Social Connection, Judgments of Similarity and Intergroup Relations

by

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I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

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Abstract

The purpose of this research is to test the idea that creating a social connection with an outgroup member by thinking about how the self is similar to this outgroup member produces positive intergroup outcomes, whereas creating a sense of connection by thinking about how the outgroup member is similar to the self produces less positive intergroup outcomes. An overview of the literature on connections between the self and outgroup members, and the importance of the framing of such connection is reviewed in Chapter 1. In Chapter 2, I examine whether a sense of social connection can be created and whether the nature of this connection is influenced by the way the similarity between the self and the outgroup member is framed. I find non-significant effects, though in an interesting pattern suggesting that a better manipulation may produce stronger effects. In Chapter 3 I examine how framing of the connection to an outgroup member affects stereotyping of, and interest in, the outgroup. I find that participants tend to project their own personality onto an outgroup member when their connection with him or her is framed as how the outgroup member is similar to the self. They thus show decreased stereotyping but also less interest in the other's culture. In contrast, when participants make a connection to an outgroup member and their connection with him or her is framed as the self is similar to the outgroup member, they display an interest in the outgroup culture and a decrease in stereotyping that is accompanied by more positive outgroup evaluation. In Chapter 4, I extend these findings by demonstrating that when participants make a social connection with an outgroup member and this connection is framed as how the self is similar to the outgroup, then they experience more distress when they learn about a real case of discrimination against a different outgroup member. In Chapter 5, I tried to create a social connection with a member of an outgroup by having them notice that they share a birthday with the outgroup member. Unfortunately, this manipulation did not appear to produce my expected effects, suggesting that sharing interests as opposed to a birthday may be important in creating the type of connection necessary for my effects. In Chapter 6 I examine how the social connection with an outgroup member can effect a social interaction with that outgroup member and openness to cultural activities of

the outgroup. Creating a social connection in which similarity to an outgroup member is framed as the self being similar to the outgroup member leads to a more positive online interaction with increased friendliness toward the outgroup members and greater interest in the other's culture. In Chapter 7, I discuss the theoretical implications for these findings, their weaknesses and directions for future research.

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Table of Contents

List of Tables

List of Figures

CHAPTER 1: INTRODUCTION

Creating connections with people from new cultures, developing a genuine interest in who those people are, and fully appreciating the diversity of new ways of doing things that these friendships bring, are the new challenges of intergroup relations for the twenty-first century. Our world is growing increasingly interconnected, but declining racism and increasing intergroup friendships have not transformed tolerance of others into a true appreciation of diversity (Esmer, 2010; Richeson & Nussbaum, 2004). This dissertation will be an exploration of creating connections between groups, and examining how we think of ourselves in relation to others. I will show how connecting with outgroup members has the potential to lead to positive intergroup outcomes and incorporation of the other into the self's concept, or how it can lead to projecting onto the other, lack of interest in exploring other cultures, and decreased friendliness in an interaction. By thinking of how the other is like the self or the self is like the other, the type of connection formed leads to very different patterns of results.

Striving for a true appreciation of diversity occurs within a context of continuing prejudice, despite the great advances our societies have made in the past number of decades. Prejudice, both implicit and explicit can turn the potential for positive interactions into misunderstanding and conflict (Dovidio, Kawakami & Gaertner, 2002; Gaunt, 2011). Interactions themselves can be draining (Richeson & Trawalter, 2005), as people's perceptions and self-regulation strategies for the interaction disrupt it. The ability to create and maintain powerful social bonds that unites people into cohesive social groups that overcome obstacles, sacrifice for each other and improve the well-being of the entire group can also lead to deep rifts with people not included in our in-groups. History is filled with examples of the clashes between separate groups, with one set of rules and responses for dealing with members in the in-group, and a different, more hostile set of rules for dealing with the outgroup (Brewer, 1999; Opotow, 1990; Tajfel & Turner, 1986). Although people are capable of showing incredible amounts of self-sacrifice, altruistic behaviour and compassion, all too often moral behaviour toward outgroups falls far short of the lofty heights of people's potential for kindness, compassion and connection (Opotow, 2005).

Currently, research examining connection of the self with outgroups tend to view this as a single unified process. By examining how the direction of comparison (how is the self like the other versus the other like the self) interacts with increased overlap between the self and the outgroup, I will show that there are at least two separate processes that can occur, with important implications for intergroup relations. By creating connection and thinking of how the self is like the other, the self-concept changes to become more like the other, with genuine interest in who the other is, openness to their perspective, incorporation of the other group's traits into the self, and increased friendliness in an interaction. By creating connection and thinking of how the other is like the self, the conceptualization of the other changes to become more like the self, leading to projection of the self's identity onto the other, decreased interest in the other's culture, and less friendly interactions. In exploring these questions, this work relies on previous research done to break down intergroup barriers, particularly connecting with outgroups, as well as work showing that comparisons between the self and others tend not to act in a symmetrical manner, but change depending on the structure of the sentence and its influence on cognition.

Breaking Down Barriers between Groups

Intergroup research has a long tradition in social psychology of combining theoretically based questions with practical applications for improving our world (Pettigrew & Tropp, 2008). Fortunately, research has consistently shown that explicit prejudice is on the decline (Devine & Elliot, 1995). For the most part, we are no longer living in a society where it is socially acceptable to judge people by their ethnicity. Unfortunately, social psychologists have found that despite people's explicit egalitarian goals, implicit prejudice can still influence people in a variety of subtle ways (Dovidio, Kawakami & Gaertner, 2002). Stereotypes and prejudice continue to play a pervasive role in intergroup relations, with implicit and explicit prejudices interacting to form different profiles of people susceptible to prejudice in different ways (Son Hing, Chung-Yan, Hamilton, & Zanna, 2008), with prejudice playing a role in the most recent U.S. Presidential election (Payne, Krosnick, Pasek, Lelkes, Akhtar, & Tompson, 2010). Intergroup interactions are frequently the cause of distress, with people often anticipating dissimilarities with the

outgroup, leading them to avoid contact (Mallett, Wilson & Gilbert, 2008), and can be a source of anxiety when they do occur (Plant & Devine, 2003). Even the mere existence and awareness of cultural stereotypes can have a negative impact, through stereotype threat and the decreased performance of groups that have negative stereotypes applied to them (Steele, Spencer & Aronson, 2002). Fortunately, researchers have also identified a variety of ways by which the effects of stereotypes can be mitigated, explicit and implicit prejudice can be reduced, and positive intergroup contact can occur.

Although there are many individual strategies for decreasing prejudice and facilitating positive interactions, these strategies tend to have common elements. In particular, connecting with outgroup members appears to be a particularly effective way to change stereotypes, reduce intergroup anxiety and foster improved intergroup relations (e.g. Soderlund, Cole, Gadol, Kute, Myers & Weihing, 2004; Pettigrew & Tropp, 2008). By examining the different extant intergroup strategies, we can see the common element of developing a connection between groups.

Intergroup contact is one of the best tools that we have for reducing stereotyping and prejudice, and is one of the most frequently studied strategies. Pettigrew's meta-analytical work has deepened our understanding of the mechanisms and ideal circumstances of intergroup contact (Pettigrew, 1997; Pettigrew & Tropp, 2006; Pettigrew & Tropp, 2008). This research has revealed that merging the self and the other through empathy and perspective taking (Davis, Conklin, Smith & Luce, 1996; Davis, Soderlund, Cole, Gadol, Kute, Myers & Weihing, 2004), is one of the key mediators by which intergroup contact has its positive effects. Intergroup contact also leads to understanding and taking on the outgroup's perspectives (Aberson & Haag, 2007), whereas other work shows that outgroup contact has the power to break down perceptions of outgroup homogeneity between Hindu and Muslim students (Islam & Hewstone, 1993).

Other conceptualizations of connection also have positive effects in breaking down intergroup barriers. Creating a common in-group identity enabled White participants to take on feelings of injustice

when exposed to prejudice against Blacks (Dovidio, ten Vergert, Gaertner, Johnson, Esses, Riek & Pearson, 2004). By creating an in-group identity, people who were formerly part of the outgroup are now included in the new in-group, leading to more positive outcomes. In much the same way, superordinate goals are able to help different groups merge together, reducing intergroup conflict (Sherif, 1958).

Abstract forms of connecting with outgroup members are also effective in creating positive outcomes. Conceptual ways to bring the self to the outgroup, such as approach-avoidance training, in which participants use a joystick to approach outgroup members and avoid in-group members, are able to reduce implicit prejudice against outgroup members (Phills, Kawakami, Tabi, Nadolny & Inzlicht, 2011). This effect is not due to the physical act of approaching and avoiding, but also works when approaching and avoiding are done with circles on a computer screen that represent the self and outgroup members, allowing participants to conceptually bring the self and outgroup categories closer together.

A particularly powerful way of connecting with an outgroup is to form intergroup friendships. Research by Page-Gould, Mendoza-Denton and Tropp (2008) reveals numerous positive benefits of outgroup friendship, such as decreased intergroup anxiety, positive interaction expectations and less stress on a physiological level. These positive effects are true not only for the cross-group friend, but carry over to other members of the outgroup (Page-Gould, Mendoza-Denton, Alegre & Siy, 2010). The mechanism for these effects appears to be an increasing association of the outgroup with the self, in terms of group-membership, and the traits associated with the outgroup (Davies, Tropp, Aron, Pettigrew & Wright, 2011; Davies, Wright & Aron, 2011). In other words, closeness with the outgroup friend creates a conceptual overlap of the self with the other, leading to the inclusion of membership and traits of the outgroup with the self.

The positive effects of intergroup friendship are not limited to direct friendship of the self with an outgroup, but also include indirect or extended friendships, which occurs when individuals are aware of cross-group friendship in their network of friends (Turner, Hewstone & Voci, 2007; Turner, Hewstone,

Voci, Paolini & Christ, 2007; Wright, Aron, McLaughlin-Vople & Ropp, 1997). These extended cross-group friendships create more positive associations with the outgroup member through the same mechanisms as direct group friendships; close others have conceptual overlap with the self, and when these close others are seen to be close to outgroup members, the outgroup member is also included in the self (Turner et al., 2007). Other types of indirect connection with others have positive effects; for example, the connection established through being mimicked can lead to more focus on the other person, leading to more positivity toward the other and changed self-construal (Ashton-James, van Baaren, Chartrand, Decety, & Karremans, 2007). Although mimicry occurs more in the context of in-group interactions (Yabar, Johnston, Miles, & Peace, 2006), guiding participants to mimic outgroup members reduces racial prejudice (Inzlicht, Gutsell, & Legault, 2012).

All of this research taken together reveals that connecting with outgroup members, in its many forms, is central to the effective strategies researchers have developed to decrease prejudice and stereotyping, and increase the quality and quantity of intergroup contact. This connection is partly due to the inclusion of the other in the self-concept, and is still effective even without direct contact between the self and the outgroup.

Though there is great promise in the intergroup contact and connection work, there are many pitfalls. Intergroup contact can be stressful and difficult for both majority and minority group members (Murphy, Richeson & Molden, 2011), with people who have intentional goals to not appear prejudiced engaging in effortful control to maintain this appearance, even at the potential cost of actually acting in a prejudiced manner (Plant & Devine, 2009). Unfortunately, given that effortful control leads to ego-depletion (Baumeister, Bratslavsky, Muraven & Tice, 1998), and that ego-depletion leads to greater expression of automatic prejudices (Muraven, 2008), these effortful attempts to control prejudice during an interaction may end up producing the effects the individual sought to avoid.

Another problem with intergroup contact is found in the different motivations that in-group and outgroup members can have (Bergsieker, Shelton & Richeson, 2010). Due to the common representations of Black and Latino populations as being less intelligent, their motivations in interacting with White individuals is to be respected. Whites' metacognitions of the possibility of being thought of as racist leads to a motivation to appear to be friendly. These divergent goals lead to different experiences in interactions, potentially leading to the negative self outcomes that majority members can experience (Richeson & Shelton, 2007).

One of the reasons connecting with outgroup members is so powerful may be due to the mistaken impressions people typically have about other groups. Mallett, Wilson and Gilbert's (2008) work shows that people tend to focus on dissimilarities when interacting with outgroup members, underestimating the extent that the self and outgroup members are similar. This leads Black and White participants to predict that interactions with the outgroup will be less positive than they actually are, which may be one of the factors that leads people to avoid interacting with outgroup members. Drawing attention to the similarities between White and Black people leads participants to correctly anticipate positive interactions. Creating a sense of connection through similarity between groups may be an important tool in bridging the gap set up by mistaken predictions, allowing people to cross the interpersonal divide keeping them from interacting with and understanding other groups.

Connecting with Others

Connecting with others is a psychologically potent variable, helping explain the important role it has played in intergroup research. We are a social species; our survival, mental health and general well-being often depend on our ability to connect and work with others. Connection in various forms is often theorized to be one of the fundamental motivations of people. Baumeister and Leary (1995) describe the importance of the need to belong on cognitive, emotional and physical well-being, highlight how easily these bonds tend to form, and document how resistant people are to the dissolution of their social bonds.

Similarly, Deci and Ryan (1980) argue that relatedness is one of the three fundamental intrinsic motivations that people universally possess, which along with autonomy and competence are the primary drivers of human behaviour. Connection, as love and belonging, has long been hypothesized to be a critical component of human motivation, forming one of the levels of Maslow's hierarchy of needs (1943) that people turn to once physiological and safety needs are satisfied.

Our need to connect with others is so powerful that people experience negative outcomes from perceived social exclusion (Baumeister & Leary, 1995), having poorer mental and physical health, and increased distress – even if those doing the excluding are a despised social outgroup (Gonsalkorale & Williams, 2007). Conversely, the positive effects of a sense of connection include buffering against negative psychological effects from stressors (Bolger, Zuckerman & Kessler, 2000), increased prosocial action in groups (Tyler & Blader, 2003), and even longer life after breast cancer (Spiegel, Bloom, Kraemer & Gottheil, 1989). Having just one good friend is often enough to combat the effects of loneliness (Hoza, Bukowski & Beery, 2000; Cacioppo & Patrick, 2008).

