

**INTERGROUP FRIENDSHIP POTENTIAL:  
EXPLORING INITIAL INTERGROUP INTERACTIONS AND THE DESIRE  
TO SOCIALIZE**

by

Matthew P. Deegan

A dissertation submitted to the Faculty of the University of Delaware in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Psychology

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## ABSTRACT

Many people are reluctant to pursue close relationships with members of other groups (Shelton & Richeson, 2005). Even for ingroup members, the transition from acquaintances to friends tends to be quite fragile (Lydon, Jamieson & Holmes, 1997). The current research was designed to examine how peoples' failure to view outgroup members as potential friends manifests in biased perceptions of outgroup members who express a desire to socialize and in a reduced likelihood of pursuing acquaintanceships with outgroup members. Study 1 was designed to test the prediction that people will be less likely to issue an invitation to socialize with an outgroup member compared to an ingroup member. Study 2 was designed to test the prediction that mutual self-disclosure with an outgroup member relative to an ingroup member will less strongly encourage the development of an acquaintanceship. In contrast to these hypotheses, the results of Study 1 showed that White participants did not differ in the likelihood that they would issue an invitation to a Black or White confederate. Also contrary to the hypothesis, in Study 2, high self-disclosure produced more favorable friendship-related attitudes and social behaviors compared to low self-disclosure for participants with Black confederates, while self-disclosure did not impact attitudes or social behaviors for participants with White confederates. This suggests that people may not categorically fail to view outgroup members as potential friends compared to ingroup members.

## **Chapter 1**

### INTRODUCTION

Friendship research suggests that people automatically filter others into two categories: “potential friends” or “NOT potential friends” (Lydon et al., 1997). Intergroup relations research suggests that a variety of factors lead people to avoid contact, intimacy and friendship with outgroup relative to ingroup members. We proposed that failure to see outgroup members as potential friends has a detrimental effect on intergroup interactions and reduces the likelihood of future contact. People often fail to initiate friendships with outgroup members despite reporting that they desire intergroup friendships (Shelton & Richeson, 2005). We argue that the proclivity to view outgroup members as categorically lacking friendship potential contributes to biased attributions when faced with social acceptance feedback from an outgroup member. For example, people are likely to view social acceptance from outgroup members with suspicion and distrust, leading to a reduced likelihood of reciprocity. This is unfortunate because having a cross-group friend is a particularly effective way to reduce intergroup biases because it involves continued, long-term favorable intergroup contact (Davies, Tropp, Aron, Pettigrew, & Wright, 2011). Willingness to socialize with another person can represent the first step towards the development of an intimate relationship. The present research examines dyadic initial interactions amongst acquaintances from the same or different racial groups, their willingness to agree to social contact, and their subsequent attitudes towards friendship with their interaction partner.

This research explores why racial outgroup members may not be regarded as friendship material and how this perception may discourage seeking social contact with an outgroup member. First, we provide a broad overview of research on friendship with a particular focus on the development from acquaintanceships to friendships. Following that, we propose some likely impediments to the development of intergroup friendship as part of a larger discussion of why people tend to categorize outgroup members as lacking friendship potential. Then, we summarize the results of several unpublished studies suggesting that people do not differ in the likelihood of accepting invitations to socialize from ingroup and outgroup members. To the extent that people fail to view outgroup members as potential friends, we predict that they will discriminate against outgroup members in issuing invitations to socialize. Although people may be as apt to *accept* invitations to socialize from outgroup members as readily as from ingroup members, we predict that they will be less likely to proactively *issue* an invitation to socialize with an outgroup than with an ingroup member (Study 1), and we predict that people will interpret self-disclosure by an outgroup member less positively and behave less favorably towards a racial outgroup compared to an ingroup confederate (Study 2).

While the extant research suggests several barriers to the development of friendship and poses several potential remedies, the novel contribution of this dissertation is that it provides a more nuanced examination of the way in which initial social contact can be encouraged or discouraged amongst strangers. Previous research suggests that the belief that outgroup members don't desire friendship with oneself can prevent people from developing friendships with outgroup members (Shelton & Richeson, 2005). Study 1 builds on preliminary research we conducted to examine

what happens when this belief that outgroup members are not interested in socializing with one's group is challenged. Our preliminary research showed that people do not differ in the rate at which they accept invitations to socialize from outgroup members compared to ingroup members, suggesting that people might not necessarily be opposed to continued contact and potential friendship with outgroup members. Study 1 was designed to also examine whether people differ in their likelihood to issue an invitation to socialize with outgroup members compared to their likelihood to accept such invitations. We expect that avoidance of intergroup social contact may be a "path of least resistance" strategy, whereby people avoid proactive pursuit of social contact with other-race individuals, though they may still accept an invitation to socialize issued by an outgroup member to avoid acting rudely as well as the attribution that they may be prejudiced. Finally, while self-disclosure is an integral part of intergroup friendship development (Shelton, Trail, West, & Bergsieker, 2010; Turner & Feddes, 2011), Study 2 was designed to examine how people may respond differently to ingroup and outgroup members with regard to the level of self-disclosure that is effective at encouraging friendships, in a controlled experimental setting. We thus have the opportunity to have a more nuanced understanding of the effect of self-disclosure on initial interactions with outgroup members.

### **1.1 The Development of Friendship: Pitfalls and Possibilities**

It is important to understand how friendships operate more generally. The development of friendships can fulfill the basic human need for social acceptance (Baumeister & Leary, 1995). At the very least, friendships tend to fulfill one's need for connection to others. Hartup (1975, p. 11) defines friends as: "people who spontaneously seek the company of one another; furthermore, they seek proximity in

the absence of strong social pressures to do so.” While there are factors encouraging this progression (possibilities), there are also some potential pitfalls for initial social interactions that may inhibit the development of friendship.

People tend to approach acquaintances by categorizing them in terms of their friendship potential (Rodin, 1982). There are three prototypical types of friendship-related relationships: unit (friend), pre-unit (potential friend, but still an acquaintance) and non-unit (acquaintance with no friendship potential) (Lydon et al., 1997). In the initial stages of potential friendship development, people often use a filter to discriminate between potential friends (preunit) and those who are not potential friends, or nonunit individuals (Rodin, 1982). This categorization comes as a result of a variety of factors, including perceived similarity or dissimilarity, race, education, dress and age (Gouldner & Strong, 1987). However, uncertainty over whether or not an individual is a potential friend is an unpleasant experience (Holmes, 1991). Therefore, people are motivated to reduce this uncertainty in initial social interactions, as acquaintances “test the waters” to determine whether or not someone is a potential friend (Lydon et al., 1997).

To the extent that people categorize others as potential friends, initial interactions are very fragile. Preunit relationships are particularly unstable, characterized by uncertainty and uneasiness and involve imbuing social meaning to positive behaviors (Lydon et al., 1997). Because people interacting with preunit others often seek information about whether or not that individual is a potential friend, perceived signals of interest or lack of interest are heavily weighted when making judgments about friendship potential. The uncertainty in these types of relationships

stems from the fact that people in preunit relationship have not yet decided whether or not an individual is a potential friend (Lydon et al., 1997).

Critically, people in preunit relationships are open to the development of a friendship. A longitudinal study of the development of friendships amongst college students suggests that acquaintances that successfully develop into friends exhibit both greater frequency of social contact and the intimacy of that contact compared to acquaintances that fail to develop into friends (Hays 1984, 1985). Intimacy of interactions, which tended to increase as time went on, predicted greater relationship closeness above and beyond the amount of contact. While increasingly intimate interactions are important to increasing closeness, having contact with an acquaintance was a necessary condition for the development of friendship (Hays 1984, 1985). The present research examines the initial hurdle of increasing social contact between members of different racial groups.

## **1.2 Intergroup Friendship**

Intergroup friendship is a special form of intergroup contact, which can reduce biases towards the outgroup (Pettigrew & Tropp, 2006). The notion that intimate contact is particularly effective at improving intergroup attitudes is well established in early contact literature (Allport, 1954; Cook, 1962). In a review of intergroup contact theory since Allport's (1954) seminal work on prejudice, Pettigrew (1998) suggested that friendship may be important because it takes advantage of Allport's optimal "conditions of intergroup contact" which best encourage improved intergroup attitudes (i.e., cooperation, equal status and opportunity for self-revealing interaction). Pettigrew (1998) even proposed that the potential for friendship be included among the "optimal condition of contact." Undoubtedly, there is a positive relationship

between intergroup friendship and improved intergroup attitudes across a broad range of contexts and for a broad range of outgroups (Davies et al., 2011). Moreover, experimental studies have demonstrated a causal path between the development of friendship and reduced bias (Davies et al., 2011). A recent meta-analysis (Davies et al., 2011) suggests that the effect of cross-group friendship on outgroup attitudes is mediated most strongly by time spent together and self-disclosure, followed by closeness, inclusion of the other in the self, the number of cross-group friendships, and the percentage of one's friendships that were outgroup members.

While intergroup friendships are extremely effective at improving intergroup attitudes, people nevertheless fail to readily develop friendships with people from other groups. A potentially important obstacle to the development of cross-group friendships is the failure to view other-group individuals as a potential source of social acceptance. People may also overlook out-group members as potential friends due to ingroup exclusionary norms about interacting intimately with outgroup members (Tezanos-Pinto, Bratt, & Brown, 2010). Moreover, people may believe that members of other groups do not desire friendships with them or with members of their group (Shelton & Richeson, 2005), leading to concerns about being socially rejected by outgroup members (Shapiro, Baldwin, Williams & Trawalter, 2010).

The way intergroup anxiety biases perceptions of outgroup members may also contribute to people's failure to develop intergroup friendships. People typically approach intergroup interactions with trepidation and anxiety (Blascovich, Mendes, Hunter, Lickel, & Kowai-Bell, 2001; Stephan & Stephan, 1985, 2000). When present, this anxiety fundamentally shapes the context of an interracial interaction, and it further contributes to a negative interaction (Dovidio, Kawakami, & Gaertner, 2002).

The negative impact of interracial anxiety contributes to biased interpretations of both one's own and others' anxiety-driven behaviors (West, 2011). One's own experienced anxiety, for example, can be attributed to expectations about their behavior based on outgroup stereotypes. Moreover, an outgroup member's behavioral display of anxiety may be interpreted as a lack of interest in the interaction, and perhaps as an explanation for the perceiver's own anxiety. Finally, people may underestimate the extent to which they display anxiety in an interracial interaction, leading them to unintentionally send mixed signals for outgroup members to interpret (West, 2011). Receiving such mixed signals may elicit expressions of confusion – which can be interpreted as outgroup member disappointment with the interaction. Thus, anxiety can lead to a chain of reciprocal miscommunications.

Initial interactions among strangers are fragile because they are characterized by the motivation to reduce uncertainty and a hyper-vigilance for cues of social acceptance and social rejection (Lydon et al., 1997). This is can be particularly problematic for interracial interactions, in which people tend to overestimate the extent to which they express interest in the other (outgroup) individual (Vorauer & Sakamoto, 2006). Most interactions with outgroup members probably leave them categorized as not potential friends, or “nonunit,” because outgroup members are not seen as a source of social acceptance. However, if someone does consider an outgroup member to be a potential friend (preunit relationship), interactions are likely even more precarious than usual, leading to a propensity to dismiss preunit outgroup members into the nonunit category. However, we use the distinction between “preunit” and “nonunit” categories merely to demonstrate the fact that people can view strangers with differing levels of friendship potential. It is unclear how

permeable the “nonunit” and “preunit” categories are. The extent to which a person is viewed as a potential friend may in reality be a continuum, with behaviors and attitudes associated with disregard or indifference on one end of the spectrum and those associated with the pursuit of developing a friendship on the other. The present research is predicated on the notion that people will be less likely to view a racial outgroup member as a potential friend than a racial ingroup member, leading to biased responses in our studies. We are not concerned per se with the cognitive structure of these categories.

### **1.3 Facilitating the Development of Intergroup Friendship**

For various reasons, people are hesitant to pursue social contact with outgroup members. Nevertheless, people occasionally overcome the various obstacles to the development of cross-group friendships. Indeed, interracial friendship increases with increased outgroup contact (Aboud, Mendelson & Purdy, 2003; Schofield, Hausmann, Ye & Woods, 2010), though pre-existing racial bias and previous interracial contact are also crucial factors (Stearns, Buchmann & Bonneau, 2009). Moreover, in the transition from acquaintances to friends, reciprocal self-disclosure is a good predictor of successful intergroup friendship development (Shelton et al., 2010; Turner & Feddes, 2011), similar to its role in the development of same-race friendships.

Given the uncertainty of interactions involving potential friends, it is not surprising that friendship building signals, such as trust implied by the willingness to self-disclose, are required for friendship to develop (Derlega, Winstead & Greene, 2009; Sprecher, Treger & Wondra, 2013). In both developing and stable friendships, self-disclosure is correlated with increased relationship happiness (Derlega et al., 2009). Experimentally, self-disclosure during initial interactions increases liking for

interaction partners (Sprecher et al., 2013a). However, while self-disclosure encourages friendship, such intimate intergroup interactions face unique challenges. Because intergroup interactions are prone to miscommunication and attributional biases (Vorauer & Sakamoto, 2006), people tend to overlook out-group members as potential friends. Ingroup norms that discourage interaction with outgroup members (Tezanos-Pinto et al., 2010) likely suggest that highly revealing self-disclosure is inappropriate. This may lead high self-disclosure from outgroup members to be regarded with suspicion of being disingenuous. To the extent that people resist viewing outgroup members as potential friends, self-disclosure may not facilitate friendship as readily with outgroup as with ingroup members.

A mismatch in intimacy can be problematic for the development of friendship. If a relationship passes the threshold from acquaintanceship to friendship, expectations about the relationship and interaction norms may shift. However, acquaintance relationships usually involve low levels of intimacy and relational quality (Baym, Zhang, Kunkel, Ledbetter, & Lin, 2007). It is important that both parties agree as to the developmental stage of their relationship because the development of friendship is transactional (i.e., it depends on both partners to succeed). Also, it requires perceived partner responsiveness to one's own friendship-building behaviors (Shelton et al., 2010). Between acquaintances, sharing personal details about themselves through a dyadic discussion of increasingly intimate topics has been shown to elicit greater closeness and inclusion of the other in one's self concept (Aron, Melinat, Aron, Vallone & Bator, 1997). When successful, intimacy development among acquaintances can be beneficial. However, feeling too close prematurely threatens personal control and personal identity (Aron, McLaughlin-Volpe, Mashek,

Lewandowski, Wright & Aron, 2004). Indeed, the line between intimacy and autonomy is particularly important during the transition from acquaintanceship to friendship.

#### **1.4 Preliminary Studies**

Although intergroup friendships reduce prejudice and bias (Davies, et al., 2011), people are often reluctant to regard outgroup members as potential friends, despite their reported interest in developing friendships with outgroup members. Believing that members of other groups do not want to be friends can lead to avoidance (Shelton & Richeson, 2005). In the next section, we discuss previous studies from our laboratory suggesting that people do not differ in their likelihood of accepting invitations to socialize with outgroup compared to ingroup members.

A series of preliminary studies examined the likelihood that someone would accept an invitation to socialize issued by a racial outgroup member. While one of these studies suggested that people were more likely to reject an invitation from an outgroup than from an ingroup member, the others suggest that this is not the case. In our initial study, we arranged for participants to take part in an interaction with a confederate working with our lab who posed as another participant. Following this initial task, our confederate invited the participant to go out for coffee at the conclusion of the study. Our results indicated that participants were reliably less likely to accept an invitation to go for coffee from a racial outgroup member than from an ingroup member. White participants accepted the invitation from a White confederate 70.6 percent of the time and accepted the invitation from a Black confederate just 31.2 percent of the time.

However, we failed to replicate this finding in subsequent studies, the results of which suggested that participants accepted invitations from outgroup members at a rate not significantly different than from ingroup members. For example, with Black participants, we found no reliable differences in acceptance rate using the exact same procedure (50.0 % accepted from the outgroup, 68.8 % accepted from the ingroup). We examined the phenomenon several more times, including once using a design in which confederates issued an invitation to participants before the study purportedly began, so as to eliminate any potential variability in the quality of earlier contact and to minimize participant suspicion (listed as Study 5 in Table 1 below). We again found that White participants did not differ in the likelihood of accepting an invitation from Black (71%) compared to White (75%) confederates. See Table 1 for a comprehensive list of the rate at which participants accepted invitations from ingroup and outgroup members in each of our prior studies.

To combine the results of all of these prior studies, we performed a Mantel-Haenszel chi-square test, which tested for differences between ingroup and outgroup acceptance rates while controlling for the fact that the data came from different studies (Mantel & Haenszel, 1959). This test indicated that there were no significant differences between the rate at which participants accepted an invitation from ingroup and outgroup members,  $\chi^2(1) = .094, p = .759$ . This result suggests that people do not differ in the rate at which they accept invitations to socialize with outgroup members compared to ingroup members. Fear of appearing biased is pervasive in preventing people from intergroup contact (Dunton & Fazio, 1997; Gaertner & Dovidio, 1986; Johns, Schmader, & Lickel, 2005; Plant & Devine, 1998; Vorauer & Turpie, 2004). It

is possible that, in our studies, this fear prevented participants from rejecting an undesired invitation from a racial outgroup member.

Table 1. Preliminary Study Results

Study	Sample	Ingroup Accept	Outgroup Accept	N	Chi Square	Sig.
Study 1	White Female	70.6%	31.2%	33	5.107	0.024
Study 2	White Female	87.1%	88.0%	56	0.01	0.919
Study 3	Black Male & Female	68.8%	50.0%	34	1.229	0.268
Study 4	White Female	43.9%	53.7%	82	0.781	0.377
Study 5	White Female	75.0%	71.0%	67	0.085	0.77
Disclosure Pilot	White Female & Male	20.0%	57.0%	17	2.487	0.115
Total		63.6%	61.6%	289	0.094 <sup>a</sup>	0.759

*Note:* <sup>a</sup> Total Chi-Square represents a Mantel-Haenszel Chi-Square.

## **Chapter 2**

### **STUDY 1**

While people tend not to differ in the rate at which they accept invitations from ingroup and outgroup members, we predict that people are less likely to issue an invitation to outgroup members. In the context of helping behavior, Whites are less likely to ask for help from a Black partner than to accept help when it is offered to them (Dovidio & Gaertner, 1983). This phenomenon is, in part, due to the fact that norms about whether or not to ask for help are ambiguous, whereas when offered help, it is a clear cut norm violation to reject help that is offered (Dovidio & Gaertner, 1983). We argue that a similar process may be at play in the context of intergroup contact. Refusing to accept an invitation to future contact is a clearer violation of social etiquette—in much the same way that refusing needed help that is offered may be perceived as an insult to the person offering the help. Rejecting an invitation by an outgroup member may also activate concerns about appearing prejudiced, which have a strong impact on behaviors (Dunton & Fazio, 1997).

Refusing to accept an invitation to socialize is easily construed as social rejection. By contrast, failing to issue an invitation to socialize when given an opportunity to issue do so is not necessarily an act of social rejection. We predict that a reactive response to an invitation, whether it involves accepting an invitation to be helped or to socialize with an outgroup member, is more likely than a proactive response, such as asking for help or issuing an invitation. In the context of intergroup friendship, this is consistent with the notion that outgroup members are not seen as desirable sources of friendship. When in a situation that affords a participant the opportunity to proactively invite a partner to socialize, we expect that White

participants will be less likely to issue an invitation to a Black confederate compared to a White confederate, than when the situation only requires a reactive response of accepting or declining an invitation.

We expect that this reluctance to issue invitations reflects the prevalent tendency for people to fail to view outgroup members as potential friends. However, people may also believe that members of other racial groups do not desire friendships with them (Shelton & Richeson, 2005), leading to concerns about being socially rejected by outgroup members (Shapiro et al., 2010). To alleviate the concern about being rejected by the confederate, we incorporated a procedure whereby participants learned that the confederate was open to friendships with members of their group.

## **2.1 Method**

### **2.1.1 Participants and Design**

One hundred and fifty seven White female participants from the PSYC100 research participation requirement were subjected to a 2 (participant can: accept, invite) x 2 (confederate race: White, Black) design. In the accept condition, the participant was given the opportunity to accept an invitation to socialize with the confederate, while in the invite condition, the participant was given the opportunity to invite the confederate to socialize. All participants were paired with a confederate of the same sex (i.e., a female confederate).

### **2.1.2 Procedures**

Pilot testing indicated that participants were reluctant to issue invitations to socialize with a confederate when given the opportunity to do so. Therefore, we incorporated several procedures designed to increase the likelihood that participants in

the invite condition would be more likely to invite the confederate to socialize. These procedures are described in more detail below, and include inducing scripted “small talk” between the confederate and the participant when first arriving in the waiting area for the study, informing participants that they were both in the same psychology course which increases the likelihood their paths would cross again in the future, subtly providing participants information that confederates were open to inter-racial friendships by displaying a photo of the confederate with her boyfriend from a different racial group (i.e., the same racial group as the participant), giving participants positive feedback about their joint solution to the winter survival problem they solved earlier, and notifying that the confederate and participant would be invited back together for a chance to win \$50.00. These aspects of the procedure were used in both the invite and the accept conditions, for consistency.

In the Black confederate conditions, participants were paired with a Black confederate; in the White confederate conditions, participants were matched with a White confederate. One confederate in the White Confederate condition was Hispanic but because she had very light-colored skin and Caucasian features, we believed she would be effective in her assigned condition (i.e., that she would be perceived by participants to be of Caucasian heritage). Because all participants were White, those in the White confederate conditions were interacting with racial ingroup confederates, while those in Black confederate conditions were interacting with racial outgroup confederates.

In each session, one confederate was scheduled to a designated waiting area outside of the lab room where two chairs were placed 2.5 feet apart. Once the participant arrived and sat in the waiting area, our confederate joined her in the

waiting area and sat in the other chair. After 30 seconds, the experimenter greeted the participants, asked if they were both in the same PSYC100 section, and informed them that (s)he would return in a minute once the experiment was ready for them. Through this procedure, participants were informed that the confederate was in the same PSYC100 course, to encourage an invitation later in the study. Once the experimenter left the waiting area, the confederate attempted to converse with the participant, to develop rapport with the participant and to reduce suspicion of the coupon the participant would soon learn about. All confederates asked: “How do you like Dr. \_\_\_\_\_? Have you been to any other studies? Do you know anything about this study? My friend was in it. She said they give away coupons for Brew Ha Ha!” After two minutes, the experimenter returned and asked the participant and the confederate to move to a lab room to begin the study.

Upon entering the lab, the experimenter explained that one participant each day was randomly given an additional reward for participating in the study. Participants were informed that in an effort to support research at the University of Delaware and to increase new customers, Brew Ha Ha!, a local coffee shop, was offering a promotion to some study participants, selected through a random drawing with one winner each day. The participant and confederate were asked to draw a slip of paper from a bowl of fifteen paper slips with raffle numbers printed on them, as part of the random drawing. The experimenter explained that the reward was a coupon for two free beverages, which was non-transferrable (to avoid the participant attempting to give the coupon to the confederate) and that it expired about a week after the date of the experimental session. Each participant was asked to save her raffle ticket and was informed that the winning number would be selected later, near the end of the study.

Participants were then asked to complete a “get to know you” exercise to convey that the confederate was heterosexual, in a relationship, and open to having friendships with a person of the same race as the participant. Participants were informed that this part of the study was being carried out so the confederate and participant could get to know each other better. Both the participant and confederate were asked to answer the question: “What did you do this past weekend?” The confederate’s response always indicated that during the past weekend, her boyfriend had bought her a bunny and the confederate showed the participant a photo of the fictional boyfriend, who was Caucasian, on her smartphone. This part of the procedure was designed to indicate that the confederate was heterosexual and, if the confederate was Black, that she was also open to having White friends.

Then, the participant and confederate were asked to complete a decision making task requiring participants to work together to come to a consensus on a hypothetical problem: the winter survival problem (Johnson & Johnson, 1975, see Appendix A). In this task, participants are asked to imagine that their plane crashed in the woods of northern Minnesota in mid-January, and their task was to rank order a number of items salvaged from the plane in terms of their importance to survival. This task encouraged cooperation between the participant and the confederate. It also was designed to give them a chance to communicate and develop rapport, to make an invitation to socialize more likely. All confederates were trained to be agreeable and to have a designated set of items to advocate for during the task.

Following this task, the experimenter entered the order of participants’ collective solution to the winter survival problem into a computer. The experimenter informed all participants that their solution to the problem was good enough to qualify

for “part 2” of the group decision making project. The experimenter explained that their team would be asked to come back to the lab together at a later date to compete in a similar problem for the chance to win a prize of \$50.00 each. This part of the procedure was implemented to encourage participants to invite the confederate to socialize, when given the opportunity.

