In today’s technology-centered world, people are no longer required to communicate and form relationships in face-to-face situations alone. In fact, the use of electronic forms of communication, such as text-messaging or online interaction, is rapidly becoming a primary tool for many people to form and maintain many of their relationships. For instance, a recent online survey of 439 college students showed that nearly 20% of college students spent over 20 hours per week online (Burst Media, 2007). This shift in communication impacts several different categories of relationships people have: familial relationships, friendships, romantic relationships, professional relationships, and educational relationships. Consequently, the impact of online communication on building and maintaining relationships is important to understand.

Self-disclosure has been viewed as a key component in developing close relationships (Altman & Taylor, 1973). Jourard and Lasakow (1958, p. 91) defined self-disclosure as “the process of making the self known to other persons.” According to this perspective, self-disclosure builds trust which leads to closer relationships. When one individual takes a risk by disclosing to another individual, the receiver feels as though he or she is trusted. In return, the receiver is more likely to disclose information as well. Trust and security are developed when two people respond to one another positively over repeated interactions, which continually strengthens the relationship. A key element of the relationship is that the individuals involved must perceive that their disclosures are being accepted. Therefore, the process is mutually reinforcing (Bennis, Schien, Berlew, & Steele, 1964).

With the rapid growth of technology, people can now self-disclose using more indirect means like the Internet, and several recent studies have begun to more closely examine self-disclosure during online communication (Chiou, 2006; Punyanunt-Carter, 2006; Valkenburg & Peter, 2007). One of the most common explanations proposed for people’s tendency to self-disclose online is the fact that online communication increases anonymity. This anonymity can then produce a state of deindividuation in which others are not seen as individuals; consequently people lose their inner restraints (Chiou, 2006). In other words, people may feel more comfortable with self-disclosure online because others do not necessarily know who they are as individuals and their disclosures online are less likely to produce immediate social repercussions.

### Online Versus Face-to-Face Communication and Self-Disclosure

Although numerous researchers have compared the self-disclosure of participants in online situations versus those in face-to-face situations, results have been mixed. Tidwell and Walther (2002) found that participants in online situations demonstrated higher self-disclosure than those in face-to-face situations. Conversely, others found that participants in a face-to-face situation reported greater self-disclosure than those interacting online (Mallen, Day, & Green, 2003; Skinner & Latchford, 2006).

A couple of apparent differences that may have contributed to the different results should be noted. First, researchers have studied the relationship between type of communication and self-disclosure in different ways. Some have assigned participants to one of two communication conditions (online versus face-to-face) and looked for differences in self-disclosure (Mallen
Others examined differences in perceived self-disclosure between those who self-reported using online communication regularly, compared to those who said they used it less frequently (Cho, 2007; Skinner & Latchford, 2006). Second, different forms of computer-mediated communication (CMC) were used in these studies, including synchronous (instant messaging) and asynchronous (e-mail and support group webpage) methods. Third, these studies differed in their measurements of self-disclosure as well; some employed self-reports and some used judges to rate the degree and quality of self-disclosure, often by rules of linguistics.

Another facet of self-disclosure is the phenomenon of reciprocity. This states that if people perceive that their discussion partners are self-disclosing to them, they will in-turn self-disclose more to their partners (Barak & Gluck-Ofri, 2007). The extant literature indicates that reciprocity does occur online (Barak & Gluck-Ofri, 2007) and describes the factors that impact reciprocity online (Rollman, Krug, & Parente, 2000; Rollman & Parente, 2001). However, to our knowledge, no studies exist that have investigated whether people perceive their partners as self-disclosing more in an online situation or a face-to-face situation. This would be necessary to determine if reciprocity occurs to a greater degree online than face-to-face.

**Purpose and Hypotheses**

The goal of the present research is to gain more clarity regarding the relationship between type of communication and self-disclosure. Specifically, the current study extends previous research in the area by (a) employing an experimental rather than retrospective design, and (b) comparing whether the perception of partner self-disclosure is greater online or face-to-face situation. First, we hypothesized that because online communication increases anonymity (Chiou, 2006), participants in the online group will report higher levels of personal self-disclosure than those in the face-to-face group. Second, based on the concept of reciprocity (Barak & Gluck-Ofri, 2007), we hypothesized that those participating in online discussions would perceive that their conversation partners disclose more to them than those participating in face-to-face discussions.

**Method**

**Participants**

Participants were recruited through an undergraduate psychology department-sponsored research activity. Initially, 60 participants completed the study, but 2 participants were not included in the final analyses due to incomplete data. The remaining participants included 58 (25 men, 33 women) undergraduate students attending a small liberal arts college in the Midwest, and the majority of the sample was Caucasian (97%). The participants’ ages ranged from 18 to 28 ($M = 20.10$, $SD = 1.78$). Two conditions existed: the online communication group and the face-to-face communication group. The participants in the online group consisted of 14 men and 15 women, whose ages ranged from 18 to 28 ($M = 20.58$, $SD = 2.19$). The participants in the face-to-face group consisted of 11 men and 18 women, and their ages ranged from 18 to 22 ($M = 19.83$, $SD = 1.23$).

**Instruments and Apparatus**

The researchers employed an adapted version of the Revised Self-Disclosure Scale (RSDS; Wheless, 1978) to determine participants’ level of self-disclosure. Nineteen items from the original scale were reworded to be more applicable to the interaction in this particular experiment. Nine items were used to measure the amount and quality of each participant’s disclosure in this situation (personal self-disclosure). Sample items include: “In this experience, I often disclosed intimate personal things about myself without hesitation” and “In this experience, I did not often talk about myself.”

The remaining 10 items measured the amount and quality of disclosure from the partner in this situation (perceived partner self-disclosure). Sample items included: “In this experience, my partner talked about his/herself for fairly long periods at a time” and “In this experience, my partner did not seem honest in his/her self-disclosures.” Participants were asked to indicate their agreement with the items on a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree).

The participants used five of Aron, Melinat, Aron, Vallone, and Bator’s (1997) Closeness-Generating Questions, which were designed to encourage self-disclosure. One example question is, “If you have to move from where you consider home, where would you go, and what would you miss the most about home?” Lastly, participants responded to an eight-question demographic survey on which they reported their age, gender, year in school, and the extent to which they felt they knew their partner before this experiment.

In addition, the participants in the online condition used computers in the following manner. The researchers placed 15 laptops in two rooms (A and B) on two different floors. Each computer had a number 1 through 15. Each computer also had a mock instant messaging (IM) account already on the screen. The individual IM accounts on each screen allowed the participant to communicate with only one other account, which was already up on the screen of the corresponding computer in another room on a different floor. Therefore, participants communicated online with the
person in the other room sitting at the computer with the same number. For instance, the participant seated at computer 1 in Room A communicated online only with the person seated at computer 1 in Room B. Each participant was assigned a gender-neutral pseudonym that appeared at the top of each IM account (e.g., Sam024689753, Taylor035798642, and Jess035798642). In addition, all participants were asked not to reveal their real names to their partners.

Procedure
The independent variable was type of communication (online versus face-to-face) and participants were assigned to one of these two conditions as they arrived at the study. We randomly assigned partners only in the face-to-face condition. The dependent measures were personal self-disclosure and perceived partner self-disclosure.

Online condition. Participants entered the room and picked a computer by seating themselves. Consequently, pairs were created through convenience sampling. Each pair then was given five questions to discuss, and each topic was designed to encourage self-disclosure (Aron et al., 1997). The researchers asked participants not to reveal their names to each other and to stop the conversation and notify the researchers if they suspected that they knew their partner. This, however, did not occur. The researchers then informed the participants to keep conversing until instructed to do otherwise. After 15 min, the researchers stopped the conversations and the participants filled out the survey packet, which included an adapted version of the RSDS (Wheeless, 1978) and a demographic survey. Participants took approximately 3 min to complete these surveys.

Face-to-face condition. All participants entered the same room and received an informed consent. The researchers randomly assigned pairs by having participants pick numbers out of a container and pair up with the person with the same number. Participants were asked if they knew their partners (more than just in passing) before this interaction, and if they did, they would have been reassigned. However, this did not happen. Pairs then were given the same choices of topics as the online condition and the same time limit. After 15 min, the researchers stopped the conversations and handed out the survey packets, which contained all the same instruments as the packets for the online group. The participants in both the online and face-to-face groups were given debriefing statements after they handed in their survey packets.

Results
For the entire sample, mean response scores for personal self-disclosure on the adapted version of the RSDS (Wheeless, 1978) ranged from 3.56 to 6.56 (M = 5.09, SD = 0.68) on a scale from 1 to 7. The Cronbach alpha for the personal self-disclosure items was .64. An independent t test was conducted to explore the impact of communication group (online or face-to-face) on levels of personal self-disclosure. Mean personal self-disclosure responses for the online group (M = 5.30, SD = 0.66) were significantly higher than the face-to-face group (M = 4.88, SD = 0.65), t(56) = 2.45, p = .02. The partial eta squared statistic was .10, indicating a large effect.

For perceived partner self-disclosure, entire sample mean response scores on a scale from 1 to 7 ranged from 1.90 to 6.10 (M = 4.80, SD = 0.69). The Cronbach alpha for perceived partner self-disclosure items was .71. An independent t test was conducted to explore the impact of communication group (online or face-to-face) on levels of perceived partner self-disclosure. Mean perceived partner self-disclosure responses for the online group (M = 5.02, SD = 0.57) were significantly higher than the face-to-face group (M = 4.58, SD = 0.74), t(56) = 2.49, p = .02. The partial eta squared statistic was .10, indicating a large effect.

Discussion
Type of Communication and Self-Disclosure
This research study sought to examine the relationship between online or face-to-face communication and self-disclosure. As predicted, the participants in the online communication group reported higher levels of personal self-disclosure and perceived partner self-disclosure than those in the face-to-face group. These results are in line with Tidwell and Walther’s (2002) findings, but are in contradiction to Mallen et al.’s (2003) results, which indicated that those in face-to-face pairs self-disclosed more than those in online pairs. These differences may be due to the fact that Mallen et al.’s (2003) study measured self-disclosure with one item that focused on the amount of self-disclosure. Specifically, they asked participants to rate their own self-disclosure from 1 (no self-disclosure) to 6 (extreme self-disclosure), whereas the present study’s measure contained 9 items that were also meant to assess one’s perception of both the quality and amount of self-disclosure.

Results from the current study suggest that online communication may increase people’s personal self-disclosure in general, helping them along in the early stages of relationship building. Several previous researchers have provided possible explanations for the present results. A common explanation is the anonymity that an online environment provides, which allows people to feel safer self-disclosing (Chiu, 2006). Tidwell and Walther (2002) proposed another
Explanation for greater disclosure in an online setting. They noted that many of the ways people get to know others (e.g., reading and interpreting nonverbal cues) are not possible in online communication. Therefore, people communicating online may actually be limited to using self-disclosure as a means to get to know one another. Because this form of communication is fairly commonplace in present times, people may now expect self-disclosure by themselves and others in online communication because no other means of getting to know each other is possible. If this norm of self-disclosure does in fact exist online, it may explain why the online group in this study reported higher personal self-disclosure.

Finally, results indicated that people perceive their communication partners as disclosing more in an online situation than in a face-to-face situation. This suggests that the phenomenon of reciprocity may occur to a greater degree online than face-to-face. Therefore, these findings may serve as another explanation of why people disclose more online in general. The online participants may have felt that their partners were self-disclosing more than the face-to-face participants felt their partners were self-disclosing. In turn, this may have then influenced the online group to self-disclose more to their partners than the face-to-face group felt necessary to disclose to theirs.

**Practical Applications and Future Directions**

Due to the prevalence of online communication in the world today, the results of this study can be applied to practical situations. This study can contribute to the debate concerning the effectiveness of online counseling (Mallen & Vogel, 2005; Murphy & Mitchell, 1998; Rochlen, Zack, & Speyer, 2004; Young, 2005). Because online communication elicited more self-disclosure, online communication may be an effective venue for forming therapeutic relationships. Online therapy may appeal to and benefit clients for several other reasons, which are discussed extensively in other research articles; therefore, we provide only a brief overview of the benefits here. The anonymity of online communication may make clients feel more open when disclosing to counselors (Chiou, 2006). Furthermore, because the Internet can hide the client’s and therapist’s age, race, other physical features, and clothing style or quality, the harmful assumptions and judgments about others that people often make in person will not exist. This may allow for less biased communication from the client and genuine therapeutic guidance (Rochlen et al., 2004). Despite the possible benefits of online therapy, research on its effectiveness is still needed. Therefore, counselors should practice online counseling cautiously by taking extra ethical precautions, such as ensuring confidentiality, formulating an emergency protocol, and obtaining informed consent for treatment (Casper, 2004).

Furthermore, the present results may also be useful in academic settings. Because online communication elicited more self-disclosure, teachers may consider using it to form closer relationships with their students so they can better meet their students’ needs. Using online communication may make students feel more comfortable asking teachers or other students questions because of the anonymity it can provide. Similarly, online communication may be used in this way for students to assist each other with academic assignments. Naturally, the present study’s results suggest that future research examine whether online communication may be used to increase disclosure and strengthen new business relationships between colleagues as well as personal relationships (familial, romantic, and platonic).

Given that online communication will likely continue to grow rapidly, research about the impact of online communication on self-disclosure and relationships is necessary. Due to the small and racially homogenous sample size, future studies should employ a larger and more ethnically diverse sample. Because this study took place on a small campus of less than 1000 students, the anonymity of online communication may have played a role in producing more self-disclosure in the online group. This may have occurred because participants in the face-to-face group may have guarded their disclosures more than those in the online group if they thought they were likely to see their partners on campus later. This phenomenon may not occur in a larger sample from a bigger university or from a noncollege sample.

Additionally, future researchers should consider other important moderating variables to better understand the relationship between type of communication (online versus face-to-face) and self-disclosure. In particular, it would be helpful to consider the impact of certain personal characteristics, such as age, personality, race, culture, socioeconomic status, intelligence, and writing ability. Furthermore, the present study did not consider the effects of large amounts of self-disclosure on relationships; for example, future studies could examine how and in which situations excessive self-disclosure can harm a relationship. Finally, it would be beneficial to examine how online versus face-to-face communication impacts self-disclosure for particular types of relationships, such as student-teacher, client-therapist, romantic, and familial.

**References**


