Gender Differences in Public vs. Private Self-Disclosure

Research Thesis

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by

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Abstract

It is known that women consistently self-disclose at higher rates than men do, but what about public vs. private disclosure of behavior? In this study, groups of up to eight individuals were tested by a male or female assistant. Participants (in either same-sex or mixed-sex groups) were asked to fill out a private, online set of questionnaires (including the Hypergender Ideology scale, the Marlowe-Crowne Social Desirability scale, a questionnaire of sensitive activities and attitudes, and demographic questions). After all participants were finished with the online questionnaire, the assistant indicated that there was a malfunction with the surveys and ten questions were asked orally, with participants raising their hands if they have engaged in the behavior (such as "Have you had more than three sexual partners?" or "Have you ever used illegal drugs?"). Data were collected from 221 students. Results indicated no support for the hypothesis that women disclose at higher rates than men, nor was support found for the hypothesis that women self-disclose at higher rates publicly while placed in a same-sex group. Contrary to previous research, results showed that public self-disclosure rates were higher within mixed-sex groups compared to same-sex groups. Results also showed that men were more willing to disclose to a male researcher and women were more likely to disclose to a female researcher.

Gender Differences in Public vs. Private Self-Disclosure

Introduction

Self-disclosure is the "sharing of private or personal information about oneself" (Leman & Tenenbaum, 2011, p. 155). The amount of self-disclosure that one presents has an effect (either positive or negative) on one's own well-being, both socially and physically. Self-disclosure has been linked to individual growth and increased adjustment, as well as increased mental health (Rogers, Griffin, Wykle, & Fitzpatrick, 2009). It affects social relationships, and the development of new relationships. Refusing to self-disclose could protect one from certain social repercussions (such as judgment), but allowing oneself to disclose too much information could hinder the growth of social acceptance (Leman & Tenenbaum, 2011). In order to be successful in social interactions, adolescents need to observe and absorb the proper way to disclose to others and the appropriate level of intimacy required. This takes practice and an openness to learn (Valkenburg, Sumter & Peter, 2011).

From a very young age, individuals are able to perceive social norms as they pertain to self-disclosure or even gender differences. According to Leman and Tenenbaum (2011), children are able to react to gender (both their own and those around them) and are able to act out their future gender roles. They interact with their peers and their parents the same way they see others interacting. If they witness an interaction they perceive as appropriate, they will see no shame in performing the same interaction. If they observe adults acting in ways that are congruent with ideal gender roles (according to stereotyped views or old-fashioned tradition), the children will assume acting within these roles is deemed as appropriate for society, and will become motivated to mimic these roles both as children, and later as adults. Good and Sanchez (2010) found that if motivation is autonomous (actions derived from self-endorsed values), it will positively predict

self-esteem in the sense that the individuals are fulfilling personal goals of behavior. However, if motivation to act in gender-specified roles is forced upon them from outside influences, it will negatively predict self-esteem for those individuals. These differences in gender form the basis for a lot of current research.

Gender Differences in Self-Disclosure

To understand differences in self-disclosure between genders, we must first look at the reasons behind gender differences. A study by Good and Sanchez (2010) asked 401 heterosexual undergraduates how committed they were to being the ideal man or woman. They used a Gender Motivation Scale to measure levels of motivation that may drive subjects to act in ways congruent with typical gender roles, either from outside influences (society) or from inside influences (personally devoted to being the ideal man or woman). Communal and agentic behaviors were assessed based on autonomous motivation. Results showed that men and women differed significantly when assessing communal behavior. Women reported higher motivation for communal behavior than men did. A study by Wan, Chung, and Chiou (2009) indicated that female adolescents may be more likely to present themselves to others in a way that is congruent with what they believe to be the proper level of femininity and lowered sexuality. When dealing with male adolescents, it is shown that they may be more likely to express themselves in a more masculine and assertive way that is in congruence with known gender stereotypes.

Personal investment in these gender ideals was taken into consideration for the study conducted by Good and Sanchez (2010). This involves how much a person truly puts into being the ideal man or woman. Private regard was also taken into account, which is the extent to which people motivate themselves to act in certain ways. The results showed that if people are invested in gender ideals, they motivate themselves to adhere to these behaviors. If personal investment is

low, people feel pressured from society and their motivation is not autonomous. This has a significant implication for levels of private versus public self-disclosure. Those who are personally invested in their gender ideals will find personal value in adhering to these every day and perhaps will have little discrepancy between their private responses and public responses, while others may experience severe angst about performing in ways that are not consistent with their own motivation (Good & Sanchez, 2010), and are likely to have higher levels of private self-disclosure as opposed to public self-disclosure.

<center>**Self-Disclosure between Genders**</center>

Views of gender roles start in childhood. Social interactions also begin in childhood. In order to engage in social interactions, children must learn how to disclose information about themselves to others. The gender expectations witnessed from childhood can shape the way girls and boys expect to feel after disclosing problems (Leman & Tenenbaum, 2011). It has been shown that the way parents interact with their children will have a significant impact for these children later in life (Rose et al., 2012). If parents talk openly with their children about their problems, and these conversations include elements of support, connection, and understanding, they may come to expect that talking about problems as adults will have positive outcomes. Disclosing about feelings and issues may generate feelings that they are cared for, more understood, and that no one will look at them differently for being open about their problems. If these conversations are cathartic, a feeling that the emotions are no longer "bottled up" could be expected. A study by Rose et al. (2012) found that girls held positive expectations about discussing personal matters more so than boys did, although boys did not harbor negative expectations (feeling embarrassed or feeling like they were getting made fun of) at higher levels than that of girls. Results did suggest, however, that boys were more likely to feel awkward

about discussing their problems and viewed it as a waste of time. It was expressed that boys may expect to feel embarrassed, or feel that they are viewed badly by others as a result of disclosure. It was hypothesized by Rose et al. (2012) that perhaps boys are doubtful about the usefulness of discussing their problems with others simply because they have less experience with the discussion, so it feels strange or unusual.