Next, the experimenter announced the winning raffle number. In the invite condition, the experimenter announced the participant’s number and gave the participant the coupon. In the accept condition, the experimenter announced the confederate’s number and gave the confederate the coupon, so the confederate could issue the invitation to the participant when they were reunited during the next phase of the experiment. See Appendix B for raffle ticket. Then, the experimenter left the room to “prepare for the next part of the study.”

As the experimenter was leaving the room, the confederate then asked the experimenter what time the study would be over. The experimenter replied that the experiment would end with 30 minutes remaining in the hour which participants were all scheduled. This part of the procedure ensured that all participants, who were scheduled to the lab for one hour, were told that they would have 30 minutes of free time following the study. The experimenter then left the room. While they were alone, in the accept condition, the confederate invited the participant to coffee at the conclusion of the study. The confederate said: “When this study is over, I will have some free time. Do you want to share this coupon with me?” In the invite condition, we recorded whether or not the participant issued an invitation to the confederate.

The experimenter returned after exactly one minute and informed the participant and confederate that, unfortunately, the next part of the study was not ready

for them. The experimenter explained that due to some technical problems, they will need to leave the lab and return in 30 minutes to complete the remainder of the study. The timing of the study was such that this part of the study always came around fifteen minutes in to the study, leaving around 45 minutes remaining. The experimenter then left the room again, purportedly to retrieve a sign-out sheet for the participant and confederate.

During this second period in which the participant and confederate were left alone in the lab together, in the accept condition, the confederate again invited the participant, regardless of her response to the previous invitation. The confederate asked: “Oh, as long as we have to wait...would you want to go for a coffee now? This place is just across the street.” In the invite condition, we recorded whether the participant issued an invitation to the confederate. We also video recorded the invitation sequence, to be analyzed following the study.

After exactly two minutes, the experimenter returned to the participant and confederate to indicate that the computers had begun working and they should complete the final measures at that time. The participant and confederate were then separated, and the experimenter asked the participant to complete a questionnaire tapping perceptions about the confederate and the interaction.

Then, the participant was asked to join the confederate in another room. Participants were asked to have a seat by taking a chair from a stack. Confederates were always seated in the same spot. The distance from the confederate that participants placed their chairs was measured upon completion of the study as a subtle measure of comfort with the confederate. When the participant placed her chair, the experimenter explained that (s)he would be asking each participant a series of

questions about the study to evaluate their experiences. Participants were informed that for confidentiality, the interviews would be performed separately, and the experimenter escorted the confederate out of the room.

Then, the experimenter performed a funnel-debriefing procedure, in which (s)he asked the participant a series of questions of increasing specificity to gauge suspicion that the confederate was working with the lab (Appendix C). This debriefing interview was recorded and later reviewed to identify suspicious participants. Participants were asked not to discuss the study with any other potential participants, and they were informed that the coupon which participants were given for this study was fictitious. Therefore, to avoid participants from feeling cheated, participants who were awarded the coupon during the study were awarded an actual gift card worth \$5.00 to Brew Ha Ha!, at the conclusion of the study.

### **2.1.3 Measures**

***Invitation Outcome.*** Participants in the accept condition were invited to socialize with the confederate twice, once just after the winter survival problem and once just after learning about the fictitious computer problems in the lab. Whether or not they accepted each invitation was recorded. During these same time periods, participants in the invite condition were given two opportunities to invite the confederate to share the coupon. Whether or not the participant issued an invitation was also recorded. For each participant, two variables were created, with one representing invitation behavior (0=no accept/invite, 1=did accept/invite) at time one and one representing invitation behavior at time two.

***Chair Distance.*** The distance participants placed their chair from the confederate was measured, as a subtle measure of comfort with the confederate.

**Friendship Interest.** We measured participants' interest in friendship with the confederate with a 1= "Very Strongly Disagree" to 9= "Very Strongly Agree" scale with five friendship-relevant items (e.g., "I want to be friends with my interaction partner."),  $\alpha=.900$ . We measured the confederate's friendship interest using the same scale worded to represent perceptions about how the confederate felt (e.g., "My interaction partner would accept me as a friend"),  $\alpha=.867$ . See Appendix D for all questionnaire items.

**Confederate Appraisals.** Participants completed several scales examining their perceptions of the confederate. Participants took the partner evaluation scale, which asks the extent to which participants believed that the confederate exhibited a series of characteristics (e.g., Friendly, Cooperative, Selfish, reverse-scored). The partner evaluation scale used a 1= "Very Strongly Disagree" to 9= "Very Strongly Agree" scale and was composed of fourteen items,  $\alpha=.892$ . We also had participants complete the eight-item social distance scale, which asks the extent to which participants would be comfortable with increasingly closer contact with the confederate (e.g., Lived in the same town as me, Married into my family, etc.) on a 1= "not at all comfortable" to 10= "extremely comfortable" scale,  $\alpha=.905$ . Additionally, participants completed a ten-item sharing comfort scale, which asks participants to rate their level of comfort discussing a variety of personal topics with the confederate, on a 1= "not at all comfortable" to 10= "extremely comfortable" scale,  $\alpha=.917$ . We also had participants complete the "feeling thermometer" measure, which asks participants to rate how warm they feel towards the confederate, on a scale of 0 to 100.

**Interaction Experience.** Participants completed the five-item interaction anxiety measure on a 1= "Very Strongly Disagree" to 9= "Very Strongly Agree" scale,

$\alpha=.779$ . We also had participants complete the ten-item Positive Affect scale on a 1= “Strongly Disagree” to 7= “Strongly Agree” scale,  $\alpha=.809$  and the ten-item Negative Affect scale on a 1= “Strongly Disagree” to 7= “Strongly Agree” scale,  $\alpha=.861$ . The PANAS scales asked participants to rate the extent to which participants felt each of a series of emotions following the interaction (e.g., interested, hostile, etc.). Finally, we had participants complete one item asking the participant to rate their agreement with the item, “I felt accepted by my interaction partner from today.” on a 1= “Very Strongly Disagree” to 9= “Very Strongly Agree” scale.

## **2.2 Results**

### **2.2.1 Manipulation Check and Suspicion**

A total of 35 participants were removed from all analyses (new  $N=122$ ). Seventeen participants were removed from the study for failing to correctly identify the race of our confederate consistent with the condition. Of these seventeen, twelve correctly identified a Hispanic confederate as Hispanic, while seven identified her as “White.” We retained the seven participants identifying her as “White” in the current dataset. See the Methods section for further explanation. Additionally, in seven sessions, either the confederate or the experimenter made an error in executing the study; we removed these participants from all further analyses. Eleven participants expressed a significant amount of suspicion (some had learned about the study beforehand). Of these eleven suspicious participants, four were from the Black/*accept condition*, two were from the Black/*invite condition*, two were from the White/*accept condition*, and three were from the White/*invite condition*. In all analyses, the inclusion of suspicious participants did not alter the results.

To determine whether there were differences in how confederates impacted participants' perceptions of them, we subjected the scale measuring whether the participant believed the confederate desired friendship to an ANOVA with condition (1=accept condition, 0=invite condition) and confederate identity (dummy-coded for each confederate) ANOVA. Given that we predicted that Black and White confederates would be perceived differently because of their racial group, we analyzed Black and White confederates separately. For participants with Black confederates, as expected, we found no effect of confederate identity,  $F(3, 48)=1.103, p=.357$ , nor an effect of invite condition,  $F(1, 48)=1.494, p=.228$ , nor an interaction effect,  $F(3, 48)=.292, p=.831$ . For participants with White confederates, as expected, we found no effect of confederate identity,  $F(6, 53)=1.001, p=.435$ , nor an effect of invite condition,  $F(1, 53)=.500, p=.482$ , nor an interaction effect,  $F(6,53)=.255, p=.935$ . This suggests that confederates in our study did not differentially exhibit the desire to befriend the participant in the study.

### **2.2.2 Invitation Outcome**

In the following analyses, we examine the relative likelihood that participants would accept a confederate's invitation or issue an invitation to the confederate. We hypothesized that participants would not differ in their likelihood of accepting an invitation from a White confederate compared to a Black confederate, but participants would be more likely to issue an invitation to a White confederate compared to a Black confederate. This hypothesis was not supported. The data suggest that people don't discriminate when given the opportunity to invite a Black confederate to socialize, nor do they discriminate in responding to an invitation to socialize from a Black confederate, compared to a White confederate. While participants were overall

less likely to issue invitations than to accept them, the race of the confederate did not play a role in their likelihood of accepting or issuing invitations.

### **2.2.2.1 Invitation Opportunity One**

The primary hypothesis of Study 1 is that participants will not differ in the likelihood that they would accept invitations issued by White or Black confederates, while participants will be less likely to issue an invitation to socialize with a Black compared to a White confederate. In the present study, there are two opportunities to either issue or accept an invitation to socialize. During the first opportunity, participants were told that they would be released from the study early—with thirty minutes remaining in their scheduled hour-long study to be certain there would be time in their schedule to socialize with the confederate. The following analysis examines the relative likelihood to issue an invitation or to accept an invitation under these circumstances.

When dealing with categorical data, a loglinear analysis is necessary to test the interaction effects when more than 2 variables are included in a model. Thus, to test the hypothesis about participant behavior, we subjected the first opportunity to a loglinear analysis including invitation condition (dummy coded 1=accept condition, 0=invite condition), confederate race (dummy coded 0=Black, 1=White), and invitation outcome (dummy coded 0=no acceptance/invitation, 1=yes acceptance/invitation). Because our analysis included both the accept condition and the invite condition, the invitation outcome variable represented a different behavior depending on the condition. In the accept condition, this variable represented whether or not the participant accepted that invitation. In the invite condition, the invitation outcome variable represented whether or not the participant invited the confederate. In

each case, “1” represented that the participant expressed intentions to join the confederate for coffee and “0” represented that the participant did not.

We expected to find a three way interaction between race condition (Black or White) invitation condition (accept condition or invite condition) and invitation outcome (accept/invite or not). However, the loglinear analysis indicated that only the invitation condition by invitation outcome interaction was statistically significant, while all other interactions did not significantly improve the model. Failing to find the predicted three-way interaction suggests that the race of the confederate did not influence the likelihood that a participant would invite or accept an invitation from a confederate. Therefore, we retained a model with all main effects and two-way interactions. The likelihood ratio of this model was  $\chi^2(4) = 2.156, p = .707$ , suggesting that the model was a good fit to the data, meaning that the predicted likelihood values for the outcome variable were not statistically significantly different from the actual outcome values which the model was designed to predict. The statistically significant invitation condition by invitation outcome interaction,  $\chi^2(1) = 46.692, p < .001$ , suggests that the percentage of participants issuing invitations was different than the percentage of participants accepting invitations that were issued to them by our confederates. In particular, participants who received the coupon were not likely to issue an invitation to our confederate (9.8% issued invitations). However, participants who received an invitation to share the coupon were more likely to accept the invitation (70.5%). See Table 2 for the breakdown by condition. The results did not support the hypothesis that participants would be more likely to issue an invitation to a White confederate than a Black confederate but would not differ in the likelihood of accepting an invitation from either.

Table 2: Frequencies for Invitation Opportunity One

Accept condition		Black Confederate		White Confederate	
		N	%	N	%
Accept condition	Accepts at first opportunity	19	67.9%	24	72.7%
	Did not accept	9	32.1%	9	27.3%
Invite condition	Invites at first opportunity	4	14.3%	2	6.1%
	Did not invite	24	85.7%	31	93.9%

### 2.2.2.2 Invitation Opportunity Two

Next, we subjected the second opportunity to accept the confederate's invitation or issue an invitation to the confederate to the same loglinear analysis, to determine whether or not confederate race had an effect on the likelihood of acceptance/issuance of an invitation to socialize. We again expected to find a three way interaction between confederate race (Black or White), invitation condition (accept condition or invite condition) and invitation outcome (accept/invite or not). However, the three-way loglinear analysis again produced a final model that retained only the condition by invitation outcome interaction, while all other interactions did not significantly improve the model. This suggests that the race of the confederate did not influence the likelihood that a participant would accept an invitation from, or invite, a confederate. These findings did not support the hypothesis that participants would not differ in the likelihood of accepting an invitation from either a Black or a White confederate but would be more likely to issue an invitation to a White confederate than a Black confederate. See Table 3 for a breakdown by condition.

The likelihood ratio of this model was  $\chi^2(4) = .833, p = .934$ , suggesting that the model was a good fit to the data. The statistically significant invitation condition by invitation outcome interaction,  $\chi^2(1) = 68.821, p < .001$ , suggests that the percentage of participants issuing invitations was different than the percentage of participants accepting invitations that were issued to them by our confederates. In particular, participants who received the coupon were not particularly likely to issue an invitation to our confederate at the second opportunity (27.9% issued invitations). However, participants who received an invitation to share the coupon at this second opportunity were more likely to accept the invitation (100%). Again, the findings did not support the hypothesis.

To control for other variables, we ran binary logistic regression models on these data including trait personality and attitude measures (including Extraversion and Attitudes Towards Blacks values). For most participants, these scales were measured prior to the study, during a mass-pretesting session. However, seventeen participants failed to complete our covariate scales (ATB and Extraversion) during pretesting and the scales were administered after they had taken part in this experiment, as part of an ostensibly unrelated project. One participant never completed the scales and is thus not included in these analyses.

The inclusion of the Attitudes Towards Blacks scale and the Extraversion scale had no impact on the likelihood of accepting or issuing an invitation during opportunity 1. We again found a main effect of Condition, and there were no main or interactive effects of Confederate Race. The inclusion of the Attitudes Towards Blacks scale and the Extraversion scale in a logistic regression model for invitation opportunity 2 failed to successfully estimate the model, meaning that the analysis

could not produce estimates for the role of condition, race, our covariates and all possible interaction terms. This is most likely due to the fact that 100% of the participants who were invited by the confederate (Black or White) at the second opportunity accepted her invitation.

Table 3: Frequencies for Invitation Opportunity Two

Accept condition		Black Confederate		White Confederate	
		N	%	N	%
Accept condition	Accepts at second opportunity	28	100%	33	100%
	Did not accept	0	0%	0	0%
Invite condition		Black Confederate		White Confederate	
		N	%	N	%
Invite condition	Invites at second opportunity	8	28.6%	9	27.3%
	Did not invite	20	71.4%	24	72.7%

### 2.2.2.3 Combined Analysis

Inviting the confederate (or accepting the confederate’s invitation) during both opportunities to do so reflects a greater desire to socialize compared to only inviting the confederate (or accepting the confederate’s invitation) during the second opportunity, when there was time to kill before returning to the lab thirty minutes later. The next analysis determined whether there were differences in the likelihood participants would utilize both opportunities to socialize (i.e., invite the confederate or to accept the confederate’s invitation) compared to the likelihood participants would utilize the second opportunity only. We conducted a loglinear analysis including invite condition (dummy coded 1=accept condition, 0=invite condition), confederate race (dummy coded 0=Black, 1=White), and invitation outcome (dummy coded 0=no

acceptance/invitation, 1=second acceptance/invitation only, 2=invited/accepted both times)<sup>1</sup>. Because our analysis included both the invite condition and the accept condition, the invitation outcome variable represented a different behavior, depending on the condition.

We expected to find a three way interaction between race condition (Black or White) invitation condition (accept condition or invite condition) and invitation outcome (no acceptance/invitation, second acceptance/invitation only, invited/accepted both times). However, the loglinear analysis indicated that only the invitation condition by invitation outcome interaction was statistically significant, while all other interactions did not significantly improve the model. Failing to find the predicted three-way interaction suggests that the race of the confederate did not influence the likelihood that a participant would invite or accept an invitation from a confederate. The likelihood ratio of this model was  $\chi^2(6) = 2.342, p = .886$ , suggesting that the model was a good fit to the data.

The statistically significant invitation condition by invitation outcome interaction,  $\chi^2(2) = 70.745, p < .001$ , suggests that the percentage of participants issuing invitations was different than the percentage of participants accepting invitations that were issued to them by our confederates. In particular, participants who received the coupon were not likely to issue an invitation to our confederate both times (9.8% issued invitations), yet slightly more likely to issue an invitation at the second opportunity only (21.3%), and most likely to never invite the confederate at all (68.9%). However, participants who received an invitation to share the coupon were more likely to accept the invitation both times (70.5%), slightly less likely to accept only the second invitation (29.5%), and none failed to accept either invitation. See

Table 4 for the breakdown by condition. The results did not support the hypothesis that participants would be more likely to issue an invitation to a White confederate than a Black confederate but would not differ in the likelihood of accepting an invitation from either.

Table 4: Invitation and Acceptance Rates by Condition

Accept condition	Black Confederate		White Confederate	
	N	%	N	%
Accepts at time 1	19	67.9%	24	72.7%
Accepts at time 2 only	9	32.1%	9	27.3%
Accepts either t1 or t2	28	100%	33	100%
Never Accepts	0	0%	0	0%
<b>Invite condition</b>				
Invites at time 1	4	14.3%	2	6.1%
Invites at time 2 only	5	17.9%	8	24.2%
Invites either t1 or t2	9	32.2%	10	30.3%
Never Invites	19	67.9%	23	69.7%

Additional logistic regression analyses examining the impact of External and Internal motivations to avoid prejudice against Blacks (Plant & Devine, 1998), gathered during a mass-pretesting session, revealed no main effect of EMS or IMS subscales, nor an interactions with confederate race. This suggests that the relative likelihood that participants would leave their name for Black compared to White confederates was unrelated to their desire to avoid prejudice due to pressure from others or due to their own beliefs about avoiding prejudice.

### **2.2.3 Confederate Appraisals**

We also predicted in Study 1 that people would be less likely to view Black confederates as potential friends. To this end, we expected that participants interacting with Black confederates, overall, will rate them lower on measures assessing the extent to which they view them as a friend, to sit further away from them, and to rate them lower on measures assessing their evaluation of them and their interaction, compared to White confederates. To test these hypotheses, we subjected each dependent variable to an ANOVA with invite condition (1=accept condition, 0=invite condition) confederate race (0=Black, 1=White) and invitation outcome (0=no accept/invite, 1=accept/invite at time 2 only, 2=accept/invite at both time 1 and time 2)<sup>2</sup> as predictors, including all main effects and interaction terms. Though it was not of primary importance to our hypotheses, we included the invitation outcome in our analyses because we suspected that the participants' behavior may have impacted their subsequent ratings. Because our analysis included both the accept condition and the invite condition, the invitation outcome variable represented a different behavior, depending on the condition. If the participant was given the opportunity to invite, the invitation outcome variable represented whether or not the participant did invite the confederate. If the participant was invited by the confederate, this variable represented whether or not the participant accepted that invitation.

Dependent variables included: sharing comfort, social distance, interaction anxiety, partner evaluation, the confederate desires friendship scale, the participant desires friendship scale, the "feeling thermometer" towards the confederate, the extent to which participants felt accepted by their interaction partner (1 item), and the PANAS positive and negative subscales. We expected a main effect of confederate race on each variable, reflecting that participants would express bias against Black

confederates. Unsupportive of our hypothesis, there were no statistically significant differences between participants who interacted with a Black or a White confederate on any of our dependent variables, nor were there any interactions with the confederate race variable. Detailed results for each variable are found below. The interpretation of the results below was not changed by including Extraversion or ATB as predictors.

### **2.2.3.1 Confederate Desires Friendship**

We examined the scale measuring the extent to which the participant believed the confederate desired friendship with her. We found no main effects of confederate race,  $F(1,112)=.228, p=.634$ , invitation condition,  $F(1,112)=.081, p=.776$ , nor invitation outcome,  $F(2,112)=2.609, p=.078$ , nor the invitation condition x race interaction,  $F(1,112)=.187, p=.667$ , nor the invitation condition x invitation outcome interaction,  $F(1,112)=.418, p=.519$ , nor the race x invitation outcome interaction,  $F(2,112)=.287, p=.751$ , nor the three-way interaction term,  $F(1,112)=.588, p=.445$ . See Table 5 for descriptive statistics.

Table 5: Confederate Desires Friendship Descriptive Statistics by Condition

Accept condition	Black Confederate			White Confederate		
	M	SD	n	M	SD	n
Accepts at time 1	6.895	1.30	19	6.842	1.03	24
Accepts at time 2 only	6.533	1.30	9	6.667	1.29	9
Accepts either t1 or t2	6.779	1.11	28	6.794	1.09	33
Never accepts	n/a	n/a	0	n/a	n/a	0
Invite condition	Black Confederate			White Confederate		
Invites at time 1	7.150	1.15	4	7.700	.707	2
Invites at time 2 only	6.520	.460	5	6.725	1.06	8
Invites either t1 or t2	6.835	1.04	9	7.213	.884	10
Never invites	6.400	.854	19	6.183	1.10	23

*Note:* Participants who invited during the first opportunity only were coded with participants who invited or accepted both times, due to the low number of participants who only invited during the first opportunity (n=2).

### 2.2.3.2 Participant Desires Friendship

Next, we examined the scale measuring the extent to which the participant desired friendship with our confederate. Unexpectedly, we found a significant main effect of invitation outcome,  $F(2,112)=3.253, p=.042$ , such that participants who accepted the participant's invitation at both opportunities and who invited the confederate at both opportunities desired friendship with the confederate more ( $M=7.147, SE=.241$ ) than participants who accepted the confederate's invitation and who invited the confederate at the second opportunity only ( $M=6.601, SE=.188$ ) and more than participants who did not invite the confederate to friendship ( $M=6.291, SE=.162$ ). This effect occurred above and beyond the effect of condition, which was not a significant predictor (see below).

We found no main effects of confederate race,  $F(1,112)=.100, p=.753$ , invitation condition,  $F(1,112)=.873, p=.352$ , nor the invitation condition x confederate

race interaction,  $F(1,112)=.296, p=.587$ , nor the invitation condition x invitation outcome interaction,  $F(1,112)=.742, p=.391$ , nor the confederate race x invitation outcome interaction,  $F(2,112)=.451, p=.638$ , nor the three-way interaction term,  $F(1,112)=.184, p=.669$ . This result suggests that participants who accepted the invitation from the confederate or issued an invitation to the confederate desired friendship with that person more than participants who did not, regardless of the confederate's race<sup>3</sup>. While we cannot make a causal claim, this shows that the participants' behavior with regard to the invitation is linked to the participant's desire for friendship. Either participants who desired friendship with the confederate tended to accept or invite confederates, or the act of accepting or inviting the confederate led to increased self-reported desire for friendship. See Table 6 for descriptive statistics.

Table 6: Participant Desires Friendship Descriptive Statistics by Condition

	Black Confederate			White Confederate		
	M	SD	n	M	SD	n
<b>Accept condition</b>						
Accepts at time 1	6.89	.241	19	6.84	.215	24
Accepts at time 2 only	6.53	0.35	9	6.67	0.35	9
Accepts either t1 or t2	6.71	.296	28	6.75	.283	33
Never accepts	n/a	n/a	0	n/a	n/a	0
<b>Invite condition</b>						
Invites at time 1	7.15	.526	4	7.70	.743	2
Invites at time 2 only	6.52	0.47	5	6.73	.372	8
Invites either t1 or t2	6.84	.498	9	7.21	.558	10
Never invites	6.40	.241	19	6.18	.219	23

*Note:* Participants who invited during the first opportunity only were coded with participants who invited or accepted both times, due to the low number of participants who only invited during the first opportunity (n=2).

### 2.2.3.3 Partner Evaluation

Next, we examined the partner evaluation scale (e.g., “To what extent do you agree with the following: My interaction partner was: friendly.”). We found no main effects of confederate race,  $F(1,112)=.010, p=.919$ , invitation condition,  $F(1,112)=.288, p=.593$ , nor invitation outcome,  $F(2,112)=2.018, p=.138$ , nor the invitation condition x confederate race interaction,  $F(1,112)=.101, p=.752$ , nor the invitation condition x invitation outcome interaction,  $F(1,112)=.087, p=.768$ , nor the confederate race x invitation outcome interaction,  $F(2,112)=.273, p=.762$ , nor the three-way interaction term,  $F(1,112)=.017, p=.896$ . Refer to Table 7 for descriptive statistics.

Table 7: Partner Evaluation Descriptive Statistics by Condition

	Black Confederate			White Confederate		
	M	SD	n	M	SD	n
<b>Accept condition</b>						
Accepts at time 1	8.04	.174	19	8.08	.154	24
Accepts at time 2 only	7.57	.252	9	7.57	.252	9
Accepts either t1 or t2	7.81	.213	28	7.83	.203	33
Never accepts	n/a	n/a	0	n/a	n/a	0
<b>Invite condition</b>						
Invites at time 1	8.05	.378	4	8.18	.535	2
Invites at time 2 only	7.66	.338	5	7.86	.267	8
Invites either t1 or t2	7.86	.358	9	8.02	.401	10
Never invites	7.74	.174	19	7.59	.158	23

*Note:* Participants who invited during the first opportunity only were coded with participants who invited or accepted both times, due to the low number of participants who only invited during the first opportunity (n=2).