The present work will be using a specific type of connection manipulation, recently developed by Cwir, Carr, Walton and Spencer (2011). Their research shows that minimal social connection (sharing a few unique or important interests with a stranger) creates a sense of oneness with that person, in that people are more likely to choose circles with more overlap to represent their level of closeness with the other person (Aron, Aron, & Smollan, 1992), and are also more likely to say that they would use the word "we" to describe their relationship with that person. This sense of oneness leads people to experience shared emotional and physiological states with the other person, when the other person is experiencing a stressful or physiologically arousing activity.

These impressive responses to social connection occurred with minimal contact. Given the strength of the effects when used to connect with in-group members, and the demonstrated importance of connecting with outgroups in promoting positive intergroup interactions, I believed that this same

connection manipulation may be a powerful way to bridge intergroup divides, and facilitate positive intergroup contact.

Framing of Similarity

Connection is a powerful psychological state, and is consistently an important mediator in the various strategies that have been tested to facilitate positive intergroup relations. Therefore, I expect that even a minimal social connection paradigm, as used by Cwir and colleagues (Cwir, Carr, Walton & Spencer, 2011; Walton, Cohen, Cwir & Spencer, 2012) will be able to create a sense of connection, and increase the conceptual overlap between the self and the other, leading to improved intergroup interest and outcomes. However, I expect that the effects of connection will be moderated by the different cognitive properties of considering how the self is like the other, compared to thinking of how the other is like the self. There are several important reasons for considering these as two separate processes. First, Markus, Smith and Moreland (1985) identify how conceptions of the self are important in perceptions of others; therefore, fully understanding the social cognitions behind connection between the self and an outgroup requires not only measuring perceptions of the other, but also measuring perceptions of the self. Second, there is a well-established body of research that shows asymmetrical relationships when considering how the self is similar to another, compared to how the other is similar to the self (e.g., Beike, & Sherman, 1998).

Tversky's seminal research in 1977 provided an initial framework for understanding the framing of similarity. Researchers found that despite judgments of similarity being logically equivalent, they were not psychologically equivalent. For example, they had found that Americans judging how Mexico is similar to the U.S. would give a consistently higher similarity rating, than when they had been asked to consider how the U.S. is similar to Mexico. In the first statement, Mexico is the subject of the sentence, and the U.S. is the referent, whereas in the second statement, the U.S. is the subject and Mexico is the referent. In Tversky's contrast model, the referent tends to be the more salient of the two comparison

objects. Perceptions of what the subject has in common with the referent are then contrasted with the unique features of the subject, in order to produce a single similarity rating. Thus, when people think of how Mexico is similar to the U.S., they think of what the U.S. and Mexico have in common, and contrast these features with the distinct features of Mexico. Because people tend to have knowledge of fewer features of Mexico, the common features take up a larger portion of the conceptual space, leading to a relatively high perception of shared similarity, whereas when the U.S. is the subject, people's greater familiarity with the U.S.'s unique features lead to lower perceived similarity.

Holyoak and Gordon's (1983) research revealed that such framing effects on similarity also hold when people compare social entities. For example, the self typically acts as a referent in comparisons, though this is not necessarily the case when dealing with stereotypes with many known attributes, or with comparisons for negatively valued targets (de la Haye & Penvern, 2002). Other research also confirms that the self is a common referent when comparing social entities (Catrambone, Beike & Niedenthal, 1996). The self tends to be more salient than other social targets, leading to its frequent use as a referent. Because people also tend to know more about the self than about other social targets, comparing others to the self most often leads to greater perceptions of similarity than when comparing the self to other social targets (Holyoak & Gordon, 1983; Srull & Gaelick, 1983). Moreover, overlap with the other is cancelled out when the other is the referent, leading to lower perceptions of similarity, but this overlap is not cancelled out when the self is the referent (Hodges, Bruininks & Ivy, 2002).

Since greater perceptions of similarity are typically found when considering how the self is the referent, and increased perceptions of similarity are known to produce positive effects (Mallett, Wilson & Gilbert, 2008), it might appear that creating a sense of connection with the other when the self is the referent would produce the strongest positive intergroup outcomes. However, desire for connection appears to moderate some of the typical effects of the referent of comparisons. When people want to be similar to a particular other, the other person tends to become the referent (White, 2008). Although these effects are not predicted through Tversky's contrast model, White argues that such effects can be

explained without relying on different amounts of characteristic knowledge, and are instead based on the initial choice of a focal hypothesis of similarity versus dissimilarity. Thus, White predicted, and found, that the perceptions of similarity with a social target changed when participants wanted to be close to the other person (when thinking of how the self is like the other, more similarity is seen when there is desired closeness). Combining White's findings with research by Mussweiler (2001) showing that the choice of referent can lead to contrast or assimilation effects suggests that manipulating the referent may have important implications when considering similarity with an outgroup member.

Work exploring changing perceptions of others and the self also finds that the closeness of the target can modify self/other comparisons. Pahl, Etser and White (2009) show that people typically see the self as referent when making similarity judgment with someone else, rating the self more positively when the other is the subject of the sentence, but this effect does not occur when the other is a close friend. Desired and actual closeness appear to change the framing of similarity judgments.

Overall, similarity judgments involving the self appear to have habitual reference points (usually the self), that, depending on closeness, can affect the framing of similarity judgments, which in turn appear to have the capability to modify judgments of both the self and the other person. Typical effects show that when the self is the referent, people think about another person in terms of the self and frame the similarity as the other is similar to the self. In contrast, when the other is the referent, people think about the self in terms of the other, and frame the similarity as the self is similar to the other. Although researchers have begun to explore the importance of closeness to the other as a moderator of these effects, no work has systematically examined how framing of the similarity comparison may interact with manipulated perceptions of similarity, nor has work examined how perceptions of closeness and framing of similarity comparisons may combine to change and shape intergroup interactions. The present research will examine how closeness and the framing of similarity effects intergroup interactions.

Overview of the Present Studies

My primary prediction is that closeness conceptualized as the degree of conceptual overlap of the self with the other will interact with the framing of similarity to an outgroup member to affect intergroup evaluations and interactions. When people feel connected to an outgroup, and the self is the referent, the characteristics of the self should be more salient, as a property of being the referent. The conceptual overlap with the other will be interpreted as the outgroup member being similar to the self, shaping the perceiver's interpretation of the target as possessing the characteristics of the self (Brown, Young & McConnell, 2009). The perceiver will thus project their own characteristics (and group membership) on to the outgroup member, no longer seeing them as a member of the outgroup.

It is my expectation that this type of connection will have both positive and negative consequences. Seeing the other as like the self should reduce the cognitive distance between the self and the other, and lead to seeing the target as not possessing the negative stereotypes associated with the outgroup. Although this target is perceived positively, it is my prediction that the projection of the self onto the other will lead to negative effects, negating the positive aspects of this type of connection. As discussed in the previous literature, one of the powerful ways to reduce intergroup anxiety and promote positive interactions is through contact with an outgroup member. One important aspect of this contact is that these effects are heightened by prototypicality (Brown & Hewstone, 2005) and group salience (Brown, Vivian & Hewstone, 1999). In order for positivity to generalize from the contact target to the rest of the group, the target must be seen to be similar to other members of that group. Thus, by projecting the self's personality traits and own-group identity on the target, the positive feelings associated with the outgroup member will be kept bound to that particular member, and will not generalize to improved expectations or more empathy for other outgroup members. Moreover, this type of belief is inherently unstable; the other person likely does not possess all of the self traits, and is actually a member of an outgroup. With increased contact between the self and the target, these differences should become apparent, leading people to feel upset and disillusioned when the other does not conform to initial expectations. As time

progresses, I would expect the initial sense of connection with the other to diminish. Because the overlap with the outgroup member from their shared characteristics is being overwritten with the characteristics of the self, people should be less interested in finding out new things about the other person.

In contrast, when people feel connected to the other person, and the other person is the referent, the characteristics of the other should be more salient. The sense of connection and salience of the target's characteristics will shape the perceiver's interpretation of the self, leading them to see the self as more like the target. The perceiver will thus adopt the perceived characteristics (and group membership) of the other into the self, and will begin to see themselves as being closer to the outgroup, as often happens with positive intergroup contact (Pettigrew & Tropp, 2008). Just as when the self is the referent, the target will still be perceived positively, but I predict that having the other be the referent will lead to positive long-term and short-term consequences, despite maintaining a somewhat stereotypical view of the other. Because the self is incorporating aspects of the group into the self-concept, positive emotions, empathic concern and other positive effects of contact will occur (Brown & Hewstone, 2005). People will be more open to different ideas from the other person and will experience more concern for other outgroup members. The other will still be seen to possess traits associated with category membership of the outgroup, but these will be seen in a primarily positive way, and the self will be seen as possessing these same characteristics through the adoption of the characteristics of the other into the self. The outgroup will still be viewed as somewhat prototypical, enabling positive associations with them to generalize to other members of the outgroup (Brown, Vivian & Hewstone, 1999). The increased overlap between the self and the other person in this case leads to the incorporation of the perceived characteristics of the target into the self, while maintaining the other's identity as a member of their group (Aron & McLaughlin-Volpe, 2001; Aron, McLaughlin-Volpe, Mashek, Lewandowski, Wright , & Aron, 2004). Because the self has adopted some of the traits and group membership of the other individual, but does not know as much about the content of this group as the target, this should lead to perceptions that the self

can learn from the other person, and a general openness to new and different perspectives from the other person.

When participants do not feel connected to the outgroup member, I expect to replicate the contrast and assimilation effects observed in previous research (Mussweiler, 2001), such that when considering how the self is like the other, people will see themselves as quite different from the outgroup member, and when considering how the other is like the self, people will see themselves as more similar to the outgroup member. These effects should be observed in terms of self and other category content, but because there is an absence of positive feelings toward the other person (due to the lack of connection), they should not lead to all the same positive effects as when experiencing connection with the other as the referent.

CHAPTER 2: EXPLORING SOCIAL CONNECTION, REFERENT AND ONENESS ON INTEREST IN THE OTHER

In Study 1, I tested the hypothesis that thinking about how the other is like the self (self-referent) compared to how the self is like the other (other-referent) will moderate the effects of feeling connected with an outgroup member. When sharing interests with the other person (high connection) and thinking of how the other person is like the self, I expect the personality traits and interests of the self to be projected onto the other person, leading to less interest in finding out what is new and different about the other person. When sharing interests with the other person and thinking of how the self is like the other, I expect the personality traits and interests of the other person to be incorporated into the self, leading to a desire to find out more about what is new and different about the other person. Same sex pairings of participants and target were used as an additional type of similarity, and to minimize chance of romantic attraction, which might complicate findings.

Study 1

Method

Participants

113 participants were recruited, with 12 being excluded from the analyses because their ethnicity matched the target's (Asian). Participants came from a diverse set of countries, though predominantly the U.S. (55) and India (37). The mean age was 28.52 with a standard deviation of 9.23, 57 participants were male. These results will only examine the 35 female and 27 male non-Indian participants[1] with a mean age of 29.39 and a standard deviation of 10.62.

[1] Analyses with Indian participants did not change the lack of effects. Indian participants may have different motivations and characteristics than the American participants for which this study was designed.

Procedure and Methods

Participants were recruited online[2] for $.50 US remuneration. Participants were told that they would be participating in a study on the information that people can gain about others through Facebook-type profiles.

Participants then filled out a mini "General Interests Scale," which identifies some of the specific interests of participants, (e.g., "What is your favourite TV show?"), along with some distractor items, (e.g., "How much do you think someone can tell about your personality from your favourite things?") (See Appendix A). The General Interests Scale information was used to create the "high connection" and "low connection" conditions, in a procedure similar to that used by Cwir, Carr, Walton and Spencer (2011). Participants saw a female or male Asian profile (See Appendix B), and were randomly assigned to the high connection condition where the profile had matching favourite type of music, one matching favourite TV show, movie and book, or were randomly assigned to the low connection condition, where they saw a profile generated for a previous participant (initial profiles were seeded with some typical interests, based on responses from the mass-testing pool University of Waterloo psychology students can fill out at the beginning of the term).

Participants were asked to list three ways that the profile they saw was similar to them (self-referent condition), or three ways that they were similar to the profile that they saw (other-referent condition).

Next, participants answered a number of questions designed to assess interest and attitudes toward the target, e.g., "If my Facebook partner asked me to do a new activity, I would be interested in trying it," "I would rather get along with my Facebook partner than have them challenge me on issues about which we disagree" (See Appendix C). These items were generated for this research, and were

[2] Participants were recruited through Amazon's "Mechanical Turk," where people engage in various tasks for remuneration. Canadians cannot have "Requester accounts," so the study was run through Crowdflower, which acts as an intermediary between Mechanical Turk and Canadian requesters.

intended to tap into desire to learn about the other, whether the other's views were like the self, and openness to differences between the self and the other. By examining these items, I have an initial test of the prediction that creating connection through shared interests will produce positive interest in an intergroup interaction when the other is the referent, but not when the self is the referent.

As a manipulation check for the connectedness manipulation, participants then used the Inclusion of Other in Self (IOS) scale (Aron, Aron & Smollan, 1992), and the extent to which they would use the term "we" to describe their relationship with the other person (See Appendix D). Finally, participants answered some demographic questions regarding their ethnicity, gender, and country of origin.

Results

My initial design was a 2 (high/low connection) by 2 (self/other-referent) between subjects study. The IOS and "weness" measures were positively correlated (r =.65, $p < .001$), and were combined to measure a sense of "oneness," (M = 2.87, SD = 1.33), which I treated as a manipulation check, expecting oneness to be higher in both high connection conditions and lower in both low connection conditions.

Unfortunately, in this initial study, my attempt to create a sense of connection with the target appears to have failed. There was no significant main effect of connection (M = 2.92 in the high connection condition versus M = 2.75 in the low connection condition) $F(1,55) = .21$, $p = .65$, of the referent (M = 2.90 in the other-referent condition, M = 2.77 in the self-referent condition $F(1,55) = .14$, $p = .71$, or of the interaction (M = 2.81 in the high connection other-referent condition, M = 3.00 in the low connection other-referent condition, M = 3.03 in the high connection self-referent condition, M = 2.50 in the low connection self-referent condition) $F(1,55) = .984$, $p = .33$.