When presented with a hypothetical stressful event, a sample of fifth graders indicated whether they would have positive feelings or negative feelings after talking out the problem with their peers. Results indicated that both girls and boys reported higher levels of positive expectations as opposed to negative expectations (Rose et al., 2012). Girls reported a greater difference between positive (being cared for, feeling understood, a release of bottle-up emotions, and hopeful about the solution to their problem) and negative expectations (like they are wasting their time) as compared to boys. Girls reported higher levels of disclosure, especially for adolescents when compared to those younger in age.

An interesting study was added to the end of Rose et al.'s (2012) original three studies where seventh graders and tenth graders were asked to write down a problem they had. They were told they had 16 minutes to talk about these problems with one of their friends, though it was not specified how the time was to be divided. It was reported that girls talked about problems more than the boys did and the tenth graders talked more than the seventh graders. This study suggests that the differences between genders in expected emotional outcomes are already established by the time the individuals reach middle childhood, suggesting that the findings of self-disclosure among college students should not differ from any results obtained from individuals of middle childhood age.

It was found in a study by Consedine et al. (2007) that sexual experiences were discussed less than shaming experiences were. Topics concerning trauma were less frequently disclosed about than relationships. Health and feelings were discussed less than topics of beliefs, but more so than relationships. The less intimate the topic, the higher the level of disclosure. Interpersonal targets were also analyzed. Reports of high disclosure were shown among family members, but not in regards to sexual experiences and shameful events, and for parents, less was told about relationships (Consedine et al., 2007).

When looking at gender differences, consistent with other studies, disclosure was higher among women than men (Consedine et al., 2007; Igarashi, Takai, & Yoshida, 2005; Rose et al., 2012; Valkenburg et al., 2011). However, men reported a greater level of disclosure about sexual experiences than women did. Gender reports of self-disclosure did not differ in regards to shameful experiences or bouts of trauma. In regards to interpersonal target, amount of disclosure was highest for those in intimate relationships (lovers/partners) and lowest for those in distal relationships (strangers); however, male disclosure to those in distant relationships (coworkers, neighbors, and strangers) was higher (Consedine et al., 2007).

Public Versus Private Self-Disclosure

In many studies, (Chiou, 2007; Kozhan, 2009; Valkenburg et al., 2011; Wan et al., 2009) both online and offline self-disclosure have been researched. Valkenburg et al. (2011) introduced offline self-disclosure as the "sharing of thoughts, feelings, and experiences, with close friends in face-to-face-settings" (p. 254). Online self-disclosure involves a setting that is not face-to-face, but much more secluded. Online self-disclosure is associated with private self-disclosure for the purpose of this study. Although some may view the Internet as vastly public because it can reach to all corners of the world, it supports an anonymous modality, which links it to the

characteristics of private disclosure (Kozhan, 2009). The internet provides a safe haven for keeping true identities, as well as information, a secret with no one linking what is said to the actual author (unless the identity is provided). Secrecy affects the quality of the self-disclosure because the individual is not pressured with identifying with the disclosed information (Kohzan, 2009). Without identifying with this information, consequences are null and void. Private self-disclosure allows for information to be released from the individual without a fear of repercussions.

A study by Igarashi et al. (2005) at the Nagoya University used mobile cell phone text messages (MPTM) as a mode of self-disclosure. Igarashi et al. (2005) examined gender differences in the development of face-to-face (FTF) networks and compared them to MPTM networks. Their findings suggested that women tended to put more use in their MPTM networks than their male counterparts. Women reported having more intimate and important relationships over the course of these networks as compared to men. Intimacy ratings were higher when both modalities were used in friendship communication as opposed to only using FTF methods. Self-disclosure is associated with increased intimacy in relationships; therefore, it would be reasonable to suggest that private self-disclosure plays an important role in maintaining healthy relationships. It was suggested that MPTM networks serve a more personal basis for friendships and involves informal language, which may indicate a higher level of disclosure, especially in women who put more emphasis on MPTM. Communicating via mobile phones allows for self-disclosure to continue, even when the second participant is not physically close in proximity. When relying strictly on FTF methods of disclosure, if the other person is a significant distance away, self-disclosure is no longer possible. For this reason, MPTM increases private self-disclosure (Igarashi et al., 2005).

Although MPTM may enable an easier modality for self-disclosure, findings reported that FTF networks were twice as large as those for MPTM. Communicating via text messages can create lengthy conversations, and most people do not have that kind of time. It is quicker for people to communicate FTF, or publicly. Many individuals congregate into large groups at one time. These individuals base part of their self-esteem on their belonging to this group. As one becomes part of a group, however, individualization is somewhat lost, and the supportive nature of group members is often needed in order to encourage self-disclosure (Kočiūnas, Rimantas, Dragan, & Tatjan, 2008). Because of the sensitive nature of a group setting, self-disclosure is usually reduced. Maintaining the group, but utilizing mobile phones may be a solution to acquire group membership while sustaining self-disclosure methods among friends (Igarashi et al., 2005).

Another study was used to investigate self-disclosure in a group setting (Kočiūnas et al., 2008). A total of 23 participants were placed into three focus groups for psychotherapy. These sessions lasted between an hour and a half and two hours and were videotaped for further analysis. Anxiety levels before, during, and after self-disclosure were reported and analyzed. The study found that anxiety was at a high level before self-disclosure. Participants of the psychotherapeutic group were unsure if their self-disclosure was necessary and they got anxious about whether they needed to self-disclose or not. The level of anxiety was reduced after self-disclosure. These findings suggest that "the choice to disclose oneself is motivated by the fear to be dishonest with oneself" (Kočiūnas et al., 2008, p. 357). People associate self-disclosure with doubt and negativity if they feel they are misunderstood or rejected as they are self-disclosing. If individuals experience negativity, they are less likely to continue to self-disclose. As mentioned

earlier, an appropriate atmosphere is necessary to facilitate self-disclosure among a group member setting (Kočiūnas et al., 2008).