### 2.2.3.4 Interaction Anxiety

Next, we examined the interaction anxiety scale. We found no main effects of confederate race,  $F(1,112)=.000, p=1$ , invitation condition,  $F(1,112)=.037, p=.848$ ,

nor invitation outcome,  $F(2,112)=.407, p=.667$ , nor the invitation condition x confederate race interaction,  $F(1,112)=.961, p=.329$ , nor the invitation condition x invitation outcome interaction,  $F(1,112)=.200, p=.656$ , nor the confederate race x invitation outcome interaction,  $F(2,112)=1.161, p=.317$ , nor the three-way interaction term,  $F(1,112)=.086, p=.770$ . See Table 8 for descriptive statistics.

Table 8: Interaction Anxiety Descriptive Statistics by Condition

	Black Confederate			White Confederate		
	M	SD	n	M	SD	n
<b>Accept condition</b>						
Accepts at time 1	2.99	.289	19	3.35	.257	24
Accepts at time 2 only	3.09	0.42	9	3.11	0.42	9
Accepts either t1 or t2	3.04	.355	28	3.23	.339	33
Never accepts	n/a	n/a	0	n/a	n/a	0
<b>Invite condition</b>						
Invites at time 1	3.15	0.63	4	3.00	.891	2
Invites at time 2 only	3.80	.564	5	2.88	.446	8
Invites either t1 or t2	3.48	.597	9	2.94	.669	10
Never invites	3.42	.289	19	3.68	.263	23

*Note:* Participants who invited during the first opportunity only were coded with participants who invited or accepted both times, due to the low number of participants who only invited during the first opportunity (n=2).

### 2.2.3.5 Sharing Comfort

Next, we examined the sharing comfort (i.e., how comfortable participants reported discussing personal issues with the confederate) scale. We found no main effects of confederate race,  $F(1,112)=.088, p=.767$ , nor invitation condition,  $F(1,112)=3.136, p=.079$ , nor invitation outcome,  $F(2,112)=1.387, p=.254$ , nor the invitation condition x confederate race interaction,  $F(1,112)=.330, p=.567$ , nor the invitation condition x invitation outcome interaction,  $F(1,112)=.230, p=.633$ , nor the

confederate race x invitation outcome interaction,  $F(2,112)=.455$ ,  $p=.636$ , nor the three-way interaction term,  $F(1,112)=.312$ ,  $p=.578$ . See Table 9 for descriptive statistics.

Table 9: Sharing Comfort Descriptive Statistics by Condition

Accept condition	Black Confederate			White Confederate		
	M	SD	n	M	SD	n
Accepts at time 1	5.05	.436	19	5.53	.388	24
Accepts at time 2 only	5.31	.634	9	4.38	.634	9
Accepts either t1 or t2	5.18	.535	28	4.95	.511	33
Never accepts	n/a	n/a	0	n/a	n/a	0
<b>Invite condition</b>						
Invites at time 1	6.30	.951	4	6.80	.345	2
Invites at time 2 only	5.40	0.85	5	5.74	.672	8
Invites either t1 or t2	5.85	.901	9	6.27	.008	10
Never invites	5.52	.436	19	4.99	.396	23

*Note:* Participants who invited during the first opportunity only were coded with participants who invited or accepted both times, due to the low number of participants who only invited during the first opportunity ( $n=2$ ).

### 2.2.3.6 Feeling Thermometer

Next, we examined the feeling thermometer scale of warmth towards the confederate. We found no main effects of confederate race,  $F(1,112)=.122$ ,  $p=.728$ , invitation condition,  $F(1,112)=1.588$ ,  $p=.210$ , nor invitation outcome,  $F(2,112)=.896$ ,  $p=.411$ , nor the invitation condition x confederate race interaction,  $F(1,112)=.021$ ,  $p=.884$ , nor the invitation condition x invitation outcome interaction,  $F(1,112)=.878$ ,  $p=.351$ , nor the confederate race x invitation outcome interaction,  $F(2,112)=.046$ ,  $p=.955$ , nor the three-way interaction term,  $F(1,112)=1.308$ ,  $p=.255$ . See Table 10 for descriptive statistics.

Table 10: Feeling Thermometer Descriptive Statistics by Condition

Accept condition	Black Confederate			White Confederate		
	M	SD	n	M	SD	n
Accepts at time 1	77.21	3.41	19	80.46	3.03	24
Accepts at time 2 only	74.22	4.96	9	66.33	4.96	9
Accepts either t1 or t2	75.72	4.18	28	73.40	3.99	33
Never accepts	n/a	n/a	0	n/a	n/a	0
Invite condition						
Invites at time 1	83.00	7.43	4	77.50	10.5	2
Invites at time 2 only	78.20	6.65	5	81.63	5.26	8
Invites either t1 or t2	80.60	7.04	9	79.56	7.89	10
Never invites	74.47	7.41	19	75.48	3.10	23

*Note:* Participants who invited during the first opportunity only were coded with participants who invited or accepted both times, due to the low number of participants who only invited during the first opportunity (n=2).

### 2.2.3.7 Social Distance

Next, we examined the social distance scale measuring the extent to which our participant felt comfortable with the confederate. Unexpectedly, we found a significant main effect of invitation outcome,  $F(2,112)=3.757, p=.026$ , such that participants who invited/accepted at both opportunities rated the confederate more positively ( $M=9.014, SE=.306$ ) than participants who invited/accepted at the second opportunity only ( $M=8.051, SE=.239$ ) and those who did not invite or accept the invitation at all ( $M=8.142, SE=.206$ ). We found no main effects of confederate race,  $F(1,112)=.073, p=.787$ , invitation condition,  $F(1,112)=2.807, p=.097$ , nor the invitation condition x confederate race interaction,  $F(1,112)<.000, p=.994$ , nor the invitation condition x invitation outcome interaction,  $F(1,112)=.619, p=.433$ , nor the confederate race x invitation outcome interaction,  $F(2,112)=.052, p=.949$ , nor the three-way interaction term,  $F(1,112)=.924, p=.339$ . See Table 11 for descriptive statistics.

Table 11: Social Distance Descriptive Statistics by Condition

	Black Confederate			White Confederate		
	M	SD	n	M	SD	n
<b>Accept condition</b>						
Accepts at time 1	8.72	.307	19	8.34	.273	24
Accepts at time 2 only	7.54	.446	9	8.13	.446	9
Accepts either t1 or t2	8.13	.377	28	8.23	0.36	33
Never accepts	n/a	n/a	0	n/a	n/a	0
<b>Invite condition</b>						
Invites at time 1	9.31	.669	4	9.69	.947	2
Invites at time 2 only	8.28	.599	5	8.09	.473	8
Invites either t1 or t2	8.79	.634	9	8.89	0.71	10
Never invites	8.14	.307	19	8.15	.279	23

*Note:* Participants who invited during the first opportunity only were coded with participants who invited or accepted both times, due to the low number of participants who only invited during the first opportunity (n=2).

### 2.2.3.8 Felt Accepted

Next, we examined the single-item measure tapping the extent to which participants felt accepted by the confederate. We found no main effects of confederate race,  $F(1,112)=1.657, p=.201$ , invitation condition,  $F(1,112)=.027, p=.870$ , nor invitation outcome,  $F(2,112)=.910, p=.406$ , nor the invitation condition x confederate race interaction,  $F(1,112)=.183, p=.670$ , nor the invitation condition x invitation outcome interaction,  $F(1,112)=.183, p=.670$ , nor the confederate race x invitation outcome interaction,  $F(2,112)=1.384, p=.255$ , nor the three-way interaction term,  $F(1,112)=.027, p=.870$ . See Table 12 for descriptive statistics.

Table 12: Felt Accepted Descriptive Statistics by Condition

Accept condition	Black Confederate			White Confederate		
	M	SD	n	M	SD	n
Accepts at time 1	7.00	.328	19	8.00	.292	24
Accepts at time 2 only	8.00	.477	9	7.78	.477	9
Accepts either t1 or t2	7.50	.403	28	7.89	.385	33
Never accepts	n/a	n/a	0	n/a	n/a	0
Invite condition						
Invites at time 1	6.50	.716	4	8.00	.012	2
Invites at time 2 only	8.00	0.64	5	8.00	.506	8
Invites either t1 or t2	7.25	.678	9	8.00	.759	10
Never invites	7.79	.328	19	7.78	.299	23

*Note:* Participants who invited during the first opportunity only were coded with participants who invited or accepted both times, due to the low number of participants who only invited during the first opportunity (n=2).

### 2.2.3.9 Positive Affect

Next, we examined the extent to which participants felt positive affect during the interaction. As is typical with the PANAS scales, we examined the negative and positive scales separately. On the positive subscale, we found no main effect of confederate race  $F(1,112)=3.655, p=.058$ , nor invitation condition,  $F(1,112)=.000, p=1$ , nor invitation outcome,  $F(2,112)=.257, p=.744$ , nor the invitation condition x confederate race interaction,  $F(1,112)=0.025, p=.875$ , nor the invitation condition x invitation outcome interaction,  $F(1,112)=1.707, p=.194$ , nor the confederate race x invitation outcome interaction,  $F(2,112)=.519, p=.597$ , nor the three-way interaction term,  $F(1,112)=2.005, p=.160$ . See Table 13 for descriptive statistics.

Table 13: Positive Affect Descriptive Statistics by Condition

	Black Confederate			White Confederate		
	M	SD	n	M	SD	n
<b>Accept condition</b>						
Accepts at time 1	4.31	.168	19	4.55	0.15	24
Accepts at time 2 only	4.68	.244	9	3.88	.244	9
Accepts either t1 or t2	4.49	.206	28	4.22	.197	33
Never accepts	n/a	n/a	0	n/a	n/a	0
<b>Invite condition</b>						
Invites at time 1	4.30	.366	4	4.00	.518	2
Invites at time 2 only	4.62	.328	5	4.50	.259	8
Invites either t1 or t2	4.46	.347	9	4.25	.389	10
Never invites	4.52	.168	19	4.10	.153	23

*Note:* Participants who invited during the first opportunity only were coded with participants who invited or accepted both times, due to the low number of participants who only invited during the first opportunity (n=2).

### 2.2.3.10 Negative Affect

Next, we examined the extent to which participants felt negative affect during the interaction. On the negative subscale, we found no main effect of confederate race  $F(1,112)=2.031, p=.157$ , nor invitation condition,  $F(1,112)=.117, p=.733$ , nor invitation outcome,  $F(2,112)=.420, p=.658$ , nor the invitation condition x confederate race interaction,  $F(1,112)=.176, p=.676$ , nor the invitation condition x invitation outcome interaction,  $F(1,112)=.352, p=.554$ , nor the confederate race x invitation outcome interaction,  $F(2,112)=.255, p=.775$ , nor the three-way interaction term,  $F(1,112)=1.049, p=.308$ . See Table 14 for descriptive statistics.

Table 14: Negative Affect Descriptive Statistics by Condition

	Black Confederate			White Confederate		
	M	SD	n	M	SD	n
<b>Accept condition</b>						
Accepts at time 1	1.74	.742	19	1.87	.739	24
Accepts at time 2 only	1.57	.412	9	1.99	.968	9
Accepts either t1 or t2	1.65	.577	28	1.93	.853	33
Never accepts	n/a	n/a	0	n/a	n/a	0
<b>Invite condition</b>						
Invites at time 1	1.55	.443	4	1.95	.212	2
Invites at time 2 only	2.10	.852	5	1.88	.903	8
Invites either t1 or t2	1.83	.647	9	1.91	.558	10
Never invites	1.92	.055	19	2.23	.942	23

*Note:* Participants who invited during the first opportunity only were coded with participants who invited or accepted both times, due to the low number of participants who only invited during the first opportunity (n=2).

### 2.2.3.11 Chair Distance

Next, we examined the chair distance measure. We found no main effect of confederate race  $F(1,112)=.005, p=.944$ , nor invitation condition,  $F(1,112)=.807, p=.371$ , nor invitation outcome,  $F(2,112)=.594, p=.554$ , nor the invitation condition x confederate race interaction,  $F(1,112)=.002, p=.961$ , nor the invitation condition x invitation outcome interaction,  $F(1,112)<.000, p=.990$ , nor the confederate race x invitation outcome interaction,  $F(2,112)=.082, p=.921$ , nor the three-way interaction term,  $F(1,112)=.008, p=.927$ . See Table 15 for descriptive statistics.

Table 15: Chair Distance Descriptive Statics by Condition

	Black Confederate			White Confederate		
	M	SD	n	M	SD	n
<b>Accept condition</b>						
Accepts at time 1	17.81	.501	19	16.35	.395	24
Accepts at time 2 only	19.32	.182	9	20.00	.779	9
Accepts either t1 or t2	18.56	.841	28	18.18	.587	33
Never accepts	n/a	n/a	0	n/a	n/a	0
<b>Invite condition</b>						
Invites at time 1	15.50	.272	4	14.25	.545	2
Invites at time 2 only	17.51	.927	5	17.51	.927	8
Invites either t1 or t2	16.51	3.1	9	15.88	.736	10
Never invites	17.11	.501	19	18.02	.501	23

*Note:* Participants who invited during the first opportunity only were coded with participants who invited or accepted both times, due to the low number of participants who only invited during the first opportunity (n=2).

### 2.3 Conclusions and Discussion

The results of this study indicated that participants did not discriminate against Black, compared to White confederates in the likelihood that they would respond to, or issue invitations to socialize with the confederate. Moreover, participants who issued and accepted invitations to socialize desired friendship with confederates more than participants who did not, suggesting that some of the participants' behavior in the study likely was indicative of viewing the confederate as a potential friend. However, there are several aspects of the study which limit its applicability to other situations, which are discussed in more detail below. Participants in this study were subjected to a highly favorable interaction of short duration and—particularly in the invite condition—were given the opportunity to treat confederates as potential friends. The discussion below examines the implications of our experimental procedures and operationalization of our primary dependent variable: whether or not participants agreed to socialize with confederates.

We predicted that accepting an invitation to socialize would be no different depending on if the source of the invitation was a Black or White confederate. Indeed, White participants did not reliably differ in the likelihood of accepting the first invitation to socialize with a Black (67.9 %) or a White (70.6 %) confederate; similarly, all participants accepted the second invitation to socialize from both Black and White confederates. Regardless of race, 69.4% of participants who were invited during the first opportunity and 100% of participants who were invited during the second opportunity accepted those invitations. We also predicted that participants would discriminate against Black confederates by being less likely to invite them to socialize compared to White confederates; this hypothesis was not supported. Our (White) participants did not differ in their likelihood of issuing an invitation to a Black confederate (14.3% at the first opportunity and 28.6% at the second opportunity) compared to a White confederate (6.1% at the first opportunity and 27.3% at the second opportunity) confederates. Regardless of confederates' race, 9.8% of participants issued an invitation to socialize at the first opportunity, while 27.9% issued an invitation at the second opportunity, overall. In both instances, participants did not differ in the rate they agreed to socialize with Black and White confederates.

The rationale for the predictions regarding accepting or issuing an invitation were derived from earlier findings that Whites were less likely to proactively seek help from Black partners, while they did not discriminate in responding to an invitation to help them (Dovidio & Gaertner, 1983). In contrast to the helping study, we did not find that participants discriminated in a situation that allows for an invitation to socialize. Participants did not differ in the likelihood of issuing an invitation to a Black or a White confederate, and they also did not differ in the likelihood of accepting an

invitation from a Black or a White confederate. However, in addition to over 30 years between studies and the context change (i.e., helping vs socializing), there are a few important differences between the helping behavior study and the present study.

While participants in the helping study were motivated to finish the problem set they were working on, it isn't clear that participants in the present study were necessarily motivated to socialize with others. Indeed, there was no demonstrable additional benefit to participants who invited the confederate to socialize. In the helping study, there was a clear goal: complete the problem set. In the present research, inviting the confederate to socialize would not aid in the completion of some extrinsic goal, whereas in the helping study it would presumably lead to completing the required problem set more quickly. Research suggests that, in initial interactions, people are motivated to reduce uncertainty over whether or not an individual is a potential friend (Holmes, 1991). But, developing social bonds with others may not be a salient motivation when assigned to participate in a study as part of a course requirement.

Additionally, the procedures in the present research were designed to make the interaction between the confederate and the participant very pleasant. Pilot studies showed that participants were reluctant to issue invitations to our confederates. To remedy this issue, we incorporated several procedures intended to boost the number of invitations that participants issued to our confederates (small talk, the fact that the participant and the confederate were in the same psychology class, the "bunny photo" procedure, the positive feedback about the group's winter survival problem and the notification that the confederate and participant would be invited back together for a chance to win \$50.00). While these aspects of the procedure led around 30% of

participants to issue an invitation to the confederate during the second opportunity to do so, they certainly had other impacts on participants' experience in the study.

Our confederates initiated small talk in the waiting area prior to the study and they were trained to be agreeable during completion of the winter survival problem. The winter survival problem itself involved working together, as equal status individuals, towards a common goal with support from an authority, and therefore the interaction met many of the conditions Allport (1954) argued were favorable to reducing bias. The winter survival task involved imagining working together with a racial ingroup or outgroup member in a life-threatening situation which could have induced a common ingroup identity, which is capable of reducing intergroup biases (Gaertner & Dovidio, 2000). Further, participants learned that their team was successful in completing the problem and the team was invited to come back to complete another problem at a later date. This, in combination with the fact that participants were told that they shared a class with the confederate, likely led participants potentially to expect future contact with the confederate. The expectation of future contact is an important factor encouraging the development of friendship (Festinger, Schachter & Back, 1950). These aspects of the study procedure severely limit its generalization to other situations, and future research should explore the issue of possible discrimination in issuing an invitation to socialize when people are in more neutral or negative contexts.

However, given aspects of the study which should have encouraged the development of friendship, one might expect participants to have issued invitations at a higher rate. It is possible that participants were uncomfortable with such a social advance while in a psychology study. While participants were alone when given the

opportunity to invite the other participant, some participants reported feeling as if they were being watched during the study. This may have made participants reluctant to invite the confederate to socialize. Moreover, as stated above, participants may not have been particularly motivated to make new friends. Some participants reported that they planned on using the coupon with one of their existing friends. It is possible that many students had established their social groups and were not interested in finding new friends by the time they entered the experiment. Some participants may have arrived at the lab motivated to make friends, but that motivation was not necessarily part of their experience in this study. Future research might explore invitation behavior in a more naturalistic setting, or by varying participant motivation to make friends or socialize with others.

During the first opportunity, 29.5% percent of participants in the accept condition rejected the confederate's invitation to socialize over coffee. While we don't know if accepting the invitation meant that the participant desired friendship with the confederate or not, we believe participants who rejected the invitation were less likely to desire friendship with the confederate than those who accepted it —particularly because we knew all participants were available for the 30 minutes following the expected end of the study, as they were scheduled for one hour. During the second opportunity, roughly 27.9% percent of participants in the invite condition invited the confederate to socialize. While we don't know if participants who did not invite the confederate did not desire friendship with the confederate, we believe that participants who issued an invitation are more likely to have viewed the confederate as a potential friend.

Participants paired with either Black or White confederates invited those confederates to share their coupons at a relatively low rate. Readers may regard this as a floor effect in that so few participants invited participants overall, that it would be impossible to detect meaningful differences in extending invitations to confederates. However, we do not believe this was the case because 9% of participants issued an invitation at the first opportunity and 29.5% of participants issued an invitation at the second opportunity, regardless of race. This likely provides enough variability to have detected discrimination in inviting Black and White confederates, should such a difference exist in the participants' proclivity to issue an invitation to members of one racial group over the other.

Readers may also be tempted to regard that the high rate of accepting invitations represents a ceiling effect, such that we were unable to measure any meaningful differences between participants' relative inclinations to accept social invitations from Black and White confederates. There was a ceiling effect with 100 percent of participants accepting the invitation at time 2. However, because 72.1% of participants accepted an invitation during the first opportunity, enough participants ( $n = 18$ ) refused the invitation during this first opportunity to allow a difference to emerge between accepting an invitation from issued by the Black and White confederates.

However, the fact that all of the participants in the accept condition accepted the confederate's invitation at some point highlights a potentially important difference between the accept and the invite conditions. This high rate of acceptance may also have inflated participant ratings of the confederate compared to the invite condition. Indeed, the data suggest that participants' decision to accept or invite more strongly

determined these ratings than the experimental condition itself. An analysis of variance suggested that, above and beyond the impact of condition, participants who accepted or issued an invitation showed a greater desire for friendship compared participants who did not act so positively. This suggests that the behavior was important, not the condition. Participants who planned on socializing with the confederate tended to view the confederate more as a potential friend, regardless of the confederate's race.

The present study was designed to examine behavior during the critical early stages of acquaintanceship. Issuing an invitation to socialize with someone can represent taking the first step towards the development of a friendship with that person. While the present study does not study friendship directly, we expect that an invitation to socialize is a precursor to the development of friendship. Indeed, both participants who accepted an invitation and participants who issued an invitation tended to desire friendship with the confederate, to believe that the confederate desired friendship with them, and to evaluate the confederate more favorably compared to those who rejected the invitation and those who did not issue an invitation. This effect supports the notion that accepting or issuing an invitation to socialize is related to attitudes towards friendship with the confederate.

However, future research might examine the meaning people ascribe to invitations such as these. Our data showed that the extent to which participants' desired friendship with the confederate was significantly higher for participants who agreed to meet with the confederate compared to those who did not, regardless of the race of the confederate. This suggests that accepting an invitation or issuing one is associated with an increased desire for friendship at rates not significantly different for

participants paired with Black or with White confederates. However, one might argue that socializing outside of one's racial group requires a greater desire for friendship. That is, the act of agreeing to socialize with an outgroup member may be more indicative of the desire for friendship compared to agreeing to socialize with an ingroup member. We might examine this possibility by having new participants evaluate confederate's behaviors in a vignette. For example, new raters could evaluate the extent to which each of the possible behavioral outcomes (accepting an invitation or not / issuing an invitation or not) related to perceived desire for friendship with a confederate who was either Black or White. We might expect that raters would evaluate inviting or accepting an invitation from a Black confederate to be more indicative of friendship than from a White confederate.

These data suggest that people don't discriminate when given the opportunity to invite an outgroup member to socialize, nor do they discriminate in responding to an invitation to socialize from an outgroup member. Moreover, the act of accepting or issuing an invitation to socialize predicts participants' desire for friendship. These results are surprising given the well-documented impediments to intergroup friendship formation. People overlook out-group members as potential friends due to ingroup exclusionary norms about interacting intimately with outgroup members (Tezanos-Pinto et al., 2010). Moreover, people may believe that members of other groups do not desire friendships with them or with members of their group (Shelton & Richeson, 2005) leading to concerns about being socially rejected by outgroup members (Shapiro et al., 2010). These barriers to viewing outgroup members as potential friends led us to predict that participants would discriminate against outgroup members in our study.

However, the present research does not necessarily contradict these findings. Indeed, the factors contributing to outgroup avoidance may contribute to reducing the opportunity to issue or accept an invitation to socialize with an outgroup member. People who avoid outgroup contact rarely get opportunities to invite outgroup members for a cup of coffee. Avoidance of outgroup members is prevalent (Shelton & Richeson, 2005). This outgroup avoidance reduces likelihood that a person will have the opportunity to invite an outgroup member to socialize, such as those presented by the current research. However, when our participants were put in a room alone with an outgroup member with a coupon for two free coffees, they were given a strong opportunity to issue an invitation to socialize. Even controlling for pre-existing racial attitudes, motivation to avoid prejudice, and extraversion, we found that participants in this situation did not differ in the rate at which they issued an invitation to an outgroup member compared to an ingroup member.

### **Chapter 3**

#### **STUDY 2**

Self-disclosure is associated with the development of intergroup friendship and intimacy (Shelton et al., 2010; Turner & Feddes, 2011). However, people tend to categorize racial outgroup members as “not potential friends” (Shapiro, 2010; Shelton & Richeson, 2005; Stephan & Stephan, 1985). Given people’s relative failure to view outgroup members as potential friends, self-disclosure may not cause people to shift their view of a novel self-disclosing racial outgroup member. Therefore, Study 2 explores whether self-disclosure will be perceived as a friendship-building gesture from Black compared to White confederates, and whether self-disclosure will elicit behaviors consistent with the desire for further social contact.