Given that my connection manipulation failed in this study, subsequent analyses used oneness as a predictor variable, in order to stand in for the connection manipulation. In this internal analysis, I examine how a greater sense of oneness with an outgroup member interacted with the referent manipulation to affect interest and attitudes toward the outgroup member.

Non-orthogonal factor analyses were used on the items from Appendix C, in order to allow factors to be correlated. The analyses identified a six factor solution, though examining the scree plot suggested three strong factors, the first two of which had items that loaded onto two fairly unique sets of variables (See Appendix E). Because the eigen value was somewhat low on the third factor and it did not produce a coherent set of items, I chose a two factor solution. The first factor included seven items (7, 9, 11, 13, 15, 17 and 19 in Appendix C) of being willing to help the partner, e.g., "I would help my partner if he or she needed it," and genuine interest in the other person, e.g., "If my Facebook partner asked me to do a new activity, I would be interested in trying it," and has been labelled "Compassion/Interest." These items hung together fairly well ($\alpha = .84$). Examining how oneness interacted with the referent condition failed to reveal a two-way interaction, $\beta = -.119$, $t(57) = -.704$, $p = .484$ (see Table 1).

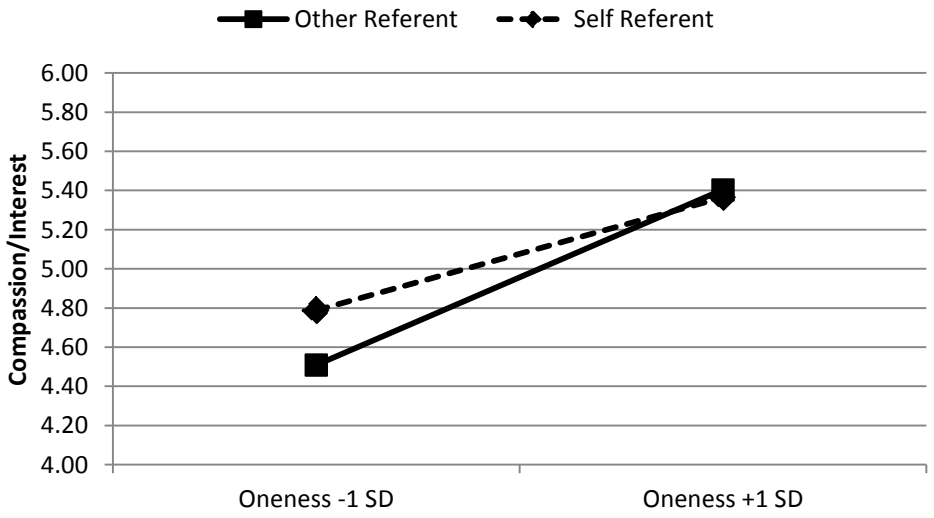
Table 1

Unstandardized regression coefficients for predicting Compassion/Interest (Study 1)

Predictor	Unstandardized Coefficient (*B*)	SE	Conf. Int. (95%)	t[a]	p-value
Oneness	.336	.131	(.074, .597)	2.570	.013
Referent (0 = Other)	.120	.222	(-.324, .565)	.541	.590
Oneness x Referent	-.119	.169	(-.456, .219)	-.704	.484

[a] The degrees of freedom are 57.

Figure 1. Relationship between Referent and Oneness predicting Compassion/Interest in the other in Study 1.



Despite the lack of support for a two-way interaction, the pattern of results was still interesting (see Figure 1). In particular, greater oneness in the other-referent condition led to greater Compassion/Interest, $\beta = .34$, $t(56) = 2.57$, $p = .013$. In contrast, greater oneness in the self-referent condition showed a weaker (but non-significantly so) relation to greater Compassion/Interest $\beta = .22$, $t(56) = 2.03$, $p = .047$.

The second factor included three items (8, 10 and 18 in Appendix C) of being disinterested in the target, e.g., "Helping my partner would not be much of a concern to me," and closing off of different perspectives, e.g., "When my Facebook partner and I see the world from different perspectives, it would be best to keep our views to ourselves." These items somewhat held together ($\alpha = .54$), and were combined to form the variable "Disinterest." Like in the Compassion/Interest findings, oneness did not significantly interact with the referent condition, $\beta = .126$, $t(57) = .538$, $p = .59$ (see Table 2).

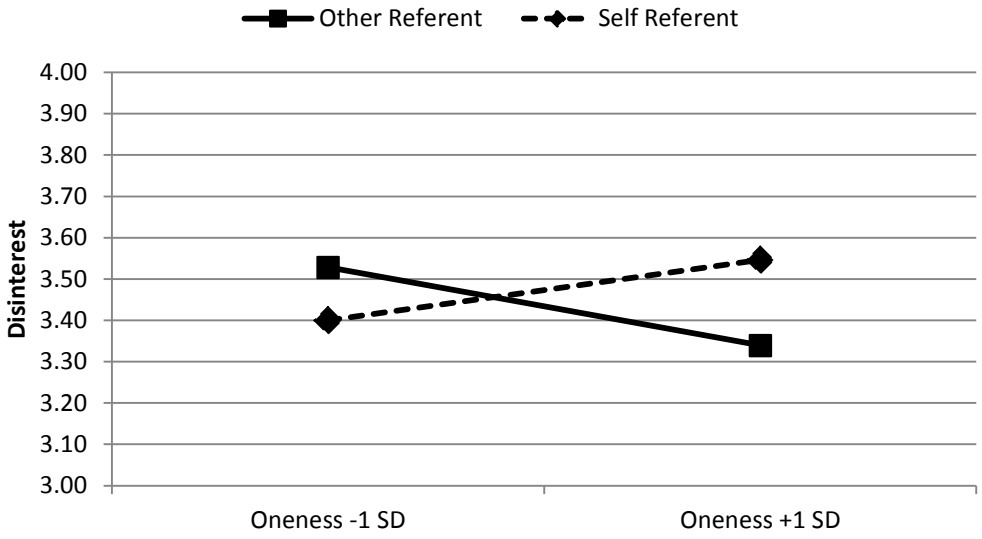
Table 2

Unstandardized regression coefficients for predicting Disinterest (Study 1)

Predictor	Unstandardized Coefficient (*B*)	SE	Conf. Int. (95%)	t[a]	p-value
Oneness	-.071	.182	(-.435, .293)	-.391	.013
Referent (0 = Other)	.039	.309	(-.580, .657)	.125	.590
Oneness x Referent	.126	.235	(-.344, .597)	.538	.484

[a] The degrees of freedom are 57.

Figure 2. Relationship between Referent and Oneness predicting Disinterest in the Other in Study 1.



Despite the lack of support for a two-way interaction, the pattern of results (see Figure 2) indicated that greater oneness in the other-referent condition had a tendency to be negatively related to disinterest shown in the target, β = -.07, $t(56)$ = -.391, p = .697, whereas, greater oneness in the self-referent condition tended to be positively related to greater disinterest β = .06, $t(56)$ = .372, p = .71.

Discussion

Unfortunately, the connection manipulation appears to have failed in this study. Internal analyses also failed to reveal significant interactions with oneness and the referent. While the trends were in the predicted direction (greater connection and other-referent leading to more compassion/interest and less disinterest compared to greater connection and the self-referent condition), the results may well have been due to chance.

The lack of results in this study may be due to suspicion on the part of the participants. Those in the connection condition had a profile appear soon after they had inputted their information, with the profile including any typographical errors or oddities on the part of the participant. These possible suspicions may have prevented participants from developing the sense of connection observed in previous research (e.g. Cwir, Carr, Walton & Spencer, 2011). It may also be the case that developing a sense of

oneness online may be more difficult than in the lab. The lack of effect of the connection conditions suggest that studying these phenomenon in the lab with more control and allowing a more in-depth look at different variables may be fruitful.

CHAPTER 3: THE EFFECT OF SOCIAL CONNECTION AND REFERENT ON PROJECTION OF PERSONALITY, STEREOTYPES AND INTEREST IN THE OTHER'S CULTURE

Study 2

In Study 2, I sought to use a robust connection manipulation by running an in-lab study. By gathering participant information weeks in advance of the study, participant suspicions should be minimized. Study 1 provided a learning opportunity and a pattern of results suggesting that overlap of the self with the other may operate differently depending on whether people have social connection established, and whether the self or the other is the referent. Study 2 was also designed to explore a diverse set of variables. Projection on to the other and adoption of the other into the self were assessed in order to test my hypothesis. I do this by examining the projection of the self's personality onto the target by looking at how differently participants ranked the other's big five personality traits (Saucier, 1994) compared to their own. I also examine how stereotypic traits associated with the outgroup change according to similarity and the direction of comparison for perceptions of the other, as well as perceptions of the self, in order to assess whether participants are seeing the other as possessing group-relevant traits, and whether these group-relevant traits have been adopted into the self. Finally, this study attempts to quantify interest in the outgroup member's culture, rather than focusing purely on the specific target.

I expected this study to directly address a number of my hypotheses. I predicted that creating overlapping interests and a shared name with an outgroup member would lead to increased perceptions of oneness with that member. I also predicted that this overlapping sense of oneness with the other person would be modified by the framing of similarity. In the high connection self-referent condition, I expect that participants will project their own personality onto the target, leading to low discrepancy in the big five personality ratings of the self and the other. Participants will also not see the other person in terms associated with stereotypes of the outgroup, due to projecting their own identity onto the target, nor will

they see the self as possessing these traits. Finally, participants will see the target as being a member of their own group, revealing little interest in the other person's culture.

In the high connection other-referent condition, I expect that participants will be open to the other person having a distinct personality from their own, leading to relatively large discrepancies when rating the self and the target on the big five. I also expect that the self will begin to incorporate aspects of the target's perceived identity into the self, beginning to see the self as possessing traits commonly associated with the target's group, while still seeing the target as possessing these traits. Finally, I expect to see enhanced interest in the other person's culture.

Method

Participants

57 participants were recruited through the participant pool at the University of Waterloo for course credit. All participants were Caucasian, 8 were male, and the mean age was 18.54, with a standard deviation of .87.

Procedure and Methods

During mass testing, participants filled out a longer 18 item version of the "General Interests Scale" (See Appendix F). Weeks later, participants were recruited for a study on "Social Media and Perception," first filling out an online survey with a version of the big five personality traits (Saucier, 1994) for the self (See Appendix G). In the lab, participants were given paper copies of four Facebook profiles, including the target critical profile, a gender-matched Asian (See Appendix H). By having the study run weeks after the General Interests Scale was administered, with no clear link to the study, my hope was that participants would not be particularly suspicious of the target profile, leading to more oneness in the connection conditions.

For the target profile, participants saw a gender-matched Asian student, who either shared their first name and three of the same interests that the participant rated relatively highly in terms of importance (e.g., favourite book, TV show) as measured by the General Interests Scale (high connection condition), or received a random profile designed for another gender-matched participant (low connection condition).

Participants were then asked to list two ways that the profile was similar to them (self-referent condition), or to list two ways that they were similar to the profile (other-referent condition).

Next, participants were asked to pick the profile with which they felt the strongest connection. If participants chose the target profile, they were given the profile to fill out more detailed questions. If participants chose a different profile, the RA made a note, and gave the target profile to the participant to fill out more detailed questions.

Participants answered a set of big five personality traits for the target (Saucier, 1994), a set of traits stereotypic of Asians for both the self and target, including both positive and negative traits (e.g., "Smart", "Quiet"; see Appendix I), and also indicated their interests in a number of different activities (a modified version of Cohen & Garcia's (2005) measure of stereotype distancing, used in Cwir, 2011), including Chinese cultural activities (e.g., Chinese New Year).

Participants filled out a final questionnaire, including the IOS and measure of "weness" as a measure of oneness used in the previous studies.

Results

Our design was a 2 (high/low connection) by 2 (self/other-referent) between subjects study. The IOS and "weness" measures were positively correlated (r =.79, p < .01), and were combined to measure a sense of "oneness". I again used the "oneness" measure as a manipulation check, expecting oneness to be higher in both high connection conditions and lower in both low connection conditions. As expected,

there was a main effect of connectedness on oneness $F(1,52) = 8.78$, $p = .005$. People who were in the high connection condition experienced significantly more oneness with the target ($M = 4.19$) than people in the low connection condition ($M = 3.06$). This main effect was not moderated by referent condition, $F(1,52) = .53$, $p = .47$ (see row 1, Table 3).

In order to get a sense for the degree participants were projecting their own personality onto the target, a difference score was calculated by subtracting the personality score for the other person from the rating for the same item from the self. The absolute values of these numbers were summed to create a variable of how different the other's personality was rated, compared to the self. Since I was not concerned with specific items or big five factors, summing the absolute differences across all items provides a single index of how differently the target's personality was rated compared to the ratings for the self, which can then be tested for mean differences with ANOVA. Exploring the effect of the conditions on the difference in personality resulted in a significant two-way interaction, $F(1,53) = 6.27$, $p = .02$. In particular, the high connection self-referent condition had personality ratings for the other that were significantly closer to the self's ratings ($M = 31.64$) than those in the high connection other-referent condition ($M = 51.47$), $F(1,53) = 9.00$, $p < .01$[3] (see row 2, Table 3). The two low connection conditions fell between these two extremes ($M = 42.61$ in the high connection other-referent condition, and $M = 45.23$ in the low connection self-referent condition), though these means were not significantly different from the others.

The mean ratings of the stereotypic terms associated with Asians was calculated for both the target ($\alpha = .65$), and the self ($\alpha = .49$). There was a significant two-way interaction for the ratings of the target, $F(1,50) = 4.12$, $p = .05$. Participants in the high connection self-referent condition tended to think that the target was less stereotypical ($M = 4.43$) than in the low connection self-referent condition ($M = 5.06$), $F(1,50) = 4.78$, $p = .04$ (see row 3, Table 3).

[3] Residual variance in the reported comparisons did not attain significance throughout this dissertation.