Therapeutic techniques have been exploring modes of self-disclosure in order to ensure maximum benefits from therapy. The before-mentioned study was done in a face-to-face group therapy session. Rogers, Griffin, Wykle, and Fitzpatrick (2009) produced a study presenting preferences of internet therapy versus face-to-face therapy. They obtained their sample from Facebook and conducted an online survey for 328 individuals. The limitation with this study was that they used the Internet to obtain their sample; therefore the participants were already biased towards the use of the Internet. Surprisingly, 80% (263) of these individuals stated that they preferred face-to-face therapy (F2FT) over the 20% (65) who preferred Internet Therapy (IT). The purpose of the study was to compare differences between eight common emotions involved with self-disclosure. These include depression, happiness, jealousy, anxiety, fear, calmness, anger, and apathy (Rogers et al., 2009). They also measured the level of self-disclosure of these emotions based on the recipient (male friends, female friends, spouses and/or lovers, parents, therapists, etc.) The average age was 24 years old, which is above the average age of most self-disclosure research. Other studies have concentrated specifically on adolescent self-disclosure (Chiou, 2007; Rose et al., 2012; Valkenburg et al., 2011), whereas these participants were of adult age. Demographics were recorded for gender, ethnicity, marital status, level of education, income, community setting, frequency of Internet usage, and any previous history of therapy. Individuals who preferred F2FT were more willing to disclose on emotions of depression, anxiety, jealousy, and fear than during IT. Because self-disclosure is linked to increased mental health and adjustment, F2FT may have better outcomes for therapy in the future. In this case, public disclosure is shown at higher rates than private disclosure. While depression, anxiety,

jealousy, and fear showed a significantly higher rate of disclosure, there was no significant difference for emotions of happiness, anger, calmness, or apathy (Rogers et al., 2009). In the study by Rose et al. (2010), boys and girls did not differ on negative expectations of feeling worried or embarrassed when self-disclosing to others. This study suggests that boys do not self-disclose about problems because they do not see the benefits of the discussion, not because they expect to be embarrassed. This indicates that men should not show a difference in public versus private self-disclosure for our current study. If the men do not see utility in self-disclosing to others, they should not see utility in self-disclosing privately either.

Dominic Packer (2009) conducted a study in which groups used a public self-disclosure technique and then compared data to private self-disclosure from the same group. A sample of 78 undergraduate students were asked about what problems were present on campus and were asked to rate how harmful each problem was. Each student was individually assessed as either strongly identified with the university or weakly identified with the university. These assessments were to show how much each student identified themselves as being a part of the university rather than as just a student. The first rating of the level of harm was done privately without the students knowing they would be asked to publicly rate the same problem in an online chat room with three fellow students. Each student rated how harmful they thought the other three students perceived the problem to be. Results showed that the private ratings of their own concern and the ratings for assumptions of other students' concern were associated. The private rating of concern as well as the assumptions of other students' concern was not associated to the strength of identification to the university. However, the strength of the identification with the university related to the difference between the student's private and public ratings of personal concern based on their beliefs about others' concerns. The weakly identified members were consistent

with suppressing their concerns if they expected the other students to disagree with their views. The strongly identified students, however, did not show this suppression. They stayed consistent with their beliefs regardless of what they thought the other students would think. The results also showed that public ratings were influenced by the opinions of other students if they did not think a problem to be harmful themselves (Packer, 2009).

For the present study, Packer's (2009) results could be quite relevant. When given sensitive questions regarding personal preferences, if each student thinks the others in the group will have a higher level of concern, they may not be as willing to self-disclose as they would if the other students did not see any concern with the issue in question. We would expect to see a greater variance between public and private self-disclosure if these results hold true.

Public and private self-disclosure differences can oftentimes be found in pre-adolescents and adolescents. Valkenburg et al. (2011) conducted a study on 690 pre-adolescents and adolescents at three different points in time with six months in between. Participants were asked to complete a questionnaire privately. The questionnaire measured the use of communicating online and how it affects the quality of friendships, self-esteem, and the ability to interact socially. The participants were divided into four age groups from pre-adolescence to late adolescence. The participants were asked about how much they usually tell their friends while using IM and how much is talked about while face-to-face. The limitation of this study was that the gender of the information recipient was not indicated, so full gender differences cannot be identified.

The goal of Valkenburg et al.'s (2011) study was to indicate the differences between online and offline self-disclosure developments between age groups and also between gender groups. Results showed that for girls, self-disclosure increased in both modalities during pre-

adolescence (10-11 years old) and early adolescence (12-13 years old), but stabilized from 14 to 17 years of age. For boys, the same trend was identified though it started two years later than for girls. Biologically, girls mature earlier than boys do, both in the body and in the mind, which is suggested as the explanation for the apparent gender differences for self-disclosure. Both boys' and girls' self-disclosure increased dramatically just after hitting puberty. Both genders seemed to use online self-disclosure as a way of rehearsing offline self-disclosure. This was particularly evident for boys during their early adolescence stage. During this age, boys have very low offline self-disclosure rates (Valkenburg et al., 2011).

According to Valkenburg et al. (2011), girls spend more focus on establishing close, intimate friendships, while boys spend their time in large groups and are more interested in activities they share. These differences can account for the fact that results show a higher trend for self-disclosure among girls when compared to boys. For this study, girls were higher in both offline and online self-disclosure. It was reported that 64% of adolescents disclosed more offline than online, 10% showed equal disclosure, and 26% disclosed more online than offline. The online preference was indicated by 30% of men and 22% of women. There are clearly benefits for both modalities depending on the gender of the adolescent. This was adequately shown in the group of early adolescent boys (40% of these boys showed higher rates of online disclosure as compared to offline; Valkenburg et al., 2011).

According to Valkenburg et al. (2011), significant increases in self-disclosure occur for both genders just after the start of puberty. This raises questions and interest in the reasons behind this trend. Physical and emotional changes occur during these adolescent years, creating a lot of turmoil for the adolescent. Interests change, feelings change, and they start to evolve into young adults with more problems and concerns than during their childhood. Topics of discussion

become more intimate and private between people. Research has explored the differences in disclosure based on the level of intimacy being discussed.

Chiou (2007) dove into the world of cyberspace and asked adolescents about topics that are brought up online. The study was conducted with 237 Taiwanese adolescents aged between 15 and 24 years old. There were three participants in each session and were given hypothetical messages, some of which contained sexual content. They were asked how they imagined they would respond to such messages had they received them in a real-life situation through the internet. Each sexual message had a different level of intimacy and each participant was assigned a different level of anonymity. The highest level of anonymity indicated the participant would be identified by a nickname, the medium level was through a personal photo and the lowest level of anonymity indicated the interaction would take place though a web cam. These levels correspond to the level of public or private self-disclosure an individual agrees to. The highest level of anonymity corresponds to the most private self-disclosure, whereas being identified through a web cam would be considered public self-disclosure as it relates to the current study. Participants were asked to rate how intimate they believed each message to be and how willing they were to reply to those messages.