Self-disclosure increases intimacy in a friendship relationship (Bauminger, Finzi-Dottan, Chason, Har-Even, 2008; Reis & Patrick, 1996). In both developing and established friendships, self-disclosure is correlated with relationship happiness (Derlega et al., 2009). People tend to disclose more to those whom they initially like, and those who self-disclose tend to be liked more than those who do not (Collins & Miller, 1994), even amongst acquaintances who were previously strangers (Dindia, 2002). In initial interactions, self-disclosure tends to encourage the development of friendships (Sprecher et al., 2013a), even when such interactions occur among members of different groups (Shelton et al., 2010; Turner & Feddes, 2011).

Self-disclosure therefore promotes liking and friendship. Because the development of an interracial friendship is transactional (i.e., it depends on both partners to succeed) and it requires perceived partner responsiveness to one's own friendship-building behaviors (Shelton et al., 2010), reciprocity may also be crucial to the successful development of a friendship. Just as self-disclosure is an important part of friendship development (Derlega et al., 2009), reciprocity is a norm of interaction among potential friends (Lydon et al., 1997). In initial interactions, reciprocal self-disclosure particularly promotes liking. For example, Sprecher, Treger, Wondra, Hilaire & Wallpe (2013) reported that among strangers, when both participants disclosed personal details, they reported increased closeness, liking, similarity and enjoyment of the interaction, compared to dyads in which only one person self-disclosed. Moreover, those who listened first and then disclosed their own personal interaction reported more closeness than those who were initial disclosers (Sprecher et al., 2013b).

However, initial interactions are precarious (Lydon et al., 1997) and in the intergroup context, notoriously fragile and prone to miscommunication (Pearson et al., 2008; Vorauer & Sakamoto, 2006). Moreover, interracial anxiety contributes to the deterioration of intergroup interactions (West, 2011). Furthermore, the belief that racial outgroup members do not usually desire friendship with members of one's own group also contributes to a poor prognosis for viewing outgroup members as potential friends (Shelton & Richeson, 2005; Stephan & Stephan, 1985). To this extent, self-

disclosure may be interpreted with suspicion. It may even be regarded as a norm-violation and backfire, leading to worse interactions. Moreover, inasmuch as reciprocating self-disclosure signals acceptance and the desire for developing more intimacy, reluctance to reciprocate an outgroup stranger's self-disclosure would not be surprising.

Study 2 was designed to examine the impact of a friendship-building, social-acceptance signal (i.e., self-disclosure) on the desire for future socializing and favorable impressions of the interaction partner and the interaction itself. We subjected our participants to a 2 (confederate race: White, Black) x 2 (disclosure condition: high, low) experimental design. To examine White participants' desire for future social contact with White and Black partners with whom they interacted in the study, we offered all participants the opportunity to leave contact information for their partner (a confederate of the experimenter). Due to the structured nature of the interactions in this study, participants would otherwise not have the opportunity to request such information from their partner. So, experimenters informed participants that some people in the study desire to leave some contact information for the person they met in the study, to enable socializing later with them. We recorded whether participants left their name, email address, or phone number, as a measure of participants' desire for further socializing with their confederate partner.

Self-disclosure leads to greater friendship among ingroup members (Aron et al., 2004). People tend to disclose more to those whom they initially like, and those

who self-disclose tend to be liked more than those who do not (Collins & Miller, 1994). Therefore, we expected self-disclosure to encourage participants in the present study to view ingroup (White) confederates as potential friends, to evaluate them positively and to reciprocate high self-disclosure. Specifically, for participants interacting with a highly self-disclosing White confederate, we predicted that participants would leave contact information for their partner at a higher rate and have more favorable attitudes towards her and the interaction, compared to those with low self-disclosing White confederates. With intergroup interactions, we examined competing hypotheses comparing high and low self-disclosing interactions with Black confederates. To the extent that self-disclosure encourages outgroup friendship, a high self-disclosing confederate should lead participants more frequently to leave contact information, to evaluate the interaction more positively and to respond to the confederate's e-mailed invitation to socialize, relative to those participants with a low self-disclosing confederate. By contrast, to the extent that self-disclosure is viewed as a norm-violation, participants were expected to be less likely to leave contact information for high disclosing Black confederates compared to low self-disclosing Black confederates. Additionally, high self-disclosing Black confederates and interactions would be rated more negatively compared to low self-disclosing Black confederates. Moreover, we predicted that overall, participants interacting with a Black confederate would be evaluated less positively than participants with a White confederate, due to racial bias.

### **3.1 Method**

#### **3.1.1 Participants and Design**

One hundred and forty two White female undergraduates from the PSYC100 research participation requirement were randomly assigned to conditions of a 2 (self-disclosure: low vs high) x 2 (confederate race: Black, White confederate) factorial design experiment. Participants were informed that the study was about first impressions, and that during the session, participants would be interacting with another PSYC100 student (who was actually a confederate working with our lab). All participants were paired with a confederate of the same sex while the confederate's race was either the same (White) or different (Black) than the participant.

#### **3.1.2 Procedures**

At the beginning of the study, each participant was instructed that she would take part in a discussion with another participant located in another room in the laboratory complex. The experimenter indicated that during this task, we will ask both participants a series of personal questions via an online chat system. During the discussion there are two roles: the listener and the communicator. The listener listened to the communicator respond to questions prepared by the experimenter and the communicator answered them. Participants were told that they will need to adopt both roles during the web-based video chat.

Previous research shows that *recipients* of self-disclosing information reported liking their partners more, enjoying the interaction more, and feeling closer to their partners than did people who had the role of disclosing personal information (Sprecher et al., 2013a). Because Study 2 was designed to elicit socializing behavior from participants, all participants were therefore first recipients of self-disclosing

information. Additionally, we video recorded each session, as a record of the amount of self-disclosing information the participants provided Black and White confederates in the high and low self-disclosure conditions.

All questions were derived from the Aron et al (2004) “fast friends paradigm,” with prompts intended to encourage self-disclosure (e.g., “When did you last cry in front of another person? By yourself?”). See Appendix E for all items. Through a tape recording, confederates were asked each question by an experimenter which was followed by a 30 second pause to allow them to respond. The confederate’s reactions were scripted (based on pilot testing, described below) and prerecorded to ensure standardization. Three Black female confederates and six White female confederates were pre-recorded repeating carefully rehearsed scripted replies appropriate for the high and low self-disclosing conditions.

In the high self-disclosure condition, confederates revealed a more personal reaction to each question, whereas in the low self-disclosure condition, confederates were less revealing about themselves. See Appendix E for responses. Responses were pilot tested to determine the level of self-disclosure they revealed (more details on the pilot testing below). Participants were paired with a same-sex (female) Black or White confederate. In video recordings for both conditions, the confederate indicated that she is heterosexual by mentioning that she has a boyfriend in response to one of the questions.

All participants were informed that they were randomly assigned to the listener role first and consequently they would first observe the other “participant” responding to questions. Participants were further informed that during this discussion, the other person would not be able to view her to ensure that any reactions participants might

have were not visible to the speaker. Participants were asked not to speak to the other person during the task (necessitated by the fact that the confederate's performance was delivered by a pre-recorded video-tape). Then, participants were seated at a computer for the communication task while the experimenter connected the participant to an apparent video chat service. First, the experimenter visibly muted the participant's microphone and disabled the participant's webcam, as all participants would first be the listener. The participant was informed that another participant (in actuality our pre-recorded confederate) was seated in another room in the lab and the video chat connected the two rooms.

After leaving the participant's room, the experimenter began the pre-recorded video of the confederate responding to each communication task question (see Appendix E for verbatim responses). This video appeared through the video-chat software as if it were a live video feed for participants. When the confederate completed responding, the video chat was terminated and the experimenter returned to the participant's cubicle. Then, participants were asked to prepare answers to the same questions which were asked of the other 'participant.' Participants were allowed two minutes to prepare their responses.

Next, the experimenter began the video chat in which the participant acted as the communicator. The microphone and video feed on the confederate's computer were visibly disabled, so the participant would believe that the confederate could not interrupt or respond to her during the task. The participant's video feed and microphone were activated, and the participant was informed that the confederate would be able to view her and listen to her responses. Before leaving the cubicle, the

experimenter began a tape-recording that asked the same series of questions posed to the confederate.

Following the video “interaction,” participants completed a series of questionnaires tapping their evaluations of the interaction and the confederate. After completing the survey, the experimenter provided participants the opportunity to leave contact information for the “other participant,” if they wanted to be contacted by that participant following the study. Finally, participants were brought to a separate room where the experimenter asked questions to gauge suspicion (see Appendix F for questions).

The day after the study, all participants were sent an email which was ostensibly from the confederate in the study with whom they interacted. The email indicated that the confederate desired to meet with the participant for lunch and asked participants to respond. All emails were sent with the following text:

“Hi, It’s Samantha, the other girl from the study today. We didn’t get a chance to meet in the study, but it seemed like we had a lot in common. I was wondering if you maybe wanted to grab lunch some time. Let me know. –Sam”

An email tracking service recorded whether or not participants opened the email message and whether they replied. Participants who responded to this email were recorded as replying and their message was coded as 0=no reply, 1=replied for analysis, and the text of the email was saved for later analysis. Following this email exchange, participants were sent an additional e-mail from the experimenter that fully debriefed them and gave them contact information of the experimenter in the event that they had specific questions about the study.

### 3.1.3 Measures

***Participant Self-Disclosure.*** We measured participants' self-disclosure by video recording each session for later scoring by trained research assistants.

***Socializing Behavior.*** Upon completion of the questionnaire measures, participants were given the optional opportunity to leave contact information, to enable the confederate to contact her at a later date. Participants could leave their name, email address and/or their phone number for the confederate. Whether or not participants left each piece of information was recorded. Additionally, response to the confederate's post-study email were recorded and retained for scoring of participants' friendliness, specificity of plans, and desire to meet with the confederate.

***Self-Report of Self-Disclosure.*** We measured participants' perceived level of her self-disclosure through a four item composite measure with a 1="Not enough" to 10="Too much" scale (e.g., "How self-revealing were you to your interaction partner?"),  $\alpha=.903$ . We also measured the participants' impressions of the confederate's level of self-disclosure using the same composite scale measure ( $\alpha=.917$ ), worded to reflect the participants' perceptions of the confederate. See Appendix G for all questionnaire items.

***Interest in Friendship.*** We measured participants' interest in friendship with the confederate with a 1= "Very Strongly Disagree" to 9= "Very Strongly Agree" Likert scale containing five friendship-relevant items (e.g., "I want to be friends with my interaction partner"),  $\alpha=.861$ . Also, we measured the participants' perceptions of the confederate's interest in friendship with them using the same scale worded to represent perceptions about how the confederate felt (e.g., "My interaction partner would accept me as a friend"),  $\alpha=.854$ .

***Appraisals of the Confederate.*** Participants completed several scales examining their impressions of the confederate. Participants completed a 14-item *partner evaluation scale* where 1= “Very Strongly Disagree” to 9= “Very Strongly Agree,” which asks the extent to which participants believed that the confederate exhibited a series of characteristics (e.g., Friendly, Cooperative, Selfish, reverse-scored),  $\alpha=.880$ . We also had participants complete the eight-item *social distance scale*, with a 1= “not at all comfortable” to 10= “extremely comfortable,” Likert scale which asks the extent to which participants would be comfortable with increasingly closer contact with the confederate (e.g., Lived in the same town as me, Married into my family, etc.),  $\alpha=.924$ . Additionally, participants completed a ten-item *sharing comfort scale*, which asks participants to rate their level of comfort discussing a variety of personal topics with the confederate, on a 1= “not at all comfortable” to 10= “extremely comfortable” scale,  $\alpha=.886$ . We also had participants complete the “feeling thermometer” measure, which asks participants to rate how warm they feel towards the confederate, on a scale of 0 to 100.

***Interaction Experience.*** Participants completed a five-item interaction anxiety measure on a 1= “Very Strongly Disagree” to 9= “Very Strongly Agree” scale,  $\alpha=.752$ . Finally, we had participants complete one item asking the participant to rate their agreement with the item, “I felt accepted by my interaction partner from today.” on a 1= “Very Strongly Disagree” to 9= “Very Strongly Agree” scale.

### **3.1.4 Stimuli Pilot Testing**

In order to ensure that participants received a message from the confederate that varied on the level of self-disclosure appropriate to the high and low self-disclosure conditions and were similar in valence for both disclosure conditions, we

pilot tested potential response stimuli prior to executing the experiment. First, we selected seven questions from the Aron, et al (2004) “fast friends” paradigm which seemed, at face value, to allow for both high and low self-disclosing responses. We developed 34 responses to each question varying in self-disclosure (17 high self-disclosure responses and 17 low self-disclosure responses).

Next, we conducted an online survey to select stimuli for use in the experiment, soliciting participants from Amazon Mechanical Turk. To ensure that participants fully understood the context of the study, all participants were given a detailed account of the situation in which this information would be disclosed. Participants were informed that each response they evaluated would be used in a study involving college-aged female students interacting in a one-on-one video chat while their statements were being video-recorded. Following this description, participants were given a test of their knowledge of the scenario, such that any participant who failed to correctly answer a question about the context in which these stimuli were being used would not be able to complete the survey.

Qualifying participants (N=30) rated responses to half of the responses to each question on a 1=strongly disagree to 5=strongly agree scale on each of the following characteristics: This person’s response “...was self-disclosing,” “...was appropriate for the context,” and “...makes the speaker seem likable.” All stimuli were presented in random order. After examining mean values for self-disclosure, appropriateness, and likability, we selected pairs of responses to each prompt to be included in the high and low self-disclosing conditions. We selected pairs that had reliably different mean values in self-disclosure (see Table 16), had no reliable differences in average

appropriateness (see Table 17) and had no reliable differences in likability (see Table 18). We selected five pairs of responses (see Appendix E).

Table 16: Self-Disclosure of Pilot Tested Responses

	<b>Low Self-Disclosure</b>		<b>High Self-Disclosure</b>		<i>t</i> -test	<i>p</i> -value
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
<b>Cry prompt</b>	4.31	.479	3.53	.743	3.49	<.001
<b>family prompt</b>	4.64	.497	3.73	.799	3.65	<.001
<b>Perfect day prompt</b>	4.15	.689	3.07	1.16	2.95	.007
<b>Dreams prompt</b>	4.50	.894	3.31	1.20	3.18	.003
<b>Fear prompt</b>	4.43	.756	3.43	.787	2.82	.011

*Note:* All *p*-values represent a two-tailed test.

Table 17: Appropriateness of Pilot Tested Responses

	<b>Low Self-Disclosure</b>		<b>High Self-Disclosure</b>		<i>t</i> -test	<i>p</i> -value
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
<b>Cry prompt</b>	3.75	.856	3.47	.915	.890	.381
<b>family prompt</b>	4.00	1.04	3.93	.799	.195	.847
<b>Perfect day prompt</b>	4.00	.913	3.8	1.08	.524	.605
<b>Dreams prompt</b>	4.19	.981	4.06	.998	.357	.723
<b>Fear prompt</b>	3.57	1.09	4.00	.577	-.967	.346

*Note:* All *p*-values represent a two-tailed test.

Table 18: Likeability of Pilot Tested Responses

	Low Self-Disclosure		High Self-Disclosure		<i>t</i> -test	<i>p</i> -value
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
<b>Cry prompt</b>	3.67	.724	3.56	1.31	.271	.789
<b>family prompt</b>	3.64	.929	3.40	1.06	.656	.518
<b>Perfect day prompt</b>	3.92	.760	3.80	.941	.377	.709
<b>Dreams prompt</b>	4.00	.894	3.50	1.10	1.41	.168
<b>Fear prompt</b>	3.5	1.09	3.00	1.15	.971	.344

*Note:* All *p*-values represent a two-tailed test.

### 3.2 Results

We expected participants would respond favorably to high, compared to low, self-disclosing White confederates and they would respond negatively to high, compared to low, self-disclosing Black confederates. We also expected participants would evaluate Black, compared to White confederates, more negatively, as a result of racial bias. First, we examined the manipulation check and suspicion checks. Then, we examined participants' self-reported impressions of the confederates' and their own self-disclosures and their respective perceived desire for friendship. Then we considered participants' appraisals of the confederate on other variables, followed by the results of measures of participants' desire to socialize (i.e., their likelihood of leaving contact information and responding to the confederate's e-mailed offer to get together). Then, examined observers' evaluations of participants' video-recorded self-disclosure to determine if, as predicted, participants matched White—but not Black—confederates' level of self-disclosure. Finally, we examined observer ratings of

participants' returned email responses to the confederates' message sent the day following the study.

### **3.2.1 Manipulation Check and Suspicion**

Two experimental sessions were excluded from analysis because of an error made by the experimenter. Ten sessions were excluded because participants incorrectly identified the confederates' race; an additional eight experimental sessions were excluded because participants expressed high levels of suspicion about the interaction being fictitious expressed during the funnel debriefing procedure. Of these eight suspicious participants, three involved the Black/high self-disclosure condition, two involved the Black/low self-disclosure condition, one involved the White/high self-disclosure conditions and two from the White low/self-disclosure condition. With these participants removed, we have a final  $N=122$ . The findings reported below did not change when suspicious participants were included in the analyses.

Next, we examined the manipulation checks assessing how self-revealing participants believed the confederates were in the high and low self-revealing conditions. We performed a 2 (confederate race: Black, White) x 2 (disclosure condition: high, low) ANOVA on the composite measure of self-disclosure. Supportive of the efficacy of the manipulations, participants rated confederates in the high self-disclosure condition as more self-disclosing ( $M=6.359$ ,  $SD=.131$ ) than those in the low self-disclosure condition ( $M=5.303$ ,  $SD=.124$ ),  $F(1,118)=34.405$ ,  $p<.001$ . There was no main effect of confederate race,  $F(1,118)=.098$ ,  $p=.755$ , nor was there an interaction between confederate race and disclosure condition,  $F(1,118)=.037$ ,  $p=.847$ . These results reveal that self-disclosure manipulation was effective.

To determine whether or not the different confederates differed in their effectiveness at enacting the manipulation of high and low self-disclosure, we subjected participant perceptions of confederate self-disclosure to a 2 (disclosure condition: 0=low, 1=high) x 8 (confederate identity) ANOVA. The results indicated that there was, as expected, a significant main effect of condition,  $F(1,106)=26.684$ ,  $p<.001$ , such that participants rated confederates in the high self-disclosure condition as more disclosing ( $M=6.298$ ,  $SE=.153$ ) compared to confederates in the low self-disclosure condition ( $M=5.196$ ,  $SE=.138$ ). As predicted, we found no reliable confederate identity main effect,  $F(7,106)=.940$ ,  $p=.479$ , nor a disclosure condition by confederate identity interaction,  $F(7,106)=1.566$ ,  $p=.153$ . Subsequent analyses of Black and White confederates separately (i.e., all sessions with Black confederates analyzed separately from all sessions with White confederates) also suggested that there were no reliable main effects or interactions involving the different Black or White confederate participating during the semester. This suggests that confederates did not differ in the effectiveness with which they enacted the high and low self-disclosure script.

### **3.2.2 Self-Disclosure and Friendship Self-Report Data**

Our theory suggested that at the beginning of the acquaintance process, self-disclosure from an ingroup member would be more effective as a signal of friendship intention compared to self-disclosure from an outgroup member. We hypothesized that self-disclosure from Black confederates may even be perceived as a norm-violation (i.e., getting too close, too soon), leading to fewer friendship-building behaviors by the participant. Thus, we predicted high self-disclosing White confederates would elicit more friendship-building cognitions (i.e., desire for friendship) and behaviors (i.e.,

leaving contact information and responding to the confederate's e-mailed message about getting together) compared to low self-disclosing White confederates. For participants interacting with Black confederates, we predicted that high self-disclosing Black confederates would be met with a decreased desire for friendship and associated behaviors compared to low self-disclosing Black confederates.

### **3.2.2.1 Self-Reported Self-disclosure**

We predicted that participants would match the level of self-disclosure of White confederates, while they would disclose less to Black confederates overall. Thus, we predicted a confederate race by disclosure condition interaction on participant self-disclosure, such that the extent to which participants would show higher levels of self-disclosure in the high, compared to the low, disclosure condition would be greater when participants were paired with White confederates than with Black confederates. First, we analyzed participants' self-reported level of their own self-disclosure to the confederate. We expected that participants would report disclosing more information to a high, compared to a low self-disclosing White confederate; we also expected that participants would report disclosing a lower amount of information to a Black confederate.

We subjected our measure of participant self-disclosure to an ANOVA with condition, confederate race, and their interaction term as predictors. We expected to find a confederate race by disclosure condition interaction on participants' level of self-disclosure, such that participants with White confederates in the high self-disclosure condition would display higher levels of self-disclosure compared to participants with White confederates in the low self-disclosure condition, while disclosure condition would have less of an effect on participants' self-disclosure for

participants with Black confederates. Contrary to our hypothesis, we found no significant differences between high and low disclosure conditions,  $F(1,118)=.001$ ,  $p=.981$ . Unexpectedly, participants reported disclosing more to the Black confederates ( $M=5.332$ ,  $SD=.173$ ) compared to the White confederates ( $M=4.839$ ,  $SD=.152$ ) overall,  $F(1,118)=4.599$ ,  $p=.034$ . There was no interaction between disclosure condition and confederate race,  $F(1,118)=.124$ ,  $p=.726$ . These results are not consistent with our prediction that participants would be more likely to match White, compared to Black, confederates' level of self-disclosure. Instead, these results may represent a socially desirable response for participants who do not want to appear to be racially biased. Nevertheless, the analysis of self-disclosure behavior observed in video recordings may represent a better test of our hypothesis, and this analysis appears near the end of the Results section (see 3.2.5.1). See Table 19 for descriptive statistics.

Table 19: Self-Reported Participants' Self-Disclosure Descriptive Statistics by Condition

	Black Confederate		White Confederate		Overall	
	M	SE	M	SE	M	SE
Low Self-Disclosure	5.295	.238	4.882	.210	5.088	.159
High Self-Disclosure	5.370	.252	4.795	.219	5.083	.167
Overall	5.332	.173	4.839	.152	5.086	.115

### 3.2.2.2 Appropriateness of Self-Disclosure

Then, we examined whether this self-disclosure was deemed inappropriate for the context, because differences in the level of appropriateness of self-revealing information may have an impact on how such information is interpreted. We subjected the single-item measure of appropriateness (“The level of self-disclosure from the

other participant was...” 1=Very Inappropriate... 7=Very Appropriate) to an ANOVA with condition, confederate race, and their interaction term as predictors. There was no effect of condition,  $F(1,118)=2.542, p=.114$ , suggesting that participants perceived no difference in the appropriateness of the high, compared to the low, disclosure conditions. Contrary to our hypothesis, however, participants perceived Black confederates’ disclosures ( $M=7.359, SE=.208$ ) as more appropriate than White confederates’ ( $M=6.836, SE=.182$ ),  $F(1,118)=3.579, p=.061$ , though this main effect was only marginally significant. There was no interaction between condition and confederate race,  $F(1,118)=2.575, p=.111$ . Overall, participants believed that confederates revealed an appropriate amount of information ( $M=7.07, SD=1.549$ ).

### **3.2.2.3 Self-Reported Desire for Friendship**

#### **3.2.2.3.1 Confederate Desires Friendship**

We predicted that high self-disclosure would signal to participants that our confederate desired friendship for White confederates but would less effectively signal friendship from Black confederates. We subjected the participants’ perceptions that “the other participant desires friendship” composite variable to a 2 (confederate race: 0=Black, 1=White) x 2 (disclosure condition: 0=Low Self-Disclosure, 1=High Self-Disclosure) ANOVA. There were no reliable main effects of disclosure condition,  $F(1,118)=.071, p=.790$ , confederate race,  $F(1,118)=.875, p=.352$ , nor was there an interaction between the two variables,  $F(1,118)=1.672, p=.199$ . This suggests that, contrary to our predictions, participants did not perceive White confederates in the high self-disclosure condition as desiring friendship more than confederates in the low self-disclosure condition. Overall, participants were slightly above the midpoint (5) on

the confederate desires friendship scale ( $M=5.564$ ,  $SE=.075$ )<sup>4</sup>. See Table 20 for descriptive statistics.

Table 20: Confederate Desires Friendship Composite Scale Descriptive Statistics by Condition

	Black Confederate		White Confederate		Overall	
	M	SE	M	SE	M	SE
Low Self-Disclosure	5.557	.156	5.611	.138	5.584	.104
High Self-Disclosure	5.712	.165	5.376	.144	5.544	.109
Overall	5.635	.114	5.493	.099	5.564	.075

*Note:* No statistically significant ( $p<.05$ ) main effects or interactions were found.