A similar pattern emerged for self-ratings of the stereotypic Asian traits. A significant two-way interaction, $F(1,50) = 4.20$, $p = .05$, revealed that participants in the high connection other-referent condition thought that they themselves possessed more stereotypical Asian traits ($M = 5.06$) than those in the high connection self-referent condition ($M = 4.07$), $F(1,50) = 4.65$, $p = .04$ (see row 4, Table 3).

Next, I split up the positive and negative stereotypes, created difference scores in order to test whether the other was seen more positively or negatively than the self. For the positive stereotypes, no effects emerged (ps > .18). For negative stereotypes, however, participants in the high connection other-referent condition saw the target as significantly less negatively compared to the self, than all the other conditions, $F(1,50) = 4.25$, $p = .04$ (see row 5, Table 3).

Finally, I created a composite variable for overall interest in Chinese culture, combining interest in Chinese food, general interest in Chinese culture, interest in Chinese New Year and Chinese art ($\alpha = .37$). Analyses revealed a marginal interaction, $F(1,50) = 3.66$, $p = .06$. In particular, comparing the high connection self-referent condition ($M = 3.97$) to the other three (*Ms* from 4.45 to 5.00) led to significantly less interest in Chinese Culture, $F(1,50) = 5.36$, $p = .02$ (see row 6, Table 3).

Table 3

Mean Ratings of Oneness, Difference in Self-Other Personality, Endorsement of Asian Stereotypes for Self and Other, Negative Stereotype Self-Other Difference and Interest in Chinese Culture in Study 2.

	Social Connection Condition								
	High Connection Other-Referent		High Connection Self-Referent		Low Connection Other-Referent		Low Connection Self-Referent		Significance
Measures	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	
Oneness	3.97_a	1.68	4.41_a	1.62	3.11_b	1.21	3.00_b	1.02	> .01 (1,2 vs 3,4)
Absolute Difference of Self and Target's Personality	51.47_a	17.58	31.64_b	16.54	42.61	17.30	45.23	14.58	.02 (interaction)
Asian Stereotypes of Target	4.88	.91	4.43_a	.72	4.66	.71	5.06_b	.66	> .05 (interaction)
Asian Stereotypes of Self	4.67_a	.79	4.07_b	.83	4.30	.45	4.47	.64	> .05 (interaction)
Negative Stereotype Self-Other Difference	$-.04_a$	1.52	$-.37_b$	.55	$-.58_b$	1.04	$-.33_b$	1.33	.04 (1 vs 2,3,4)
Interest in Chinese Culture	4.45_a	.92	3.97_b	.97	4.58_a	.87	5.00_a	.72	.02 (2 vs 1,3,4)

Note. Means in the same row with different subscripts are significantly different at $p<.05$.

Discussion

This study provides increased support for my hypotheses showing that connection and framing of similarity produce interactive effects with implications for intergroup relations. Building from the mistakes of Study 1, this study explores projection and adoption of traits into the self, as well as interest in the other's culture. In particular, shared interests and first name led to increased oneness with the other person, but how this self-other overlap operates depends on the framing of similarity. This shared oneness was present, despite being assessed at the end of the study after a series of questionnaires.

When the self is the referent for the similarity judgment, participants project their own personality onto the target, seeing them as having a similar personality profile. Moreover, the target is not seen in stereotypic terms, which on the surface appears to be a positive outcome. However, participants tend to see the target as possessing more negative stereotypic traits than the self, unless they are in the high connection other-referent condition. Viewing these effects in light of the decreased interest in Chinese culture in the high connection self-referent condition, it appears that this lack of stereotyping is attained at the expense of valuing the other's culture, and seeing the other person as possessing distinct personality traits from the self. This supports the idea that the other's characteristics and group membership have been overwritten by projection of the self.

When the other is the referent for the similarity judgment, participants maintain the other as possessing a distinct personality, no longer projecting the traits of the self onto the other person. The target is no longer seen in terms of negative stereotypes, but is instead seen as possessing positive stereotypes associated with the group. Stereotypes associated with the outgroup are incorporated into the self, with no dip in interest in the other's culture. These results are consistent with the idea that the other's characteristics are salient in self-other overlap, leading to the incorporation of these characteristics into the self-concept.

CHAPTER 4: THE EFFECT OF SOCIAL CONNECTION AND REFERENT ON EXPERIENCING NEGATIVE EMOTIONS AFTER READING OF RACISM AGAINST A NON-TARGET OUTGROUP MEMBER

Study 3

In Study 3, I attempted to replicate my connection and framing of similarity effects from Study 2, while also examining how participants relate to other outgroup members. In Study 2, all of my measures related to perceptions of the self and the relationship with the specific outgroup target, as well as interest in the other's culture. In this study, I examine whether connection and framing of similarity interact to affect generalization from the specific outgroup member with whom they form a connection, to a different member of the same outgroup. I expect participants in the high connection other-referent condition to generalize their connection from the specific outgroup member with whom they form a connection to outgroup members in general, resulting in heightened concern for other outgroup members. I do not expect this heightened concern in the other conditions.

Method

Participants

81 male Caucasian participants were recruited for this study from the participant pool at the University of Waterloo and received course credit. They had a mean age of 18.88, with a standard deviation of 1.18. First year students from an introductory psychology course were used, in order to minimize risks of suspicion.

Procedure and Methods

During mass testing, participants filled out the extended "General Interests Scale" used in Study 2 (See Appendix F).

Weeks later, participants were brought into the lab for a study on "Mood and Memory." They were told the first part of the task was related to memory of Facebook profile information. They saw paper copies of four Facebook profiles, including the critical target profile "Jamal" (See Appendix J).

Jamal was ostensibly a Black student, who had matching interests with the participants (high connection condition), or who had matching interests with a random different participant (low connection condition).

Participants were then asked how similar they were to Jamal (other-referent condition), or how Jamal was similar to them (self-referent condition). Participants were also asked to list two ways that they were similar to Jamal, or that Jamal was similar to the self.

Participants next participated in a newspaper and mood task, where they read four different news articles, and rated their mood. The critical article was the third one, describing an incident of racism against a (non-target) Black individual (See Appendix K).

Participants then used the Inclusion of Other in Self (IOS) scale, and the extent to which they would use the term "we" to describe their relationship with the target.

Participant mood was measured after each of these newspaper articles (calm, content, surprised, angry, distressed, anxious, offended, shocked, connected, upset, sympathetic, self-confident, self-assured, secure, competent, safe, comfortable, empathic, startled, threatened, inadequate, intimidated, helpless, worthlessness, self-conscious, guilty), using a modified version of the Swim, Hyers, Cohen, Fitzgerald and Bylsma (2003) emotion scale based on emotions African Americans report feeling after experiencing acts of discrimination (Cwir, 2011).

Results

Our design was a 2 (high/low connection) by 2 (self/other-referent) between subjects study. The IOS and "weness" items were combined to form a composite "oneness" item ($r = .776$, $p < .001$). I found

a main effect of connection $F(1,77) = 21.133$, $p < .001$ (see row 1, Table 4), such that participants in the high connection conditions scored higher ($M = 4.56$) than those in the low connection conditions ($M = 3.09$).

Table 4

Mean Ratings of Oneness, Negative Emotions after reading incident of Racism (Study 3).

	Social Connection Condition								
	High Connection Other-Referent		High Connection Self-Referent		Low Connection Other-Referent		Low Connection Self-Referent		Significance
Measures	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	
Oneness	4.75_a	1.53	4.38_a	1.36	3.42_b	1.66	2.76_b	1.19	p < .001 1,2 vs 3,4
Negative Emotions	1.77_a	.39	1.39_b	.27	1.56_b	.28	1.49_b	.32	Int = .037 1 vs 2,3,4 = <.001

Note. Means in the same row with different subscripts are significantly different at $p<.05$.

A composite of negative mood/arousal items was created (surprised, angry, distressed, anxious, offended, shocked, upset, startled, threatened, inadequate, intimidated, helpless, worthless, self-conscious, calm(r), content(r), self-confident(r), self-assured(r), competent(r), safe(r), secure(r) and comfortable(r), $\alpha = .81$)[4]. There was a main effect of referent $F(1,77) = 9.68$, $p = .003$, which was qualified by a significant two-way interaction $F(1,77) = 4.51$, $p = .037$. In particular, participants in the high connection other-referent condition ($M = 1.77$) experienced significantly more negative emotions than participants in the other three conditions (*Ms* from 1.39 to 1.56), $F(1,77) = 13.20$, $p < .001$[5], see row 2, Table 4).

Discussion

This study replicated the finding from Study 2 that increased interests with an outgroup member will lead to an increased sense of oneness with the other person. I also indirectly looked at inclusion of

[4] The terms "connected, sympathetic, empathic, guilty" were dropped from the analysis in order to examine emotions related to experiencing a negative event as part of the in-group, rather than from an outgroup member perspective. The results are still significant in the same pattern when keeping these terms as part of the analysis.

[5] When controlling for the emotional reaction to the previous article, the interaction significance drops to marginal ($p = .069$), and the one versus three comparison remains significant ($p = .031$).

other's category membership in the self by examining the extent to which participants were upset by reading of racism against a non-target member of the same outgroup; a dependent variable which is very relevant to intergroup relations.

In this study, I found that participants who felt connected to an outgroup member, and had the self as the referent of a similarity judgment to this target, showed no increased distress after reading about a racist incident directed at a different member of the outgroup. However, if participants felt connected to an outgroup member and the other was the referent of a similarity judgment to this target, they experienced increased negative emotions after reading about a racist incident directed at a different member of the same outgroup. This finding provides further support for my theoretical reasoning that connecting with an outgroup member when the self is the referent of a similarity judgment with this individual leads to the projection of the self's category membership onto the target; any positive feelings they have for the target do not seem to generalize to other members of the same group. On the other hand, connecting with an outgroup member when the other is the referent of similarity judgments with this individual leads to increased identification with the other's traits and group membership. This type of overlap leads to empathic concern for other members of the same group. In conjunction with the previous findings, this suggests that when people connect to outgroup members and the other is the referent of a similarity judgment with this outgroup member, people begin adopting the other's traits into the self, taking on the outgroup identity by responding to racism with the negative emotions that the outgroup typically feels. These findings are in contrast to what happens when people connect to an outgroup member and the self is the referent of similarity judgments with this outgroup member. In this situation, people do show decreased stereotyping of the specific outgroup member with whom they interacted, but this decreased stereotyping does not appear to lead to greater compassion for, or interest in, the outgroup, nor does it lead to any heightened concern for other outgroup members experiencing racism.

CHAPTER 5: EXPLORING SOCIAL CONNECTION, REFERENT AND ONENESS ON ADOPTING THE OTHER'S GROUP IN THE SELF, PROTOTYPICALITY OF THE OTHER AND EXPERIENCING NEGATIVE EMOTIONS AFTER READING OF RACISM AGAINST A NON-TARGET OUTGROUP MEMBER

Study 4

The purpose of Study 4 was to replicate and expand on the emotional reaction findings from Study 3 with a different type of connection manipulation that may work online.

This study also measures the extent to which the target is seen as being prototypical of their group, as well as the extent to which self is seen as overlapping with the target group. My studies up till this point have found a pattern of results suggesting that in the high connection self-referent conditions, participants project their own personality onto the target (Study 2), show no sign of adopting traits associated with the other group (Study 2), and experience no in-group emotional response (Study 3). Thus, when people feel connected to the other person, and the self is the referent, I would expect that the other will not be seen as prototypical and that the self will not be seen as overlapping with the target group.

My studies have also shown that in the high connection other-referent conditions, participants adopt the traits associated with the other group (Study 2) and take on the in-group emotional response after reading of racism against the target's group (Study 3). Thus, I would expect the high connection other referent condition to see the target as being representative of their group, while incorporating the other's group identity into the self.

Method

Participants

188 U.S. male adults were recruited online, participating in this study in exchange for $.50 US. Five participants were excluded from the analyses, due to matching the same ethnicity as the target (Black American), with an additional four participants excluded for reporting suspicions that their date of birth information had been used to create or select profiles. Of participants who reported their ethnicity, 159 participants were Caucasian (18 Hispanic), 13 Asian, 4 Middle Eastern, 1 Aboriginal and 1 East Indian, with a mean age of 26.69, and a standard deviation of 8.73.

Procedure and Methods

Participants were recruited for a study on "Facebook, interpersonal interest and emotion," and then answered a series of survey questions. Participants were asked for birthday and an initial measure of mood (same items used in Study 3). Participants then saw a series of four Facebook profiles, answering questions of similarity and the standard "oneness" items.

The third profile was the critical profile, showing a Black Target, Jamal (See Appendix L). Participants randomly assigned to the connection condition saw Jamal's profile with a matching birthday month and day to their own, with a non-matching birthday month and day being shown to participants in the no-connection condition. Participants randomly assigned to the self-referent condition were asked how similar Jamal was to the self, and asked to list two ways that Jamal was similar to the self. Participants randomly assigned to the other-referent condition were asked how similar the self was to Jamal, and asked to list two ways that they were similar to Jamal.

After reading through and answering questions about the profiles, participants rated themselves on 12 traits based on Chang and Demyan (2007), four associated with higher scores for Blacks than Whites (athletic, aggressive, rhythmic and active), four associated with higher scores for Whites than

Blacks (industrious, intelligent, compliant and courteous) and four with no clear bias between Black and White ratings (friendly, introverted, moral and arrogant). These items were included to assess whether participants were incorporating stereotypic traits of Blacks into the self, particularly in the connection other-referent condition, and whether there would be any changes in associations with stereotypes of White people.

Participants then read three of the articles used from Study 3 including the critical article describing discrimination against a Black individual (see Appendix J), with current mood measured after each article. I expected to replicate the findings from Study 3, with the combination of connection and other-referent conditions resulting in heightened negative emotional reactions.

Participants then rated the extent to which they saw each person from the Facebook profiles as being prototypical of their ethnicity, followed by a modified Inclusion of the Other in the Self scale, where other was represented by White, Asian and Black (see Appendix M). Finally, participants answered a number of demographic questions, were probed for suspicions, and asked whether Jamal's birthday was the same as their own.