Chiou (2007) found that men were more willing to reply in a liberal manner to other's sexual disclosure than women were. The women displayed a more conservative manner when rating their willingness to respond, regardless of anonymity level or intimacy level. Results showed that as the level of anonymity got higher, adolescents were more willing to reply to sexual messages, and they were less willing to reply as the anonymity level lowered. Adolescents were also more willing to disclose sexually when the other person also disclosed sexually. This indicates that regardless of modality, adolescents respond with a reciprocal strategy. The more

one person discloses, the more the other person will disclose because it makes the situation an even playing field instead of one sided. The level of intimacy can intimidate some adolescents. When experiencing a moderate or high anonymity, the intimacy level played a role regarding the amount of self-disclosure. Topic intimacy did not seem to affect disclosure when dealing with low anonymity. Overall, lower anonymity produced lower self-disclosure rates (Chiou, 2007).

Self-Disclosure based on Gender of Recipient

Two years after Chiou's study, Wan et al. (2009) expanded his research to investigate the effect of disclosure when the gender of the recipient is taken into account. This was evaluated in the current study by the composition of the groups and also by the gender of the researcher controlling each condition. Wan et al. (2009) took a sample of 192 Taiwanese college students ranging in age from 18 to 24 years old. Again, there were three participants per session and each was told that when one is honest with themselves, they are more likely to see themselves as an honest person and a better person in general, in order to encourage self-disclosure. As in the previous study, participants were presented with hypothetical messages, three of which contained varying levels of sexual content. With this study, they specified whether the participant received the message from a male friend or a female friend. There were three levels of intimacy specified for both male recipients and female recipients: High (paraphilia), medium (cybersex), and low (sexual fantasy). Participants were asked to rate their willingness to respond to a recipient after he or she had received sexual disclosure from either the male or female friend.

Results showed that when men received disclosure from same-sex recipients, and women received disclosure from same-sex recipients, self-disclosure rates increased as levels of intimacy increased. This was congruent with the reciprocal strategy introduced in Chiou's 2007 study. Overall, when paired with a male, levels of disclosure decreased as the level of topic intimacy

increased. This trend was especially evident in female participants. It is suggested that women respond in this way to be congruent with gender stereotypes associated with submissive qualities. However, women' disclosure increased when paired with a female recipient and also as topics became more intimate. Male participants showed a higher willingness to respond when paired with a female recipient as opposed to a male recipient. This increased level of willingness to respond to female recipients was present regardless of the level of intimacy for different sexual topics for male participants. The limitation of this study was dependent upon the honesty of the participants and their self-reports (Wan et al., 2009).

As discussed, numerous studies have delved into the realm of self-disclosure and gender differences. Research combining all of these aspects as they relate to each other is minimal. Wan et al. (2009) indicated that women are more likely to present themselves in expected stereotyped roles (high femininity and low sexuality) and men are likely to do the same (act in masculine and assertive ways). When taking into account personal investment to gender norms, individuals feeling pressure from society will most likely have higher levels of private self-disclosure when compared to public self-disclosure (Good & Sanchez, 2010). Packer (2009) reported that students who strongly identified with their university stayed consistent with their beliefs, even when asked to discuss issues with other students with differing views. It is also possible that the more strongly individuals identify with their respective gender roles, the more committed they are to acting in accordance with the expectations for that role. Consistent findings across many studies have shown that women disclose at higher rates than men do (Consedine et al., 2007; Igarashi, Takai, & Yoshida, 2005; Rose et al., 2012; Valkenburg et al., 2011). However, the results get complicated. This is why the Hypergender Ideology Scale was included in the current study in order to record the effect on accepted gender norms and self-disclosure. If participants

adhere to specified gender norms, it is likely they will answer in congruence with those norms in front of others.

The study by Wan et al. (2009) showed that men and women are likely to self-disclose at higher rates after receiving disclosure from same-sex recipients. When asked to self-disclose first, both men and women disclosed at higher rates when paired with a female recipient. The influence of others clearly has a great effect on the amount of self-disclosure that an individual presents to the group. If individuals receive feelings of negativity or rejection, they are less likely to continue at their level of self-disclosure (Kočiūnas et al., 2008). This would lead researchers to believe that private self-disclosure is a more popular modality of communication. Results presented by Chiou (2007) support this belief. As the level of anonymity increased (private self-disclosure), the amount of willingness to self-disclose increased as well. The same trend was recorded as the level of anonymity decreased (public self-disclosure).

Self-disclosure has been linked to individual growth and increased adjustment, as well as increased mental health benefits (Rogers et al., 2009). Therefore, self-disclosure can be used in a variety of fields to significantly impact the happiness of people in all aspects of their lives. It is important to continue researching the implications of what prohibits self-disclosure across genders as well as across modalities. The goal of this study was to examine gender differences as it pertains to private disclosure versus public disclosure based on the gender composition of the group, and the effect of the gender of the public recipient.

Many studies regarding self-disclosure have presented self-report scales of hypothetical situations. Participants are generally presented with questions that contain "what-if" scenarios in which they are asked to rate to what extent they would disclose about a particular topic to a friend or a parent. Although these methods have proven to be reliable to the intent of other

studies, self-report measures have been recognized as a limitation for valid results because they are dependent upon the honesty of participants (Wan et al., 2009). It is hard to say that given an actual situation, one would truly carry out the intended predicted actions from the hypothetical event in question. In an attempt to eliminate hypothetical situations and hypothetical answers, the 10 questions asked orally in this study pertained to whether the participant had engaged in the specific behavior or not.

Taking all of this into account, the current study consisted of groups that were comprised of no more than eight individuals who answered questions first anonymously and then in private. They were then given a diversion task to fill time until all participants had completed the anonymous questionnaire. At that time, participants were told there was a problem with the computer software and immediate answers were needed, and asked to raise their hands if a certain question (asked orally) pertained to them. The number questions answered "yes" in the oral session were compared to the number of questions answered "yes" from the private questionnaires. The goal was to examine the extent to which men and women were willing to self-disclose personal and sensitive information when placed in a group comprised of same-sex participants or mixed-sex participants, taking into account the gender of the disclosure recipient as well.

