as those who were disclosing to
acquaintances disclosed significantly less than to any other group other than an audience of random Facebook users. This effect may be due to self-presentational concerns. Those who are considered close friends know one well, and will likely remain friends with the individual regardless of what is said on Facebook. However, acquaintances do not know the individual as well, and the individual disclosing wants those acquaintances to see him or her in a favorable light increasing the desire for self-presentation. Thus, they may disclose less negative information to acquaintances because of these concerns. Additionally, the predicted self-control by audience interaction failed to reach significance. Self-control and audience composition did not combine to produce more negative self-disclosure.

Future research may benefit from the use of actual data from participants’ Facebook pages. This may help to capture their disclosure outside of a lab setting. Allowing individuals to disclose to an actual audience may also be more effective. Additionally, future research should investigate negative online self-disclosure using a different self-control manipulation (Baumeister, Bratslavsky, Muraven, &Tice, 1998).

The results of the current study suggest that audience composition, but not self-control, can lead to negative self-disclosure online. Specifically, individuals are likely to disclose the least to acquaintances. Additionally, negative online self-disclosure may be more likely to occur when the audience is made up of socially close rather than distant others as individuals may have increased self-presentational concerns. Thus, prior to disclosing on Facebook (or any other online venue), individuals should note how vast their potential audience may be. The people that view one’s profile may one day be a person that they wish would see them favorably. Depending on the audience, what individuals say online could have negative consequences that affect their future relationships.
References