Results

Our design was a 2 (high/low connection) by 2 (self/other-referent) between subjects study. The IOS and "weness" measure were highly correlated ($r = .80$, $p < .001$). I found a main effect of connection with oneness with Jamal $F(1,186) = 10.24$, $p < .001$, with participants in the same birthday condition ($M = 3.72$) experiencing significantly more oneness with Jamal than those in the non-shared birthday condition ($M = 3.05$) (see Table 5).

Participants rated the extent to which they endorsed a number of Black stereotypic terms for the self (athletic, aggressive, rhythmic and active) drawn from Chang and Demyan, (2007). The items did not hang together well ($\alpha = .47$), and no interactions or main effects emerged. There was no significant main effect of connection ($M = 3.91$ in the high connection condition versus $M = 4.04$ in the low connection

condition) $F(1,183) = .75$, $p = .39$, of the referent ($M = 4.00$ in the other-referent condition, $M = 3.96$ in the self-referent condition $F(1,183) = .08$, $p = .78$, or of the interaction ($M = 3.92$ in the high connection other-referent condition, $M = 4.07$ in the low connection other-referent condition, $M = 3.91$ in the high connection self-referent condition, $M = 4.01$ in the low connection self-referent condition) $F(1,183) = .03$, $p = .86$.

In order to replicate Study 3 analyses, the same emotional reaction measure was used ($\alpha = .92$). Unfortunately, the results did not replicate (all Fs $\geq .49$, none significant), with the high connection other-referent condition ($M = 2.60$) no different than the other conditions ($M = 2.66$), $F(1,183) = .12$, $p = .73$. In order to take a closer examination at emotional reactions, I controlled for time 1 emotional reaction while examining the emotional reaction to the critical article. There was a non-significant tendency for participants in the high connection conditions to experience more outrage ($M = 2.68$) than those in the low connection conditions ($M = 2.55$) $F(1,183) = 1.72$, $p = .19$, but this may well have been due to chance.

Participants were not more likely to see Jamal as being a typical Black person depending on condition. There was no significant main effect of connection ($M = 3.47$ in the high connection condition versus $M = 3.57$ in the low connection condition) $F(1,183) = .20$, $p = .66$, of the referent ($M = 3.62$ in the other-referent condition, $M = 3.42$ in the self-referent condition $F(1,183) = .83$, $p = .36$, or of the interaction ($M = 3.50$ in the high connection other-referent condition, $M = 3.73$ in the low connection other-referent condition, $M = 3.44$ in the high connection self-referent condition, $M = 3.40$ in the low connection self-referent condition) $F(1,183) = .39$, $p = .54$.

Examining the inclusion of the category “Black” into the self, no significant effects emerged. There was no significant main effect of connection ($M = 2.19$ in the high connection condition versus $M = 2.32$ in the low connection condition) $F(1,183) = .51$, $p = .48$, of the referent ($M = 2.27$ in the other-referent condition, $M = 2.24$ in the self-referent condition $F(1,183) = .02$, $p = .88$, or of the interaction (M

= 2.30 in the high connection other-referent condition, M = 2.23 in the low connection other-referent condition, M = 2.08 in the high connection self-referent condition, M = 2.40 in the low connection self-referent condition) $F(1,183) = 1.34$, $p = .25$.

Table 5

Mean Ratings of Oneness in Study 4.

	Social Connection Condition								
	High Connection Other-Referent		High Connection Self-Referent		Low Connection Other-Referent		Low Connection Self-Referent		Significance
Measures	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	
Oneness	3.95_a	1.58	3.49_a	1.59	3.00_b	1.29	3.08_b	1.38	.002 (1,2 vs 3,4)

Note. Means in the same row with different subscripts are significantly different at $p<.05$.

Discussion

This study was intended to test an alternative type of connection not relying on similar interests, while replicating the emotional effects from Study 3, and further explore the mechanism behind these effects. Although this study replicated the oneness effects, no other effects were significant. This may indicate that there is a particular type of overlap created with shared interests. Boer, Fischer, Strack, Bond, Lo, and Lam (2011) found that shared musical taste was a cue for shared values, producing strong social bonds between people. The shared interest connection manipulation may be indicating to participants that the target is not just similar, but possesses similar values. An alternative explanation is that this study has similar problems with Study 1, relying on participants being oblivious to the connection manipulation, or else realizing that being asked for their birthday and the profile were linked.[6] Though Study 4 is disappointing in the lack of results, it further strengthens the lessons from Study 1 that this may be a phenomenon more amenable to the lab than the computer screen.

[6] There is some evidence supporting this hypothesis; selecting for participants who did not remember whether Jamal shared a birthday, or not, showed similar outrage patterns to Study 3.

CHAPTER 6: THE EFFECT OF SOCIAL CONNECTION AND REFERENT ON FRIENDLINESS, AGREEMENT AND INTEREST IN THE OTHER'S CULTURE IN AN ONLINE INTERACTION

Study 5

Study 5 extends the previous findings by analyzing actual interaction between participants and a confederate. At the same time, it allows us to further build on the results from Studies 2 and 3, while exploring the fragility of the sense of oneness in the connection self-referent condition.

By examining an interaction with an online confederate, I am able to code and analyze trends within the conversation. Moreover, I wanted to explore what would happen if the target does something particularly culturally-relevant to their group. If my hypotheses are correct, I would expect this culturally relevant behaviour to be particularly threatening to the sense of oneness established in the connection self-referent condition. If people are projecting their own personalities and group membership onto the other, realizing that the other person is engaged in activities related to an outgroup will disrupt this sense of connection. However, to the extent that the connection and other-referent condition create a genuine interest in the other person and their culture, incorporating aspects of this identity into the self, having a target engage in culturally relevant behaviour will not threaten their identity, preserving the sense of oneness with the other person, and possibly piquing the other's curiosity. If this reasoning is correct, in contrast to previous studies, I would expect the heightened feelings of connection to the outgroup member to persist only in high connection other referent condition and not in the high connection self-referent condition. I would also expect greater friendliness in the interaction, and greater interest in the outgroup culture in the high connection other referent condition than in the other three conditions.

Method

Participants

62 participants were recruited through the participant pool at the University of Waterloo for course credit, though five were excluded from the analyses for having the same ethnicity as the ostensible target (Chinese). 46 were Caucasian, three did not identify their ethnicity, three were East Indian, three were from non-Chinese Asian groups and two were biracial. 41 participants were female, 16 participants were male. The mean age was 19.47, with a standard deviation of 2.71.

Procedure and Methods

Participants first completed the same General Interests Survey used in Study 2 and Study 3 (see Appendix F), completed at the start of the term. Participants were then recruited for a study on "Instant Messaging Interactions," being told that they would be interacting with another participant through MSN. Participants then read through instructions for a guided MSN conversation, in that there were a number of specific topics for them to discuss with their interaction partner. In the other-referent condition, participants were randomly assigned to receive instructions telling participants to think of how they were like their interaction partner, or how their interaction partner was like them in the self-referent condition. Participants also received a second condition "boost" after the conversation, in case the referent conditions were not strong enough to produce effects on an actual interaction.

Once they were set up and told that the other participant had arrived, participants engaged in a MSN conversation with a confederate (the same Research Assistant running the study). Participants saw a profile picture of a gender-matched Asian named Jamie (see Appendix B for the pictures used), with the first topic of their discussion being to share some of their interests, such as favourite music or books. Participants were randomly assigned to have matching or non-matching interests to the target. In the high connection condition, the RA had received instructions for sharing five interests, three of which were determined to be shared by the participant through the General Interests Survey. In the low connection

condition, the RA shared a random set of interests generated for a different participant. The confederate was blind to connection condition (though this was likely violated in the course of the conversation), blind to the referent condition, and blind to the hypotheses.

During the rest of the conversation, participants discussed the various topics detailed in the instructions, with the confederate having a rough script to follow, with freedom to improvise in order to maintain the flow of the conversation and keep suspicions to a minimum. At the end of the conversation, "Jamie" mentioned that she was a volunteer for a Chinese film festival occurring soon, with films in Chinese, though subtitles available in English. The festival was going on for three days, and the participant was asked if they would like to attend, and how many days they would be interested in attending the film festival.

The conversation was then brought to a close, with participants receiving the referent "boost" by being asked to share two ways that they were similar to their partner in the other-referent condition or two ways that their partner was similar to them in the self-referent condition. Participants responded to a number of items tapping into their relationship with the other person, how good the conversation was, and the extent to which they would use "we" to describe their relationship with the other person, and the Inclusion of the Other in Self scale. By including the IOS and "weness" measures at the end of the study, I am able to assess whether participants feel connected to the target after a conversation in which the target engages in outgroup relevant behaviour (i.e., volunteering for the Chinese film festival).

Results

Our initial design was a 2 (high/low connection) by 2 (self/other-referent) between subjects study. Unexpectedly, the IOS and "weness" were not highly correlated ($r = .385$, $p < .01$), though were still combined to form the oneness measure. In this study, oneness with Jamie in the connection other-referent condition ($M = 4.5$) was significantly higher than the other three conditions (*Ms* ranging from 3.3 to 3.7), $F(1,51) = 7.88$, $p < .01$ (see row 1, Table 6).

The conversations with the confederate were rated by two independent coders (South Asian and East Asian) on items such as friendliness of the participant, how self-disclosing they were, and how many questions they asked. Coders read only the participant's portion of the information, with the shared interests portion cut out, in order to minimize unrelated perceptions of a positive conversation due to the manipulation itself, rather than its effects.

During the conversation, coders identified how many days the participant would be interested in coming out to the Chinese film festival (.5 was used for people who indicated they might come). Analyses revealed a marginal interaction $F(1,51) = 3.71$, $p = .061$, so that again, the connection other-referent condition led to willingness to attend more days of the film festival $F(1,51) = 6.11$, $p = .02$, ($M = 2.06$), compared to the other three conditions (*M*s ranging from .81 to 1.22)(see row 2, Table 6).

Coder ratings revealed a significant interaction on friendliness of the participant $F(1,51) = 4.8$, $p = .03$, such that connection and other-referent ($M = 5.02$) and no connection and self-referent ($M = 4.98$) tended to be friendlier than the connection and self-referent ($M = 4.43$) and no connection other-referent ($M = 4.50$) (see row 3, Table 6).

Coders also identified those in the other-referent condition agreeing with the participant significantly more than when the self was the referent $F(1,48) = 5.4$, $p = .024$, such that connection and other-referent ($M = 7.78$) and no connection and other-referent ($M = 6.29$) tended to be friendlier than the connection and self-referent ($M = 6.29$) and no connection self-referent ($M = 4.50$) (see row 4, Table 6).

The total lines of conversation were counted by coders. The interaction term failed to reach significance ($p = .195$), though the pattern was interesting, with participants in the high connection other-referent condition tending to have longer conversations ($M = 50.56$ lines) compared to participants in the high connection self-referent condition ($M = 38.29$ lines). Unfortunately, this comparison was unable to be ruled out by chance ($p = .18$).

The same "Compassion/Interest" factor used in Study 1 was examined (7, 9, 11, 13, 15, 17 and 19 in Appendix C) including willingness to help the partner, e.g., "I would help my partner if he or she needed it," and genuine interest in the other person, e.g., "If my Facebook partner asked me to do a new activity, I would be interested in trying it." These items hung together fairly well (α = .798). Examining how connection and referent interacted to predict interest did not result in a significant interaction (p = .254), though the results were interesting with the highest mean in the high connection other-referent condition (M = 5.3), and the lowest mean in the high connection self-referent condition (M = 4.9).

The same "Disinterest" factor (8, 10 and 18 in Appendix C), e.g., "Helping my partner would not be much of a concern to me" continued to only somewhat hang together (α = .50). The "Disinterest" factor showed a marginal interaction, $F(1,52) = 3.05$, p = .09. In particular, the high connection other-referent (M = 2.46) and low connection self-referent (M = 2.3) tended to have less disinterest than the low connection other-referent (M = 2.65) and high connection self-referent (M = 2.92) conditions, though these were not significant.

Table 6

Mean Ratings of Oneness, Interest in Film Festival, Friendliness and number of times agreed as a function of connection and referent conditions in Study 5.

	Social Connection Condition								
	High Connection Other-Referent		High Connection Self-Referent		Low Connection Other-Referent		Low Connection Self-Referent		Significance
Measures	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	
Oneness	4.5_a	1.1	3.7_b	1.2	3.3_b	1.0	3.6_b	.6	.05 (Interaction)
Film Festival Days Promised	2.1_a	1.1	1.2_b	.9	$.8_b$	1.0	1.2_b	1.2	.06 (Interaction)
Friendliness*	5.00	.72	4.43	.75	4.60	.68	4.98	.97	.03 (Interaction)
Total Times Agreed	7.78_a	3.16	6.29_b	3.07	6.91_a	3.07	4.50_b	2.39	.02 (1,3 vs 2,4)

Note. Means in the same row with different subscripts are significantly different at p<.05.
*Though the interaction was significant, there were no simple effects significant at the .05 level.

Discussion

This study provides evidence that connection and self versus other-referent interactions may play an important role in intergroup interactions, beyond direct perception of the self and the other. Moreover, in this study we find that participants in the high connection self-referent condition do not feel connected by the end of the study, when they are completing the oneness measures, suggesting that this sense of oneness can persist for a prolonged lab session, and that the low oneness rating may be due to the hypothesized fragility of the high connection self-referent condition. To the extent that participants are projecting the characteristics of the self onto the other, participants have an inaccurate view of who the other person is. Rather than finding a mirror image, participants encounter an outgroup member with a unique personality, and someone who is involved in outgroup related activities (i.e., the Chinese film festival). The observed effects are consistent with my hypothesis that the oneness in the high connection self-referent condition is fragile, and does not survive encountering differences with the other, though this does not appear to be a problem for the high connection other-referent condition. In this study, the IOS and "weness" scales were still positively correlated, but to a much smaller extent than in the previous studies, possibly due to the actual interaction with the confederate differentially affecting the two variables.

Moreover, the connection and other-referent condition appears to have a unique role in trying new activities from the target's culture. People in this condition were more willing to attend more days of a Chinese film festival than any other condition. Independent coders also rated the participants in this condition as friendly, suggesting that these effects are observed within interpersonal interactions, and that the effects of the connection and referent manipulations are able to continue through a semi-prolonged interpersonal interaction.