Hypotheses

1. Women will self-disclose at higher rates for both private and public self-disclosure than their male counterparts (Consedine et al., 2007; Igarashi et al., 2005; Rose et al., 2012; Valkenburg et al., 2011). The study performed by Rose et al. (2012) indicates that men do not see a utility in self-disclosing to others, therefore, they should not see utility in self-disclosing privately either.

2. Women will self-disclose publically at a higher rate when placed in an all-female

group as opposed to being in the mixed-sex group (Wan et al., 2009).

3. Public self-disclosure rates will be lower for mixed-sex groups than for the same-sex

groups overall. Chiou (2007) found that individuals self-disclose using a reciprocal

strategy. If women disclose at high rates, they should respond to the other womens' self-

disclosure, thus boosting public self-disclosure for same-sex groups. Wan et al.'s (2009)

study supported Chiou's findings.

4. Women, as well as men, will publically self-disclose at a higher rate when disclosing

to a female research assistant as opposed to the male assistant (Wan et al., 2009).

Methods

Participants

The participants were 220 students (97 men and 123 women; average age = 19.42, *SD* =

4.32) taking a General Psychology class (Psychology 1100) at the regional Mansfield campus of

The Ohio State University. Students were offered one credit to partially fulfill a research

requirement for the class for participation in the study. Students age 18 and older were permitted

to participate.

Measures

Participants were asked to answer questions privately and anonymously through

SurveyMonkey.com. The first set of questions included sensitive items regarding personal

experiences with relationships, substance use, religion, and other moral issues. These questions

were worded in a "yes" (1 point) or "no" (0 points) fashion to ensure simplicity for the oral

portion later in the study. Scores could range from 0-20 points (see "Questionnaire of Sensitive

Attitudes and Beliefs" in Appendix).

The second portion of the online survey was the 20-item version of Marlowe-Crowne Social Desirability Scale (Strahan & Gerbasi, 1972). This scale is set up in a true-false format and measures participants' tendency to choose the responses that would make them look most like "desirable" or good people. Each socially desirable answer gives the participant one point. If the participant chooses the non-socially desirable answer, he or she receives zero points for that question. Any given participant could have scores ranging from 0-20. Reliability of this measure, as measured by the Cronbach's alpha coefficient, was .70 (M=9.04, SD=3.33).

The third measure was the Hypergender Ideology Scale (Hamburger, Hogben, McGowan, & Dawson, 1998). This is a 19-item gender-neutral scale used to assess participants' views of hypergender, which is the extent to which individuals believe in the stereotypes associated with each gender. The questions are asked using a Likert scale with 1 as "strongly disagree" to 6 as "strongly agree". Any given participant could have a score ranging from 19 to 114, with higher scores indicating a greater degree of hypergender affiliation. Reliability of this measure, as measured by the Cronbach's alpha coefficient, was .85 (M=48.31, SD=13.35).

Finally, demographic responses were recorded for each participant, including gender, age, ethnicity, marital status, and parental marital status.

Procedure

Participants were randomly assigned to one of four different group conditions. Each group contained up to 8 participants. One condition was comprised of an all-female group, accompanied by a female research assistant (used to ensure continuity of gender influence). The second condition was made up of an all-male group, accompanied by a male research assistant, to maintain gender continuity. The remaining two conditions contained mixed-sex participants. A female research assistant administered questions to the groups in the third condition, and a

male research assistant administered questions to the groups in the fourth condition. Results were analyzed to examine if there were significant differences in public self-disclosure among genders based on the group composition as well as the gender of the recipient of the sensitive information.

The second portion of this study involved participants engaging in a non-related task until the last participant finished his/her survey. This task was used simply to keep the participants busy, though they were led to believe the results would be analyzed along with their questionnaires. The students were led to tables in the Psychology lab and given a binder filled with images of products from a popular store. Participants were told they had a hypothetical amount of money to spend and they were asked to decide how they would spend the money across the different products. They were told the filler task was being used to measure their opinions and behaviors toward certain items and the results would be placed in a locked box when they were finished. This was to ensure that the participants truly believed the results were needed for analysis.

When all students had begun the filler task, the groups were told that something had gone wrong with the SurveyMonkey account, but due to immediate deadlines for the results, it was necessary to obtain the information right away. Participants were instructed to raise their hand if a particular question pertained to them as having answered "yes" during the online portion. Questions were administered orally by the research assistant (either male or female, depending on the group condition) to suggest public self-disclosure. To ensure anonymity for the analysis, simple counts were taken of how many participants raised his/her hand for each question, tallied only by gender. The data were then compared to the number of "yes" answers obtained through the private survey. Gender was noted for both public and private responses.

Once all the questions were answered orally, students were informed of the deception of the study. It was explained that there was actually nothing wrong with the SurveyMonkey account, but the public answers will be compared to the private answers. The students were informed that oral answers were only recorded by gender and their individual answers were not able to be paired directly to the individual answers of the online survey.

Results

On the Questionnaire of Sensitive Attitudes and Beliefs survey, if a participant answered "yes," they were given a score of "1," and a "0" if the participant answered "no." For each testing session, the numbers were added across gender for each question and then averaged as a proportion of students answering "yes." The same procedure was done for public responses for each question across gender since I was not able to compare individual data, due to the group's anonymity. The proportions were then recorded as percentages (see Table 1). In order to analyze the significance of these differences, the private proportions were subtracted from the public proportions and recorded as difference scores (see Table 2). H1 suggested that women would self-disclose at higher rates regardless of any other variable manipulation. A 2x2 multivariate analysis of variance (MANOVA) with variables of sex of participant and the group condition (same-sex or mixed-sex) performed with the difference scores from Table 2 for only the 10 questions asked orally provided no significant results, thus failing to support the first hypothesis. A MANOVA was performed using the sex of the participant and the sex of the researcher for all ten questions and no significant results were found. A MANOVA using the difference scores, sex of the participant, and group condition indicated a marginal significance by sex of the participant, Wilks' $\lambda = 0.925$, $F(1, 218) = 1.678$, $p = .088$, $\eta^2 = .075$. Further analysis showed marginal significance for question 5 ("Have you had more than three sexual partners?" $p = .062$,

η^2 = .016) and significance for question 8 ("Have you ever passionately kissed someone of the same sex?" p = .026, η^2 = .023), indicating there was a bigger discrepancy between the private answers compared to their public answers. More participants disclosed at higher levels privately for these two questions than they did publicly. When using the Hypergender Ideology scale and the Social Desirability scale as covariates for sex of participant, group condition (mixed-sex or same-sex), and for the sex of participant by condition, results showed no change.