### 3.2.2.3.2 Participant Desires Friendship

Next, we examined whether participants' reports of their desired friendship with our confederates varied across the confederate race and disclosure conditions. We predicted that self-disclosure would be a signal to participants that our confederate desires friendship, which would lead participants to desire friendship with White more than Black confederates. For those paired with a White confederate, we predicted that in the high self-disclosure condition, participants would desire friendship with the confederate more than those in the low self-disclosure condition. We also predicted that high self-disclosure would be ineffective at producing greater desire for friendship in the Black confederate condition. These hypotheses were not supported.

To test our hypotheses, we subjected the "participant desires friendship" variable to a 2 (confederate race: 0=Black, 1=White) x 2 (disclosure condition: 0=low self-disclosure, 1=high self-disclosure) ANOVA. We found no effect of disclosure condition,  $F(1,118)=.181$ ,  $p=.671$ . There was an unexpected marginal main effect of

confederate race on the variable tapping whether participants desired friendship with the confederate,  $F(1,118)=3.770, p=.055$ , such that participants reported desiring friendship with Black confederates ( $M=6.278, SE=.116$ ) more than with White confederates ( $M=5.978, SE=.102$ ). This main effect was qualified by a marginal  $F(1,118)=3.250, p=.074$  interaction between race and condition.

To examine this interaction, we decomposed the interaction term by performing planned contrasts on participants' perceptions of confederates' desire for friendship, testing the difference between high and low self-disclosure conditions for Black and for White confederates, separately. Our hypotheses were not supported. Contrary to predictions, for White confederates, high self-disclosure did not signify the desire for friendship. In fact, participants believed that high self-disclosing White confederates ( $M=5.806, SE=.147$ ) desired friendship with them marginally less than low self-disclosing White confederates ( $M=6.150, SE=.141$ ),  $F(1,118)=2.860, p=.093$ . Similarly, though in line with our predictions, high self-disclosing Black confederates ( $M=6.384, SE=.169$ ) were not perceived to desire friendship with the participant significantly more compared to low self-disclosing Black confederates ( $M=6.171, SE=.159$ ),  $F(1,118)=.939, p=.362$ .

To examine this interaction from another perspective, examination of the mean values suggests that, in the low self-disclosure condition, participants did not differ in the extent to which they desired friendship with the confederate depending on confederate race (Black  $M=6.171, SE=.159$ ; White  $M=6.150, SE=.141$ ). Unexpectedly, in the high self-disclosure condition, participants were more likely to desire friendship with the Black confederate ( $M=6.384, SE=.169$ ) compared to the White confederate ( $M=5.806, SE=.147$ ), which was supported by a reliable pairwise

comparison  $F(1,118)=6.671, p=.011$ . It is unclear why high self-disclosing Black confederates would be evaluated more positively than high self-disclosing White confederates while low self-disclosing confederates were rated equivalently regardless of race. This result is explored in greater detail in the discussion section. See Table 21 for descriptive statistics.

Table 21: Participant Desires Friendship Composite Scale Descriptive Statistics by Condition

	Black Confederate		White Confederate		Overall	
	M	SE	M	SE	M	SE
Low Self-Disclosure	6.171	.159	6.150	.141	6.161	.106
High Self-Disclosure	6.384	.169	5.806	.147	6.095	.112
Overall	6.278	.116	5.978	.102	6.128	.077

### 3.2.3 Confederate Appraisals

We predicted that participants may evaluate high self-disclosing White confederates more favorably than low self-disclosing White confederates, while the opposite would be true for Black confederates. However, the findings are broadly unresponsive of this hypothesis. Overall, self-report evaluations of the interaction suggested that participants evaluated Black confederates more favorably than White partners, regardless of condition, as the analyses reported below reveals. Models including Attitudes Towards Blacks scale or trait extraversion as a covariate did not alter these results. We subjected each self-report variable to a 2 (Condition: 0=Low Self-Disclosure, 1=High Self-Disclosure) x 2 (Confederate Race: 0=Black, 1=White) Analysis of Variance.

### 3.2.3.1 Partner Evaluation

First, we examined the partner evaluation variable (e.g., “My interaction partner from today was friendly.”). Participants evaluated Black interaction partners more positively ( $M=7.125$ ,  $SE=.107$ ) than White interaction partners ( $M=6.804$ ,  $SE=.094$ ), as evidenced by the statistically significant main effect of race on the partner evaluation composite measure,  $F(1,118)=5.049$ ,  $p=.026$ . We found no main effect of condition,  $F(1,118)=.304$ ,  $p=.583$ , nor a condition by confederate race interaction,  $F(1,118)=.642$ ,  $p=.425$ . This result may represent a socially desirable response from participants who did not want to appear to be prejudiced against Black confederates. See Table 22 for descriptive statistics.

Table 22: Partner Evaluation Descriptive Statistics by Condition

	Black Confederate		White Confederate		Overall	
	M	SE	M	SE	M	SE
Low Self-Disclosure	7.107	.147	6.901	.130	7.004	.098
High Self-Disclosure	7.143	.156	6.708	.136	6.925	.103
Overall	7.125	.107	6.804	.094	6.965	.071

### 3.2.3.2 Interaction Anxiety

When evaluating the interaction anxiety scale, we found no main effects of confederate race,  $F(1,118)=.068$ ,  $p=.795$ , disclosure condition,  $F(1,118)=1.892$ ,  $p=.172$ , nor the interaction term,  $F(1,118)=1.742$ ,  $p=.189$ . See Table 23 for descriptive statistics.

Table 23: Interaction Anxiety Descriptive Statistics by Condition

	Black Confederate		White Confederate		Overall	
	M	SE	M	SE	M	SE
Low Self-Disclosure	4.500	.222	4.161	.196	4.331	.148
High Self-Disclosure	4.512	.235	4.739	.204	4.626	.156
Overall	4.506	.161	4.450	.141	4.478	.107

*Note:* No statistically significant ( $p < .05$ ) main effects or interactions were found.

### 3.2.3.3 Sharing Comfort

Next, we examined the sharing comfort (i.e., how comfortable participants reported discussing personal issues with the confederate) scale. We found no main effects of confederate race,  $F(1,118) = .364$ ,  $p = .548$ , disclosure condition,  $F(1,118) = .513$ ,  $p = .475$ , nor the interaction term,  $F(1,118) = .000$ ,  $p = .984$ . See Table 24 for descriptive statistics.

Table 24: Sharing Comfort Descriptive Statistics by Condition

	Black Confederate		White Confederate		Overall	
	M	SE	M	SE	M	SE
Low Self-Disclosure	6.061	.331	5.861	.292	5.961	.221
High Self-Disclosure	6.284	.350	6.097	.305	6.190	.232
Overall	6.172	.241	5.979	.211	6.076	.160

*Note:* No statistically significant ( $p < .05$ ) main effects or interactions were found.

### 3.2.3.4 Feeling Thermometer

Similarly, when evaluating participant feeling thermometer ratings, we found no main effects of confederate race,  $F(1,118) = .666$ ,  $p = .416$ , disclosure condition,

$F(1,118)=.079, p=.780$ , nor the interaction term,  $F(1,118)=.945, p=.333$ . See Table 25 for descriptive statistics.

Table 25: Feeling Thermometer Descriptive Statistics by Condition

	Black Confederate		White Confederate		Overall	
	M	SE	M	SE	M	SE
Low Self-Disclosure	65.143	2.555	65.528	2.253	65.335	1.703
High Self-Disclosure	68.240	2.704	63.818	2.353	66.029	1.792
Overall	66.691	1.860	64.673	1.629	65.682	1.236

*Note:* No statistically significant ( $p<.05$ ) main effects or interactions were found.

### 3.2.3.5 Social Distance

Unexpectedly, participants also reported being more comfortable with decreased social distance from (i.e., increased comfort with having neighbors, friends, etc. from the target group) Black interaction partners ( $M=8.416, SE=.197$ ) compared to White interaction partners ( $M=7.713, SE=.173$ ), as evidenced by a statistically significant main effect of confederate race on Social Distance,  $F(1,118)=7.197, p=.008$ . We found no main effect of disclosure condition,  $F(1,118)=.032, p=.858$ , nor a disclosure condition by confederate race interaction,  $F(1,118)=.808, p=.371$ . See Table 26 for descriptive statistics.

Table 26: Social Distance Descriptive Statistics by Condition

	Black Confederate		White Confederate		Overall	
	M	SE	M	SE	M	SE
Low Self-Disclosure	8.321	.271	7.845	.239	8.088	.180
High Self-Disclosure	8.510	.286	7.572	.249	8.041	.190
Overall	8.416	.197	7.713	.173	8.064	.131

### 3.2.3.6 Felt Accepted

When evaluating the extent to which participants felt accepted by the confederate, we found no main effects of confederate race,  $F(1,118)=.060, p=.807$ , disclosure condition,  $F(1,118)=.395, p=.531$ , nor the interaction term,  $F(1,118)=1.482, p=.226$ . See Table 27 for descriptive statistics.

Table 27: Felt Accepted Descriptive Statistics by Condition

	Black Confederate		White Confederate		Overall	
	M	SE	M	SE	M	SE
Low Self-Disclosure	5.964	.222	6.278	.195	6.121	.148
High Self-Disclosure	6.360	.234	6.152	.204	6.256	.155
Overall	6.162	.161	6.215	.141	6.188	.107

*Note:* No statistically significant ( $p<.05$ ) main effects or interactions were found.

### 3.2.4 Socializing Behaviors

While the previous section explored analyses based on participants' self-report ratings of self-disclosure, desire for friendship, and evaluations of their interaction partners and the interaction itself, these ratings were prone to social desirability bias. The following section includes our analysis of behavioral dependent variables. Though these variables are also potentially susceptible to participants' social desirability concerns, they represent a higher bar than self-report ratings. Participants were not required to leave contact information for the confederate at the conclusion of the study, nor were they required to respond to the confederate's email. These dependent variables were designed to measure the participants' desire for future social contact with the confederate.

### **3.2.4.1 Contact Information Left in the Lab**

We predicted that participants would be more likely to leave contact information for high self-disclosing White confederates compared to low self-disclosing White confederate. When paired with a Black confederate, we expected participants would not differ in the likelihood of leaving contact information for high and low self-disclosing confederates. In the present study, there were three types of information participants could leave: their name, their email address, or their phone number. When dealing with categorical data, a loglinear analysis is necessary to test the interaction effects when more than 2 discrete variables are included in a model. Thus, to test the hypothesis about participant behavior, we subjected each dependent variable to a loglinear analysis including disclosure condition (dummy coded 0=low self-disclosure, 1=high self-disclosure), confederate race (dummy coded 0=Black, 1=White), and contact information outcome (dummy coded 0=no information left, 1=yes information left).

Overview: We ran three such models, one for participant name (0=did not leave, 1=left for confederate), one for phone number (0=did not leave, 1=left for confederate), and one for email address (0=did not leave, 1=left for confederate). For each model, we expected to find a three way interaction between confederate race (Black or White), disclosure condition (high or low self-disclosure) and outcome (leave information or not). However, our hypothesis was not supported. Unexpectedly, participants were more likely to leave their name for a high (92.0%), compared to a low (65.4%), disclosing Black confederate, but did not differ in their likelihood of leaving their name for a high (62.5%), compared to a low (73.5%), disclosing White confederate. Participants also did not differ in the likelihood of leaving their email address (53.0%) and phone number (19.7%), regardless of condition.

### 3.2.4.1.1 Did Participant Leave Her Name?

First, we tested the model for whether participants left their name. We expected to find a three way interaction between confederate race (Black or White), disclosure condition (high or low self-disclosure) and outcome (leave information or not). The likelihood ratio of this model was  $\chi^2(0)=0, p=1$ . The data did produce a three-way interaction,  $\chi^2(1)= 6.195, p=.013$ , but not in the expected direction, as the following analyses show. To break down this effect, additional 2 (disclosure condition: 0=low self-disclosure, 1=high self-disclosure) x 2(outcome: 0=did not leave name, 1=left name) chi-square tests on the condition and outcome variables were performed separately for participants who interacted with Black or White confederates.

For participants interacting with Black confederates, there was a statistically significant difference between the level of confederate self-disclosure (i.e., disclosure condition) and whether or not participants left their name for the confederate,  $\chi^2(1)=5.702, p=.017$ . Unexpectedly, for participants interacting with a Black confederate in the low self-disclosure condition, 65.4% left their name, while those with a Black confederate in the high self-disclosure condition, 92.0% left their name. This finding was contrary to our hypothesis but consistent with participants' more positive evaluation of the high disclosing Black relative to low disclosing Black confederate, presented earlier. This was not the case for participants interacting with White confederates, as evidenced by the non-significant chi-square examining the effect of disclosure condition on likelihood of leaving their name,  $\chi^2(1)=.926, p=.336$ , for whom 68.2% of participants left their name regardless of condition. The results of logistic regression analyses including ATB and Extraversion as covariates yielded

results that were similar to the loglinear analyses. See Table 28 for descriptive statistics.

Table 28: Likelihood Participant Would Leave Name

	Black Confederate		White Confederate	
	Disclosure		Disclosure	
	Low	High	Low	High
Left Name	17	23	25	20
Did Not Leave Name	9	2	9	12
% Left Name	65.4%	92.0%	73.5%	62.5%

### 3.2.4.1.2 Did Participant Leave Her Email Address?

Next, we tested the model including whether participants left their email address. Again, we expected to find a three way interaction between confederate race (Black or White), disclosure condition (high or low self-disclosure) and outcome (leave information or not). Unexpectedly, the three-way loglinear analysis produced a final model that retained none of the effects. Unsupportive of our expectation, the analysis indicated that there were no significant differences in the likelihood that participants would leave their email address as a function of race or of condition. The likelihood ratio of this model was  $\chi^2(7)=5.440, p=.606$ . This analysis indicated that neither the highest order (3-way) effect,  $\chi^2(1)=.701, p=.403$ , nor the second order (2-way) effects,  $\chi^2(3)=2.315, p=.510$ , nor the first order (main) effects,  $\chi^2(3)=2.424, p=.489$ , significantly improved the model. In other words, there were no differences in the likelihood that a participant would leave their email address, regardless of disclosure condition or confederate race. Overall, 53% of participants left their email address for the confederate. See Table 29 for descriptive statistics.

Table 29: Likelihood Participant Would Leave Email

	Black Confederate		White Confederate	
	Disclosure		Disclosure	
	Low	High	Low	High
Left Email Address	17	13	16	16
Did Not Leave Email Address	8	13	18	16
% Left Email Address	50.0%	68.0%	47.1%	50.0%

### 3.2.4.1.3 Did Participant Leave Her Phone Number

Next, we tested the model including whether participants left their phone number. As with the other analyses, we expected to find a three way interaction between confederate race (Black or White), disclosure condition (high or low self-disclosure) and outcome (leave information or not). Unexpectedly, the three-way loglinear analysis produced a final model that did not support the hypotheses, retaining only the first order (main) effects present in the model. The likelihood ratio of this model was  $\chi^2(6)=4.281, p=.639$ . This analysis indicated that neither the expected three-way interaction between confederate race, disclosure condition and outcome significantly improved the fit of the model,  $\chi^2(1)=1.574, p=.210$ . No two-way interactions between any of the variables (second order effects) significantly improved the predictive power of the model,  $\chi^2(3)=.702, p=.873$ . The analysis showed that one or more of the first order (main) effects were important to the final model,  $\chi^2(3)=48.225, p<.001$ . In other words, there were no differences in the likelihood that a participant would leave their email address, regardless of disclosure condition or confederate race.

Parameter estimates from the loglinear analysis indicate which variable in the model produced a significant main effect. Because our final model indicated that one or more of the main effects were statistically significant, we examined these parameter

estimates. The main effect was driven by participants being unlikely to leave their phone,  $Z(117)=5.886, p<.001$ . Overall, only 19.7% of participants left their phone number for the confederate. The data indicated that there were no significant differences in the likelihood that a participant would leave their phone number based on disclosure condition,  $Z(117)=-.366, p=.714$ , or confederate race,  $Z(117)=-1.213, p=.255$ . See Table 30 for descriptive statistics.

Table 30: Likelihood Participant Would Leave Phone Number by Condition

	Black Confederate		White Confederate	
	Disclosure		Disclosure	
	Low	High	Low	High
Left Phone Number	3	7	7	6
Did Not Leave Phone Number	23	18	27	26
% Left Phone Number	11.5%	28.0%	20.6%	18.8%

#### 3.2.4.1.4 Combined Analysis of Name, Email and Phone Number Left

In addition to separately analyzing participants' likelihood of leaving their names, email addresses, or phone numbers, we also calculated a composite measure to be able to better examine the overall amount of contact information left for confederates. First, we calculated the correlation between the likelihood that a participant would leave her name, email, or phone number, and found that these three behaviors were all moderately positively correlated with one another (see Table 31). These correlations supported combining the data to create a composite measure.

Table 31: Point-Biserial Correlations For Contact Information Left

	Left Name	Left Email
Left Name		
Left Email	.459***	
Left Phone	.304***	.294***

Note: \*\*\*  $p < .001$

We created a composite measure by adding each variable together for each participant, with one “point” given for each behavior. For example, someone who left her name, email and phone number would have a score of three, while someone who left her name only would have a score of one. The composite measure therefore represents the amount of contact information a participant left, overall. This composite measure was then subjected to a Poisson regression analysis with confederate race (0=Black, 1=White) and disclosure condition (0=low, 1=high) as predictors. The Poisson regression is a form of log-linear regression that assumes a Poisson distribution of the data. This type of analysis is appropriate for count data, because the skewed nature of its distribution makes ordinary least squares regression unsuitable.

We expected to find an interaction between confederate race and disclosure condition, such that high self-disclosure for participants with White confederates would lead participant to leave more contact information compared to low self-disclosure with White confederates, while participants with Black confederates would be less likely to leave contact information for high—compared to low—self-disclosing Black confederates. Unsupportive of this hypothesis, we found no reliable main effect of disclosure condition, Wald  $\chi^2(1) = .119, p = .730$ , nor a main effect of confederate race, Wald  $\chi^2(1) = 2.864, p = .091$ , nor an interaction, Wald  $\chi^2(1) = 2.255, p = .133$ . This suggests that participants did not differ on the extent to which they left contact

information for participants overall, regardless of confederate race or disclosure condition.

#### **3.2.4.1.5 Leaving Name Signals Friendship**

While we found no significant effects for the composite analysis of contact information; participants were more likely to leave their name for high self-disclosing Black partners than for low self-disclosing Black partners. However, unexpectedly, there were no differences in the likelihood of participants would leave their name for high and low disclosing White partners. Because amount of confederate self-disclosure predicted the likelihood that participants would leave their name for Black, but not White, confederates, it is unclear if this behavior (leaving one's name) truly reflects a desire to socialize with the confederate, or some other motivation. To test whether the act of leaving one's name for the confederate reflected the desire to befriend her, we subjected this outcome (0=participant did not leave name, 1=participant left name for confederate) to a logistic regression with disclosure condition (0=low, 1=high), confederate race (0=Black, 1=White) and mean-centered "participant desires friendship" variables as predictors. If leaving one's name reflected a desire for friendship, we expected to find a main effect in which the participant's desire for friendship with the confederate predicted an increased likelihood that the participant left her name for her. We tested models with all possible interaction terms, though we did not predict any interactions.

The results indicated that the best fitting model to the data included two-way interactions,  $\chi^2(6) = 25.365, p < .001$ . The three-way disclosure condition x confederate race x participant desire for friendship interaction did not reliably improve the model (see Table 32 for summary). Odds ratios are presented in Table 32 for this model to

indicate the direction and magnitude of each effect. Odds ratios which are larger than 1 indicate that the predictor is associated with a higher probability of leaving one's name, while odds ratios that are smaller than 1 indicate that the predictor is associated with a lower probability of leaving one's name.

As predicted, the amount participants desired friendship with confederates reliably predicted whether they would leave their name or not,  $b=1.157$ , Wald  $\chi^2(1) = 4.219$ ,  $p=.040$ . This main effect of desire for friendship indicates that participants' desire for friendship with the confederate predicted the likelihood that they would leave their names for the confederates. This suggests that leaving one's name may reflect participant's desire to befriend the confederate. Participants in the high self-disclosure condition were 6.6 times more likely than those in the low self-disclosure condition to leave their name,  $b= 1.888$ , Wald  $\chi^2(1) = 4.258$ ,  $p=.039$ , overall. Unexpectedly, there was no main effect for confederate race,  $b=.638$ , Wald  $\chi^2(1) = .956$ ,  $p=.328$ , nor was there an interaction between participant desire for friendship and confederate race,  $b=1.018$ , Wald  $\chi^2(1) = 2.158$ ,  $p=.142$ . See Table 32 for all the model parameter estimates.

Table 32: Parameter Estimates from Logistic Regression

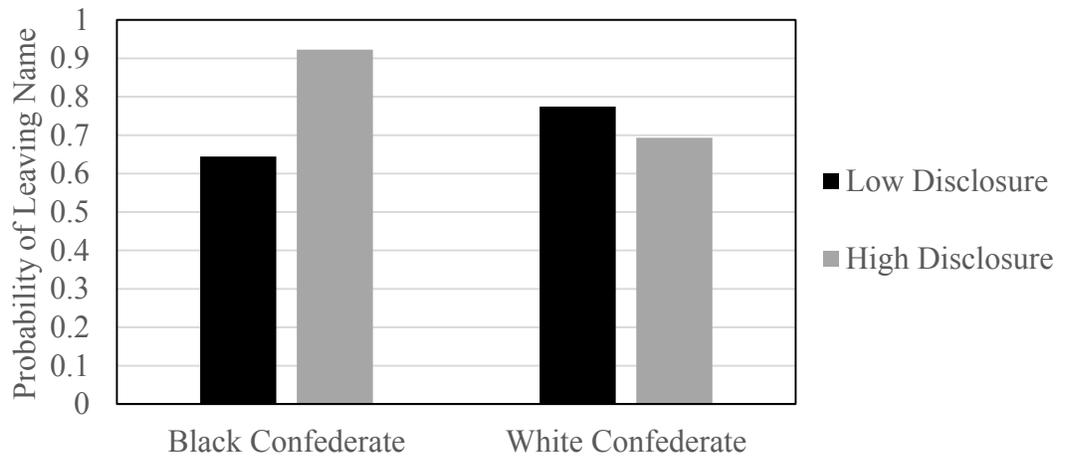
	<i>B</i>	<i>S.E.</i>	Wald	df	Sig.	Odds
Constant	.633	.452	1.960	1	.161	1.883
Disclosure Condition	1.888	.915	4.258	1	.039	6.605
Confederate Race	.638	.653	.956	1	.328	1.893

Participant Desires Friendship	1.157	.563	4.219	1	.040	3.180
Disclosure Condition x Participant Desires Friendship	-1.385	.693	3.990	1	.046	.250
Confederate Race x Participant Desires Friendship	1.018	.693	2.158	1	.142	2.769
Disclosure Condition x Confederate Race	-2.305	1.143	4.066	1	.044	.100

*Note:* Dependent Variable = Likelihood participant will leave their name.

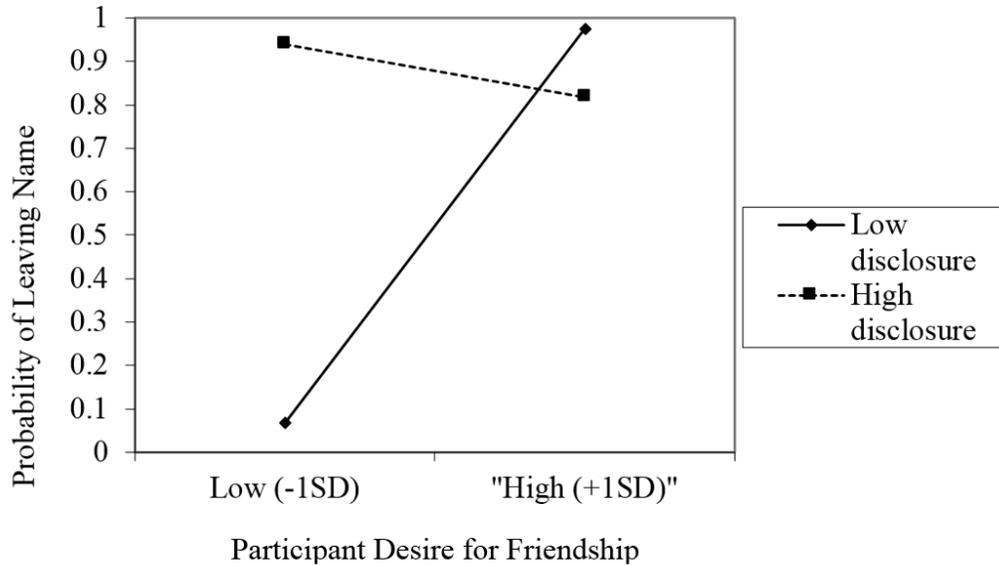
Unexpectedly, there was a significant interaction between confederate race and disclosure condition,  $b=-2.305$ , Wald  $\chi^2(1) = 4.066$ ,  $p=.044$ . Examination of the simple effects showed that for participants paired with White confederates, whether the confederate was in the high or the low self-disclosure condition did not impact the likelihood that the participant would leave her name,  $Z(1)=-.6512$ ,  $p=.515$ . For participants paired with Black confederates, however, participants were reliably more likely to leave their name for high, compared to low, self-disclosing confederates,  $Z(1)=2.063$ ,  $p=.039$ . This suggests that high self-disclosure leads to a greater likelihood that participants would leave their name for Black, but not for White confederates. See Figure 1 for a depiction of the interaction.

Figure 1: Probability of Leaving Name by Disclosure Condition and Confederate Race



Also unexpectedly, there was a significant interaction between disclosure condition and participant desire for friendship,  $b=-1.385$ , Wald  $\chi^2(1) = 3.990$ ,  $p=.046$ . Examination of the simple effects showed that, unexpectedly, for participants in the low self-disclosure condition, the extent to which participants desired friendship with confederates significantly predicted the likelihood that they would leave their name for the confederate  $Z(1)=2.054$ ,  $p=.040$ . For participants in the high self-disclosure condition, the extent to which participants desired friendship with confederates did not predict the likelihood that they would leave their names for the confederate,  $Z(1)=-.3441$ ,  $p=.731$ . See Figure 2 for a depiction of the interaction.

Figure 2: Probability of Leaving Name by Disclosure Condition and Participant Desire for Friendship



This analysis also showed that participants were more likely to leave their names for high, compared to low disclosing Black, but not White, confederates. This analysis also outlines the unique role of participant desire for friendship controlling for the other predictors in the model. These results suggest that, when interacting with a low self-disclosing confederate, participants' desire to befriend the confederate reliably predicted the likelihood of leaving their name for her, though there was no relationship between participant desire for friendship and likelihood participants would leave their name for highly self-disclosing confederates. This may be due to a ceiling effect, as nearly all participants in the high self-disclosure condition were likely to leave their name. There was no effect of race on the relationship between desire for friendship and the likelihood that participants would leave their name for the confederate, suggesting that to the extent that desire for friendship predicted the

likelihood that participants would leave their name for the confederate, the race of the confederate does not matter.

An additional logistic regression examining the impact of External and Internal motivations to avoid prejudice against Blacks (Plant & Devine, 1998), gathered during a mass-pretesting session, yielded no significant main effects or interactions with either the external or internal motivation scales). This suggests that the likelihood that participants would leave their name for confederates was unrelated to their desire to avoid prejudice due to pressure from others or due to one's own beliefs about avoiding prejudice.

#### **3.2.4.2 Replies to Emails**

We expected that participants would reply to e-mails from high self-disclosing White confederates more frequently than to low self-disclosing White confederates, and would respond less frequently to high self-disclosing Black confederates than to low self-disclosing Black confederates. To test this hypothesis, we performed a loglinear analysis of the binary variable of participant email response (0=no response, 1=did respond), confederate race (0=Black, 1=White), and disclosure condition (0=low self-disclosure, 1= high self-disclosure). Our hypothesis would be supported by a three-way interaction. Overall, 46.7% of participants responded to the email. See Table 33 for response rates.

Table 33: Participant Email Response Rates

	Black Confederate		White Confederate	
	Disclosure		Disclosure	
	Low	High	Low	High
Responded	10	14	18	15
Did Not Respond	18	11	18	18
% Responded	35%	56%	50%	45%

*Note:* the Loglinear analysis indicated that there were no significant differences between any of these conditions.

The three-way loglinear analysis produced a final model with no significant interactions or main effects, suggesting that email responses were independent of self-disclosure condition and the race of the confederate. The likelihood ratio of this model was  $\chi^2(0)=0, p=1$ . The results indicated that the highest order interaction (the condition x confederate race x outcome interaction) was not significant,  $\chi^2(1)= 1.874, p=.171$ . The lack of a three-way interaction suggests that there were no differences in the odds that participants would respond to Black or White confederates' emails as a function of their level of self-disclosure. We also failed to find any of the two-way interactions (second order effects),  $\chi^2(3)= .559, p=.906$ , which suggests that, the confederate's race or level of self-disclosure did not, on its own, impact the odds that participants would respond to the confederates' emails. There were also no main (first order) effects,  $\chi^2(3)= 2.925, p=.403$ . Contrary to our predictions, these results suggested that neither confederate race nor the confederate's level of self-disclosure impacted the likelihood that our participant would respond to the confederate's email<sup>5</sup>. Overall, 46.7% of participants responded to the confederate's email.

An additional analysis determined that participants who actually left their email for the participant were not reliably more likely to respond to the email (53.2% responded) compared to participants who did not leave their email address for the participant (40.0% responded), more likely to respond to the email,  $\chi^2(1)= 2.047,$

$p=.153$ . There were no interactive effects of whether the confederate left their email for the confederate or not on the model.

### **3.2.5 Objective Evaluations of Participant Behavior**

Because self-report data and even participant behaviors can be motivated by social desirability concerns to appear non-prejudiced, we also assessed more objective ratings of participant behaviors and communications with the confederate. To gain an objective rating of participants' level of self-disclosure, video recordings of participants during the video-chat were recorded and coded for self-disclosure and other relevant variables. Similarly, while the act of responding to an email from the confederate may signal friendship, the content of that email response is arguably more important to understanding whether the participant desired future contact with the confederate or not. As such, in the following section, we also examined objective observer ratings of participant reply emails to confederates.

#### **3.2.5.1 Self-Disclosure Behavior**

We predicted that participants would be more likely to match the level of self-disclosure expressed by White, compared to Black, confederates. Reciprocal self-disclosure encourages the development of friendship (Derlega et al., 2009), and reciprocating the confederate's level of disclosure can represent a strategy to increase intimacy. Inasmuch as Black confederates would not be viewed as potential friends, we expected that participants would not match the level of self-disclosure of our Black confederates. Video recordings were taken of the participants' responses to the self-disclosure questions. Because each participant's self-disclosure followed their observations of the confederate's performance, we can determine whether the

participant reciprocated the level of their partner's self-disclosure. Trained video-coders rated video recordings of the participants' self-disclosure, friendliness and anxiety.

To code each video, coders observed the participant's disclosures to all of the self-disclosure questions. All video coders were asked to rate the degree of participants' self-disclosure to each individual self-disclosure question (see Appendix E). In addition coders rated participants' *overall* level of self-disclosure, the inappropriateness of that disclosure, their friendliness, and their apparent anxiety throughout the entire performance. Video coders were blind to the self-disclosure and race conditions.

Due to the large number of videos, we randomly assigned half of the videos to one team of six coders and the other half of the videos to a different team of seven coders. All coders were trained together to complete the video coding. Each coder then completed his or her assignment by individually coding each video that was assigned to his or her team. Because each team of coders consisted of different individuals, reliability was calculated on each team's respective set of videos to ensure a valid test of the inter-rater reliability. We calculated the inter-rater reliability for each individual item, i.e., observers rated each video for: how self-disclosing participant's response was to each of the five separate questions. Following the separate disclosure rating to the five questions, observer then provided an overall rating (i.e., across all five questions) of how self-disclosing, friendly, anxious, and inappropriate the participant appeared in the video.

The reliability analysis revealed that coders were consistent in their ratings of participant responses to each of the participants' responses, the overall disclosure of

the interaction and participant friendliness. See Appendix H for reliability ratings by item and team. Reliability of ratings of anxiety were quite low (team 1  $\alpha=.547$ , team 2  $\alpha=.556$ ), and inappropriateness of disclosure was highly unreliable (team 1  $\alpha=.080$ , team 2  $\alpha=-.067$ ). Therefore, we ceased further analysis of the inappropriateness variable, and results of the anxiety variable should be interpreted with caution. We believe the reduced reliability ratings for inappropriateness and anxiety were due to the low values that most coders used to rate these variables—six coders never rated inappropriateness of any video greater than the minimum possible value. We then calculated the mean of all coders' ratings for each variable for analysis (with the exception of the inappropriateness variable).

To test the hypotheses, each video-coding variable was subjected to a 2 (disclosure condition: 0=high self-disclosure, 1=low self-disclosure) x 2 (confederate race: 0=Black, 1=White) ANOVA. Participants were expected to match the confederate's level of self-disclosure for White, but not Black, confederates. Therefore, we expected to find a disclosure condition x confederate race interaction, such that participants would exhibit higher levels of self-disclosure in the high compared to the low disclosure condition when interacting with a White confederate, but would exhibit no difference between the disclosure conditions when interacting with a Black confederate. We also expected that participants may exhibit greater anxiety and less friendliness when interacting with a Black, compared to a White interaction partner. However, the findings did not support these hypotheses.

There were no significant interactions between disclosure condition and confederate race on any of these observed variables. However, participants were rated as friendlier and marginally less anxious, with Black, compared to White confederates.

Unexpectedly, participants matched both Black and White confederates' level of self-disclosure in their responses to question two (i.e., "Is there something you've dreamed of doing for a long time? Why haven't you done it yet?") and question three (i.e., "When did you last cry in front of another person? By yourself?"), but not on the other questions. Details of each analysis are reported below.

### **3.2.5.1.1 Participant Evaluations and Objective Evaluations**

Participants' own evaluations of the extent to which they disclosed to the confederate were reliably correlated with the video coders' global evaluations of participants' self-disclosure ( $r=.277, p=.002$ ). Subsequent analyses showed that this relationship was not moderated by the disclosure condition or confederate's race. This suggests that participants' evaluations of their own level of disclosure were generally consistent with the objective video coders' ratings.

### **3.2.5.1.2 Participant Self-Disclosure: Question 1 (A Perfect Day):**

Video coders' evaluations of the level of participant self-disclosure expressed in their response to question: "What would be a perfect day for you?" indicated no main effect of confederate race,  $F(1,117)=.100, p=.752$ , disclosure condition,  $F(1,117)=2.567, p=.112$ , nor the disclosure condition x confederate race interaction,  $F(1,117)=2.908, p=.091$ . Overall, coders rated participants slightly below the midpoint of the scale ( $M=1.936, SE=.053$ ). See Table 34 for descriptive statistics.

Table 34: Question One (A Perfect Day) Self-Disclosure Descriptive Statistics by Condition

	Black Confederate		White Confederate		Overall	
	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>
Low Self-Disclosure	1.925	.109	1.778	.097	1.852	.073
High Self-Disclosure	1.914	.115	2.128	.100	2.021	.076
Overall	1.920	.079	1.953	.070	1.936	.053

*Note:* No statistically significant ( $p < .05$ ) main effects or interactions were found.

### 3.2.5.1.3 Participant Self-Disclosure; Question 2 (Dreamed of Doing):

Video coders evaluations of the level of self-disclosure the participant expressed in their response to the second question: “Is there something you’ve dreamed of doing for a long time? Why haven’t you done it yet?” indicated that participants were more self-disclosing in the high disclosure condition ( $M=2.437$ ,  $SE=.095$ ) compared to the low disclosure condition ( $M=2.095$ ,  $SE=.091$ ),  $F(1,117)=6.785$ ,  $p=.010$ . The analysis revealed no main effect of confederate race,  $F(1,117)=1.009$ ,  $p=.317$ , nor the disclosure condition x confederate race interaction,  $F(1,117)=.334$ ,  $p=.564$ . Overall, coders rated participants slightly below the midpoint of the scale ( $M=2.266$ ,  $SE=.066$ ). See Table 35 for descriptive statistics.

Table 35: Self-Disclosure Question Two (Dreamed of Doing) Descriptive Statistics

	Black Confederate		White Confederate		Overall	
	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>
Low Self-Disclosure	2.123	.135	2.067	.121	2.095	.091
High Self-Disclosure	2.541	.143	2.333	.125	2.437	.095
Overall	2.332	.098	2.200	.087	2.266	.066

### 3.2.5.1.4 Participant Self-Disclosure: Question 3 (Cry by Yourself)

Video coders evaluations of the level of self-disclosure the participant expressed in their response to the third question: “When did you last cry in front of another person or by yourself?” indicated that participants were more self-disclosing in the high disclosure condition ( $M=3.060$ ,  $SE=.106$ ) compared to the low disclosure condition ( $M=2.642$ ,  $SE=.102$ ),  $F(1,117)=8.080$ ,  $p=.005$ . The data showed no main effect of confederate race,  $F(1,117)=.775$ ,  $p=.380$ , nor the disclosure condition x confederate race interaction,  $F(1,117)=.402$ ,  $p=.527$ . Overall, coders rated participants slightly below the midpoint of the scale ( $M=2.851$ ,  $SE=.073$ ). See Table 36 for descriptive statistics.

Table 36: Question Three Self-Disclosure (Cry By Yourself)

	Black Confederate		White Confederate		Overall	
	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>
Low Self-Disclosure	2.753	.151	2.531	.135	2.642	.102
High Self-Disclosure	3.078	.160	3.042	.140	3.060	.106
Overall	2.916	.110	2.786	.097	2.851	.073

### 3.2.5.1.5 Participant Self-Disclosure: Question 4 (Your Greatest Fear).

Video coders’ evaluations of the level of self-disclosure the participant expressed in their response to question four: “What is your greatest fear, and why?” indicated no main effect of confederate race,  $F(1,117)=.021$ ,  $p=.885$ , disclosure condition,  $F(1,117)=.005$ ,  $p=.942$ , nor the disclosure condition x confederate race interaction,  $F(1,117)=.299$ ,  $p=.586$ . Overall, coders rated participants slightly below the midpoint of the scale ( $M=2.748$ ,  $SE=.077$ ). See Table 37 for descriptive statistics.

Table 37: Self-Disclosure Question Four (Your Greatest Fear) Descriptive Statistics

	Black Confederate		White Confederate		Overall	
	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>
Low Self-Disclosure	2.712	.159	2.774	.142	2.743	.107
High Self-Disclosure	2.808	.169	2.701	.147	2.754	.112
Overall	2.760	.116	2.737	.102	2.748	.077

*Note:* No statistically significant ( $p < .05$ ) main effects or interactions were found.

### 3.2.5.1.6 Participant Self-Disclosure: Question 5 (Family Warmth)

Video coders evaluations of the level of self-disclosure the participant expressed in their response to question five: “How close and warm is your family? Do you feel your childhood was happier than most other people’s?” indicated no main effect of confederate race,  $F(1,117) = .061$ ,  $p = .805$ , disclosure condition,  $F(1,117) = 2.471$ ,  $p = .119$ , nor the disclosure condition x confederate race interaction,  $F(1,117) = .024$ ,  $p = .876$ . Overall, coders rated participants slightly below the midpoint of the scale ( $M = 2.755$ ,  $SE = .062$ ). See Table 38 for descriptive statistics.

Table 38: Self-Disclosure Question Five (Family Warmth) Descriptive Statistics

	Black Confederate		White Confederate		Overall	
	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>
Low Self-Disclosure	2.651	.129	2.662	.115	2.656	.086
High Self-Disclosure	2.828	.136	2.878	.119	2.853	.090
Overall	2.739	.094	2.770	.083	2.755	.062

*Note:* No statistically significant ( $p < .05$ ) main effects or interactions were found.

### 3.2.5.1.7 Overall Ratings of Participant Self-Disclosure

Video coders’ single rating of participants overall degree of self-disclosure (after observing responses to all 5 questions) indicated that participants were marginally more self-disclosing in the high disclosure condition ( $M = 2.660$ ,  $SE = .081$ )

compared to the low disclosure condition ( $M=2.456$ ,  $SE=.078$ ),  $F(1,117)=3.276$ ,  $p=.073$ . The analysis revealed no main effect of confederate race,  $F(1,117)=.345$ ,  $p=.558$ , nor the disclosure condition x confederate race interaction,  $F(1,117)=.107$ ,  $p=.744$ . Overall, coders rated participants slightly below the midpoint of the scale ( $M=2.558$ ,  $SE=.056$ ). See Table 39 for descriptive statistics.

Table 39: Overall Self-Disclosure Descriptive Statistics by Condition

	Black Confederate		White Confederate		Overall	
	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>
Low Self-Disclosure	2.507	.116	2.404	.104	2.456	.078
High Self-Disclosure	2.674	.123	2.645	.107	2.660	.081
Overall	2.591	.084	2.525	.074	2.558	.056

*Note:* No statistically significant ( $p<.05$ ) main effects or interactions were found.

### 3.2.5.1.8 Overall Participant Friendliness

Video coders evaluations of the level of participant friendliness indicated that participants were friendlier in their responses to Black ( $M=3.162$ ,  $SE=.085$ ) compared to White ( $M=2.920$ ,  $SE=.075$ ) confederates,  $F(1,117)=4.560$ ,  $p=.035$ . The analysis obtained no main effect of disclosure condition,  $F(1,117)=.353$ ,  $p=.553$ , nor the disclosure condition x confederate race interaction,  $F(1,117)=.714$ ,  $p=.400$ . Overall, coders rated participants near the midpoint of the scale ( $M=3.041$ ,  $SE=.057$ ). See Table 40 for descriptive statistics.

Table 40: Participant Friendliness Descriptive Statistics by Condition

	Black Confederate		White Confederate		Overall	
	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>
Low Self-Disclosure	3.176	.117	2.838	.104	3.007	.078
High Self-Disclosure	3.148	.124	3.001	.108	3.074	.082
Overall	3.162	.085	2.920	.075	3.041	.057

### 3.2.5.1.9 Overall Participant Anxiety

Video coders' evaluations of the level of participant anxiety indicated that participants were marginally significantly less anxious in their responses to Black ( $M=2.133$ ,  $SE=.076$ ) compared to White ( $M=2.316$ ,  $SE=.067$ ) confederates,  $F(1,117)=3.237$ ,  $p=.075$ . The data showed no main effect of disclosure condition,  $F(1,117)=.853$ ,  $p=.357$ , nor the disclosure condition x confederate race interaction,  $F(1,117)=.533$ ,  $p=.467$ . Overall, coders rated participants slightly below the midpoint of the scale ( $M=2.224$ ,  $SE=.051$ ). See Table 41 for descriptive statistics.

Table 41: Participant Anxiety Descriptive Statistics by Condition

	Black Confederate		White Confederate		Overall	
	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>
Low Self-Disclosure	2.123	.105	2.232	.094	2.177	.070
High Self-Disclosure	2.143	.111	2.400	.096	2.271	.073
Overall	2.133	.076	2.316	.067	2.224	.051

*Note:* No statistically significant ( $p<.05$ ) main effects or interactions were found.

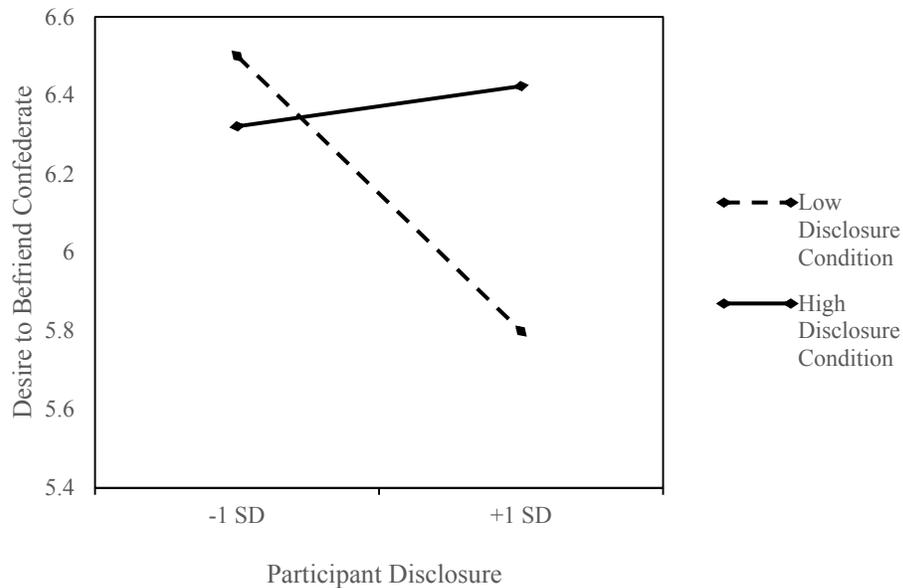
### 3.2.5.1.10 Is Disclosure Related to the Desire for Friendship?

In order to better understand the relationship between disclosure and the desire for friendship, we subjected participant self-reported desire for friendship with the

confederate to a regression analysis with condition, confederate race, and the participants' overall disclosure (as measured by our video coders). The three-way interaction was not a statistically significant predictor in the model, and therefore it was removed and all subsequent statistics are from a model including only main effects and two-way interactions.

We found no main effect of condition  $b=1.31$ ,  $t(115)=.972$ ,  $p=.333$ , nor of confederate race  $b=-.024$ ,  $t(115)=-.199$ ,  $p=.843$ . Unexpectedly, we found a main effect of disclosure,  $b=-.410$ ,  $t(115)=-2.268$ ,  $p=.025$ , such that the greater participants expressed disclosure, the less they reported desiring friendship with the confederate. This main effect was qualified by a reliable disclosure by condition interaction,  $b=.363$ ,  $t(115)=2.571$ ,  $p=.011$ . Decomposing the interaction showed that, in the high self-disclosure condition, participant disclosure did not reliably predict participant self-reported desire to befriend the confederate,  $t=.354$ ,  $p=.736$ . However, in the low self-disclosure condition, participant disclosure did marginally predict participant self-reported desire to befriend the confederate,  $t=-2.261$ ,  $p=.065$ . Unexpectedly, the direction of this relationship suggests that, in the low self-disclosure condition, the more highly participants disclosed, the less they self-reported desiring friendship with the confederate (see Figure 3). We found no significant interaction between condition and confederate race,  $b=-.047$ ,  $t(115)=-1.832$ ,  $p=.069$ , nor a significant interaction between disclosure and confederate race,  $b=.023$ ,  $t(115)=-1.143$ ,  $p=.255$ .

Figure 3: Confederates Disclosure Condition by Participant Disclosure Interaction



While these results were unexpected, the simple slopes analysis showed that the individual components of the interaction between condition and disclosure were not statistically significant. The unexpected negative relationship between participant disclosure and self-reported desire for friendship, in the low self-disclosure condition, was only marginally significant,  $t=-2.261, p=.065$ . Moreover, multicollinearity of predictor variables in this analysis may inhibit our ability to identify the unique predictive role of each predictor variable's relationship to participant desire for friendship. Multicollinearity of predictor variables can bias parameter estimates in a regression analysis, which is of particular concern in this analysis because one of our predictors (participant disclosure) was likely to have been impacted by another predictor (i.e., the self-disclosure condition). One measure of multicollinearity is the

variance inflation factor (VIF), which is a measure of the relationship between whether a predictor has a strong linear relationship with the other predictors. If the average VIF is substantially greater than 1, then the regression may be biased (Bowerman & O'Connell, 1990). In this analysis, the VIF for the main effect of disclosure was 4.282, and the VIF for all predictors in the reported model was equal to 2.90. This suggests that we should interpret these results with caution, as the parameter estimates in this model may be biased and therefore not reflect accurate estimates. Nonetheless, these results may suggest that participant level of self-disclosure in the study may not be related to their desire to befriend the confederate.

### **3.2.5.2 Email Content Analysis**

Overall, 46.7% of participants responded to the email sent by the confederate. Contrary to our predictions, neither confederate race nor disclosure condition impacted the odds that participants' would respond to the confederate's email message. To gain a more complete understanding of the email responses, we trained independent coders to evaluate the content of each email reply (see Appendix I for full coder instructions). To determine the valence of the email replies, the team of seven coders individually evaluated the content of the email messages returned by participants. Using a Likert scale (1=Strongly Disagree to 5=Strongly Agree), the coders reliably evaluated the emails on the basis of the specificity of the expressed plans to meet with the confederate ( $\alpha=.965$ ), the participants' desire to meet the confederate ( $\alpha=.915$ ), and the warmth expressed by participants in their email replies ( $\alpha=.920$ ). All participants who responded to the email indicated some desire to meet with the confederate, as evidenced by the fact that all respondents indicated that they would meet with the

confederate in the content of the email. All coders were blind to the confederate race and disclosure condition.

Each of these variables were subjected to individual 2 (disclosure condition: 0=low disclosure, 1=high disclosure) x 2 (confederate race: 0=Black, 1=White) ANOVAs. We expected to find that participants would respond less favorably to Black compared to White confederates in the content of their emails, as a result of racial bias.

### 3.2.5.2.1 Email Specificity of Plans to Socialize

All participants who responded to the email indicated some desire to meet with the confederate, yet they varied in the specificity of their plans. We found that participants made more specific plans when they were in the high disclosure ( $M=2.483$ ,  $SE=.179$ ) compared to the low disclosure ( $M=1.844$ ,  $SE=.190$ ) condition,  $F(1,57)=6.000$ ,  $p=.018$ . There was no effect of confederate race,  $F(1,53)=.740$ ,  $p=.394$ , nor a disclosure condition by confederate race interaction,  $F(1,53)=.653$ ,  $p=.423$ . See Table 42 for descriptive statistics.

Table 42: Email Specificity Statistics by Condition

	Black Confederate		White Confederate		Overall	
	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>
Low Self-Disclosure	2.062	.304	1.627	.227	1.844	.190
High Self-Disclosure	2.490	.257	2.476	.248	2.483	.179
Overall	2.276	.199	2.052	.168	2.164	.130

### 3.2.5.2.2 Email Desire to Socialize

Next, we examined the variable tapping participants' desire to socialize with the confederate. There was no effect of confederate race,  $F(1,53)=.166, p=.685$ , nor of disclosure condition,  $F(1,53)=1.528, p=.222$ , nor a disclosure condition by confederate race interaction,  $F(1,53)=.095, p=.760$ . See Table 43 for descriptive statistics.

Table 43: Email Desire to Socialize Descriptive Statistics by Condition

	Black Confederate		White Confederate		Overall	
	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>
Low Self-Disclosure	3.414	.262	3.254	.195	3.334	.163
High Self-Disclosure	3.622	.221	3.600	.214	3.611	.154
Overall	3.518	.171	3.427	.145	3.557	.113

*Note:* No statistically significant ( $p<.05$ ) main effects or interactions were found.

### 3.2.5.2.3 Email Warmth

We also examined the variable measuring the warmth expressed in participants' email to the confederate. We found that participants were marginally more likely to express warmth in their email replies to Black ( $M=3.762, SE=.173$ ) compared to White ( $M=3.351, SE=.146$ ) confederates,  $F(1,53)=3.311, p=.074$ . Also we found no effect of disclosure condition,  $F(1,53)=1.312, p=.257$ , nor a disclosure condition by confederate race interaction,  $F(1,53)=.046, p=.830$ . See Table 44 for descriptive statistics.

Table 44: Email Warmth Descriptive Statistics by Condition

	Black Confederate		White Confederate		Overall	
	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>
Low Self-Disclosure	3.657	.264	3.197	.197	3.427	.165
High Self-Disclosure	3.867	.223	3.505	.215	3.686	.155
Overall	3.762	.173	3.351	.146	3.557	.113

*Note:* No statistically significant ( $p < .05$ ) main effects or interactions were found.

### 3.3 Conclusions and Discussion

We predicted that high self-disclosure from White confederates would be perceived positively compared to low self-disclosure, while high self-disclosure would be perceived more negatively than low self-disclosure from Black confederates. This prediction was not supported by the results of Study 2. In fact, when interacting with Black confederates, we found some support for the position that high self-disclosure would lead to increased friendship-building cognitions and behaviors. Unexpectedly, in the high self-disclosure condition, participants were more likely to desire friendship with the Black confederate ( $M=6.384$ ,  $SE=.169$ ) compared to the White confederate ( $M=5.806$ ,  $SE=.147$ ), which was supported by a significant pairwise comparison  $F(1,118)=6.671$ ,  $p=.011$ . However, this comparison was based on a marginally significant,  $F(1,118)=3.250$ ,  $p=.074$ , interaction between race and condition.

Also supporting the notion that self-disclosure from an outgroup member may improve friendship-building, for participants interacting with Black confederates, there was a statistically significant difference in the likelihood that participants would leave their name, depending on the level of confederate self-disclosure (condition),  $\chi^2(1)=5.702$ ,  $p=.017$ . For (White) participants interacting with a Black confederate in the low self-disclosure condition, 65.4% left their name, but those interacting with a Black confederate in the high self-disclosure condition, 92.0% left their name. By

contrast, there were no reliable differences between high and low self-disclosure condition for White confederates, for whom 68.2% of participants left their name overall. Additionally, regardless of the confederate's race, participant desire to befriend the confederate predicted the likelihood that participants would leave their name for her, particularly in the low self-disclosure condition. This suggests that the desire for friendship may have motivated participants to leave their name for the confederate. Overall, these results suggest that self-disclosure may elicit more friendship-building behaviors when interacting with racial outgroup members.

Additionally, we found that for the partner evaluation scale and the social distance scale, participants evaluated Black confederates more favorably than White confederates. However, these main effects could arguably be due to self-presentation concerns. Our White participants may have rated Black confederates more favorably as an attempt to not appear to be racially biased. However, the interactions we found between race and condition are not as easily explained by social desirability concerns. We found that participants with a Black confederate in the high self-disclosure condition were reliably more likely to leave their name than those in the low self-disclosure condition, but there was no effect of self-disclosure condition on the likelihood that participants would leave their name for White confederates.

Participants concerned about not appearing racist would have been equally concerned regardless of the level of self-disclosure presented by Black interaction partners; self-presentation concerns would have led us to expect a main effect of race on this variable. Therefore, social desirability does not seem to account for this effect.

Additionally, the fact that high self-disclosure led to increased desire for friendship

compared to low self-disclosure for Black but not White confederates is another finding that is not easily explained by a mere social desirability bias.

Additionally, the objective video coding data suggested that participants matched the self-disclosure level of Black and White confederates in response to two of the five questions. This suggests that, to the extent that the situation encouraged participant to match confederate's self-disclosure levels, participants did so at rates not significantly different with both Black and White partners. Moreover, participants were objectively rated by our coders as more friendly when paired with a Black confederate and marginally less anxious. It is possible that participants made an effort to appear friendly and less anxious in order to appear less biased, but given the other effects we observed, it is also possible that they were merely being especially favorable towards Black confederates.

The present study does not support the hypothesized notion that self-disclosure from a racial outgroup member would be detrimental to future contact, as the self-disclosure in our study was not seen as a norm-violation for the context. However, that's not to say that the threshold for norm-violation is not lower for interactions with racial outgroup members. It is possible that executing the study through a video-chat allowed participants to be more comfortable with high levels of self-disclosure from outgroup members. Indeed, the fact that participants believed that the confederate could not view them during the video-chat could have, additionally, led to reduced intergroup anxiety during the interaction. People tend to disclose more frequently in via computer-based forms of communication than in face to face interactions (Hancock, 2007), at least in part due to visual anonymity and the lack of nonverbal cues (Joinson & Paine, 2007). Recent research shows that disclosing intimate

information in a computer based communication elicits more intimate disclosures from another person than disclosing the same information in face to face communication (Jiang, Bazarova, & Hancock, 2013).

Intergroup interactions are more prone to miscommunication and biases in person perception (Vorauer & Sakamoto, 2006). Moreover, intergroup anxiety can poison an interaction because non-verbal cues of anxiety can be mistaken for signals of disliking (Dovidio, Kawakami, & Gaertner, 2002). The negative impact of interracial anxiety contributes to biased interpretations of both one's own and others' anxiety-driven behaviors, and these reciprocal miscommunications prevent social bonds from forming (West, 2011). To the extent that the highly structured nature of the study—and the lack of immediate social feedback through the video chat—reduced anxiety in our participants, it may have improved interactions with outgroup members. In support of this position, we found no differences in interaction anxiety between participants paired with Black or with White confederates, and participants were rated by video coders to be marginally less anxious when interacting with Black confederates. While these aspects of the study were designed to elicit experimental control, they represent an important difference between the way people interact in everyday life and the way they interacted in this study, which may have contributed to the positive effects of high self-disclosure for outgroup members.

One puzzling finding in Study 2 is the fact that participants differentially responded to self-disclosure from Black and White confederates. Self-disclosure did not impact the likelihood that participants would leave their names for White confederates. By contrast, participants were more likely to leave their name for high self-disclosing Black confederates compared to low self-disclosing Black

confederates. Similarly, high self-disclosing Black confederates were evaluated more positively than high self-disclosing White confederates, while low self-disclosing White and Black confederates were not rated differently. It is possible that participants imparted different meaning to the reason for Black, compared to White confederates' level of self-disclosure. Future research might examine participant perceptions about the motivation for what their interaction partner said during the interaction.

In addition to reduced anxiety, the content of the self-disclosure stimuli (i.e., the confederates' recorded responses to the self-disclosure questions) tended to display favorable characteristics in the confederate (see Appendix E). It is possible that self-disclosure is productive for initial intergroup interactions only inasmuch as it displays certain kinds of characteristics. Alternatively, the content of the self-disclosure information which our confederates revealed may have inadvertently interacted with the race of the confederate, so as to reinforce White participants' feelings of superiority over Black confederates. White participants may have perceived high self-disclosing Black confederates to be vulnerable or weak as a result of the information they disclosed. Inasmuch as the emotional nature of the high self-disclosure stimuli compared to the low self-disclosure stimuli served to reinforce the perceived status difference between White participants and Black confederates, it may have led to the favorable evaluations from the White participants and the subsequent increased desire for future contact.

Pilot testing indicated that low self-disclosure responses were reliably lower in self-disclosure than high self-disclosure responses. However, the study questions participants were asked to answer (Aron et al., 2004) were designed to encourage the

development of friendship and appear to encourage self-disclosing responses. Given this context, it is unclear if the low self-disclosure responses were truly low, or if the high self-disclosure responses were truly high, and future research might more clearly determine the role of truly high self-disclosure compared to truly low self-disclosure. The design of our study lacked a true control condition, meaning that it is difficult to say if low self-disclosing responses suppressed—or high self-disclosure responses encouraged—prosociality. Future studies might clarify this limitation by including a suitable control condition. For example, in a control condition, experimenters may lead participants to believe that confederates were reading responses by other participants, so participants in the control condition were exposed to similar content read by confederates without the connotation that it was a personal disclosure by the confederate for the participant.

Previous research suggests that cross-group friendships predict positive outgroup attitudes, increased perceived outgroup variability and a reduction in negative action tendencies (Swart et al., 2011). Each of these effects is mediated by an increase in affective empathy for the outgroup (Swart et al., 2011). Inasmuch as empathy encourages positive behaviors towards outgroup, it may have played a mediating role in this study. The ability to empathize with outgroup members is predicated on viewing them as fully human and capable of experiencing uniquely human emotions, yet essentialist beliefs prevent individuals from viewing racial outgroup members as such (Leyens et al., 2001). When making emotional attributions to outgroup members, it is more likely to attribute simple, primary emotions which animals are capable of experiencing, such as joy or fear, and less likely to make attributions of more complex secondary emotions that are “uniquely human,” like sorrow or admiration (Leyens et

al., 2001; Vaes, Paladino, Castelli, Leyens & Giovanazzi, 2003). Indeed, essentialist beliefs prevent people from viewing outgroup members as fully human (Goff, Eberhardt, Williams, & Jackson, 2008; Williams & Eberhardt, 2008; Vaes et al., 2003). The emotional content of the high self-disclosure responses in this study may have worked against this tendency and humanized Black confederates. Future studies should examine the potential mediating role of empathy or humanization in the link between self-disclosure and friendship-building behaviors.

The results of this study provide some support for the notion that self-disclosure by a racial outgroup member produces a friendship-building orientation. Importantly, the results did not change as a result of participant extraversion or racial attitudes. These results are consistent with other literature outlining the role of self-disclosure in predicting successful intergroup friendship development (Shelton et al., 2010; Turner & Feddes, 2011). However, the medium of this disclosure was a highly structured video chat, representing a limiting condition for this effect. Delays in audiovisual feedback in a video chat have a negative impact on intergroup—but not intragroup—interactions (Pearson, West, Dovidio, Powers, Buck, and Henning, 2008). The present study provided no audiovisual feedback to participants. Also, there are several possible alternative explanations for the pattern of results we found, based on the nature of the self-disclosure stimuli. Nonetheless, the present study demonstrates that self-disclosure by an outgroup member elicits friendship-building behaviors and attitudes towards that individual. Therefore, encouraging intergroup self-disclosure may represent a much-needed push to view outgroup members as potential friends.

## Chapter 4

### GENERAL DISCUSSION

We predicted that participants would discriminate against racial outgroup members in their likelihood of extending invitations to socialize (Study 1) and in their likelihood of leaving contact information for high—compared to low—disclosing outgroup partners (Study 2), as an expression of their failure to view outgroup members as potential friends. These predictions were not supported.

In Study 1, participants did not differ in their likelihood to extend an invitation to socialize with an outgroup member, and in Study 2, participants were more likely to leave contact information for high—compared to low—self-disclosing Black confederates. In both studies, these prosocial behaviors—accepting an invitation from a confederate (Study 1), extending an invitation to a confederate (Study 1), and leaving contact information for a confederate (Study 2)—were associated with an increased desire to befriend that confederate for participants paired with either Black or White confederate partners. We found no discrimination against—or prejudice towards—Black confederates in these studies. There are several potential motivations that could have driven participants' egalitarian behavior across these studies. Also, there are several unique aspects within each study which may have encouraged the positive evaluations and overt behaviors towards racial outgroup members that could be examined in future studies.

#### 4.1 Results in Context

The results of Study 1 suggest that after a short period of contact with a racial outgroup member, participants viewed them as a potential friend. There were no differences in the evaluation of Black compared to White confederates on friendship

potential and participants expressed no racial discrimination in their likelihood of accepting an invitation, or in their likelihood of issuing an invitation. However, several aspects of the experimental procedure of Study 1 likely contributed to making intergroup contact a positive experience for participants.

Participants in the study may have developed a common ingroup identity (Gaertner & Dovidio, 2000) with confederates as a result of the cooperative problem-solving task. The generally positive experience provided by the intergroup interactions may have violated participants' possibly negative expectations for interacting with a racial outgroup member. Participants may even have expected future contact with their confederate partner given that their cooperatively determined solution to the Winter Survival problem successfully qualified them to return to the lab for the opportunity to win an attractive prize. Common ingroup identity, negative expectation violation and the expectation of pleasant future contact could have increased the likelihood of viewing outgroup partners positively and possibly, as potential friends.

Study 2 showed that outgroup partner self-disclosure encouraged participants to leave contact information for that partner. Participants with Black confederates were more likely to leave their name for outgroup partners in the high (92.0%), compared to the low (65.4%), self-disclosure condition, while participants with White confederates provided their name 68.2% overall. Moreover, participants who left their name expressed a greater desire to befriend their partner, regardless of their race. This provides support for the notion that self-disclosure encourages viewing outgroup members as potential friends. However, the type of self-disclosure (positive, negative, neutral) may play an important role in moderating this effect. Pilot testing indicated that the high and low self-disclosure responses were equivalent on "friendliness" and

“appropriateness” for the context but, as intended, differed on the level of self-disclosure each represented. It is possible that these disclosures did vary on other dimensions which may be important to their effectiveness. Moreover, partner self-disclosures may have been interpreted differently, depending upon the partner’s race. The fact that we found no effect of self-disclosure condition on participants’ likelihood of leaving their name for White (ingroup) confederates suggests that there may be something unique about the way participants interpreted the high and low self-disclosure responses from racial ingroup compared to outgroup sources.

The emotional nature of the high self-disclosure responses could have reinforced a perceived racial status difference—making White participants feel superior to Black confederates. Alternatively, the high self-disclosure responses could have “humanized” racial outgroup partners. Indeed, White majority group members are prone to view Blacks in the United States as not fully human, or as dehumanized (Goff, Eberhardt, Williams, & Jackson, 2008). Moreover, the intergroup interaction in Study 2 occurred through a structured video chat system that prohibited immediate partner feedback in response to participant self-disclosure which may have alleviated intergroup anxiety that typically plagues intergroup interactions. Each of these factors in Study 2 may have increased the likelihood of viewing outgroup partners as potential friends.

Moreover, in Study 1 and Study 2, participants were in a unique situation. Participants were interacting with a stranger in a psychology study in a small room with cameras pointed at them. Among other differences between the lab and the “real world,” participants were isolated from their friends and other members of their social group who may otherwise have influenced their decision to socialize with Black or

White confederates. It is possible that participants were more likely to view outgroup members as potential friends when alone compared to their usual friends, where perceived ingroup norms against contact with outgroup members (Tezanos-Pinto et al., 2010) may be more salient.

## **4.2 Limitations**

Our sample for both studies consisted of 100% White female participants enrolled in an introductory psychology course at the University of Delaware. Unfortunately, this convenience sample limits the generalization of our results. In many ways the results of these two studies were unexpectedly encouraging, as participants appeared to view racial outgroup members as potential friends. However, females tend to be lower in explicit bias than males (Ekehammar, Akrami & Araya, 2003), and people with higher levels of education tend to be lower in bias than those with lower levels of education (Raden, 2003). Unsurprisingly, preexisting racial bias predicts the likelihood of sustaining intergroup friendships (Stearns, Buchmann, & Bonneau, 2009). Moreover, by only utilizing White participants, the present research may not apply to other racial groups, particularly minority groups. Unfortunately, limited enrollment of Black students in the Introductory Psychology course (as well as the university more generally) poses a significant challenge to executing such an experiment within a reasonable period of time.

In the United States, Whites have more power and represent a numerical majority compared to Black people, a majority that is disproportionately larger on the University of Delaware campus than nationally. Just 5% of the University of Delaware undergraduate student population consisted of Black students in 2014 (University of Delaware, 2015). For Blacks, cross-racial contact is therefore more likely, and Black

students on the University of Delaware campus are likely to have more experience navigating cross-racial interactions than White students. Expectations of cross-race rejection may be a less prominent concern for Black students (Dunkel, Kistner, David-Ferdon, 2009) for whom the expectation of being a target of prejudice (Shelton & Richeson, 2006) may be a more salient impediment to viewing Whites as potential friends. Racial differences like these may limit the generalizability of our findings.

#### **4.2.1 Gender Limitations**

Also, within an individualistic cultural context, there are some gender differences in same-sex friendships among men and women and the composition of our research team made it impractical to involve male participants. In the United States, women's friendships have been characterized as "face-to-face" and men's friendships as "side-by-side" (Wright, 1982). While male friendships tend to be centered on an activity or interest (sports or a hobby), female friendships tend to be more centered on support in response to stress and typically involve more openness and empathy (for a review, see Fehr, 1996 or Perlman, Stevens, Carcedo, 2012). In general, women tend to report having higher intimacy, closer friendships than men (for a review, see Fehr, 1996 or Perlman et al., 2012). Moreover, some suggest that the "path to intimacy" may be different for men and women (Floyd, 1997a; 1997b; Swain, 1989), such that men may prefer to build intimacy in same-sex friendships through shared experiences and activities instead of through self-disclosure (Camarena, Sarigiani, and Peterson, 1990). While both men and women recognize that self-disclosure is a path to greater intimacy, men prefer not to engage in self-disclosure as much as women do (Fehr, 2004). Gender differences may contribute to differences in

the effectiveness of self-disclosure or the relative likelihood that participants will issue invitations to friendship, a possibility that future research might explore.

#### **4.2.2 Racial Limitations**

While research on intergroup contact (Pettigrew, Tropp, Wagner & Christ, 2011) and other bias reduction strategies focus on solutions to intergroup separation or animosity or discrimination that theoretically should be independent of the specific intergroup context. However, when it comes to the development of friendship, group norms and intergroup dynamics can have a strong influence. For example, divergent social status has been historically associated with lower quality relationships (Blau, 1977; McPherson & Smith-Lovin, 1987), and lower-status individuals may struggle with whether or not to self-disclose to higher-status individuals (Phillips, Rothbard & Dumas, 2009). Ethnic minorities tend not to self-disclose to White peers as a result of negative attitudes towards Whites or the expectation of being a target of prejudice (Shelton & Richeson, 2006). It is possible that reluctance to interact with racial outgroup members, or the reluctance to view outgroup members as potential friends, is rooted in different concerns for members of minority and majority groups.

Moreover, there are racial differences in expectations regarding the acceptance by outgroup members. White schoolchildren tend to have fewer other-race friends compared to Black schoolchildren (Hallinan & Teixeira, 1978, DuBois & Hirsch, 1990). White schoolchildren also tend to have a smaller out-of-school friendship circle than Black schoolchildren (DuBois & Hirsch, 1990). Moreover, classroom organization appears to have a differential effect on Black—compared to White—children's friendships, such that White children have more cross-race friends in classrooms that de-emphasize relative academic achievement amongst students, but

this variable has no effect on the number of cross-race friends that Black students have (Hallinan & Teixeira, 1978). Other research suggests that overall, African-American children tend to overestimate the extent to which they will be accepted by other-race peers, while European-American children tend to underestimate the extent to which they will be accepted by other-race peers (Dunkel, Kistner, David-Ferdon, 2009). This could have impacted the results of both studies because the White participants—who likely had less cross-race contact compared to Black students—may have underestimated the extent to which they would be accepted by Black students. In Study 2, high self-disclosure appeared to encourage socializing behavior when our White students were interacting with Black confederates, perhaps by alleviating concerns about social rejection. Black students, potentially unburdened by concerns of social rejection, may have responded less favorably to a high self-disclosing White confederate.

Also, the characteristics that encourage or discourage the development of cross-race friendships may be different for minority and majority group members. In high schools, minority students who identified with academics tended to develop more cross-ethnic friendships, but the opposite was true for White students, for whom identifying with academics related to fewer cross-ethnic friendships (Hamm, Brown, & Heck, 2005). Differences in perceived student interests, such as academics, may differentially impact the likelihood that cross-race individuals are viewed as potential friends by racial minority and majority group members.

These are just a few examples of how different factors might influence the development of cross-group friendships for members of different racial or ethnic groups. The unique circumstances faced by members of different groups should not be

underestimated or minimized in their importance and these unique circumstances should be taken into account in implementing any strategy for increasing cross-group friendship. While the strategies we proposed for facilitating the development of intergroup friendship were selected because research suggests they should be broadly applicable to a wide range of intergroup situations, the data from the present research draws only on White participants and their likelihood of viewing Black students as potential friends. The fact that our participants were all White may mean that the results of these studies are not necessarily applicable to members of other racial groups.

#### **4.2.3 Cultural Limitations**

The individualistic cultural context of a major university in the United States also represents a limitation of this research because the definition of friendship depends on the cultural context. That is, collectivistic cultural contexts may differ in the function and dynamics of friendships. For example, Chinese participants place less importance on reciprocal exchange than American participants do (Chen, Chen & Portnoy, 2009), and Indians tend to value communal norms in close friend relationships more than Americans, who value a “relaxed” form of reciprocal exchange in close friendships (Miller et al., 2014). In exchange relationships, immediate reciprocity is much more important than in communal relationships (Clark, Mills & Powell, 1986). Acquaintanceships (pre-unit relationships) tend to be exchange relationships; friendships tend to be communal relationships (Clark, 1981). Because, acquaintances tend to provide benefits to each other expecting and seeking immediate receipt of comparable benefit to themselves, friends are concerned with the other party’s welfare in general and therefore tend to give benefits without expecting or

seeking immediate reciprocity (Lydon et al., 1997). However, there are cultural differences in the role of reciprocity making it more important for individualistic cultural contexts than collectivistic ones (Miller et al., 2014). Additionally, communication patterns differ depending on one's cultural background. For example, Chinese students are less likely to self-disclose compared to American students overall (Chen (1995).

### **4.3 What is Friendship?**

The designs of Study 1 and Study 2 were based on the notion that viewing confederate partners as potential friends could be measured by their relative likelihood of agreeing to additional social contact. This operationalization of friendship potential relies on the assumption that participants tend to develop friendships with others via *purely social* contact. Certainly, agreeing to go for coffee or lunch with another person can have the connotation of a social interaction with the potential for the development of friendship. However, one-on-one social contact with a new acquaintance may not be appropriate given the limited amount of contact participants had with confederates. It may be more likely for initial acquaintances to meet in a larger group, or in a situation that was not just a social outing (e.g., for a work or school function). One-on-one social contact may be too intimate for socializing among initial acquaintances. Acquaintance relationships usually involve low levels of intimacy and relational quality (Baym et al., 2007), and feeling prematurely too close threatens personal control and personal identity (Aron et al., 2004). Given that participants met confederates just one time, it is possible that an invitation to a one-on-one social meeting was an unusually intimate request.

An important situational factor which can encourage the development of friendship is frequency of exposure (Festinger, Schachter, & Back, 1950). Mere exposure to a stimulus leads to more positive evaluations of that stimulus (Zajonc, 1968). Greater frequency of exposure to another person leads to greater feelings of similarity and liking for that person (Moreland & Beach, 1992). Mere exposure to outgroup members—particularly under the right circumstances—increases the likelihood of friendship (DuBois & Hirsch, 1990). It is likely that increased mere exposure to outgroup members increases the likelihood of viewing an outgroup member as a potential friend. Future research might examine the effect of more frequent contact may have on the likelihood that participants would view racial outgroup members as potential friends.

Moreover, purely social contact may be reserved for more intimate relationships, such as close friendships. It is possible that people may view another person as a potential friend without desiring intimate one-on-one contact with that individual. Indeed, many friendships are formed based on mere frequency of exposure and the probability of future interaction, such that people make friends with people they live and work near, regardless of personal interests (Festinger et al., 1950). It is possible that the one-on-one “social invitation-acceptance/rejection of invitation” paradigm does not match the way people typically initiate and form friendships. Perhaps contact under circumstances that are not primarily leisure-oriented would be more effective at encouraging the development of friendships. For example, diverse work-groups encourage the development of cross-racial friendships (Payne, McDonald, Hamm, 2013).

The development of friendship is transactional; it requires perceived partner responsiveness to one's own friendship-building behaviors (Shelton, Trail, West & Bergsieker, 2010). To build friendships, people tend to frequently meet the other person, to plan future meetings, and to engage in intimate discussions on a broad range of topics (Duck & Miell, 1986; Perlman et al., 2012). By contrast, to prevent or obstruct a potential friendship, people tend to do just the opposite by meeting these people infrequently, not planning future meetings, restricting the depth and range of topics discussed and controlling their responses during discussions (Duck & Miell, 1986; Perlman et al., 2012). While issuing and then accepting an invitation to socialize with another person is one way to operationalize viewing that person as a potential friend, future studies might consider alternative operationalizations that encompass a more broad set of behaviors and attitudes which correspond to viewing someone as a potential friend, within a more varied range of social contexts. For example, future research might examine the likelihood that members of in-class work groups would develop friendships with one another over the course of a semester. Examining the dynamics of intergroup and intragroup interactions in a more naturalistic setting to determine situational factors that may encourage the development of cross-racial friendships would provide more external validity.

#### **4.4 Conclusion**

In conclusion, the two studies reported in this dissertation showed that there are circumstances where people do not discriminate against racial outgroup members in socializing. Importantly, the results did not change as a result of participant extraversion of racial attitudes in Study 1 or in Study 2, suggesting that the results were not limited to participants with high- or low- levels of explicit racial bias or

extraversion. While there are several factors limiting the generalization of these findings, it is notable that participants seemed not to show racial discrimination against Black confederates. In Study 1, participants did not differ in their likelihood of accepting an invitation to socialize with, or of issuing an invitation to socialize with Black and White partners. In Study 2, participants were more likely to leave their name for Black partners who were high self-disclosing compared to Black partners that were low self-disclosing. Moreover, participants in Study 2 did not differ in the extent to which they matched Black and White confederates' level of self-disclosure. This lack of discrimination may be the result of the uniquely positive valence of interactions (Study 1) or the highly controlled nature of the participants' interactions with their partners (Study 2), which may have suppressed intergroup anxiety. Future research could certainly explore these potential mediating factors.

Alternatively, these results may suggest that participants are not likely to discriminate against racial outgroup members when put in a situation that affords them the opportunity to socialize together. Participants in our studies had much in common with their partners: university affiliation, age and gender. These commonalities likely contributed to the lack of discrimination we observed. Social desirability may have also contributed to participants "egalitarian" behavior, as participants were likely motivated to appear non-prejudiced. However, participants behaved in ways suggesting they were as open to socializing with Black as White fellow students. People may have fewer opportunities to socialize with racial outgroup members due in part to their avoidance of contact with other-race individuals. However, the present research suggests that when given the opportunity—and the right set of circumstances—people do not differ in the likelihood of agreeing to socialize with

racial ingroup and outgroup members. Unfortunately, however, the circumstances that seem to promote intergroup friendship are often difficult to implement beyond the laboratory.

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## **Appendix A**

### **WINTER SURVIVAL PROBLEM**

Please read the following situation carefully.

You have just crash-landed in the woods of northern Minnesota and southern Manitoba, Canada. It is 11:32 a.m. in mid-January. The light plane in which you were traveling crashed on a lake. The pilot and copilot were killed. Shortly after the crash, the plane sank completely into the lake with the pilot's and copilot's bodies inside. None of you are seriously injured and you are all dry.

The crash came suddenly, before the pilot had time to radio for help or inform anyone of your position. Since your pilot was trying to avoid a storm, you know the plane was considerably off course. The pilot announced shortly before the crash that you were twenty miles northwest of a small town that is the nearest known habitation.

You are in a wilderness area made up of thick woods broken by many lakes and streams. The snow depth varies from above the ankles in windswept areas to knee deep where it has drifted. The last weather report indicated that the temperature would reach minus twenty-five degrees Fahrenheit in the daytime and minus forty at night. There is plenty of dead wood and twigs in the immediate area. You are dressed in winter clothing appropriate for city wear--suits, pantsuits, street shoes, and overcoats. You may assume that the number of passengers is the same as the number of persons in your group, and that the group has agreed to stick together.

While escaping from the plane, members of your group salvaged twelve items. Your task is to rank the 6 most important items according to their importance to your survival, starting with 1 for the MOST important item and ending with 6 for the SIXTH most important one. Leave out the other 6 items. Besides each ranking, please provide a short explanation of why you have ranked the item the way you did, and what use you will make of the item.

Rank 6 of the 12 items according to the group's consensus on each item's importance to survival. Try to reach a true consensus. Base your decision on knowledge, logic, or the experiences of the group members.

1. A ball of steel wool
2. A small ax
3. A loaded .45-caliber pistol
4. Can of Crisco shortening
5. Newspapers (one per person)
6. Cigarette lighter (without fluid)
7. Extra shirt and pants for each survivor
8. 20 x 20 ft. piece of heavy-duty canvas
9. A sectional air map made of plastic
10. One quart of 100-proof whiskey
11. A compass
12. Family-size chocolate bars (one per person)

Appendix B

BREW HA HA! RAFFLE TICKET



**A free beverage for you & a friend.**

Present this coupon for a **FREE\*** beverage of any type for you and a friend at the the Newark, DE Brew HaHa!

**Brew HaHa!**  
ESPRESSO CAFE • NEWSSTAND


**\*Coupon is non-transferrable.**  
**Two people must be present when redeemed.**  
Must be used in one visit.  
Coupon expires seven days from printed date.  
Offer good only at the Newark, DE location.  
Limit one per customer.  
Offer not valid with any other coupon or discount.

Name: \_\_\_\_\_  
Date\*: \_\_\_\_\_

**Brew HaHa!**  
ESPRESSO CAFE • NEWSSTAND

## Appendix C

### STUDY 1 FUNNEL DEBRIEFING QUESTIONS

1. What do you think the study is about?
  - a. Why?
2. What do you think the hypothesis of the study is; what do you think we are trying to find out?
  - a. Why?
3. What is your impression of the Winter Survival problem?
4. What is your impression of (CONFED NAME), the other participant from today?
5. Did you think anything was odd about the study?
  - a. If so, at what point specifically?
  - b. Why?
6. Did you experience any suspicion during this study?
  - a. If so, at what point specifically?
  - b. Why?
7. BEHAVIOR:

#### Participant Received Coupon:

- a. Did you invite the other participant to share the coupon you won?
- b. If not, why not? (if so, why?)
- c. Did it occur to you to invite the “other participant”?

#### Confederate Received Coupon:

- a. Did the other participant offer to share the coupon she won with you?
  - b. If the participant did not accept the confederate’s invitation, why?
  - c. If the participant accepted the confederate’s invitation, why?
8. Do you have any other reflections on the study? Is there anything else you would like us to know?

## Appendix D

### STUDY 1 QUESTIONNAIRE ITEMS

#### Interaction Anxiety

Please describe how you felt during the interaction today:

	Very Strongly Disagree	Strongly Disagree	Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Agree	Strongly Agree	Very Strongly Agree
Anxious	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Comfortable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Awkward	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Frustrated	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Relaxed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

#### Interaction Comfort

How comfortable would you be discussing each topic below with your interaction partner from today?

	1. Not at all comfortable	2	3	4	5	6	7	8	9	10. Very Comfortable
Your Childhood.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your most treasured memory.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your most terrible memory.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your love life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your family life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The last time you cried.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your biggest life regret.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your fears.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your greatest accomplishment.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your greatest failure.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### Partner Evaluation

Please indicate your evaluation of your interaction partner from today using the scale below by indicating the extent to which you agree with each item. My interaction partner from today was:

	Very Strongly Disagree	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree	Very Strongly Agree
Honest	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cooperative	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Similar to me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Selfish	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cold	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fair-Minded	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Kind	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Friendly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quarrelsome	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tense	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unpleasant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trusting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Successful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Competitive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### Social Distance Scale

I would be comfortable if my interaction partner:

	1. Not at all Comfortable	2	3	4	5	6	7	8	9	10. Extremely Comfortable
Married in to my family.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Became regular friends with me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Moved in to my dormitory, apartment, or block.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Went to the same classes that I did.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Worked in the same building as I did.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Spoke with me as an acquaintance.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lived in the same town as me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lived in the same state as me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### Feeling Thermometer

Please use the "feeling thermometer" to indicate whether you have positive or negative feelings toward your lab partner from today. You may mark any degree from 0 to 100. Fifty degrees represents neutral feelings. Ratings above 50 indicate positive or warm feelings, and ratings below 50 indicate cold or negative feelings. You may move the slider to any point on the scale below. Please indicate how warm you feel towards your lab partner from today.

\_\_\_\_\_ Please indicate how warm you feel towards your lab partner from today.

### Felt Accepted

I felt accepted by my interaction partner from today.

- Very Strongly Disagree
- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree nor Disagree
- Somewhat Agree
- Agree
- Strongly Agree
- Very Strongly Agree

### **Participant Desires Friendship**

I want to be friends with my interaction partner.

- Very Strongly Disagree
- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree nor Disagree
- Somewhat Agree
- Agree
- Strongly Agree
- Very Strongly Agree

I would socialize with my interaction partner.

- Very Strongly Disagree
- Very Disagree
- Disagree
- Somewhat Disagree
- Neither Agree nor Disagree
- Somewhat Agree
- Agree
- Strongly Agree
- Very Strongly Agree

I would accept my interaction partner as a friend.

- Very Strongly Disagree
- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree nor Disagree
- Somewhat Agree
- Agree
- Strongly Agree
- Very Strongly Agree

I would hang out with my interaction partner.

- Very Strongly Disagree
- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree nor Disagree
- Somewhat Agree
- Agree
- Strongly Agree
- Very Strongly Agree

I could someday regard my interaction partner as a best friend.

- Very Strongly Disagree
- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree nor Disagree
- Somewhat Agree
- Agree
- Strongly Agree
- Very Strongly Agree

### **Confederate Desires Friendship**

My interaction partner wants to be friends with me.

- Very Strongly Disagree
- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree nor Disagree
- Somewhat Agree
- Agree
- Strongly Agree
- Very Strongly Agree

My interaction partner would socialize with me.

- Very Strongly Disagree
- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree nor Disagree
- Somewhat Agree
- Agree
- Strongly Agree
- Very Strongly Agree

My interaction partner would accept me as a friend.

- Very Strongly Disagree
- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree nor Disagree
- Somewhat Agree
- Agree
- Strongly Agree
- Very Strongly Agree

My interaction partner would hang out with me.

- Very Strongly Disagree
- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree nor Disagree
- Somewhat Agree
- Agree
- Strongly Agree
- Very Strongly Agree

My interaction partner could someday regard me as a best friend.

- Very Strongly Disagree
- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree nor Disagree
- Somewhat Agree
- Agree
- Strongly Agree
- Very Strongly Agree

## PANAS NEGATIVE AND POSITIVE

Please rate the extent to which you felt each of the following emotions following your interaction with the other participant from today:

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
interested	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
distressed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
excited	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
upset	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
strong	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
guilty	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
scared	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
hostile	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
enthusiastic	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
proud	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
irritable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
alert	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ashamed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
inspired	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
nervous	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
determined	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
attentive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
jittery	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
active	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
afraid	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Appendix E

### SELF DISCLOSURE QUESTIONS AND CONFEDERATE ANSWERS BY CONDITON

#### **What is your full name, and how did you spend your weekend last weekend?**

My name is Samantha Brown. ...and last weekend... I went out with my boyfriend on Saturday and I didn't do much else the rest of the weekend. (constant for both high and low conditions)

#### **Question 1: What would be a perfect day for you?**

**High:** My perfect day would be to spend time with my grandfather since he has many health problems and is constantly spending time in the hospital so it would be nice to spend quality time with him.

**Low:** For me, I'd have to say that a perfect day would be a day on the beach with my friends. I always have lots of fun just hanging out, talking and having a good time, especially when the weather is nice.

#### **Question 2: Is there something that you've dreamed of doing for a long time? Why haven't you done it yet?**

**High:** I have dreamed of becoming a neurosurgeon so that I could help my older sister Kate deal with her epilepsy. She is usually so uncomfortable, incoherent and saddened by her illness. However, I know this dream will never be realized because I have never done well enough in school.

**Low:** I have always dreamed of going sky diving. I know a couple of people who have done it and they all say that it's a lot of fun. I haven't done it yet because I just haven't found the time or the money to actually make it happen. Hopefully I will be able to go sky diving one day though.

#### **Question 3: When did you last cry in front of another person? By yourself?**

**High:** The last time I cried by myself was my first night of college. I cried because I missed my family and I just felt kind of isolated after such a big change. I guess... I just felt alone.

**Low:** The last time I cried in front of another person was the day of my grandmother's funeral. My whole family was at the funeral and everyone was really sad. That was a couple of months ago.

#### **Question 4: What is your greatest fear, and why?**

**High:** My greatest fear would have to be bees. My dad took me hiking once when I was pretty young and he ended up tripping and falling onto a hornet's nest. It looked so painful to be covered in bee stings and even worse than that...we found out that day that he was allergic. He called an ambulance, but I think waiting for that

ambulance was the most scared I have ever been. I mean, I thought he might die. Everything turned out okay in the end though.

**Low:** My greatest fear would have to be bees. I don't think I have a phobia or anything, but I do try to avoid bees and hornets if I can. My dad took me hiking once when I was pretty young and he ended up tripping and falling onto a hornet's nest. Everything turned out okay in the end, but from that point on I've been afraid of bees. I'm not sure if I'm allergic or not because I've never actually been stung by a bee. I hope I never have to find out.

**Question 5: How close and warm is your family? Do you feel your childhood was happier than most other people's?**

**High:** My family is pretty average. There is love in my family, but like everyone, there were and still are times when things are not really warm but we just deal with it. In my childhood, I remember there were times where my parents would fight and argue and that disturbed me as a little kid because I was clueless as to what was going on and I didn't know what to do. Arguments sometimes keep my family from staying warm, but overall when I think about how we all are now, I'd say we're pretty much an average family.

**Low:** My family is pretty average when it comes to warmth and how close we all are. I don't think my family is different from most other families. My childhood wasn't perfect because of some family issues but in the end we all made amends. When I think about how we all are now, I mean we still argue sometimes, but I'd say at this point... I know some people call their parents all the time, while others don't, but I think we are probably somewhere in between. I think that we're pretty much an average family.

## **Appendix F**

### **STUDY 2 SUSPICION QUESTIONS**

1. How was the video quality? Were you able to clearly see the other participant?
2. How was the audio quality? Were you able to clearly hear everything the other participant said?
3. What do you think the study is about?
  - a. Why?
4. What do you think the hypothesis of the study is; what do you think we are trying to find out?
  - a. Why?
5. What is your impression of the communication task?
6. What is your impression of Samantha, the other participant from today?
7. Did you think anything was odd about the study?
  - a. If so, at what point specifically?
  - b. Why?
8. Did you experience any suspicion during this study?
  - a. If so, at what point specifically?
  - b. Why?
9. Do you have any other reflections on the study? Is there anything else you would like us to know?

## Appendix G

### STUDY 2 QUESTIONNAIRE ITEMS

#### **Participant Self-Disclosure Scale**

Please answer the following questions about YOUR OWN responses during the study.

1=Not Enough...9=Too Much

How much do you think your interaction partner learned about you?

How self-revealing were you to your interaction partner?

How much did you reveal to your partner about your life?

How open were you about yourself?

#### **Confederate Self-Disclosure Scale**

Please answer the following questions about your interaction partner's responses during the study.

1=Not Enough...9=Too Much

How much did you learn about your interaction partner?

How self-revealing was your interaction partner?

How much did your partner reveal about his/her life?

How open was your interaction partner about him/herself?

#### **Appropriateness of Self-Disclosure, Participant**

The level of self-disclosure from me to the other participant was...

#### **Appropriateness of Self-Disclosure, Confederate**

1 very inappropriate...9 very appropriate.

#### **Interaction Anxiety**

Please describe how you felt during the interaction today:

	Very Strongly Disagree	Strongly Disagree	Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Agree	Strongly Agree	Very Strongly Agree
Anxious	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Comfortable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Awkward	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Frustrated	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Relaxed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### Interaction Comfort

How comfortable would you be discussing each topic below with your interaction partner from today?

	1. Not at all comfortable		2	3	4	5	6	7	8	9	10. Very Comfortable
Your Childhood.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your most treasured memory.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your most terrible memory.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your love life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your family life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The last time you cried.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your biggest life regret.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your fears.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your greatest accomplishment.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your greatest failure.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### Partner Evaluation

Please indicate your evaluation of your interaction partner from today using the scale below by indicating the extent to which you agree with each item. My interaction partner from today was:

	Very Strongly Disagree	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree	Very Strongly Agree
Honest	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cooperative	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Similar to me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Selfish	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cold	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fair-Minded	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Kind	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Friendly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quarrelsome	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tense	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unpleasant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trusting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Successful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Competitive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### Social Distance Scale

I would be comfortable if my interaction partner:

	1. Not at all Comfortable	2	3	4	5	6	7	8	9	10. Extremely Comfortable
Married in to my family.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Became regular friends with me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Moved in to my dormitory, apartment, or block.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Went to the same classes that I did.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Worked in the same building as I did.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Spoke with me as an acquaintance.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lived in the same town as me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lived in the same state as me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### Feeling Thermometer

Please use the "feeling thermometer" to indicate whether you have positive or negative feelings toward your lab partner from today. You may mark any degree from 0 to 100. Fifty degrees represents neutral feelings. Ratings above 50 indicate positive or warm feelings, and ratings below 50 indicate cold or negative feelings. You may move the slider to any point on the scale below. Please indicate how warm you feel towards your lab partner from today.

\_\_\_\_\_ Please indicate how warm you feel towards your lab partner from today.

### Felt Accepted

I felt accepted by my interaction partner from today.

- Very Strongly Disagree
- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree nor Disagree
- Somewhat Agree
- Agree
- Strongly Agree
- Very Strongly Agree

### **Participant Desires Friendship**

I want to be friends with my interaction partner.

- Very Strongly Disagree
- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree nor Disagree
- Somewhat Agree
- Agree
- Strongly Agree
- Very Strongly Agree

I would socialize with my interaction partner.

- Very Strongly Disagree
- Very Disagree
- Disagree
- Somewhat Disagree
- Neither Agree nor Disagree
- Somewhat Agree
- Agree
- Strongly Agree
- Very Strongly Agree

I would accept my interaction partner as a friend.

- Very Strongly Disagree
- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree nor Disagree
- Somewhat Agree
- Agree
- Strongly Agree
- Very Strongly Agree

I would hang out with my interaction partner.

- Very Strongly Disagree
- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree nor Disagree
- Somewhat Agree
- Agree
- Strongly Agree
- Very Strongly Agree

I could someday regard my interaction partner as a best friend.

- Very Strongly Disagree
- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree nor Disagree
- Somewhat Agree
- Agree
- Strongly Agree
- Very Strongly Agree

### **Confederate Desires Friendship**

My interaction partner wants to be friends with me.

- Very Strongly Disagree
- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree nor Disagree
- Somewhat Agree
- Agree
- Strongly Agree
- Very Strongly Agree

My interaction partner would socialize with me.

- Very Strongly Disagree
- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree nor Disagree
- Somewhat Agree
- Agree
- Strongly Agree
- Very Strongly Agree

My interaction partner would accept me as a friend.

- Very Strongly Disagree
- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree nor Disagree
- Somewhat Agree
- Agree
- Strongly Agree
- Very Strongly Agree

My interaction partner would hang out with me.

- Very Strongly Disagree
- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree nor Disagree
- Somewhat Agree
- Agree
- Strongly Agree
- Very Strongly Agree

My interaction partner could someday regard me as a best friend.

- Very Strongly Disagree
- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree nor Disagree
- Somewhat Agree
- Agree
- Strongly Agree
- Very Strongly Agree

## Appendix H

### STUDY 2 VIDEO CODING RELIABILITY STATISTICS

Item	Team	Team
	1 $\alpha$	2 $\alpha$
Question 1 (perfect day) Disclosure	.705	.755
Question 2 (dream) Disclosure	.867	.833
Question 3 (cry) Disclosure	.871	.798
Question 4 (greatest fear) Disclosure	.831	.850
Question 5 (family) Disclosure	.821	.798
Overall Disclosure	.842	.722
Overall Friendliness	.813	.804
Overall Anxiety	.547	.556
Overall Inappropriateness	.080	.067

## Appendix I

### EMAIL CODING INSTRUCTIONS

How specific was the plan proposed by the participant.

1=Not specific at all (did not mention their schedule or date/time)

2.

3.

4.

5 = very specific (mentioned a particular date and time)

The person in the email desired contact with the recipient.

1= Strongly Disagree

2= Disagree

3 = Neither Agree nor Disagree

4 = Agree

5 = Strongly Agree

The person in the email expressed warmth towards the recipient.

1= Strongly Disagree

2= Disagree

3 = Neither Agree nor Disagree

4 = Agree

5 = Strongly Agree

## **Appendix J**

### **SELF-DISCLOSURE INSTRUCTIONS FOR VIDEO CODERS**

Please rate each video on each of the following statements, on a scale of 1-5.

1= Strongly Disagree

2= Disagree

3 = Neither Agree nor Disagree

4 = Agree

5 = Strongly Agree

The participant was self-revealing. (one response for each question, then an overall evaluation)

The participant seemed friendly.

The participant seemed anxious.

The participant's disclosure was inappropriate given the context.

# Appendix K

## IRB APPROVAL LETTER



RESEARCH OFFICE

210 Hulihan Hall  
University of Delaware  
Newark, Delaware 19716-1551  
Ph: 302/831-2136  
Fax: 302/831-2828

DATE: November 5, 2014

TO: Matthew Deegan  
FROM: University of Delaware IRB

STUDY TITLE: [652918-3] Friendship Dissertation Studies

SUBMISSION TYPE: Amendment/Modification

ACTION: APPROVED  
APPROVAL DATE: November 3, 2014  
EXPIRATION DATE: September 15, 2015  
REVIEW TYPE: Expedited Review

REVIEW CATEGORY: Expedited review category # (7)

Thank you for your submission of Amendment/Modification materials for this research study. The University of Delaware IRB has APPROVED your submission. This approval is based on an appropriate risk/benefit ratio and a study design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.

This submission has received Expedited Review based on the applicable federal regulation.

Please remember that informed consent is a process beginning with a description of the study and insurance of participant understanding followed by a signed consent form. Informed consent must continue throughout the study via a dialogue between the researcher and research participant. Federal regulations require each participant receive a copy of the signed consent document.

Please note that any revision to previously approved materials must be approved by this office prior to initiation. Please use the appropriate revision forms for this procedure.

All SERIOUS and UNEXPECTED adverse events must be reported to this office. Please use the appropriate adverse event forms for this procedure. All sponsor reporting requirements should also be followed.

Please report all NON-COMPLIANCE issues or COMPLAINTS regarding this study to this office.

Please note that all research records must be retained for a minimum of three years.

Based on the risks, this project requires Continuing Review by this office on an annual basis. Please use the appropriate renewal forms for this procedure.

If you have any questions, please contact Nicole Farnese-McFarlane at (302) 831-1119 or nicolefm@udel.edu. Please include your study title and reference number in all correspondence with this office.

## ENDNOTES

<sup>1</sup> Two participants invited only at time 1, in the participant gets invitation condition. These participants were coded as 2 (invited both times) due to the small n.

<sup>2</sup> Two participants invited only at time 1, in the participant gets invitation condition. These participants were coded as 2 (invited both times) due to the small n.

<sup>3</sup> A split-file analysis examining this effect on Black and White confederates separately revealed no statistically significant effect of invitation outcome on desire for friendship. This suggests that the effect is only strong enough when responses to both Black and White confederates are analyzed together.

<sup>4</sup> perceived confederate self-disclosure was uncorrelated with how much participants thought the confederate desired friendship with them, for Black or for White confederates

<sup>5</sup> These effects were not impacted by the inclusion of suspicious participants. Also, subsequent logistic regression analyses including ATB or Extraversion produced no main or interactive effects, suggesting that neither of these variables impacted the results, either