CHAPTER 7: GENERAL DISCUSSION

These studies taken together provide support for my hypothesis that social connection with an outgroup member interacts with the framing of similarity judgments with that outgroup member to affect perceptions of the self and the outgroup. In Study 1 I was unable to create a successful manipulation of social connection in an online study and thus was unable to examine the hypotheses. In Study 2 I found that when people connect with an outgroup member and frame their similarity to this ougroup member with the self as the referent of the similarity judgments, people project their own personality on to the outgroup member, seeing the outgroup member as like the self, and therefore experience less interest in the outgroup member's culture. In contrast, when people connect with an outgroup member and frame their similarity to this outgroup as the referent of their similarity judgments, people incorporate the outgroup member's traits into the self when feeling connected and also express more interest in the outgroup member's culture.

Study 3 reveals that it is only when people feel connected with an outgroup member and frame their similarity judgments with the outgroup member as the referent that they generalize their connection with the specific outgroup member to a different outgroup member, experiencing negative emotions when reading about a racist incident directed toward this new outgroup member. When they are not connected to the outgroup member or when this connection is framed with the self as the referent for similarity judgments, such generalization to other outgroup members does not occur. Study 4 found that using a different connection manipulation (i.e., a shared birthday), a social connection could be created with an outgroup member even in an online study. The findings in this study did not replicate the lab studies in this thesis, however. It may be that the shared birthday creates a different sort of connection than that found in the lab study or it may be that this manipulation was not strong enough to produce the expected effects. Study 5, however, extends the previous findings by examining the effects of social connection and the framing of similarity judgments to an extended interaction. The results suggest that when connection is made to an outgroup member and the self is the referent for similarity judgments, the sense of oneness

with the outgroup member may be fragile and unable to withstand a simple interaction. In contrast, when connection is made to an outgroup member as the outgroup member is the referent of similarity judgment the sense of connection appears to be robust to social interactions and extends to interests in cultural activities associated with the outgroup.

In my lab studies, I show that a minimal social connection paradigm is able to create increased sense of oneness with an outgroup member. How this connection operates is moderated by the type of similarity created (whether the self or the other is the referent). In particular, connection when the self is the referent leads to projection, decreased stereotyping of the outgroup, but also decreased concern for other outgroup members and decreased interest in the outgroup culture. Connection when the other is the referent leads to increased incorporation of the target's traits and group membership into the self, viewing the other in traits associated with the outgroup, but seeing them positively, having interest in their culture, and experiencing heightened concern for other members of the outgroup. Of particular theoretical importance, this work provides clear support that inclusion of the other in the self is not always a single process of bi-directional increased overlap, but can instead be divided into separate effects of the inclusion of the self in the other, and the inclusion of the other in the self.

Potential Mechanisms

Although this work creates new insights into bridging intergroup divides and understanding self-other overlap, further research is needed to be able to identify the mechanism by which these effects operate. There are two primary sets of mechanisms requiring further exploration: how overlapping interests lead to changed perceptions of self or other, and how the direction of comparison manipulation moderates these effects.

One possible mechanism for understanding the effects of overlapping interests could be that overlapping interests with the other person produces a feeling of oneness, with this feeling being reinterpreted, depending on the direction of comparison manipulation. If this mechanism is correct, I

would expect that attributing this feeling of oneness to other people or objects in the environment (such as a fake "oxytocin" pill) would disrupt the processes that occurred to this study, presumably leading people to respond in the same ways they do in the "low connection" conditions. Support for the possible affective nature of oneness comes from findings that positive emotions increase self-other overlap with others (Waugh & Fredrickson, 2006). Discovering others share unique parts of the self may lead to positive emotions directed toward the other, with affect being the key component of the connection manipulation.

An alternative mechanism explaining how shared interests influence perceptions of the self or the other is cognitively based. By discovering that others hold some of the same general interests as the self, people may infer that the self and other possess similar underlying values, causing the shared interests. With this explanation, higher ratings of self-other overlap and use of the word "we" to describe the relationship with the other person is due to these shared higher values, with people anchoring and adjusting perceptions of the self and other, with the anchor being the referent social object, a process similar to what happens with perspective taking (Epley, Keysar, Van Boven & Gilovich, 2004). If this explanation is correct, a pill condition should have no effect; moreover, explicitly identifying that the target has different values should disrupt the outcomes identified in this study. Within this body of research, Study 4 shows that connection can be created by sharing a birthday, which would not easily transmit value information; however, the lack of effects on the dependent variables suggests that this connection may have been different than that in my in-lab studies.

It is also important to develop a better understanding of the mechanisms of the framing of similarity judgments. One possible explanation for my effects is that the framing of similarity judgments forces the referent to be more strongly salient in the mind of the perceiver. Thus, the characteristics of the referent, such as group membership and different traits, are activated in the perceiver's mind, even while considering the subject of the comparison. In combination with the connection manipulation, this would cause the characteristics of the referent to bleed into the participant, producing the effects that I observed

in these studies. If this is the operating mechanism, I would expect that other salience manipulations (for example, subliminal primes), in combination with social connection would produce similar effects.

Another possible mechanism for explaining the effect of the framing of similarity judgments is anchoring and adjusting. In this view, the relative salience of the self and other are not critical, and what the framing of similarity judgments manipulation does is set up which social object is the anchor, serving to set the basis for characteristics, with adjustment of various degrees occurring for the object, depending on the perceived similarity between the two. Thus, the self will have the other's characteristics when there is a great deal of similarity and other is the referent (anchor), and the other will have the self's characteristics when there is a great deal of similarity and the self is the referent (anchor). In situations of great dissimilarity, the adjustment would be much greater, producing contrast instead of assimilation. If this explanation is correct, I would expect a forced anchor and adjustment manipulation (such as a visual/spatial representation of self or other as anchor) to produce identical effects to those observed in this thesis, regardless of whether the self or the other was made more salient, though it is difficult to interpret the cases where the low connection self referent conditions produce higher liking with this framework.

Weaknesses

There is still much work to do to fully understand these results, their boundaries and applications. As such, this is still a work in progress – in addition to work needed to refine the potential mediators discussed above, the present work has been confined to indirect interactions, profiles of people and MSN conversations. Many of the truly powerful ways of connecting with the outgroup have been done with close contact. Given the subtle nature of the framing of similarity judgments manipulation, it may prove ineffective in guiding participants' thoughts and actions during a live in-person interaction with someone else, though our MSN conversation results suggest this might be viable.

Similarly, in Study 4, although the shared birthday manipulation affected oneness, it did not affect any of the other dependent variables. These studies were both conducted online; whether it is the different experience of being online, or the different participant population for online versus in lab studies, or some other undetermined factor, it seems that the online studies were unable to produce the same effects observed in the lab. This lack of replication suggests that understanding the limitations and boundary conditions of when shared interests lead to increased closeness is important for fully developing the theoretical underpinnings of the phenomenon, and important if this work is to be put to practical use through interventions.

Another weakness of the current research is that the participants were primarily majority group members, whereas the targets have all been minority group members. Because people from different groups have cultures that differentially emphasize the self or the other, these effects may be different while examining other groups (though, see Satterwhite, Catrambone & Dai, 2000 for evidence that culture may not matter for referent effects), with different dynamics potentially involving interactions between two minority group members. I included some interaction between two minority group members in these studies, but such interactions were only a quite small proportion of the interactions and were not able to be analyzed separately.

Another shortcoming is that this work has thus far only studied deception as a means of creating connection between the self and the outgroup. For this to be a truly useful tool in addressing intergroup relations, it needs to be able to work in the real world without deception. There is reason to be optimistic about this being a viable tool – other work has shown that people typically underestimate the similarity between the self and outgroup members (Mallett, Wilson & Gilbert, 2008), with metastereotypes playing a larger role than prejudice in predicting anxiety in interactions with outgroups (Finchilescu, 2010), and expected prejudice partially mediating the negative effects of bringing up one's own group in an interaction (Tropp, Stout, Boatswain, Wright & Pettigrew, 2006). However, testing non-deception dyadic connection facilitation (such as the Fast Friends Procedure, in which two participants move through a

series of questions escalating in how personal they are, quickly producing a sense of friendship between strangers: Aron, Melinat, Aron, Vallone & Bator, 1997) will be an important next step in this research. Moreover, this work has not yet identified the naturally occurring moderators of framing of similarity judgments. Identifying these possible moderators (e.g., power, Harris, Lightner & Manolis, 1998; empathy, Stephan, & Finlay, 1999; self versus other focus, Cross, Morris, & Gore, 2002; self-esteem, Galinsky & Ku, 2004) will help to understand the mechanism, while increasing the usefulness of connection and choice of referent as a useable tool in the real world.

Future Directions

This research presents a novel technique for intergroup interactions. Future directions for this research include developing a more complete understanding of the mechanisms by which connection and the framing of similarity judgment effects occur, and exploring the other limitations laid out in the previous section. This work borrows concepts from the close relationship literature, such as the inclusion of the other in the self. Bringing the moderator of direction of comparison back into the close relationship literature may provide further insights. Given the work presented here, it may be possible to encourage people to adopt and share more of their close friends' and romantic partners' interests, and avoid assuming and projecting of the self's perspectives onto the partner.

Additional future directions include exploring the potential for these effects to apply to different groups. Although interracial interactions continue to provide unique challenges in many places throughout the world, many other types of divisions provide their own difficulties. Though religions have, and continue to, foster deeper compassion and prosocial behaviour, they also frequently lead to, or exacerbate, intergroup conflict (Preston, Ritter & Hernandez, 2010). The beneficial effects of connection combined with comparing the self to the other may be able to help encourage people to appreciate the diversity and similarity of various faiths.

Similarly, political divisiveness is a continuing issue in North America (and throughout the world). Jonathan Haidt (2011) has identified the lack of conservative politicians within our own field to be an issue of scientific importance. Given that the different assumptions we begin with shape the questions we ask (Ross & Ward, 1996; Snyder & Swann, 1978), and that it is easier to see flaws in reasoning from an opposing perspective, connecting with people who hold different political perspectives is important for the health of social psychology, in order to produce stronger, more robust science. Viewing different political positions as the result of intractable problems will only lead to increased disagreement and deeper divisiveness. Despite the differences between the varieties of political beliefs, there is still common ground and common values.

Other future directions include incorporating the other tools that are available, such as neuroscientific methods related to different patterns of brain activation during connection, and incorporating implicit tools to understand the depth of what is being affected. All of my studies have thus far been short-term studies; it would be fascinating to explore interest and development of friendships and intergroup connection with longitudinal methods.

Theoretical Implications

This work contributes a number of theoretical advances to our understanding of the framing of similarity judgments, as well as a deeper understanding of how the self-other overlap operates. The framing of similarity judgment effects involving the self have not been studied with manipulations of overlapping interests with the target. Rather than finding the contrast-assimilation pattern noted in other research (Mussweiler, 2001), the connection manipulation appears to create the opposite pattern of effects. This has implications for our understanding of what occurs during these similarity judgments. For example, my results are not predicted by current models of the framing of similarity judgments, because many of the effects were found with equal ratings of similarity between the self and the target.

This work also allows us to separate two different effects that are typically seen as one process. Self-other overlap tends to be seen as a single process, with the conceptions of the other and the self increasing their conceptual overlap. In this research, I demonstrate that overlap of the self with other can lead to two separate effects: projecting the self's characteristics and traits onto the other, or adopting the other's characteristics and traits into the self. Across several of the studies, I show that shared interests led to increased self-other overlap, but how this overlap operated depended on the framing of similarity judgments that people used. These results suggest that a refinement to previous work measuring the degree of self-other overlap is needed, by examining which way the sharing of categories and traits is operating. Thus, this work has implications for close relationship work that has examined the role of closeness in friendships and romantic partners, as well as the intergroup work that has focused on creating overlap between the self and outgroups. For example, the current findings suggest that closeness with a partner may operate in very different ways, depending on the specific type of closeness people feel toward others.

Practical Implications

In discussing the practical implications of this work, it is important to keep in mind that these results are still preliminary, with further work needed to identify mediators, moderators and boundary conditions. It is my belief that the best work in social psychology combines theoretical contributions with practical questions; I recommend that future work continue to expand the theoretical underpinnings of these effects, while simultaneously examining variables relevant to intergroup relations. This research presents a new tool for connecting to outgroup members (through minimal social connection paradigms), and identifies a variable that changes how this sense of connection operates. Connecting with outgroup members and considering how they are like the self leads to projection of the self's traits onto the other, and a diminishing of concern for other outgroup members and their cultures. In effect, this type of connection appears to create a colour-blind approach to outgroup members – those we feel close to are seen as being just like us, and part of the majority group.

This type of connection appears to have concomitant negative effects, such as lack of concern when other outgroup members are experiencing racism. This matches up with other work that shows children exposed to a colour-blind philosophy approach of intergroup relations are less likely to notice the effects of racism going on around them (Apfelbaum et al., 2010). Although colourblind strategies of prejudice reduction appear to work in the short term, after a delay they rebound leading to greater prejudice than before (Correll, Park, & Smith, 2008). Moreover, to the extent that this viewpoint promotes a self-projection onto the other person that is inaccurate, the sense of connection created should be more fragile; leading to disillusionment and disappointment once differences between the self and members of other groups are discovered. Unfortunately, White people tend to prefer the colourblind approach to race relations over a multicultural approach, (Ryan, Hunt, Weible, Peterson & Casas, 2007).

A great deal of research has identified intergroup friendships as a powerful tool for improving intergroup relations (e.g. Brown & Hewstone, 2005); seeing the friend as being a member of the majority group may end up preventing the beneficial aspects of the friendship from generalizing to other outgroup members. When people view a particular individual as atypical of their group, they tend not to generalize positive experiences of them with others. It is only when we see someone as a good representative of their group that our attitude toward them can substantially impact our attitude towards other outgroup members. The act of projecting the self's personality onto the other may work to prevent positive feelings to generalize to the rest of the outgroup.

This work has practical implications for intergroup relations. In particular, it provides a novel way of creating connection with outgroup members, adding to our toolbox of facilitating positive intergroup contact. More importantly, this research reveals how this sense of connection can be shaped with very different outcomes. Connection when the self is the referent produces positive surface aspects of intergroup relations, with decreased stereotyping of a specific other, and increased closeness with the other. However, because these effects do not generalize, they are of limited use; while this individual

positivity is offset by the decreased interest in the other's perspective, culture and other members of the outgroup.

This colour-blind strategy for intergroup interactions is contrasted with the "cultural diversity" approach, where group differences are acknowledged and celebrated. This approach appears similar to the results presented in this study of connection and having the other be the referent of the social comparison. My work shows that this strategy leads to increased openness for the other's perspective, incorporation of the other's traits into the self, seeing the other as possessing positive, but not negative, traits associated with the group, maintaining interest in the other's culture, and increased empathic concern for other members of the outgroup.

By continuing to study intergroup relations using the tools of social psychology, it is my hope that we may be able to help create a future beyond prejudice, where a true appreciation of diversity leads to stronger societies, new ideas and friendships. Thank you for taking the time to read my work; I hope that it has been as interesting to read through as it was to discover.

Appendix A: General Interests Scale in Study 1

Note: Bolded items were used to generate the profiles.

1. How friendly are you?

1	2	3	4	5	6	7
Not at all			Somewhat			Very

2. How trustworthy are other people?

1	2	3	4	5	6	7
Not at all			Somewhat			Very

3. What is your favourite food?

4. How many times a week, on average, do you go out for food with friends, or to socialize?

5. **What is your favourite type of music?**

6. Do you use music to help socialize with other people?

1	2	3	4	5	6	7
Not at all			Somewhat			Very

7. What is your favourite type of movie?

8. Who is your favourite actor?

9. How many times a month do you watch movies with friends?

10. **What is your favourite TV show?**

11. How social of an activity do you think watching TV shows with others is?

1	2	3	4	5	6	7
Not at all			Somewhat			Very

12. **What is your favourite book?**

13. Which would you rather do on a typical night?
    1 – Read a book 2 – Hang out with friends

14. What is your favourite leisure activity?
15. How much do you think someone can tell about your personality from your favourite things?

1	2	3	4	5	6	7
Nothing			A moderate amount			A great deal

16. Do you like to talk to people online?

    1 – Yes 2 – No

17. How long do you talk to friends online for, during a typical online conversation (in minutes)?

18. Do you like to meet new people?

    1 – Yes 2 – No

Appendix B: Profiles in Study 1

Profile

Jamie Leung

Current City:	New York, NY
Sex:	Male
Favourite TV Shows:	Kyle XY, Seinfeld, Dexter
Favourite Movies:	Spirited Away, Stand by Me, Good Will Hunting
Favourite Books:	The Missing Towers, The Bare Theft, Ishmael
Favourite Music:	Rock
Favourite Quote:	A thousand mile journey begins with the first step.

Continue

Profile

Jamie Leung

Current City:	New York, NY
Sex:	Female
Favourite TV Shows:	Kyle XY, Seinfeld, NCIS
Favourite Movies:	Spirited Away, Kings Speech, Good Will Hunting
Favourite Books:	The Missing Towers, The Bare Theft, Still Alice
Favourite Music:	70s
Favourite Quote:	A thousand mile journey begins with the first step.

Continue

Appendix C: Questions Assessing Relationship with Other from Studies 1 and 5

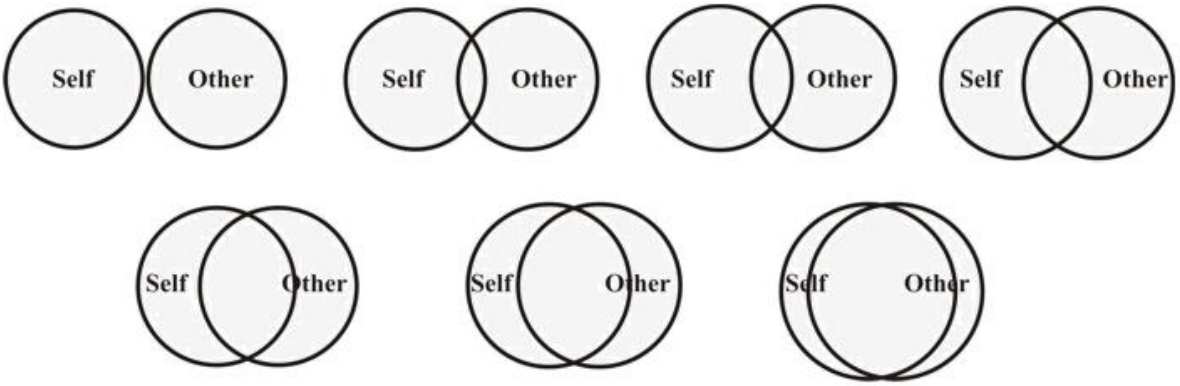
Please respond to the following questions by indicating the answer that best describes how you feel toward your Facebook partner. Your Facebook partner refers to the person whose information you just saw.

1	2	3	4	5	6	7
I strongly agree			I neither agree nor disagree			I strongly agree

1. When my Facebook and I see the world from different perspectives, it would be best to keep our views to ourselves.
2. I would be open to new ideas that my Facebook partner expressed.
3. I would like to find out more about the interests and beliefs of my partner even if they are different from my own.
4. Helping my partner would not be much of a concern to me.
5. I have no interest in finding out more about my partner's interests and beliefs that are different from my own.
6. I think my Facebook partner and I basically see the world in the same way.
7. I would not care if my partner and I had a lot of different interests.
8. I would rather get along with my Facebook partner than have them challenge me on issues about which we disagree.
9. Even though my Facebook partner and I see the word from different perspectives, we can both learn from each other.
10. I do not think there is much that I could teach my partner.
11. I would not be interested in trying an activity that is new to me if my partner suggested it.
12. If my partner expressed new ideas that I disagreed with, I would feel free to challenge those ideas.
13. I think I have a lot to offer my Facebook partner.
14. I think I could learn a lot from my Facebook partner.
15. I would like to help my partner if he or she needed it.
16. If my Facebook partner asked me to do a new activity, I would be interested in trying it.
17. It does not matter to me what my Facebook partner and I have in common.
18. I would like to find out more about what my Facebook partner and I have in common.
19. It would be disappointing to find out my partner and I had a lot of different interests.
20. I do not think my Facebook partner sees the world as I see it.

Appendix D: “Oneness” Measure in Studies 1 through 5

Circle the picture that best describes your current relationship with the person in the profile:



To what extent would you use the term “*we*” to describe your relationship with the person who’s profile you evaluated in detail in this study?						
1 Not at all	2	3	4 Average	5	6	7 A great deal

Appendix E: Study 1 Factor Analysis

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings[a]
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	4.691	23.454	23.454	4.691	23.454	23.454	4.417
2	2.956	14.778	38.232	2.956	14.778	38.232	2.456
3	2.052	10.258	48.491	2.052	10.258	48.491	2.640
4	1.351	6.754	55.244	1.351	6.754	55.244	2.395
5	1.257	6.283	61.527	1.257	6.283	61.527	1.760
6	1.074	5.371	66.899	1.074	5.371	66.899	1.655
7	.949	4.744	71.643				
8	.857	4.285	75.928				
9	.704	3.522	79.450				
10	.686	3.432	82.882				
11	.575	2.874	85.756				
12	.513	2.564	88.321				
13	.459	2.295	90.616				
14	.371	1.856	92.471				
15	.353	1.765	94.236				
16	.278	1.390	95.626				
17	.249	1.246	96.873				
18	.234	1.168	98.041				
19	.222	1.108	99.149				
20	.170	.851	100.000				

Extraction Method: Principal Component Analysis.

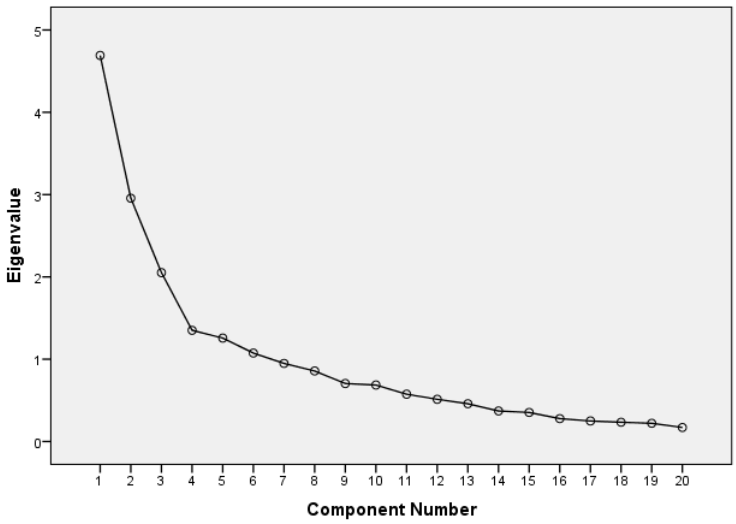
a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.

Structure Matrix

	Component					
	1	2	3	4	5	6
I would like to find out more about what my facebook partner and I have in common.	.412	-.177	.796	-.326	-.165	.341
It does not matter to me what my facebook partner and I have in common.	.053	.307	-.677	.298	.279	-.023
It would be disappointing to find out my partner and I had a lot of different interests.	-.027	.069	.255	.582	-.270	.347
I would not care if my partner and I had a lot of different interests.	.181	.233	-.178	-.058	.608	-.184
I think my facebook partner and I basically see the world in the same way.	.292	.170	.723	.160	.058	-.077
I do not think my facebook partner sees the world as I see it.	.066	.195	-.190	.208	-.003	.662
I think I have a lot to offer my facebook partner.	.750	-.127	.099	.067	-.119	-.001
I do not think there is much that I could teach my partner.	-.046	.754	.056	.157	.071	.094
I would like to help my partner if he or she needed it.	.802	.075	.359	-.084	.020	.231
Helping my partner would not be much of a concern to me.	-.168	.723	-.244	.551	.116	-.320
I would like to find out more about the interests and beliefs of my partner even if they are different from my own.	.569	-.133	.501	-.242	.382	.660
I have no interest in finding out more about my partner's interests and beliefs that are different from my own.	-.208	.482	-.391	.752	-.093	-.310
If my facebook partner asked me to do a new activity, I would be interested in trying it.	.823	.057	.266	-.071	.105	.189
I would not be interested in trying an activity that is new to me if my partner suggested it.	.010	.240	-.172	.670	.166	.017
I would be open to new ideas that my facebook partner expressed.	.767	-.248	.303	-.191	.089	.248
When my facebook partner and I see the world from different perspectives, it would be best to keep our views to ourselves.	.178	.778	-.201	.379	-.232	-.076
I think I could learn a lot from my facebook partner.	.767	.116	.162	-.141	.256	.137
I would rather get along with my facebook partner than have them challenge me on issues about which we disagree.	.365	.315	.037	.281	-.411	-.224
Even though my facebook partner and I see the world from different perspectives, we can both learn from each other.	.700	-.030	.140	-.282	.339	.241
If my partner expressed new ideas that I disagreed with, I would feel free to challenge those ideas.	.093	-.040	-.088	.108	.755	.115

Extraction Method: Principal Component Analysis.
Rotation Method: Promax with Kaiser Normalization.

Scree Plot



Appendix F: General Interests Scale in Studies 2, 3 and 5

Please complete the following questions about your preferences by providing your answers in the blank that appears after each question. Then, indicate how meaningful each preference is to you by using the scale that appears after each question.

1. Who is your favourite actor/actress?
Please indicate how meaningful this preference is to you by using the scale below:

1	2	3	4	5	6	7	8	9
Not At All Meaningful								Very Meaningful

2. What is your favourite movie?
Please indicate how meaningful this preference is to you by using the scale below:

1	2	3	4	5	6	7	8	9
Not At All Meaningful								Very Meaningful

3. What is your favourite type of music?
Please indicate how meaningful this preference is to you by using the scale below:

1	2	3	4	5	6	7	8	9
Not At All Meaningful								Very Meaningful

4. Who is your favourite author?
Please indicate how meaningful this preference is to you by using the scale below:

1	2	3	4	5	6	7	8	9
Not At All Meaningful								Very Meaningful

5. What is your favourite book?
Please indicate how meaningful this preference is to you by using the scale below:

1	2	3	4	5	6	7	8	9
Not At All Meaningful								Very Meaningful

6. What is your favourite activity outside of school?
Please indicate how meaningful this preference is to you by using the scale below:

1	2	3	4	5	6	7	8	9
Not At All Meaningful								Very Meaningful

7. What is your favourite TV show?
Please indicate how meaningful this preference is to you by using the scale below:

1	2	3	4	5	6	7	8	9
Not At All Meaningful								Very Meaningful

8. Where were you born?
Please indicate how meaningful this preference is to you by using the scale below:

1	2	3	4	5	6	7	8	9
Not At All Meaningful								Very Meaningful

9. What is your favourite album?
Please indicate how meaningful this preference is to you by using the scale below:

1	2	3	4	5	6	7	8	9
Not At All Meaningful								Very Meaningful

Appendix G: Personality Measures in Study 2

Please answer the following personality questions. All questions refer to personality/temperament (e.g., cold means emotionally cold, not physically cold). To what extent are you:

1) Bashful

1	2	3	4	5	6	7
Not at all			Neither			Extremely

2) Bold

1	2	3	4	5	6	7
Not at all			Neither			Extremely

3) Careless

1	2	3	4	5	6	7
Not at all			Neither			Extremely

4) Cold

1	2	3	4	5	6	7
Not at all			Neither			Extremely

5) Complex

1	2	3	4	5	6	7
Not at all			Neither			Extremely

6) Cooperative

1	2	3	4	5	6	7
Not at all			Neither			Extremely

7) Creative

1	2	3	4	5	6	7
Not at all			Neither			Extremely

8) Deep

1	2	3	4	5	6	7
Not at all			Neither			Extremely

9) Disorganized

1	2	3	4	5	6	7
Not at all			Neither			Extremely

10) Efficient

1	2	3	4	5	6	7
Not at all			Neither			Extremely

11) Energetic

1	2	3	4	5	6	7
Not at all			Neither			Extremely

12) Envious

1	2	3	4	5	6	7
Not at all			Neither			Extremely

13) Extraverted

1	2	3	4	5	6	7
Not at all			Neither			Extremely

14) Fretful

1	2	3	4	5	6	7
Not at all			Neither			Extremely

15) Harsh

1	2	3	4	5	6	7
Not at all			Neither			Extremely

16) Imaginative

1	2	3	4	5	6	7
Not at all			Neither			Extremely

17) Inefficient

1	2	3	4	5	6	7
Not at all			Neither			Extremely

18) Intellectual

1	2	3	4	5	6	7
Not at all			Neither			Extremely

19) Jealous

1	2	3	4	5	6	7
Not at all			Neither			Extremely

20) Kind

1	2	3	4	5	6	7
Not at all			Neither			Extremely

21) Moody

1	2	3	4	5	6	7
Not at all			Neither			Extremely

22) Organized

1	2	3	4	5	6	7
Not at all			Neither			Extremely

23) Philosophical

1	2	3	4	5	6	7
Not at all			Neither			Extremely

24) Practical

1	2	3	4	5	6	7
Not at all			Neither			Extremely

25) Quiet

1	2	3	4	5	6	7
Not at all			Neither			Extremely

26) Relaxed

1	2	3	4	5	6	7
Not at all			Neither			Extremely

27) Rude

1	2	3	4	5	6	7
Not at all			Neither			Extremely

28) Shy

1	2	3	4	5	6	7
Not at all			Neither			Extremely

29) Sloppy

1	2	3	4	5	6	7
Not at all			Neither			Extremely

30) Sympathetic

1	2	3	4	5	6	7
Not at all			Neither			Extremely

31) Systematic

1	2	3	4	5	6	7
Not at all			Neither			Extremely

32) Talkative

1	2	3	4	5	6	7
Not at all			Neither			Extremely

33) Temperamental

1	2	3	4	5	6	7
Not at all			Neither			Extremely

34) Touchy

1	2	3	4	5	6	7
Not at all			Neither			Extremely

35) Uncreative

1	2	3	4	5	6	7
Not at all			Neither			Extremely

36) Unenvious

1	2	3	4	5	6	7
Not at all			Neither			Extremely

37) Unintellectual

1	2	3	4	5	6	7
Not at all			Neither			Extremely

38) Unsympathetic

1	2	3	4	5	6	7
Not at all			Neither			Extremely

39) Warm

1	2	3	4	5	6	7
Not at all			Neither			Extremely

40) Withdrawn

1	2	3	4	5	6	7
Not at all			Neither			Extremely

Appendix H: Facebook Profiles in Study 2

Note: All participants saw a gender-matched profile. In the connection condition, the first name matched the participant's name, and one interest in each of the three categories matched participants' reported interests, gathered from the mass-testing session.

Facebook Profile 3

Leigh Yeung

Basic Information

Networks:
Waterloo '13
Sex:
Female
Birthday:
March 24

Personal Information

Activities:
travelling, volunteering, hanging out with friends.
Favorite Actors:
George Clooney, Leonardo DiCaprio, Brad Pitt
Favorite Authors:
Jeannette Walls, J.K. Rowling, Stephen King
Favorite Quotations:
"a thousand mile journey begins with the first step"

Patrick Yeung

Basic Information

Networks:
Waterloo '13
Sex:
Male
Birthday:
March 24

Personal Information

Activities:
Sports, videogames, working out.
Favorite Movies:
Jurassic Park, Avatar, Donnie Darko
Favorite TV Show:
Survivor, Amazing Race, American Idol
Favorite Quotations:
"a thousand mile journey begins with the first step"

Appendix I: Asian Stereotypes in Study 2

Participants were asked to rate themselves and the target on these traits stereotypically associated with Asians.

Smart

1	2	3	4	5	6	7
Not at all			Neither			Extremely

Quiet

1	2	3	4	5	6	7
Not at all			Neither			Extremely

Motivated

1	2	3	4	5	6	7
Not at all			Neither			Extremely

Passive

1	2	3	4	5	6	7
Not at all			Neither			Extremely

Good at school

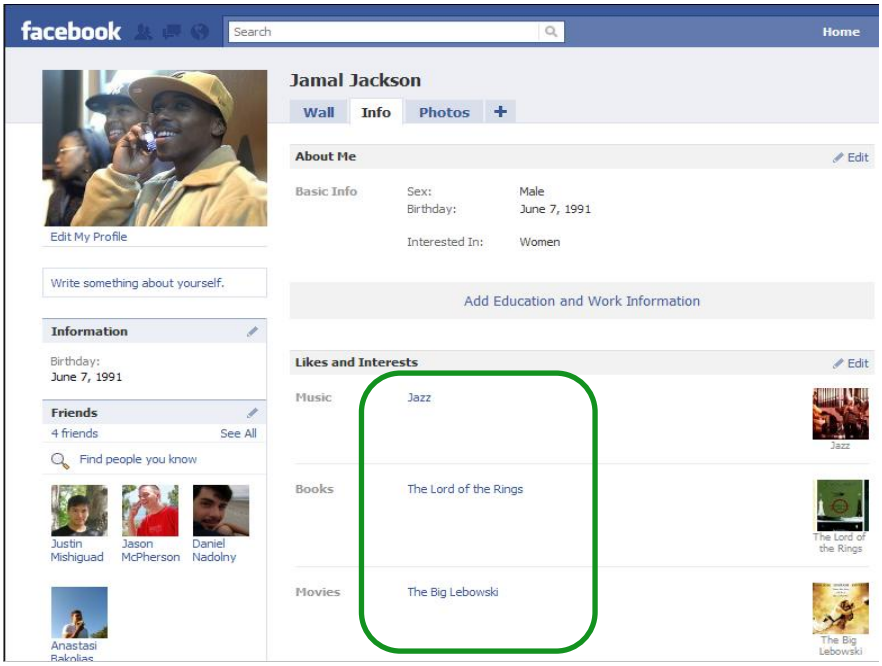
1	2	3	4	5	6	7
Not at all			Neither			Extremely

Socially Awkward

1	2	3	4	5	6	7
Not at all			Neither			Extremely

Appendix J: Target Profile in Study 3

In the connection condition, participants saw three overlapping interests with Jamal, seeing the profile generated for a random participant in the high connection condition.



Appendix K: Target Article for Discrimination Incident in Study 3

Saskatoon man awarded $7,000 for discrimination

By ALEX NOWAK
Published JUNE 13, 2009

A SASKATOON company has been ordered to pay $7,000 to a former employee, originally from Ethiopia, who says for years he was victimized by racial discrimination.

Last month, the Saskatchewan Human Rights Tribunal ordered Hitachi Canadian Industries to pay the award to Ephrem Kahsai, a welder who says he was subjected to racist remarks from co-workers while working at the turbine plant between 1997 and 2002.

The tribunal, which heard the case last year, found that the man was a victim of racial discrimination and suffered severe psychological trauma.

In his complaint, Kahsai said one co-worker told him he would "kick my black ass" while another used the phrase: "What's up, nigger." Kahsai said he found the same racial epithet in graffiti in the washroom.

As well, a co-worker passed out black licorice candy and then asked Kahsai why he was eating his baby.

On another occasion when staff were taking a bus trip to see the Saskatchewan Roughriders play, Kahsai said he was told to get to the back of the bus.

And his car was vandalized, with "Fire the stupid nigger" written on the outside. Police were also called, but the culprit was never caught.

In all, there were 14 incidents alleged in his human rights complaint.

The tribunal heard that Hitachi took some stepsto address the concerns Kahsai raised, reviewing its discrimination policy and telling workers to attend awareness seminars. But it didn't do enough, the tribunal found.

"Although Hitachi acted swiftly and appropriately in addressing the graffiti and vandalism, I have already suggested that Hitachi could have done more by way of response," tribunal officer Sheila Denysiuk wrote in the March 14 decision.

Kahsai also believes the company's response fell short.

"There was no real action taken," he told CBC News. "They said, 'We had a meeting about the vandalism on the car. We tried to tell everybody to stop this kind of behaviour.' "

The stress got to Kahsai. He began to drink. His wife urged him to get help.

"I was hospitalized," he said. "A mental hospital for a week. And they put me on medication, bipolar medication."

That was five years ago and Kahsai is still on medication. He also suffered a physical injury after falling three metres while working.

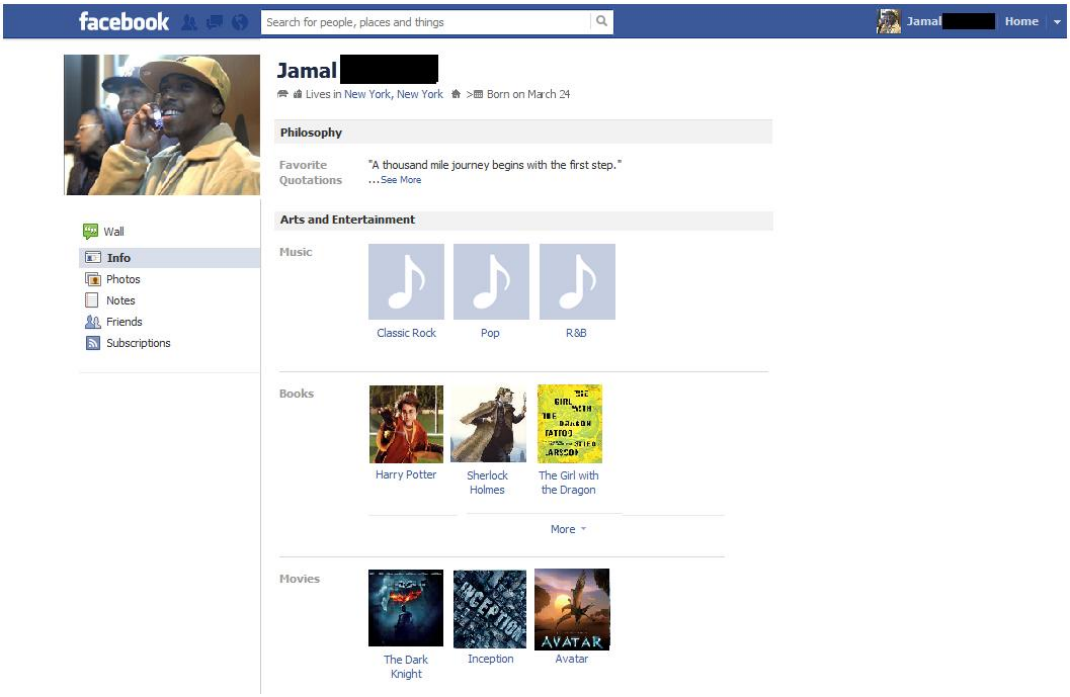
While on workers' compensation in 2002, he lost his job — one of many layoffs.

Kahsai claimed that too was discrimination. The tribunal said the layoff was not discriminatory but his treatment on the job was.

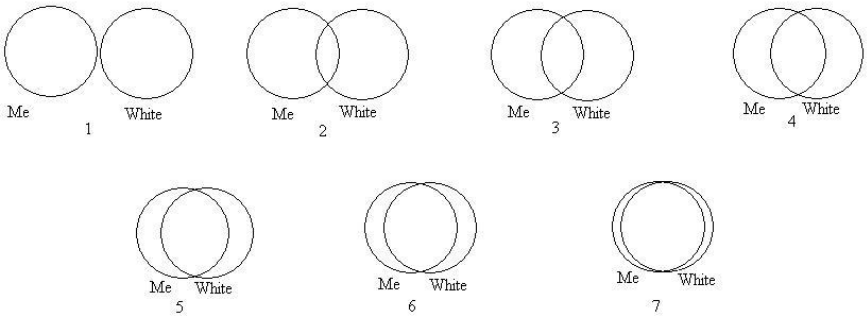
It awarded him the $7,000 for injury to feelings, dignity and self-respect.

It also ordered the company to give him a letter of recommendation. Hitachi said it has complied but other than that has no comment. •

Appendix L: Target Profile in Study 4

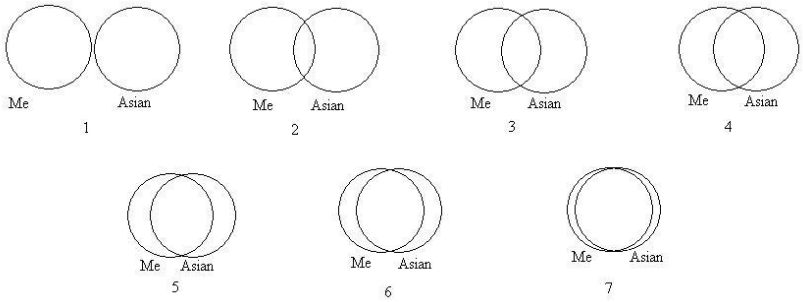


Appendix M: Modified IOS to Include Other Groups in the Self in Study 4



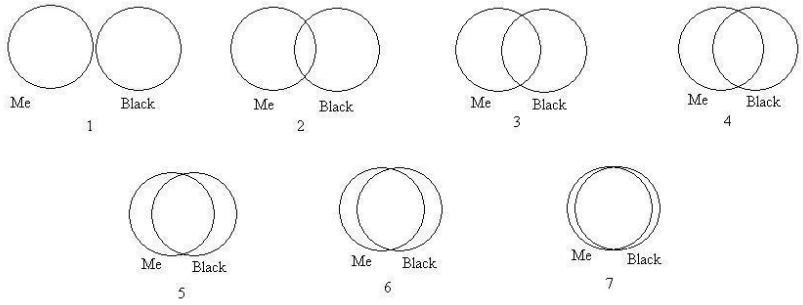
Choose the number from the picture above that best describes your current overlap with the group "White".

1 2 3 4 5 6 7



Choose the number from the picture above that best describes your current overlap with the group "Asian".

1 2 3 4 5 6 7



Choose the number from the picture above that best describes your current overlap with the group "Black".

1 2 3 4 5 6 7

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