H2 suggested that women would self-disclose at higher rates when placed in a same-sex condition when compared to a mixed-sex condition. The same 2x2 MANOVA procedure would have provided me with this information; no significance was found, thus failing to support H2.

H3 suggested that public self-disclosure rates would be higher for same-sex groups when compared to mixed-sex groups for both genders. I was able to compile the 10 questions into a single scale (α = .810 for men; α = .778 for women), allowing me to perform two one-way analyses of variance (ANOVA) using the public disclosure responses and the group composition. While the results did not support H3, significance was found for higher levels of self-disclosure of both genders when placed in mixed-sex groups (for men, $F(1, 218) = 57.14$, $p < .001$, $\eta^2 = .21$; for women, $F(1, 218) = 23.96$, $p < .001$, $\eta^2 = .10$; see Figure 1).

H4 suggested that both male and female participants would self-disclose publicly to a female research assistant when compared to a male. Using the same compiled scale of the 10 public questions, two one-way ANOVAS were performed using the variable of researcher. While the results did not support H4, significance was found for male participants to self-disclose at higher rates with a male research assistant and female participants to self-disclose at higher rates with a female research assistant (for men, $F(1, 218) = 21.45$, $p < .001$, $\eta^2 = .09$; for women, $F(1, 218) = 12.35$, $p < .001$, $\eta^2 = .05$; see Figure 2).

I measured for any correlation between the Hypergender Ideology scale and the tendency to report differently in public versus private. No significant correlations were found for either men or women using the difference scores from Table 2. Correlations were measured for the Social Desirability scale and the tendency to report differently using the difference scores from Table 2. A significance was found for women ($r(118) = .265$, $p = .003$), specifically for Question number 4: "Have you ever had alcohol to drink while underage?". The difference score for this question was -.0079 among women, indicating that there was very little discrepancy between the private answers and the public answers. These results indicate a weak positive correlation between disclosing that they had drank underage and the desire to appear favorably to the rest of the group. No significant correlation was found for men.

I decided to combine the three questions that were most related to sex and/or relationships (questions 2: "If given the opportunity, would you cheat on a romantic partner with whom you were in a monogamous relationship," 5: "Have you had more than three sexual partners," and 6: "Have you ever had sexual fantasies about someone you didn't know?") to test as one variable, rather than three separate questions. The ANOVA showed no significance when analyzing this three question variable for an interaction of sex of researcher and sex of participant. An ANOVA was also performed on this single variable (consisting of the difference scores of questions 2, 5, and 6) using the variables of sex of the participant and the group condition (mixed-sex or same-sex). No significance was found when looking only at the three questions and sex of the participant, the three questions and the group condition, or the three questions and the interaction of sex of the participant and the group condition. In addition, when using the Hypergender Ideology scale and the Social Desirability scale as covariates for the sex of the participant, the group condition (mixed-sex or same-sex), and for the sex of participant by

group condition for the subscale of three questions on sex and relationships, results still showed no change.

The responses for the Social Desirability scale and the Hypergender scale were used to find any significant correlations for the public answers of all 10 questions for both men and women. Significant correlations were only found for Question 1 for men ($r(213) = -.166$, $p = .015$), but for Questions 3 ($r(213) = -.135$, $p = .048$), 4 ($r(213) = -.145$, $p = .034$), and 7 ($r(213) = -.241$, $p < .001$) for women under the Social Desirability scale.

Discussion

Previous research has been published on gender differences that lead to adhering to or shying away from self-disclosure (Consedine et al., 2007; Good & Sanchez, 2010; Igarashi et al., 2005; Leman & Tenenbaum, 2011; Rose et al., 2012; Valkenburg et al., 2011; Wan et al., 2009), the benefits and limitations of public self-disclosure (Kočiūnas et al., 2008; Packer, 2009; Rogers et al., 2009; Valkenburg et al., 2011), and the benefits and limitations of private self-disclosure (Igarashi et al., 2005; Kozhan, 2009; Packer, 2009), but never has a study attempted to combine the elements of all of the above. The current study attempted to determine if there was a significant interaction that involved the sex of the participants, the gender composition of those in the group, the sex of the person receiving the information, and the modality of self-disclosure (public vs. private). Although previous research had suggested that women generally report higher levels of self-disclosure when compared to men, the current study failed to provide support for this. We looked at the difference between what the participants were willing to disclose privately compared to publicly, and did not discover a significant difference. A possible explanation for this is from the demographic we used. Most of the students taking a general psychology course are first-year students. As students in their first year of college, many have

not had the opportunity to experience some of the behaviors that we asked about. Especially as a rural campus, the experiences are much different from those at an urban or more culturally diverse campus. Students not exposed to these behaviors would have answered "no" to the questions asked privately, therefore having no dilemma about admitting to the behavior in public, thus creating zero discrepancy in private vs. public answers. Something else to consider (especially at a rural campus) is that it is possible the participants knew one another. In the early sessions, the participants kept quiet and did not speak to each other. As the semester wore on, however, the students recognized one another from classes, or even showed up together. If two participants knew about each other's behaviors, it would put added pressure on the participants to be truthful in the public setting because they know someone in the group knows the truth (this indeed was the case for at least one session). Another possible explanation is that these students felt the need to be honest in both modalities if the behaviors were present in their past. As shown from the famous Milgram's studies, the presence of authority figures can have quite an impact on the obedience rates of participants (Milgram, 1963). By placing a researcher in front of a group and recording answers for a study, the appearance of authority is created. Discrepancy rates could have decreased because of this.

I also failed to discover significance for women self-disclosing more in a group of all women when compared to a group including men as well. In fact, results showed that for both men and women, self-disclosure rates were higher publicly when placed in a mixed-sex group instead of a same-sex group. A possible explanation for these results is that as a first-year college student, a participant may feel the need to "brag" about their risky behaviors in front of the opposite sex, but may feel pressure of being judged by those of the same-sex. The theory of a

social support system (by having members of the same-sex present) may actually produce the opposite results, just not on a significant level.

      I also found that women disclosed significantly more to a female researcher, and men disclosed significantly more to a male researcher. This finding failed to support the fourth hypothesis that stated both genders would disclose significantly more to a female researcher. An observation made during the sessions showed that many students would not look at those around them. A number of students barely made it obvious that they were raising their hands for each question, so as to not be noticed by the other participants, but would be seen by the researcher. By isolating themselves from the group, it could be that the participants identified with the researcher of the same sex without feeling the peer pressure of being judged by them because of the one-on-one nature they created. At that point, those in the group did not matter, but the participants still had to report their answers to someone, and disclosed more to the researcher of the same sex as the participant.

Future Directions

      Further research needs to be done to discover why the results found did not coincide with previous research. Using a sample of older adults or upperclassmen may be an aspect that could be changed for further studies. Being older may enable participants to have more opportunities to engage in the behaviors mentioned in this study. Placing a confederate in the group and having him or her answer "yes" to every question may decrease the possible judgment felt for also engaging in said behaviors. Instead of having a researcher record answers for each question orally, creating a casual conversation among participants may create a more comfortable situation similar to a real-world occurrence so normal self-disclosure behaviors are able to be observed. If a confederate were able to engage in a conversation with the participants casually

about which questions they were truthful about, that might lead to some insight as to why individuals may not tell the truth.

Another possibility for future research is to assign each participant a number. The identity would still remain anonymous, but this way the researcher would be able to track each person's responses and analyze the discrepancy instead of categorizing all the answers as group data. There is tremendous room for expansion on this study to further explore the questions raised by integrating elements of gender differences as well as modality differences in self-disclosure. Results from this and future studies may have an impact on the way studies are conducted in the future, as well as the way job interviews are done (whether one-on-one or in a group interview).

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Table 1

*Percentage of Students Answering "Yes" to 10 Sensitive Questions*

	Men		Women	
Question	Public	Private	Public	Private
Cheat on test	11.11	15.46	5.60	10.57
Cheat on partner	3.03	7.22	0.80	1.63
Illegal drugs	42.42	50.00	30.40	42.28
Alcohol underage	83.84	80.41	80.80	82.93
3 sex partners	33.33	34.02	13.60	24.39
Sexual fantasies	37.37	68.04	20.00	47.97
Skip class	72.73	74.23	76.00	83.74
Kiss same sex	0.00	1.03	3.20	12.20
Shoplift	20.20	21.65	13.60	23.58
Cruel animal treatment	13.13	21.65	2.40	5.69

Table 2

Difference Scores for Public – Private Answers

Question	Men			Women	
	Mean	*SD*		Mean	*SD*
Cheat on test	-.0411	.33		-.0490	.30
Cheat on partner	-.0413	.27		-.0083	.12
Illegal drugs	-.0756	.44		-.1137	.44
Alcohol underage	.0408	.33		-.0079	.39
3 sex partners	-.0006	.40		-.1059	.41
Sexual fantasies	-.3039	.51		-.2767	.49
Skip class	-.0203	.38		-.0649	.39
Kiss same sex	-.0103	.10		-.0894	.30
Shoplift	-.0151	.37		-.0974	.38
Cruel animal treatment	-.0827	.39		-.0327	.22

Figure 1 **Public Disclosure of Sensitive Behavior as a Function of Group Composition**

Figure 2 **Public Disclosure of Sensitive Behavio...
Function of Sex of Research Assista...**
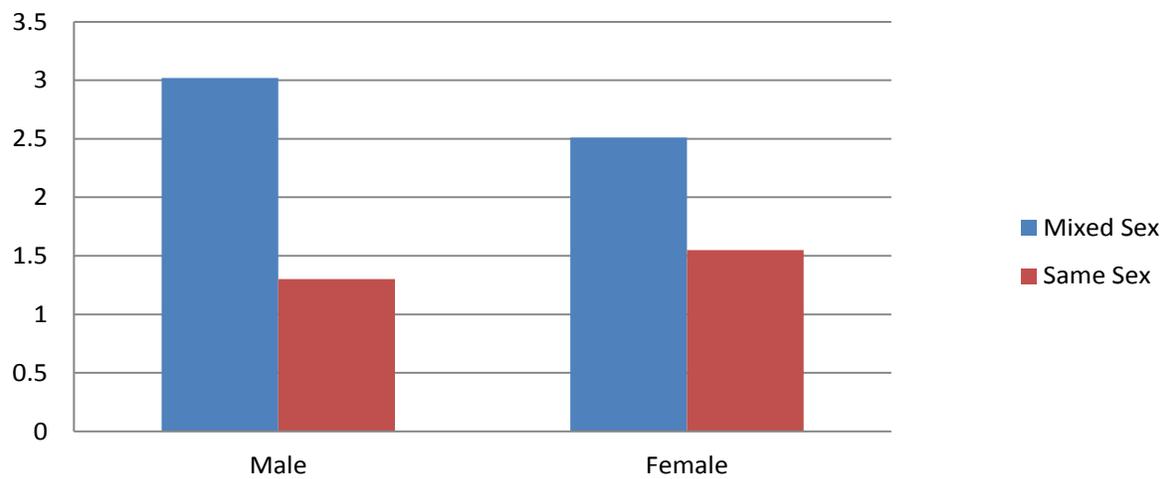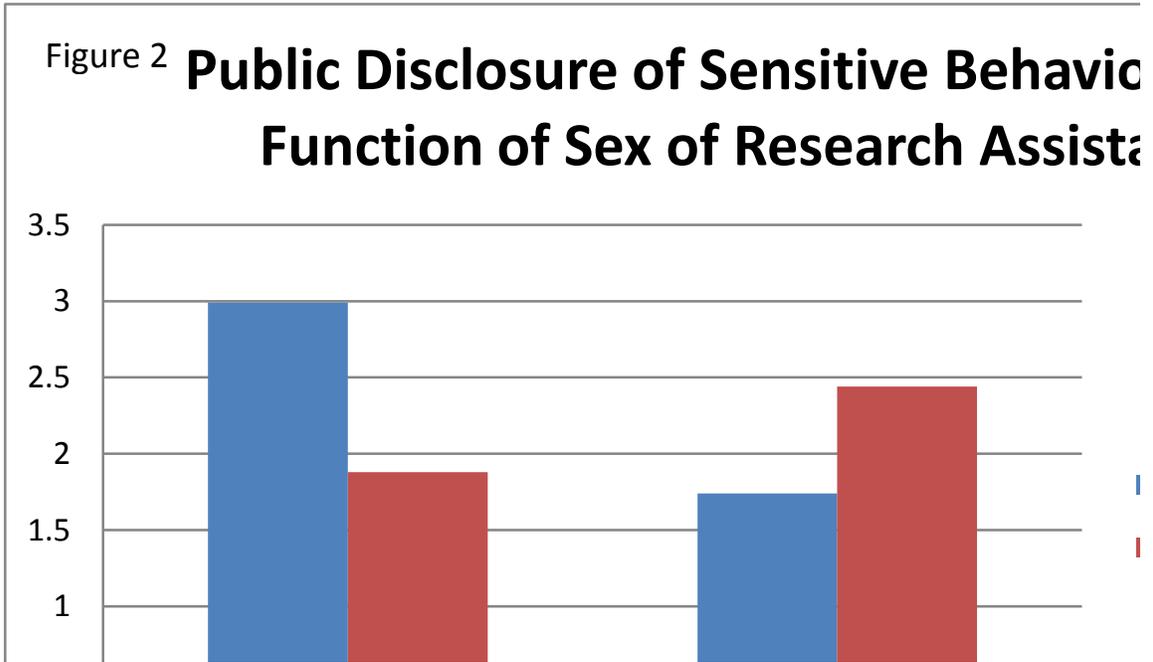
Appendix

Social Desirability Scale

Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is true or false as it applies to you personally. Please answer each item by circling T if the item is true and F if the item is false.

T   F   1. I never hesitate to go out of my way to help someone in trouble.

T   F   2. I have never intensely disliked anyone.

T   F   3. I sometimes feel resentful when I don't get my way.

T   F   4. I like to gossip at times.

T   F   5. There have been times when I felt like rebelling against people in authority even though I knew they were right.

T   F   6. I can remember "playing sick" to get out of something.

T   F   7. There have been occasions when I took advantage of someone.

T   F   8. I'm always willing to admit it when I make a mistake.

T   F   9. I always try to practice what I preach.

T   F 10. I sometimes try to get even, rather than forgive and forget.

T   F 11. When I don't know something I don't at all mind admitting it.

T   F 12. I am always courteous, even to people who are disagreeable.

T   F 13. At times I have really insisted on having things my own way.

T   F 14. There have been occasions when I felt like smashing things.

T   F 15. I would never think of letting someone else be punished for my wrong-doings.

T   F 16. I never resent being asked to return a favor.

T   F 17. I have never been annoyed when people expressed ideas very different from my own.

T   F 18. There have been times when I was quite jealous of the good fortune of others.

T   F 19. I am sometimes irritated by people who ask favors of me.

T   F 20. I have never deliberately said something that hurt someone's feelings.

Hypergender Ideology Scale

The following survey contains various statements about attitudes concerning the relationships between men and women. Please read each statement carefully and indicate, in the space to the left of the item, the extent you agree with the statement. Please note, however, that some of the statements may not completely apply to you. In such cases, please try to imagine what your response would be if it DID apply to you, and answer accordingly. Please use the following scale to make your responses:

1	2	3	4	5	6
Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

_____1. A true man knows how to command others.

_____2. The only thing a lesbian needs is good sex with a man.

_____3. Men should be ready to take any risk, if the payoff is large enough.

_____4. No wife is obliged to provide sex for anybody, even her husband.

_____5. Women should break dates with female friends when guys ask them out.

_____6. Men have to expect that most women will be something of a tease.

_____7. A real man can get any woman to have sex with him.

_____8. Women instinctively try to manipulate men.

_____9. Get a woman drunk, high, or hot and she'll let you do whatever you want.

_____10. Men should be in charge during sex.

_____11. It's okay for a man to be a little forceful to get sex.

_____12. Women don't mind a little force in sex sometimes because they know it means they must be attractive.

_____13. Homosexuals can be just as good at parenting as heterosexuals

_____14. Gays and lesbians are generally just like everybody else.

_____15. Pick-ups should expect to put out.

_____16. If men pay for a date, they deserve something in return.

_____17. Effeminate men deserve to be ridiculed.

_____18. Any man who is a man needs to have sex regularly.

_____19. I believe some women lead happy lives without having male partners.

Questionnaire of Sensitive Attitudes and Beliefs

*1. Have you ever cheated on a test while in college?

2. Do you believe abortion should be legal?

3. Do you believe in God?

4. Do you consider yourself a religious person?

*5. Have you ever used illegal drugs?

*6. Have you ever had alcohol to drink while underage?

*7. Have you had more than three sexual partners?

*8. Have you ever had sexual fantasies about someone you didn't know?

9. Do you trust others easily?

10. Would you consider yourself an open and honest person?

*11. Have you ever intentionally skipped class?

12. Is it okay to lie to protect someone?

*13. If given the opportunity, would you cheat on a romantic partner with whom you were in a monogamous relationship?

14. Would you lie in a job interview to make yourself look more qualified for the position?

15. If you hit a parked car while no one was around, would you drive away?

16. Would you forgive your romantic partner if you found out they cheated?

*17. Have you ever passionately kissed someone of the same sex?

18. Do you keep aspects of your personality hidden because you are afraid of rejection?

*19. Did you ever shoplift as a young teen?

*20. As a child, did you ever treat animals in a cruel manner?[1]

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*These questions were the 10 asked orally

Demographics Questionnaire

Gender:

Age:

Ethnicity:

Marital Status:

Parental Marital Status: