

AN EXPERIMENTAL TEST OF THE EXTENDED CONTACT HYPOTHESIS: ITS BOUNDARY  
CONDITIONS AND PSYCHOLOGICAL PROCESSES

by

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## ABSTRACT

### AN EXPERIMENTAL TEST OF THE EXTENDED CONTACT HYPOTHESIS: ITS BOUNDARY CONDITIONS AND PSYCHOLOGICAL PROCESSES

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The extended contact hypothesis states that contact with an ingroup member, who has an outgroup friend, facilitates favorable outgroup attitudes (Wright, Aron, McLaughlin-Volpe, & Ropp, 1997). An experimental manipulation examined the hypothesis' assumption that ingroup identity salience facilitates extended contact effectiveness, the effect of national ingroup identity strength as a moderator of extended contact, and the hypothesized mediators of extended contact in the context of U.S. citizens' evaluations toward Arab immigrants in the United States, compared to Latino and European immigrants. Ninety, White females (Mean age= 21.33) were randomly assigned to conditions of extended contact with an ingroup partner or an outgroup partner group member. Manipulation checks, evaluations, and mediators were measured via a postexperimental survey. Participants completed a money-allocation task to measure behavior toward the outgroups. Quality contact was the strongest predictor of evaluations toward the Arab outgroup in all analyses. Extended contact predicted favorable attitudes toward the Arab target outgroup ( $p < .05$ ), controlling for quality contact. The hypothesized interaction between contact condition and partner group membership was not significant, suggesting that extended

contact influenced evaluations regardless of a shared ingroup membership. There was no significant moderation effect of national identity, and there were no significant indirect effects of the mediators. Within-group comparisons revealed more positive attitudes toward the European target group overall, marginal effects for extended contact on attitudes toward the Arab target group, and a significant change in attitudes from a preexperimental to a postexperimental questionnaire toward Arab immigrants in the United States in the ingroup partner membership condition.

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## CHAPTER 1

### INTRODUCTION

Simply hearing “9/11” evokes memories of the worst act of terrorism directed at American citizens and carried out on American soil. Ten years later, the memories are not only still vivid, but also the social and political consequences have influenced relationships between Arabs in the United States and non-Arab Americans. Mistrust and fear, compounded by the ongoing and violent war in Afghanistan, reports of intercepted terrorist attempts in the United States, and the threats posed by the instability in the Middle East continue to foster a perception of imminent threat from Arabs in the U.S., even Arabs who have lived in the U.S. for decades (Berger, 2009; Crawford, 2009; Das, Bushman, Bezemer, Kerkhof, & Vermeulen, 2009).

In an earlier study, we found that Arab immigrants elicited significantly more anxiety and perceptions of threat and intent to harm Americans, compared to immigrant groups from Europe, Russia, Africa, Latin countries, Asia, and India (Lyons, Kenworthy, & Popan, 2010). Although the results were not surprising given the current global political climate, they did confirm our expectations that Arabs in the United States are more likely to elicit negative attitudes compared to other immigrant groups. Along with gaining a better understanding of the psychological predictors of prejudice and discrimination toward outgroup members is the equally important task of developing effective means to reduce intergroup tensions.

The research presented here represents a confluence and extension of theory and empirical evidence regarding intergroup contact (e.g., Allport, 1954; Brown & Hewstone, 2005; Pettigrew, 1998) and, more specifically, the extended contact hypothesis, which suggests that mere contact with an ingroup member, who has positive relationships with outgroup members, can affect outgroup attitudes (Wright et al., 1997), social identity theory (SIT: Tajfel & Turner,

1986), and intergroup bias (e.g., Allport, 1954; Brewer, 1999; Hewstone & Brown, 1986; Hewstone, Rubin, & Willis, 2002).

The goal of this study was to test the effects of extended contact on attitudes and behavior toward an Arab outgroup. Specifically, I measured the effects of extended contact (described in detail below) on attitudes and behavior toward Arab immigrants in the United States, compared to European and Latino immigrant target groups in an experimental setting. Second, I examined the theoretical assumption of the extended contact hypothesis that extended contact works to reduce prejudice because of the shared group identity between ingroup members. That is, I anticipated finding empirical support for this assertion by experimentally manipulating the group membership of the person through which extended contact is experienced on the part of participants. Although this is a central point of the extended contact hypothesis (Wright et al., 1997), it has not been specifically explored in previous experimental research. Before introducing this key idea in detail, however, I discuss the theoretical background of the extended contact hypothesis.

### 1.1. Theoretical Background

#### *1.1.1 Intergroup Contact*

Theoretical and empirical advancements on intergroup contact are generally anchored in Allport's (1954) intergroup contact hypothesis for reducing prejudice. The hypothesis outlined four conditions that, when working together, would facilitate successful intergroup relations between ethnic and racial groups: equal status among group members, cooperative efforts and a common goal that fosters the potential for acquaintance, and support from authority figures. Pettigrew's Intergroup Contact Theory (1998) updated Allport's hypothesis by adding a fifth condition: members of ingroups and outgroups must be able to establish friendships - and friendships require repeated contact. Cross-group friendships reduce intergroup bias because they influence the cognitive and affective evaluations of outgroup members (e.g., Brown & Hewstone, 2005; Kenworthy, Turner, Hewstone, & Voci, 2005; Pettigrew, 1998; Pettigrew &

Tropp, 2008; Turner, Hewstone, & Voci, 2007). Sharing intimate details with a friend who reciprocates builds trust and empathy, reduces anxiety, and places a value on the relationship, all of which have been associated with improved intergroup relations (Kenworthy et al., 2005; Miller, 2002; Stephan & Finlay, 1999; Tausch, Hewstone, Schmid, Hughes, & Cairns, 2011; Turner et al., 2007).

It is well documented that direct contact with outgroup members, under the right conditions, provides the best opportunity for intergroup friendships to form and for contact to reduce negative attitudes. When these direct encounters are characterized as relaxed, pleasant, and comfortable, they are even more likely to promote positive outgroup attitudes (e.g., Allport, 1954; Brown & Hewstone, 2005; Gómez, Tropp, and Fernández, 2011; Kenworthy et al., 2005; Hewstone & Swart, 2011; Paolini, Hewstone, & Voci, 2004; Pettigrew, 1998; Pettigrew & Tropp, 2006, 2008; Turner et al., 2007). Sometimes, however, direct contact is either impossible because of segregated social and geographical situations or undesirable as a first means of contact because of tensions between groups caused by anxiety and perceived threats (Brown & Hewstone, 2005; Christ et al., 2010; Dovidio, Eller, & Hewstone, 2011; Turner et al., 2007; Wright et al., 1997). In these instances, extended contact (detailed below) may be a preferred initial method of reducing intergroup bias, paving the way toward eventual direct contact (Christ et al., 2010; Turner et al., 2007). Indeed, Christ et al. (2010) found that extended contact was a more effective means of promoting positive intergroup attitudes between Protestants and Catholics who lived in segregated neighborhoods in Northern Ireland compared to those who lived in mixed neighborhoods, and the effect of extended contact was stronger among people who lived in segregated areas and had little to no direct contact with the outgroup. Although the study was cross-sectional, the implications for applying extended contact interventions to improve relations between groups with a history of conflict are promising.

## 1.2 Extended Contact

The extended contact hypothesis (Wright et al., 1997) proposes that *mere knowledge* of an ingroup member's friendship with an outgroup member may reduce bias when group memberships are salient. According to the hypothesis, four psychological processes are hypothesized to mediate successful extended contact outcomes. First, the ingroup member having the relationship with the outgroup member becomes a representative of more tolerant norms toward outgroup members (Wright et al., 1997, p. 87). An ingroup member relating positive comments about an outgroup friend may instill perceptions of positive norms about the outgroup, especially if the ingroup and outgroup members are typical of their groups (Brown & Hewstone, 2005; Hewstone et al., 2002; Miller, 2002). At the same time, extended contact is hypothesized to change perceptions about the outgroup's attitudes toward the ingroup. Ingroup members may believe that outgroup members have negative attitudes toward the ingroup because of differences in religion, values, or ethnicity, for example. Encountering an ingroup member with an outgroup friend may dispel these perceived negative beliefs leading to more positive attitudes about the outgroup overall. Third, and central to the extended contact hypothesis, is a proposed psychological shift in how the ingroup member perceives the boundaries between the ingroup and the outgroup. According to the extended contact hypothesis, salient ingroup membership leads to identifying ingroup members as part of the self, or the "inclusion of other in self" (IOS: Aron & Aron, 1996; Aron, Aron, & Smollan, 1992). Based on Aron and Aron's (1986) self-expansion model, basic human motivations for intimacy and self-efficacy are met by interpersonal relationships. Having close friends, and including aspects of those friends as part of the self, leads to an expansion of the self (Aron & Aron, 1996). Thus, an ingroup member's friendship with an outgroup member can extend that perception of the other in the self to the outgroup (Wright et al., 1997). Wright, Aron, and Brody (2008) described the process by which members of the outgroup become a part of the self concept as the "transitive inclusion process" (p. 149). First, the observer includes the ingroup as part of the self

(i.e., ingroup identity), then, the ingroup member includes the fellow ingroup member with the outgroup friend as part of the self by way of shared ingroup identity, the outgroup member becomes identifies as part of the outgroup, and, eventually, the outgroup member as part of the self (Wright et al., 2008). The fourth mediator proposed by the extended contact hypothesis is intergroup anxiety, which is defined as the negative emotions (e.g., fear, tension, nervousness, and worry) associated with having to meet or be with members of the outgroup. Reduced intergroup anxiety does mediate direct contact to foster more positive outgroup attitudes (Pettigrew & Tropp, 2008). It follows, then, that in extended contact interventions, in which the observer has little to no contact with the outgroup, intergroup anxiety should be reduced (Christ et al., 2010).

#### *1.2.1 Evidence for Extended Contact*

Wright et al. (1997) first introduced the hypothesis with two experiments, one a minimal groups experiment and the other a structured groups experiment, both of which took place at an American university. Cameron and colleagues (Cameron & Rutland, 2006; Cameron, Rutland, Brown, & Douch, 2006; Cameron, Rutland, Hossain, & Petley, 2011) conducted three quasi-experimental intervention studies with school children in Britain. Liebkind and McAlister (1999) carried out an intervention study with high school students in Finland. Two recent experiments, as yet unpublished, were conducted by Kiu, Wright, and Teows (2007) in Canada. The remainder of the studies examining extended contact have used non-experimental, longitudinal and cross-sectional data (i.e., correlational) and models.

#### *1.2.2 Experimental Research*

Two studies conducted by Wright et al. (1997) used cross-sectional data, and two studies employed experimental designs. The first experimental study (Study 3) mirrored and added to the Robber's Cave studies (Sherif, Harvey, White, Hood, & Sherif, 1961) by manipulating strong ingroup memberships within two groups and competition between the groups, and then by introducing an extended contact manipulation by asking two members of

each group to engage in another experiment presented as a separate study on building closeness in dyadic relationships. The true purpose of this latter element was to create a cross-group friendship between competing groups. Upon returning to their groups, the group members were encouraged to relate their experiences in the closeness-building sessions to their fellow team members. The results showed that the post-intervention evaluation scores of the outgroup were significantly more positive than the pre-intervention evaluation scores. Furthermore, a money allocation activity in which participants were asked to divide \$500 between the two groups yielded more equal distribution between the two groups after the extended contact intervention than after the competitive activities, which occurred earlier in the experiment.

Noting the limits of the small groups of participants (4 to a team) and the quasi-experimental nature of the experiment, Wright et al. (1997) conducted a second experiment (Study 4), using a minimal groups design (see Tajfel, Billig, Bundy, & Flament, 1971), which is an experimental manipulation between groups in which participants, with no prior contact or shared history, are assigned to temporary, novel groups and conditions. In this study, participants who observed a friendly cross-group encounter reported lower levels of negative outgroup attitudes than did participants who observed either neutral or hostile cross-group interactions (Wright et al., 1997, Study 4). The supposition was that observed friendly cross-group encounters may have created a situation in which intergroup norms became ambiguous and were, therefore, open to change (Wright et al., 1997, p. 86). These studies were the first to demonstrate the positive effects of extended contact in experimental (or quasi-experimental) settings. Although the use of a minimal groups paradigm demonstrated the effectiveness of ingroup and outgroup manipulation in an experimental setting with extended contact, the results may not generalize to a current, real-world intergroup situation such as the tense relationships between U.S. citizens and Arab immigrants. Another limitation of these studies, and one that is germane to research presented here, is that participants only observed encounters between



ingroup members and outgroup members. At no time was the ingroup or outgroup boundary manipulated to measure the impact that ingroup and outgroup salience had on the resulting attitudes. A more accurate test of the hypothesis' contention that ingroup saliency is critical for extended contact to improve intergroup attitudes would have included a situation in which an observer watched an ingroup member encounter another ingroup member in a pleasant, neutral, or hostile situation, and an outgroup member encounter an outgroup member in a friendly, neutral and hostile situation. These scores could then be compared to the cross-group encounters to ascertain whether the effects were due to extended contact with an ingroup member versus an outgroup member, or in response to the positive or hostile nature of the encounter.

The first study to test the extended contact hypothesis as an intervention with real groups was conducted by Liebkind and McAlister (1999) in a quasi-experimental field setting with Finnish high school students (N = 1,480; Mean age = 14.1 years) in three pairs of public schools that were matched based on the immigrant populations of each school. One school in each pair was assigned to the extended contact intervention, while the other school served as a control. In the experimental conditions they used a "behavioral journalism" (p. 769) technique in which same-age peers or university researchers recited stories written by actual high-school students of their attitude changes from negative to positive after contact with an outgroup member. The story-reading sessions were followed by discussions on tolerance toward outgroups, which were designed to affect ingroup norms of inclusion and tolerance toward outgroup members. The researchers encouraged only positive comments and ignored negative remarks. According to Liebkind and McAlister (1999), the story and discussion sessions in the experimental classes not only positively affected the outgroup attitudes of fellow classmates, but also the emphasis on norms of inclusion and positive attitudes toward the outgroup made it acceptable and popular for other ingroup members to follow suit (Liebkind & McAlister, 1999, p. 770).

These studies made at least two important contributions to the examination of extended contact. They were the second set of experiments to measure the effects of extended contact, a relatively new hypothesis at the time, and they were done in a field setting to test the attitudes held by Finnish nationals toward Russian, African, and other immigrant outgroups. It should be noted, however, that these studies had some limitations that have not been addressed in subsequent studies. First, the follow-up discussions about tolerance presented a confound of any pure manipulation of the extended contact intervention. The focus on positive comments may have raised awareness of social norms against intolerance toward expressing negative outgroup attitudes that, in turn, likely influenced (as demand characteristics) how participants responded on follow-up questionnaires. Second, although Liebkind and McAlister (1999) found significant main effects between the schools in the experimental and control conditions, the differences between the baseline (taken before the extended contact condition intervention) and post experimental attitude scores were not significantly different in all experimental cases, with the most positive follow-up scores reported by females, and at the schools with a higher percentage of ethnic minority students. This highlights a third possible limitation of the study: schools rather than individuals were randomly assigned to the control or experimental conditions. The schools were designated as high, medium, or low in ethnic density based on the percentage of foreign students attending the school. No baseline measure was obtained from the students on their level of direct or extended contact with the outgroups prior to the intervention studies.

Despite the confounds of the previous study, there is evidence that children talking openly about their positive experiences with outgroup members can have desired effects. Aboud and Doyle (1996) found that low-prejudiced children had a positive influence on high-prejudiced friends of the same ethnicity when they talked about race and prejudice (Aboud & Doyle, 1996; Aboud & Fenwick, 1999). High-prejudiced White children were paired with a nominated low-prejudiced White friend. The children were asked, together, to determine positive

and negative evaluations of photographs of different White and Black children. A review of their recorded conversations indicated that low-prejudiced children made significantly more negative statements about the White ingroup and pointed out similarities between the races, accompanied by explanations for their statements (Aboud & Fenwick, 1999, p. 777). The high-prejudiced children were significantly less negatively biased after the interaction, whereas the low-prejudiced children showed no change.

Although Aboud and Doyle (1996) did not set out to study extended contact, *per se*, their findings demonstrated the influence that ingroup peers have on each other, and provided evidence that peers talking openly about their positive experiences with outgroup members can foster more tolerant attitudes among each other, which is the basis for the extended contact hypothesis.

In a series of studies, Cameron and colleagues (Cameron et al., 2006, Cameron & Rutland, 2006, Cameron et al., 2011) have examined various extended contact models using quasi-experimental interventions with British children (aged 5 to 11), and how variables derived from these models affected attitudes and intended behavior (e.g., playing with the outgroup member, inviting him or her to their house) toward children with disabilities (Cameron & Rutland, 2006), toward refugee children (Cameron et al., 2006), and among White, British children who have direct contact with ethnic minority (Indian English) children in ethnically-mixed neighborhoods (Cameron et al., 2011).

Across these studies, British schoolchildren were randomly assigned to either an experimental group with an extended contact manipulation, or to a control group. Children in the experimental conditions were read stories over a period of several weeks about other British schoolchildren who were friends with members of the outgroup (i.e., children with disabilities, refugee children, or ethnic minority children in the community). The story-telling sessions were followed by group discussions led by a trained facilitator. After the discussions, the children were asked to indicate to what degree they would want to play with, like to have as friends,

have over to the house, and so on, members of the outgroups. Children in the control group did not hear the stories and did not engage in group discussions. In the three studies, the extended contact conditions resulted in more positive attitudes and intended behaviors toward the outgroup members. And these tests revealed support for the mediating effects of inclusion of other in self, ingroup norms, and outgroup norms (Cameron et al., 2006, 2011). Across all age groups, inclusion of other in self mediated extended contact to predict more favorable outgroup attitudes and behavioral intentions (Cameron et al., 2006). How the outgroup felt about the ingroup was a significant mediator across age groups (Cameron et al., 2011). Ingroup norms mediated extended contact among older children, but not younger children, supporting developmental theories that older children are more aware of and influenced by their peers' expectations for acceptable ingroup behavior than younger children (see Cameron et al., 2011; Abrams & Rutland, 2008). Furthermore, extended contact was more effective when children had little to no direct contact with outgroup members (defined as quality contact in the study), emphasizing the unique impact extended contact can have on improving intergroup relations in isolated or segregated situations (Cameron et al., 2011).

These studies with school-aged children represent a novel approach to examining the effects of extended contact. Although Cameron and colleagues found support for extended contact across quasi-experimental settings, questions about the method are inevitable. For example, the researcher-led discussions following the extended contact stories presented similar confounds as those found in the Liebkind and McAlister (1999) study. Specifically, the discussions immediately following the extended contact manipulation make it difficult to ascertain whether it was the stories or the post-story discussions that affected the children's attitudes. Furthermore, some children may have been influenced by other children in their discussion groups, although one might see this as a positive, if unintended, effect of the manipulation. It is also important to note that although most children in the experimental and control conditions were likely minimally exposed to either disabled or refugee children, no

measure was taken before the experimental manipulations to establish possible prior direct or extended contact. This question was somewhat addressed in Cameron et al. (2011), with questions that asked the schoolchildren about the number of friends they had who were Indian English, and the number of outgroup members in their neighborhoods, at school, etc.

Taking into account the shortcomings of these studies, there was support for extended contact even when the children merely shared an ingroup similarity such as ethnicity, the absence of a disability, or the school they attended with the ingroup member who had the outgroup friend. These findings have important implications for the potentially far-reaching effects of extended contact. First, realistic extended contact situations in which an ingroup member is friends with an ingroup member who has an outgroup friend may be even more effective – supporting the mediating role of IOS (Wright et al., 2008). Even the young children (Mean age = 7) demonstrated an understanding of IOS, signifying an affinity with the outgroup member based on an ingroup member's friendship with an outgroup member (Cameron et al. 2006; Cameron, 2011). And, second, a long-term friendship between ingroup members may not be necessary for extended contact to work (cf. Wright et al., 1997, Study 4; Kiu et al., 2007; Tausch et al., 2011); the critical friendship in an extended contact paradigm is between an ingroup member and an outgroup member. In other words, encountering an ingroup member who has an outgroup friend may be enough to encourage a reevaluation of one's beliefs about the outgroup, reduce intergroup anxiety, raise questions about the ingroup's norms toward the outgroup, and consider the outgroup member as a potential friend – all of which could lead to more positive attitudes toward the outgroup.

### *1.2.3 Correlational Research*

Correlational (i.e., non-experimental) studies on the effects of extended contact and its mediators have been conducted in communities that have a history of protracted intergroup conflict such as the those between Protestants and Catholics in Northern Ireland (e.g. Christ et al., 2010; Paolini, Hewstone, & Cairns, 2004; Tausch et al., 2011), in predominantly white

communities in England that have experienced an influx of South Asian immigrants (e.g., Pakistani, Indian, Bangladeshi, etc.) to their areas in recent years (Turner et al., 2007, 2008); in Spain, where the proportion of immigrants in the population has grown ten-fold in some areas (Gómez et al., 2011); and in Germany examining the relationships between German nationals and Muslims and other foreign immigrants (Pettigrew, Christ, Wagner, & Steltemacher, 2007).

In two cross-sectional studies of Catholic and Protestant university students and residents across Northern Ireland, Paolini et al. (2004) found that extended contact was associated not only with reduced intergroup anxiety, but also reduced anxiety mediated the link between extended contact and reduced stereotype-based judgments about outgroup members, which allowed for a change in how outgroup members were perceived. Turner et al. (2007, Studies 2 & 3) found support for the mediating effects of self-disclosure and intergroup anxiety on the relationship between extended contact and outgroup attitudes. In Study 2, conducted with White and Asian high-school students ((N = 60, Mean age = 13.3), extended contact was significantly related to reduced intergroup anxiety, which led to more favorable outgroup attitudes. Study 3 involved a larger sample of only White British high-school students (N = 164, Mean age = 13.6), and included measures of actual and intended self-disclosure. Extended contact was mediated by self-disclosure and reduced intergroup anxiety, which led to more positive outgroup attitudes.

Pettigrew et al. (2007) found that extended contact was significantly related to reduced negative attitudes toward Muslims and foreigners living in Germany. A probability sample (N = 1,383) conducted across major cities in Germany found that extended contact and direct contact were highly correlated, suggesting that people with friends who have outgroup friends are more likely to have outgroup friends themselves and vice versa. Pettigrew et al. (2007) suggest that these cross-group direct and extended friendships invoke group norms that foster positive relationships between ingroup and outgroup members. Furthermore, they found that the relationship between extended contact and outgroup attitudes, controlling for direct contact, was mediated by a reduction in perceived threat to the ingroup (Pettigrew et al., 2007).

Turner, Hewstone, Voci, & Vonofakou (2008) conducted the first systematic analysis of the four mediators of extended contact in one model. Across two studies with British university (Study 1: N = 144) and high school (Study 2: N = 128) students, they examined the effects of extended contact and its mediators on outgroup attitudes in the context of White British students' attitudes toward South Asian immigrants. In both models, after extensive analysis of alternative models, they found that the four mediators each played an independent and significant mediating role in the relationship between extended contact and attitudes. Gómez et al. (2011) examined the effects of extended contact and the hypothesized mediators on outgroup attitudes and positive intergroup expectancies with majority and minority groups. They surveyed 322 native born (N = 187) and immigrant (N = 135) high school students in Spain (Mean age = 16). They controlled for different aspects of direct contact (quality, quantity, and number of friends in the outgroup), and found that extended contact significantly predicted more positive attitudes and positive intergroup expectancies. In mediation tests, and replicating Turner et al. (2008), perceived ingroup and outgroup norms, intergroup anxiety, and inclusion of other in self partially mediated extended contact to predict more favorable outgroup attitudes. Furthermore, ingroup and outgroup norms, and intergroup anxiety, partially mediated extended contact to predict more positive intergroup expectancies.

Since 2010, researchers have focused more attention on extended contact, recognizing the unique opportunity this psychological construct presents for improving intergroup relations. Cross-sectional studies have examined the moderating effects of relationship closeness on outgroup trust (Tausch et al., 2011), the mediating effects of lowered threat and higher trust on extended contact to predict more positive outgroup attitudes in people who are high in right wing authoritarianism (Dhont & Van Hiel, 2011), the effects of extended contact on expectancies for positive interactions with the outgroup (Gómez et al., 2011), and how changed perceptions of ingroup norms, moderated by social comparison strength, mediated extended contact to lead to more positive outgroup attitudes (Sharp, Voci, & Hewstone, 2011).

These studies, across different age groups and in different contexts, provide substantial support for the association between extended contact and reduced outgroup prejudice (Cameron & Rutland, 2006; Cameron et al., 2006; 2011; Christ et al., 2010; Paolini et al., 2004; Turner et al., 2007, Studies 2 & 3; Wright et al., 1997). Moreover, the evidence lends support to the facilitating role of the mediators of extended contact to improve outgroup attitudes (e.g., Gómez et al., 2011; Paolini et al., 2004; Turner et al., 2007, 2008). However, one very important question that is central to the extended contact hypothesis has not been examined – namely, whether or not a shared ingroup membership is the catalyst for changed attitudes.

### 1.3 Theoretical Boundary Conditions: Is Ingroup Membership Necessary?

The extended contact hypothesis assumes that improved outgroup attitudes result because of the psychological bonds shared between ingroup members, one or more of whom has an outgroup friend, when ingroup membership is made salient (Wright et al., 1997, 2008). To date, none of the experiments has directly manipulated this fundamental tenet of the extended contact hypothesis, and the correlational studies have only examined extended contact via ingroup membership. Therefore, relevant questions about the hypothesis emerged: Do changed outgroup attitudes via extended contact require an ingroup member as the vehicle for change? Can outgroup attitudes be influenced via extended contact when an ingroup identity is not shared? Can outgroup attitudes be influenced by an encounter with someone who shares an ingroup identity on one dimension but who is an outgroup member on some other salient dimension? To answer these questions, I conducted a conservative test of the extended contact hypothesis by experimentally varying the group membership identity of the transmitter of extended contact.

#### *1.3.1 Ingroup Identification Strength as a Moderator*

I proposed that ingroup identification strength would moderate the effect of the partner group membership factor on outgroup attitudes and behavior, and that the effect of extended contact would be more pronounced for high identifiers than for low identifiers. The rationale for



this position is based in part on social identity theory (Tajfel & Turner, 1986), the extended contact hypothesis (Wright et al., 1997), and empirical evidence (e.g., Tausch et al., 2007).

Social identity theory (Tajfel & Turner, 1986) states that one's self-concept is derived, in part, by the emotional validation one gains from knowing they are members of a social group that is important to them (Tajfel, 1978, p. 63). Those who identify more strongly with the ingroup are likely to behave in ways that differentiate the ingroup from the outgroup in order to promote a positive evaluation of themselves and the ingroup (Kenworthy, Popan, Holovics, Lyons, & Jones, 2011; Tajfel & Turner, 1986; Tropp & Wright, 2001).

The literature on social identity shows strong correlations between the centrality of one's social identity and its influence on intergroup attitudes, especially if moderating factors such as threat, peer pressure, or competition from the outgroup are present (e.g., Brewer, 1999; Crocker & Luhtanen, 1990; Hewstone et al., 2002; Kenworthy et al., 2011; Stephan & Stephan, 2000; Tausch et al., 2007).

Extended contact via an ingroup member should have more impact on a highly identified ingroup member's attitudes toward the outgroup than on a less identified ingroup member's attitudes. When ingroup membership is made salient, according to the transitive inclusion process (Wright et al., 2008), an individual who is highly identified with another ingroup member is more likely to be influenced by the information that the ingroup member is sharing, especially if the information is relevant to how the ingroup should feel about the outgroup. This, in turn, should lead to a reevaluation of negative attitudes he or she may have in order to find compatibility with the ingroup's norms (Wright et al., 2008). By contrast, for low identifiers, this type of information sharing should not wield enough influence to change attitudes toward the outgroup because, for them, the actions of other ingroup members (including, for example, their friendships with outgroup members) are generally irrelevant.

### *1.3.2 Moderated Mediation*

Tausch et al. (2007) found that ingroup identification moderated the relationship between direct contact and intergroup anxiety to predict more positive outgroup attitudes. The context for their study was the relationship between Protestants and Catholics in Northern Ireland, which, according to Tausch et al. (2007), is influenced by perceived symbolic threats at the group level stemming from desires to keep their respective cultural (i.e., English vs. Irish) and religious (i.e., Protestant vs. Catholic) beliefs intact. Ingroup identity modified symbolic threat such that symbolic threat mediated the relationship between contact and outgroup attitudes for high identifiers, but not for low identifiers. Intergroup anxiety significantly mediated the relationship between contact quality and outgroup attitudes for low identifiers.

To my knowledge, a quasi-experimental study with British school children (Cameron et al., 2006) has been the only study to examine ingroup identity strength as a moderator of extended contact. Cameron et al., (2006) found that identification strength moderated the effect of extended contact, however, ceiling effects prevented conclusive associations to be made with extended contact conditions. The overall mean scores for behavioral intentions were higher for high identifiers compared to low identifiers, but there were no significant effects of contact condition on behavioral intentions across conditions for high identifiers, suggesting that children who identified strongly with their English identity may have activated that identity in all experimental conditions (Cameron et al., 2006; Cameron & Rutland, 2008). The study presented here collected data on national ingroup identity strength in a survey conducted separately from the laboratory phase of the study. This data was then applied to test the moderating effects of national ingroup identity strength on extended contact and its mediators to predict outgroup attitudes after an experimental intervention.

CHAPTER 2  
CURRENT RESEARCH

2.1 Overview and Hypotheses

Despite the emergence of studies on the extended contact hypothesis, this area of research is still relatively new, and there are gaps that invite examination (Hewstone & Swart, 2011). This study aimed to add to the existing literature in at least four areas. First, in an experiment, I directly assessed an extended contact intervention not only on outgroup attitudes, but also on actual, not intended, behavior (see Cameron et al., 2006; 2011; Christ et al., 2010), toward a relevant outgroup, Arab immigrants in the United States (cf., Cameron et al., 2006, 2011; Christ et al., 2010; Gómez et al., 2011; Wright et al., 1997, Study 3). Second, I tested the theoretical assumption that the effects of extended contact are dependent on a connection with an ingroup member who has an outgroup friend, when ingroup identity is highly salient. Specifically, I predicted that the effects of extended contact would be stronger when the partner group member was an ingroup member, compared to when the partner group member was an outgroup member. Third, I examined the effects of the mediators of extended contact – intergroup anxiety, ingroup and outgroup norms, and inclusion of the other in self (Wright et al., 1997) – after an experimental manipulation. Finally, I examined ingroup identification strength as a moderator of partner group membership and extended contact on outgroup attitudes.

The study was conducted in three parts. First, participants completed the department's online prescreening survey, which provided filter questions to identify eligible participants for the laboratory study. Second, participants completed a separate online study that gathered baseline information on participants' direct contact, extended contact, quality contact, contact quantity, and outgroup attitudes toward Arab, Latino, and European immigrants, as well as their national identity strength as an American. By collecting these data through separate survey devices, I

minimized demand characteristics and potential hypothesis-guessing that might have occurred during the laboratory session.

The third part of the study took place in the laboratory. I tested the effects of extended contact on outgroup attitudes and behavior, provided an opportunity to test the moderating effect of a partner's ingroup or outgroup membership, and collected information on the mediators of extended contact after an experimental manipulation.

Based on the theoretical background detailed above, I examined the following hypotheses:

Hypothesis 1: Evaluation toward the Arab target immigrant group (compared to the control immigrant groups) will be more positive in the extended contact conditions compared to the control conditions.

Hypothesis 2: The partner's group membership will moderate the effect of extended contact on evaluation toward the Arab immigrant target group, such that attitudes will be more favorable in the ingroup partner condition (American) than in the outgroup partner condition (Chinese).

Hypothesis 2a: I expect a three-way interaction between extended contact, partner group membership, and national ingroup identity strength on outgroup evaluations. Ingroup identification strength will moderate the effects of extended contact and ingroup partner group membership, such that the interaction (Hypothesis 2) will be more pronounced for high ingroup identifiers (+1 SD of the mean) compared to mean and low ingroup identifiers (-1 SD of the mean).

Hypothesis 3: The effect of extended contact on attitudes will be mediated by intergroup anxiety, ingroup and outgroup norms, and IOS in the ingroup partner condition only.

Hypothesis 3a: This mediation model will be moderated by national ingroup identification strength such that the effect will be greater for high identifiers, and this moderation effect will be more pronounced for high ingroup identifiers compared to low ingroup identifiers.

## 2.2 Method

### *2.2.1 Participants*

Ninety-nine females enrolled in psychology courses participated for required or extra credit (age exceptions were made for students under 18 who had parental consent). Participation was limited to White, English-speaking females, who were American citizens born in the United States. Eligibility was determined by answers to questions posed on the psychology department's prescreening survey (part 1), which is completed by most Introduction to Psychology students (e.g., "What is your gender?" *Male/Female*; "What is your racial background?" *White/Anglo-American, Black/African-American, Asian, Native American or Alaskan Native, Native Hawaiian, Pacific Islander, Other/Multi-racial*; "Are you Spanish/Hispanic/Latino? *no, not Spanish/Hispanic/Latino, yes, Mexican, Mexican-American, Chicano, yes, Puerto Rican, yes, Cuban, yes, other Spanish/Hispanic/Latino Group*; "I am an American citizen," and "I was born in the United States": *yes/no*). Participants who met the eligibility requirements were periodically sent e-mail invitations announcing that the study was available and that they were eligible to participate. The e-mail provided a link to SONA, the department's administration site for research participation. Eight participants who completed the laboratory phase of the study were excluded due to knowing the Arab target group representative (1), a recent conversion to Islam (1), being highly suspicious about the study or being influenced by news (3), knowing the research assistant (confederate) (2), not following directions and missing data from the prescreening surveys (2). The final sample size was 90 (Mean age = 21.33).<sup>1</sup>

Five female undergraduate research assistants (hereafter referred to as "confederate") of East Asian ethnicity were recruited via flyers posted around campus and through the psychology department's undergraduate advising department. The confederate's role was to act

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<sup>1</sup> The data reported on here is a subset of a larger sample.

as a participant in the study, to arrive at the lab at a time that corresponded with a study session, and to carry out either the extended contact or control manipulation. Confederates received training prior to engaging in the study, which included an online training module on working with human subjects required by the Institutional Review Board (IRB), rehearsals of saying their line for the extended contact condition, and guidelines for appropriate behavior and attire for the study. They received course credit hours in return for their assistance.

### 2.2.2 Key Preliminary Measures

Participants were required to complete an online study on SONA titled “Immigrants in the United States” (part 2) before enrolling in the laboratory study (part 3). This online study collected data on key measures including a predictor (moderator) variable, identification strength as a U.S. citizen, and control variables including the quality and quantity of direct and extended contact with the different outgroups (Arab, Latino, and European) that were represented during the experimental phase.

#### 2.2.2.1 U.S. Identification Strength

U.S. Social Identity was measured using nine statements rated on 7-point scales (1 = *I strongly disagree*, 7 = *I strongly agree*): “I see myself as an American.”, “Being an American is central to my sense of who I am.”, “Overall, being an American has very little to do with how I feel about myself.” (reversed), “Being an American is an important reflection of who I am.”, “In general, being an American is an important part of my self-image.”, “I value being an American.”, “I feel proud to be an American.”, “Being an American is unimportant to my sense of what kind of person I am.” (reversed), and “I feel strong ties to other Americans.” Item responses were averaged so that higher scores responded to higher levels of national ingroup identity ( $\alpha = .86$ ).

#### 2.2.2.2 Contact Measures

Extended Contact, and Quantity and Quality of Direct and Extended Friendships with the Outgroup. The following items were adapted from Turner et al. (2008).

Extended Contact was measured with four questions: “How many Americans do you know who have friends who are (target immigrant group)?”, “How many of your close American friends have friends who are (target immigrant group)?”, “How many of your American neighbors do you think have friends who are (target immigrant group)?” “How many of your family members (including parents, brothers, sisters, cousins, etc.) have friends who are (target immigrant group)?” Participants were asked to respond using a 5-point scale (1 = *none*, 2 = *one*, 3 = *two to five*, 4 = *five to ten*, 5 = *over ten*) ( $\alpha = .85$ ).

Quantity of contact with outgroup members was measured by asking “How much time do you spend with members of (target immigrant group)” followed by five different scenarios: “in general,” “in social settings,” “at school,” “in your neighborhood” and “at work (if applicable)”. Each scenario was rated on a 5-point scale (1 = *none at all* to 5 = *all the time*) ( $\alpha = .82$ ).

Friendships and quality of contact with members of the outgroups were measured by asking participants “How many friends do you have at UTA who are (target immigrant group)?” and “How many close friends outside of school do you have who are (target immigrant group)?” (1 = *none*, 2 = *one*, 3 = *two to five*, 4 = *five to ten*, 5 = *over ten*) ( $\alpha = .67$ ). Also, participants were asked to rate the quality of the time spent with members of the target immigrant groups: “When you spend time with (target immigrant group), do you find the time...” followed by nine adjectives (*pleasant*, *cooperative*, *superficial*, *uncomfortable*, *awkward*, *respectful*, *meaningful*, *cold*, and *competitive*) each measured on a 5-point scale (1 = *Very much* to 5 = *Not at all*). The first, second, sixth, and seventh items were reversed so that higher scores indicated higher quality contact. A factor analysis showed that these items loaded onto one factor and were substantially interrelated ( $\alpha = .87$ ). As expected, number of friends and family members was correlated with contact quality, ( $r = .37$ ,  $p < .01$ ), so these measures were standardized and combined to create one measure of quality contact.

Explicit immigrant outgroup attitudes were collected through a feelings thermometer (marked in 10-point increments from 0 to 100) asking respondents to indicate their general attitudes toward Arab, Latino, Asian, and European ethnic immigrant groups, with 0 being most negative and 100 being most positive (Haddock, Zanna, & Esses, 1993).

### 2.3 Experimental Design and Procedure

The experimental procedure employed a 2 (Contact: Extended vs. Control) x 2 (Partner Group Membership: American vs. Chinese) x 3 (Target Immigrant Group: Arab, Latino, European) mixed factorial design, with contact condition and partner group membership as between-subjects factors, and target immigrant group as a within-subjects factor. The outcome measures included behavior toward the outgroup – operationalized as a money (chip) allocation task – outgroup attitudes, and how deserving the participant thought the each group was to receive funding. The latter two were gathered from a post-activity online questionnaire administered in the lab that included questions on outgroup attitudes. The questionnaire also included “memory recall” questions pertaining to the activity that participants completed in the laboratory (described below), and questions that measured intergroup anxiety, ingroup norms and outgroup norms, and inclusion of the outgroup in the self. These measures were modeled as mediators of the relationship between extended contact and behavior and attitudes toward the outgroup.

#### *2.3.1 Laboratory Phase One*

Participants were randomly assigned to one of the four experimental conditions. Upon arriving at the lab, I identified participants by the name of the study, not their names. This was intentional as it was likely that the confederate was sitting in the waiting area. The confederate’s name was to be manipulated in the study depending on which partner group condition she was in (i.e., American or Chinese), and she was blind to that condition. Before proceeding, I handed out pens to make sure that the confederate had a black pen, and asked the participants if they knew each other or if they were in any classes together to confirm that they did not know each



other. I reviewed the consent form emphasizing that the study had two goals: 1) to examine memory retention after a group activity, that is, when two or more people are in the presence of each other, how does that affect their memory on a recall task; and 2) that their input was being sought by the Division of Student Affairs to help the Division decide how to allocate a limited amount of funding to one of three groups (National Association of Arab Students, La Esperanza, and The European Union Students' Organization) that would like to organize on campus in the following academic school year. Furthermore, participants were told that because the psychology department was participating in this campus-wide effort to gain student input, researchers wanted to avail themselves of the participants by including aspects of this task in the study on how memory was affected after participating in a group activity (more details below).

#### 2.3.1.1 Partner Group Membership Manipulation

The participant and the confederate were asked to sit in two desks in the same area, and they were given consent forms to sign. The study was designed to give the impression that two participants were required in order to measure memory retention after a group interaction (a group was defined as two or more people). To that end, the participants were told that they would engage in two activities together, after which they would be asked to recall information from each of the activities. The memory recall activity would be done individually and in separate areas of the lab. After reviewing and signing the consent forms, I asked one of the "participants" to move to a separate desk that was behind a cubicle wall (approximately 5ft. x 5ft.). I gave each participant the personal profile questionnaire that asked for name, age, classification (freshman, etc.), place of birth, home town, citizenship, time at UTA, as well as a line for their log-in identification, which, I explained, would be used to match to online data they had completed prior to this study. The profile questions and answers were created to more closely match the profiles of introduction to psychology students, who would comprise the majority of participants. The questions were also intended to highlight similarities or differences

in nationality and citizenship to establish ingroup or outgroup identity between them and the other participant (the confederate). The confederate's personal profile was already filled out in black ink with an ingroup (*outgroup*) identity as follows: Log-in ID: *jx/XXXX (sx/XXXX)*; Name: *Jenny Li (Shuyan Li)*; Age: *19*; Classification: *Freshman*; Place of birth: *Fort Worth, Texas (China)*; Home town: *Fort Worth (Zhengzhou)*; "Are you an American citizen?": *yes (no)*; "How long have you been at UTA?": *one year*. With the confederate seated behind a solid wall and out of sight, I placed her personal profile face down, which kept her blind to her identity. This also allowed me to signal to the confederate, by way of a small sticky note on the back of the form, whether she was in the extended contact or control condition. The sticker was immediately removed once the confederate had glanced at it. After the forms were handed out, I left the room, but instructed them to not discuss any of the information. When the participant had filled out her form, I collected the personal profiles, exchanged the profile forms between the participant and the confederate by placing them face down on the desks, and told the participants that they would have 45 seconds to read and try to memorize the information about the other person. I reminded them that they would be asked to recall the information on a follow-up questionnaire in the second part of the study. I instructed them to turn over the sheets, then I left the room.

#### 2.3.1.2 Extended Contact Manipulation

After the personal profiles were collected, I asked the pair to move to a desk in another section of the room that had a desktop computer on it. Two similar chairs were placed equidistant before the computer screen. I informed the pair that they would watch a short slide presentation that would provide more information about the Division of Student Affairs' project. Additionally, they would receive information about the three groups that were being considered for the money, including a statement from each group's representative on their group's goals and mission, and how their group would use the money if it was the recipient. Putting the information in the slide presentation, instead of relying solely on spoken instructions, ensured

that each participant was receiving the same information in the same manner. The information about each group's mission was fairly similar so as not to give any one group an advantage, but the scripts were altered enough so that they were not identical. The missions, goals, and uses of the money listed in the slide presentation were rated by six independent raters on clarity, credibility, similarity, and quality. No significant differences were found among the scripts for the three groups.

The pair was told to pay attention to the information in the slide show because they would be asked to recall information about the groups for the memory portion of the study that would be administered through an online survey later in the study. I asked that one of the pair come and get me when the last slide appeared. This slide was printed with the following message: "Please do not discuss what you have just reviewed with each other. Now that you have finished watching this presentation, please let the researcher know that you are finished."

Within the slide show were color photographs (head shots from head to shoulder) of three different females posing as a group representative for one of the three immigrant groups: Arab, Latino, and European. Three female students who belonged to the three ethnic groups depicted in the slide show were recruited from within the psychology department to pose as the group representatives. Their true identities were changed for the study. Appropriate release forms were obtained from the students, and they received a small fee for their time. The slide on which the group representative's photograph appeared was accompanied by four fabricated facts about the representative: name, city and country of origin, and how long they had been at UTA. In the Latino immigrant group condition (La Esperanza), the group representative's name was "Maria Hidalgo," she was from Mexico City, Mexico, and she had been at UTA for two years. For the Arab immigrant group condition (National Association of Arab Students), the group representative's name was "Lailah Hassad"; she was from Cairo, Egypt, and she had been at UTA for one year. In the photograph, the Arab group representative was wearing a solid colored hijab, the head scarf worn by Muslim women. The representative for the European

immigrant group (European Union Students Association), was named “Monica Schmidt,” she was from Berlin, Germany, and she had been at UTA for 18 months. The first names were chosen for the group representatives because they are fairly common in each of the respective countries listed. In the extended contact conditions, upon seeing “Lailah,” the Arab group representative, the confederate remarked “Oh my gosh, that’s my friend Lailah.” In the control conditions, the confederate did not say anything. The slide presentation was on a timer that automatically advanced each slide. Several volunteers watched the slide presentation prior to activating the study to ensure that it did not advance too fast or too slowly. The presentation order of the three groups was counterbalanced.

### *2.3.2 Laboratory Phase Two*

During this phase, I told the pair that they would no longer be working together, although they would both be completing the same tasks, but in separate areas of the lab. I asked the confederate to wait in the waiting area and told her that I would come and get her as soon as the other participant was set up. The participant then engaged in the money-allocation task and the online survey; the order for these two activities was counterbalanced.

#### *2.3.2.1 Money Allocation Task*

This task measured behavior toward the three target groups. In a separate room in the lab, four, large opaque containers with a slot in each lid were placed on a table. Three of the containers were labeled with one of the names of the three potential recipient groups. The fourth container was labeled “General Fund.” Ten white poker chips, representing \$100 each, were placed in front of each container labeled with a group’s name, but not in front of the General Fund container. Participants were instructed that they could allocate up to but not more than 10 chips (\$1,000) to each social group eligible for funding for the following year. They were also told that only one group would receive funding next year: the group that receives the most

“votes”, which will be calculated by the number of chips each group receives overall.<sup>2</sup>

Participants were told to place any unallocated chips in the General Fund container.

### *2.3.3 Postexperiment Questionnaire*

Participants were asked to sign on to SONA, the psychology department’s online research site, to complete a questionnaire that was administered in the laboratory immediately following either the slide show presentation or after the money allocation task. The order of dependent measures (money allocation vs. attitude questionnaire) was counterbalanced between participants. Using the online tool allowed me to download these data directly, reducing the possibility of data entry errors, and to match to previously collected data via student identification codes. The questionnaire included questions about perceived attitudes, intergroup anxiety, ingroup norms, outgroup norms, and inclusion of the other in the self as they related to the specific target immigrant groups represented in the video presentations (National Association of Arab Students, La Esperanza, and European Union Students’ Association). In order to maintain the integrity of the memory cover story, participants were asked questions about the confederate and specific questions about the group representatives. Participants were reminded that their responses would be kept confidential and anonymous to rule out the possibility (as much as possible) that participants may have rated the target immigrant groups to compare favorably (or less unfavorably) to the other “participant” who perhaps rated the Arab group highly based on an ostensible friendship.

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<sup>2</sup> This measure can be construed as a measure of aggression because it measures an intentional behavior that can potentially harm another person (or group) who is motivated to avoid it (e.g., Konrath, Bushman, & Campbell, 2006; Lickel, Miller, Stenstrom, Denson, & Schmader, 2006).

#### 2.3.3.1 Manipulation Check For Group Membership

These questions were included to highlight the similarities or differences between the participant and the confederate by asking the participant to recall the name, country, and home town of the confederate. Questions about the other participant included the following: What was your partner's name first name? *a. (fill in the blank) or b. Don't remember*; "Your partner was born in what city?" *a. (fill in the blank) or b. Don't remember*; "Your partner was born in what country?" *a. (fill in the blank) or b. Don't remember*; and "Your partner is a U.S. citizen." *a. yes or b. no*. Participants were also asked to rate how similar they felt toward the confederate, "Based on your partner's profile, how similar or different do you think you are to your partner?" *1 not at all similar to 7 very similar*.

#### 2.3.3.2 Intergroup Attitudes

I administered the same feelings thermometer as that given in the preexperimental questionnaire (Haddock et al., 1993). In addition, respondents were asked "In general, how deserving do you think the (target immigrant group) is to receive funding for the 2011/2012 school year? Answer choices were presented on a seven-point Likert scale (1 = *very deserving* to 7 = *not deserving at all*). This measure was reversed prior to analysis.

### 2.3.4 Mediator Variables

#### 2.3.4.1 Intergroup Anxiety

Turner et al. (2008) suggested that intergroup anxiety may stem from two sources, negative anxiety about the outgroup or negative expectations from other ingroup members for having outgroup friends. Two sets questions explored these different sources of potential intergroup anxiety. Questions were posed to garner responses about the target social groups represented in the slide show. The first set of questions measured negative expectations about the outgroup in relation to the self: "Imagine that you were assigned to show a new student who is (from the target immigrant social group) around campus for the day. How would you feel in this situation?" and "How would you feel mixing socially with complete strangers who are (from

the target social group)?” The second set questions measured anxiety over possible negative reactions from ingroup friends if the ingroup member were to interact with the outgroup: “If you had a friend who was (from the target immigrant social group), how do you think your American friends would feel in this situation?” and “Imagine that you have been invited to a party where the majority of the people there will be from (target immigrant social group). How do you think your American friends would feel in this situation?” Answer choices, adapted from Stephan and Stephan (1985) included the following: *comfortable, tense, pleased, worried, scared, suspicious, relaxed, and nervous* (Turner et al., 2007, 2008). Each adjective was followed by a 7-point scale (1 = *not at all* to 7 = *very much*). Items 1, 3, 6, and 7 were reversed so that higher scores indicated more positive responses. It was not feasible to perform a factor analysis because of the large number of questions for these four measures and the relatively small sample size. Also, because of the high correlation among the variables, it was deemed appropriate to standardize and combine the two measures to create one measure of intergroup anxiety. This measure was highly reliable ( $\alpha = .89$ ).

#### 2.3.4.2 Ingroup Norms

Three sets of questions, adapted from Turner et al. (2008), measured this construct. Each question asked participants about their feelings toward the target immigrant social groups represented in the slide show presentation: “How friendly do you think your American friends would be toward (target immigrant social group; e.g., the National Association of Arab Students; La Esperanza; the European Union Student Association)?” (1 = *very unfriendly*, 2 = *quite unfriendly*, 3 = *not sure*, 4 = *quite friendly*, 5 = *very friendly*); “Do you think your American friends would be happy to go out with/date someone who is from (target immigrant social group)?” (1 = *not at all happy* to 7 = *very happy*); and “In general, how much do you think American people would like (target immigrant social group)?”(1 = *not at all* to 7 = *very much*). All items loaded onto one factor; this measure was reliable ( $\alpha = .79$ ).

#### 2.3.4.3 Outgroup Norms

Three questions, adapted from Turner et al. (2008), measured this construct: “How friendly do you think (members of target immigrant social group) would be toward your American friends?” (1 = *very unfriendly*, 2 = *quite unfriendly*, 3 = *not sure*, 4 = *quite friendly*, 5 = *very friendly*); “In general, how much do you think members of (target immigrant social group) would like Americans?” (1 = *not at all* to 7 = *very much*), and “Do you think members of (target immigrant social group) would be happy to go out with/date someone who is American?” (1 = *not at all happy* to 5 = *very happy*). Factor analysis showed that all items loaded onto one factor, and the measure was reliable ( $\alpha = .78$ ).

#### 2.3.4.4 Inclusion of the Outgroup in the Self

I used a measure adapted by Turner et al. (2008) and Tropp and Wright’s (2001) interpretation of inclusion of the ingroup in the self scale (Aron et al., 1992). Participants were given a sheet with three sets of the IOS scales, one for each target immigrant social group. For each group they were asked “Please circle the set of circles that best describes how close you think you would feel towards the members of the (target immigrant social group). For this question, self refers to you and other refers to members of (target immigrant social group).” The statement was followed by seven pairs of overlapping circles depicting varying degrees of closeness. One circle in each pair was identified as “other,” and the other circle as “self.” The pairs of circles were rated from 1 (no inclusion of the outgroup in the self) to 7 (most inclusion of the outgroup in the self).

#### 2.3.5 Additional Questions

The survey included filler-type questions in part to extend the cover story that this study was about memory, but also to establish that, in addition to key information about the confederate (as discussed above), information about the target immigrant social groups were made salient to the participant. Participants also were asked to answer specific questions about each of the three group representatives depicted in the slide show presentation. Answer



choices were provided in a multiple choice format. For example, “What was the first name of the group representative for the National Association of Arab Students?” (choices given were *a. Lahtia*, *b. Wajiha*, *c. Fatima*, and *d. Lailah*), and “The National Association of Arab Students group representative comes from what country?” (choices included *a. Egypt*, *b. Lebanon*, *c. Saudi Arabia*, and *d. Jordan*).

Upon completion of all of the laboratory elements, the participants were probed for any suspicion<sup>3</sup>, fully debriefed, thanked and dismissed.

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<sup>3</sup> At different times between February and May 2011, I probed specifically about events happening in the Middle East (e.g., “Arab Spring” and the assassination of Osama bin Laden), and whether they may have influenced how participants responded on the follow-up questionnaire and the money-allocation task. Only one participant indicated that these events influenced her responses on the survey; her data were excluded from analyses.

## CHAPTER 3

### RESULTS

#### 3.1 Pilot Study

The main study design required pairing research assistants (confederates) with actual participants to give the impression that this was a study about memory retention after a group activity (a group being two or more people). However, the confederate's key roles were to represent either an ingroup or outgroup member and to carry out the extended contact manipulation in the experimental condition.

Before implementing the main analyses, I conducted a pilot study to test whether participants identified more with the ingroup partner compared to the outgroup partner, and to ensure that there were no differences among the confederates. Research participants ( $N = 37$ ) were asked to fill out a survey recalling information about the confederate they were paired with, and asked to rate how similar they felt to that partner.<sup>4</sup>

A three-way ANOVA (Partner Group Membership x Contact Condition x Confederate) showed a significant effect for the partner group membership condition,  $F(2, 24) = 3.61$ ,  $p = .043$ ,  $\eta_p^2 = .23$ . Research participants felt significantly more similar to the confederate in the ingroup conditions ( $M = 3.75$ ,  $SD = 1.73$ ) compared to the outgroup conditions ( $M = 2.8$ ,  $SD = 1.32$ ). Overall, there were no significant differences among the confederates,  $F(3, 24) = 1.11$ ,  $p = n.s.$ . However, post hoc tests of the individual confederates by experimental condition revealed that one confederate was considered more similar in the outgroup condition than in the ingroup condition. These results were deemed spurious, as they were based on only two

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<sup>4</sup> The procedure for this pilot study was similar to the procedure described in the "Manipulation check for partner group membership" section under Methods, Phase 1, above.

sessions. However, for other reasons, this research assistant was not retained in the main study.

### 3.2 Results of Main Study

#### *3.2.1 Manipulation Check for Partner Group Membership*

As with the pilot study analysis, I conducted a three-way ANOVA (Partner Group Membership x Contact x Confederate) to confirm that the desired partner group membership manipulation was achieved, and to ensure that there were no significant differences among the confederates across the different conditions.

Replicating the results of the pilot study, confederates in the ingroup partner group membership condition were considered significantly more similar to participants in the ingroup conditions ( $M = 3.15$ ,  $SD = 1.18$ ) compared to the outgroup conditions ( $M = 1.86$ ,  $SD = .70$ ),  $F(1, 72) = 28.91$ ,  $p < .001$ ,  $\eta^2 = .29$ . There were no significant differences in similarity among the confederates,  $F(4, 72) = 1.01$ ,  $p = n.s$ , and post hoc tests revealed no significant differences among the individual confederates across the two conditions, all  $ps > .08$ .

#### *3.2.2 Analyses for Hypotheses 1, 2, and 2a*

##### *3.2.2.1 Correlations and Analyses*

Table 1 shows the means, standard deviations, and correlations among the study variables. General attitudes toward the target groups (Arab, Latino, and European), deservingness to receive funding, and the chip distribution (behavior) scores were highly intercorrelated. Therefore, these three measures were standardized and combined to create the composite outgroup attitude measure, ArabEval ( $\alpha = .80$ ). (Similar analyses were conducted to test LatinEval, EuroEval). However, because the chip distribution was measuring a behavioral component of the study, separate analyses were conducted examining the effect of the laboratory manipulations on this specific outcome.

Table 1. Means, Standard Deviations, and Correlations among Key Test Variables

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Arab Eval <sup>a</sup>	-.005	0.84	-												
2. General Attitudes	63.85	21.33	.858**	-											
3. Arab Deserve	4.62	1.58	.814**	.520**	-										
4. Arab Chip	6.27	3.02	.858**	.650**	.532**	-									
5. National Identity	5.22	1.07	-0.19	-0.20	-0.17	-0.10	-								
6. Quality Contact	2.43	0.62	.397**	.394**	.219*	.398**	-.249*	-							
7. Extended Contact	2.11	0.86	0.12	0.12	-0.05	.233*	-0.12	.480**	-						
8. Contact Quantity	2.2	0.74	0.17	0.15	0.05	.218*	-0.08	.485**	.522**	-					
9. Intergroup Anxiety	2.95	1.18	-.583**	-.555**	-.460**	-.460**	0.18	-.511**	-0.16	-.280**	-				
10. Self In Outgroup	2.67	1.45	.407**	.410**	.327**	.290**	-0.20	.433**	0.16	0.17	-.333**	-			
11. Ingroup Norm	3.37	0.89	.438**	.457**	.302**	.348**	-.238*	.402**	0.12	0.14	-.645**	.346**	-		
12. Outgroup Norm	3.47	0.83	.538**	.476**	.487**	.396**	-0.12	.402**	0.06	0.07	-.617**	.374**	.734**	-	
13. Contact <sup>b</sup>			-.234*	-0.20	-0.17	-.217*	0.08	-0.11	-0.13	-0.17	0.13	-0.20	-0.12	-0.14	-
14. Partner Group Membership <sup>c</sup>			-0.08	-0.11	0.00	-0.09	0.09	-0.19	-0.07	-0.16	.207*	-0.09	-0.05	-0.10	0.06

Note: \*\*  $p < .001$ , \*  $p < .01$ ; <sup>a</sup> = standardized score, a composite of Feeling, Arab Deserve, and Arab Chip; <sup>b</sup> = contact measure: extended = -1, control = 1; <sup>c</sup> = partner group condition, -1 = ingroup, 1 = outgroup.

Hypotheses 1, 2, and 2a, tested for the main effects and interaction effects of extended contact, partner group membership, and the moderating effects of national ingroup identity to predict outgroup evaluations, over and above quality contact, extended contact, and contact quantity. The extended contact and partner group membership factors were categorical variables and were converted to effects codes, as suggested by Aiken and West (1991). Interaction terms were created between the two test conditions and the centered moderator, national ingroup identity.

To test the main effects and interaction effects of extended contact and partner group membership on Arab evaluations, I conducted a two-way ANCOVA (Contact x Partner Group Membership), with the control variables (quality contact, extended contact, and contact quantity) entered as covariates. Quality contact was a significant predictor of evaluations toward the Arab target immigrant group,  $F(1, 85) = 16.36, p < .001, \eta_p^2 = .16$ . The other control variables (extended contact and contact quantity) were not significant and were, therefore, dropped from all further analyses. Prior to conducting the main analyses, an ANCOVA showed no significant interactions between the control variable, quality contact, and the predictor variables, contact and partner group member condition; therefore, assumptions of homogeneity of variances were met.

Supporting Hypothesis 1, there were significant standardized mean differences in evaluations toward the Arab target immigrant group in the extended contact condition ( $M = .19, SD = .83$ ) compared to the control condition ( $M = -.21, SD = .81$ ),  $F(1, 85) = 3.81, p = .054, \eta_p^2 = .043$ . There was no main effect for partner group membership ( $p = .87$ ), and the interaction between partner group membership and extended contact also was not significant ( $p = .63$ ). The latter effect indicates a failure to reject the null for Hypothesis 2. However, paired comparisons of the estimated marginal means showed a marginal simple effect of extended contact in the ingroup partner condition (extended contact:  $M = .17, SE = .16$  versus control contact:  $M = -.22, SE = .16$ ),  $F(1, 85) = 2.98, p = .088, \eta_p^2 = .034$ . There was no evidence of any

impact of extended contact on Arab evaluations in the outgroup partner condition,  $F(1, 85) = 1.09$ ,  $p = .30$ , (extended contact:  $M = .12$ ,  $SE = .17$  and control contact:  $M = -.12$ ,  $SE = .17$ ). Figure 3.1 illustrates these relationships. Overall, these findings suggest that the extended contact condition influenced more positive evaluations toward the Arab outgroup than the control contact condition, and that this relationship may be potentially influenced by a shared ingroup identity.

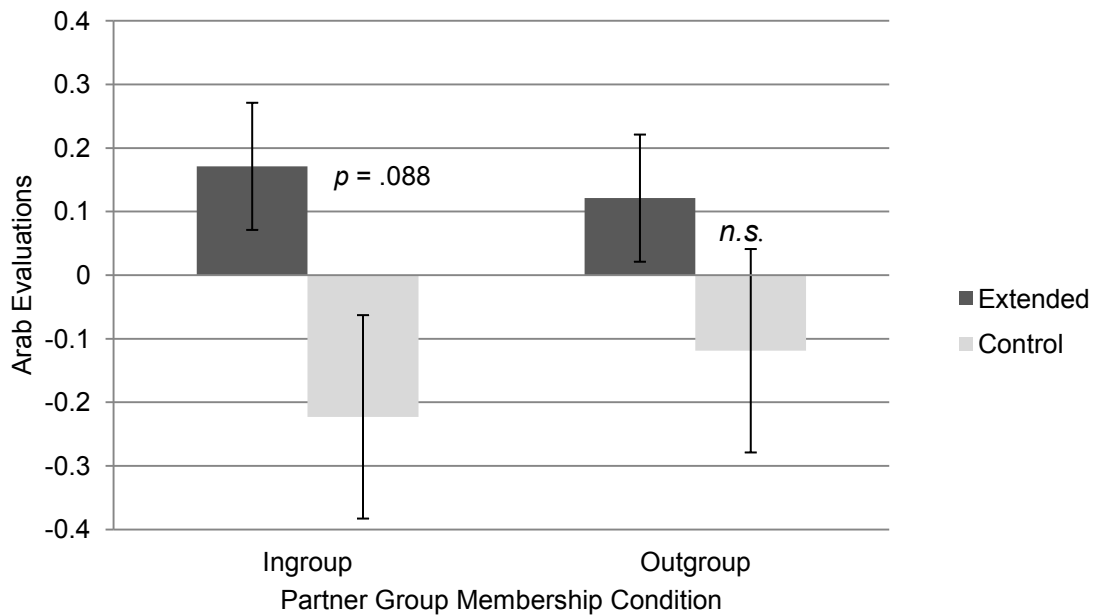


Figure 1. Effects of partner group membership and contact conditions on Arab evaluations.  
 Note: Means (+/- SE) are represented by estimated marginal means and standardized evaluation scores.

For Hypothesis 2a, the three-way interaction of national ingroup identity, extended contact, and partner group conditions, I conducted a hierarchical regression analysis. There were seven key test variables in the model: extended contact, partner group membership, the interaction between the two experimental conditions, the moderator (national ingroup identity), the interaction between extended contact and national ingroup identity, the interaction between

partner group membership and national ingroup identity, and the three-way interaction among extended contact, partner group membership, and national ingroup identity. In addition, I controlled for quality contact. The centered control variable, quality contact, was entered into the first step. The key test variables and their interaction terms were entered into the second step. The overall model was statistically significant,  $R^2 = .23$ ,  $F(8, 81) = 2.96$ ,  $p = .006$ . However, this was due primarily to the control variable, quality contact, which accounted for 11% of the variance in evaluations toward the Arab target group,  $t(81) = 3.39$ ,  $p = .001$ . The regression analysis revealed a marginal effect for extended contact,  $t(81) = -1.89$ ,  $p = .070$ ,  $sr_i^2 = .032$ . National ingroup identity did not moderate the extended contact or partner group membership factors, and the three-way interaction was not significant (all  $ps > .1$ ). Nor were there any significant results of high (+1 *SD*) or low (-1 *SD*) levels of national ingroup identity moderating extended contact and the partner group membership conditions. Hypothesis 2a was not supported.

A separate set of ANCOVAs and regression analyses were conducted with just the behavioral measure (chip distribution) as the outcome measure. Again, quality contact predicted more favorable behavioral outcomes toward the Arab target immigrant group,  $F(1, 85) = 17.51$ ,  $p < .001$ , accounting for 17% of the variance in Arab chip distributions. Over and above that effect, the effect of extended contact on behavior alone was marginally significant,  $F(1, 85) = 3.41$ ,  $p = .068$ ,  $\eta_p^2 = .039$ . There was no interaction between extended contact and partner group membership ( $p = .45$ ), and regression analyses revealed no significant effects of national ingroup identity as a moderator of the relationship between extended contact and partner group membership ( $p = .59$ ). Furthermore, in the regression model, extended contact was only marginally significant,  $t(81) = -1.73$ ,  $p = .087$ ,  $sr_i^2 = .029$ . I explored the relationship between the predictors, contact condition and partner group membership conditions, at low (-1 *SD*) and high (+1 *SD*) levels of national ingroup identity; none of these models was significant.

### 3.2.3 Mean Differences among Target Immigrant Groups

I conducted a series of repeated measures analyses to examine the general attitude scores, behavioral scores (chip allocation), and deservingness scores among the three target immigrant groups, controlling for Arab quality contact, Latino quality contact, and European quality contact. Estimated marginal means and standard errors for the attitude, chip distribution, and deserving scores by contact and partner group membership conditions for each of the target immigrant groups are shown in Table 2. Analysis of general attitudes among the three groups showed a within-subjects omnibus effect,  $F(2, 82) = 29.95, p < .001, \eta_p^2 = .33$ , indicating significant differences in mean scores for attitudes among the three groups. Paired comparisons revealed that across all conditions the European group garnered more positive attitude scores; the exception being the outgroup partner membership by control contact condition, in which there was no significant difference between the Latino and European target groups' attitude scores. There was a significant within-subjects omnibus effect for chip distribution among the three target immigrant groups,  $F(2, 82) = 13.39, p < .001, \eta_p^2 = .25$ . Paired comparisons showed that the European group received more favorable behavioral measures compared to the Arab and Latino groups in the ingroup partner membership by control contact condition, and the European group received more favorable behavior scores compared to the Latino group in the ingroup partner membership by extended contact condition. There was not a significant difference in behavioral scores between the European and Arab groups in the ingroup partner membership by extended contact condition, nor were there any significant differences in behavioral scores among the three groups in the outgroup partner membership conditions. The analysis of deservingness scores showed a similar pattern. There was a significant effect of group deservingness scores  $F(2, 82) = 11.03, p < .001, \eta_p^2 = .21$ . Participants in the ingroup partner membership conditions rated the European group significantly more deserving to receive the money being awarded by the school compared to the



Table 2. Estimated Marginal Mean Comparisons of Attitude, Chip Distribution, and Deservingness Scores among Three Target Immigrant Groups

Partner Group Condition	Contact Condition	Arab Attitude	Latin Attitude	Europe Attitude	Arab Chip	Latino Chip	Europe Chip	Arab Deserve	Latino Deserve	Europe Deserve	
		M (SE)	M (SE)	M (SE)	M (SE)	M (SE)	M (SE)	M (SE)	M (SE)	M (SE)	
Group Comparisons											
39	Ingroup	Extended	67.73 <sup>a</sup> (4.1)	67.67 <sup>a</sup> (4.60)	82.53 (3.34)	6.98 (.56)	6.53 <sup>a</sup> (.61)	8.57 (.48)	4.81 <sup>b</sup> (.32)	4.77 <sup>a</sup> (.31)	5.82 (.29)
		Control	60.13 <sup>a</sup> (4.37)	62.53 <sup>a</sup> (4.91)	83.16 (3.56)	5.30 <sup>a</sup> (.59)	5.52 <sup>a</sup> (.65)	8.52 (.51)	4.30 <sup>a</sup> (.35)	4.62 <sup>a</sup> (.33)	5.87 (.31)
	Outgroup	Extended	66.62 <sup>b</sup> (4.35)	65.51 <sup>a</sup> (.89)	77.98 (3.55)	6.67 (.59)	6.53 (.65)	8.03 (.50)	4.83 (.34)	4.28 (.33)	5.14 (.31)
		Control	60.11 <sup>a</sup> (4.11)	66.56 (4.61)	74.39 (3.34)	5.92 (.56)	5.64 (.61)	7.24 (.48)	4.53 (.33)	4.73 (.31)	5.01 (.29)

Notes. <sup>a</sup> = significantly different from European scores,  $p < .05$ ; <sup>b</sup> = significantly different from European scores,  $p < .07$ , controlling for Arab quality contact, Latino quality contact, and European quality contact.

Arab and Latino groups. There were no significant differences in deservingness scores in the outgroup partner membership conditions. Across the contact and partner group membership conditions, there were no significant differences in attitude, chip distribution, or deservingness scores between the Arab and Latino target groups.

#### 3.2.3.1 Attitude Change Over Time

Participants completed preexperimental and postexperimental questionnaires assessing attitudes toward the three target immigrant groups. Repeated measures analyses revealed a significant difference in attitudes among the groups,  $F(2, 82) = 58.54, p < .01, \eta_p^2 = .59$ . Furthermore, the interaction of target group by time of survey,  $F(2, 82) = 9.55, p < .001, \eta_p^2 = .19$ , and target group by partner group membership condition,  $F(2, 82) = 3.36, p = .041, \eta_p^2 = .075$ , were significant. Post-hoc analyses revealed overall significant improvement in general attitudes toward the Arab target immigrant group on the postexperimental survey ( $M = 63.65, SE = 2.10$ ) compared to the preexperimental survey ( $M = 54.31, SE = 2.10$ ),  $F(1, 83) = 16.76, p < .001, \eta_p^2 = .17$ . Furthermore, these improved attitudes were significant only in the ingroup partner membership condition in both the extended contact manipulation,  $F(1, 83) = 10.91, p = .001, \eta_p^2 = .116$ , and the control contact condition,  $F(1, 83) = 6.56, p = .012, \eta_p^2 = .073$  (see Table 3). There were no significant changes in attitudes from the preexperimental to postexperimental surveys toward the Latino ( $M_s = 65.56$  and  $67.65, SE_s = 2.34$  and  $2.35$ , respectively) and European ( $M_s = 76.54$  and  $79.52, SE_s = 2.31$  and  $1.71$ , respectively) target groups. Table 3 displays the estimated marginal means for the comparisons by contact condition and partner group condition for the three target immigrant groups. Figure 2 illustrates the estimated marginal mean scores for attitudes toward the Arab group between the preexperimental and postexperimental surveys by contact and partner group conditions.

Table 3. Estimated Marginal Mean (and Standard Error) Comparisons of Preexperimental to Postexperimental Questionnaire: Attitudes Toward Target Immigrant Groups by Contact and Partner Group Membership Conditions

Contact Condition	Partner Group Membership	N	Arab Pre-Experiment	Arab Post-Experiment	Latin Pre-Experiment	Latin Post-Experiment	European Pre-Experiment	European Post-Experiment
Extended	Ingroup	24	53.01 <sup>a</sup> (4.03)	67.73 <sup>a</sup> (4.10)	66.75 (4.58)	67.67 (4.60)	79.95 (4.51)	82.53 (3.36)
	Outgroup	21	63.38 (4.29)	66.62 (4.35)	71.41 (4.87)	65.50 (4.89)	79.66 (4.80)	77.98 (3.55)
Control	Ingroup	21	47.95 <sup>b</sup> (4.30)	60.13 <sup>b</sup> (4.37)	65.56 (5.89)	62.53 (4.91)	76.20 (4.81)	83.16 (3.56)
	Outgroup	24	52.91 (4.05)	60.11 (4.11)	65.86 (4.59)	66.56 (4.61)	70.33 (4.53)	74.39 (3.34)

Note: Controlling for Arab quality contact, Latino quality contact, and European quality contact. Means sharing the superscript (<sup>a</sup>) are significantly different at  $p < .01$ ; means sharing the superscript (<sup>b</sup>) are significantly different at  $p < .05$ .

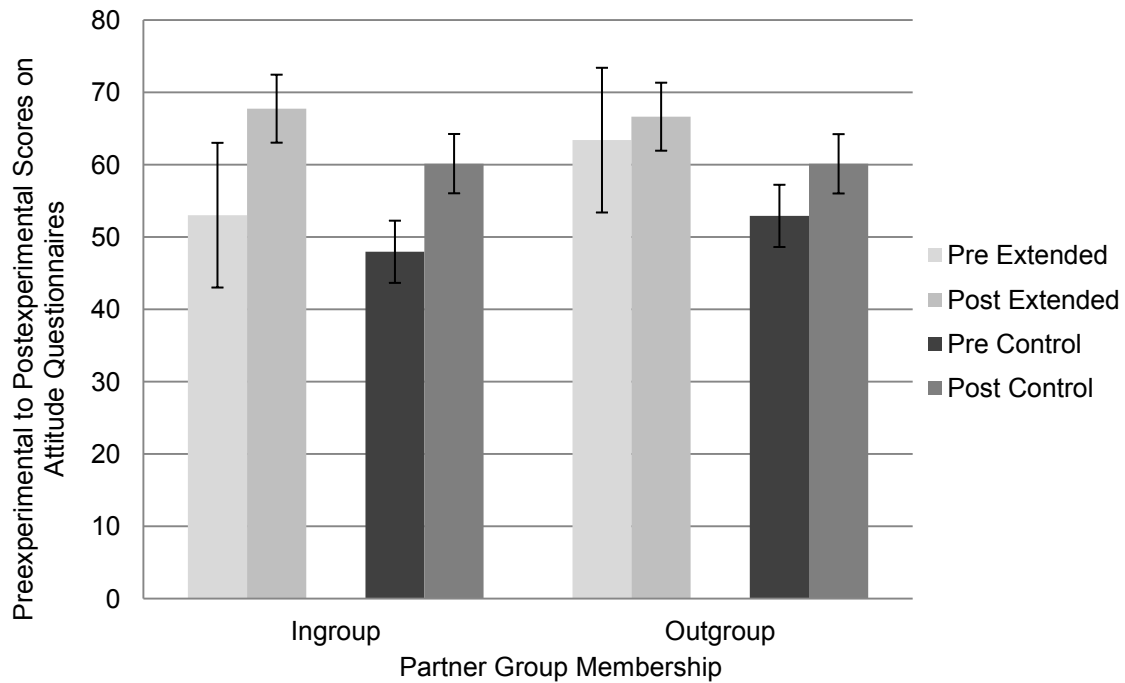


Figure 2. Comparison of preexperimental and postexperimental attitudes toward Arab immigrants by contact and partner group conditions.

### 3.2.4 Analyses of Hypotheses 3 and 3a

#### 3.2.4.1 Tests of Mediation

I proceeded with a test of the mediators of extended contact (Wright et al., 1997), based on suggestions by Preacher, Rucker, and Hayes (2007) that main or interaction effects are not a prerequisite for examining indirect mediation effects (see also Hayes, 2009). I used macros designed by Hayes (2009), which allows for tests of mediation with small sample sizes. These tests also provide a bootstrapping technique in which confidence intervals that do not include zero indicate significant indirect effects. The macro for moderated mediation testing provided analyses at high (+1 *SD*) and low (-1 *SD*) levels of the moderator (Hayes, 2009; Preacher et al., 2007).

In Hypothesis 3, I predicted that extended contact would be mediated by inclusion of the outgroup in self (IOS: Aron et al., 1992), ingroup norms, outgroup norms, and intergroup anxiety. To test these relationships, I conducted a multiple mediator test with all of the mediators in the model, and then tests with each mediator separately. Extended contact was the independent variable, evaluation toward the Arab target group was the outcome measure, and I controlled for quality contact. In all models, there were no indirect effects of the mediators on extended contact and outgroup evaluations (all confidence intervals included zero). Although there were no mediation effects, there were direct effects of the mediators on the dependent variable. In the full model, intergroup anxiety and outgroup norms significantly predicted evaluations toward the Arab immigrant group,  $B = -.34, p = .003$  and  $B = .25, p = .019$ , respectively. In the tests of the individual mediators separately, the four mediators were significant predictors of evaluations toward the Arab target group: IOS,  $B = .15, p = .019$ ; ingroup norms,  $B = .30, p = .002$ ; outgroup norms,  $B = .45, p < .001$ ; and intergroup anxiety,  $B = -.47, p < .001$ . These relationships were indicated based on the moderate to strong correlations between the mediators and the outcome measures (see Table 1).

In supplementary analyses I examined the effects of the individual mediators on extended contact and Arab evaluations in the ingroup and outgroup partner group membership conditions. There were no indirect effects of the mediators (all  $ps > .1$ ). Hypothesis 3 was not supported.

#### 3.2.4.2 Moderated Mediation

Finally, I examined a moderation mediation model to examine whether the indirect effects, tested above, would emerge as an increasing function of ingroup identification. I conducted tests of the individual mediators separately. National ingroup identity did not moderate extended contact to predict the mediators, and there were no indirect effects of the mediators (all  $ps > .1$ ). Supplementary analyses revealed no effects of the mediators by contact

and partner group conditions. There was no evidence of moderated mediation in these models; Hypothesis 3a was not supported.

## CHAPTER 4

### DISCUSSION

#### 4.1 Tests of Hypotheses

This study set out to examine the fundamental proposal of the extended contact hypothesis that outgroup attitudes can change by the mere knowledge that an ingroup member has an outgroup friend (Wright et al., 1997). Along with a test of extended contact, I proposed a test of the mediators of extended contact – intergroup anxiety, ingroup norms, outgroup norms, self in the outgroup - after an experimental manipulation. I was also interested in exploring the moderating effects of national ingroup identity on extended contact generally and in tests of mediation on outgroup evaluations. These proposals were explored in the context of attitudes and behavior toward Arabs in the United States, a group that has been negatively targeted and discriminated against since at least September, 2001 (EEOC, 2002; U.S. Department of Justice, 2007). I will first highlight the findings and limitations of each analysis performed in this study, followed by a general discussion of limitations and future directions.

At the outset, it is worth noting that all analyses controlled for quality of contact, which is defined as interactions with the outgroup that are pleasant, comfortable, and respectful. Not surprisingly, quality of contact accounted for the largest proportion of variance in evaluations and behavior toward the Arab immigrant target group. In direct contact situations, quality of contact has predicted stronger effects on outgroup attitudes than quantity of contact (Brown & Hewstone, 2005; Hewstone & Swart, 2011; Kenworthy et al., 2005; Pettigrew & Tropp, 2006, 2008, Tausch et al., 2007). For this study, the quality of contact measure was collected on a separate survey in advance of the experimental phase of the study, which supports theory and empirical evidence that quality contact aids in establishing positive evaluations of the outgroup that are lasting and generalize to other situations (Christ et al., 2010).

#### *4.1.1 Tests of Hypotheses 1, 2, and 2a*

Despite this strong effect of quality contact, there was a significant effect of extended contact on evaluations toward the Arab target immigrant group. This finding supports the growing evidence in the literature on the effects extended contact can have on improving intergroup relationships. Importantly, this study contributes evidence for the effects of extended contact after an experimental manipulation in an area of research in which very few experimental studies have been conducted (cf. Cameron et al., 2006, 2011; Liebkind & McAlister, 1999; Wright et al., 1997).

I also examined actual behavior, as opposed to intended behavior (Cameron et al., 2006, 2011; Christ et al., 2010), operationalized as a money-allocation task (via chip distribution), toward a real outgroup after an extended contact manipulation. Although this effect was only marginally significant, the direction of the finding suggests that an extended contact intervention has the potential to bring about positive actions toward the outgroup as well as change affective and cognitive perceptions of outgroup members. To date, only a handful of studies have examined the effects of extended contact on behavioral intentions (Cameron et al., 2006, 2011; Cameron & Rutland, 2006; Christ et al., 2010) or actual behavior in an experimental setting (Wright et al., 1997).

Hypothesis 2 proposed a test of the fundamental position of the extended contact hypothesis, namely, that knowledge that an ingroup member (compared to an outgroup member) has an outgroup friend has the capacity to positively influence attitudes toward the outgroup. I did not find solid support for this position. There was a slight indication that participants in the ingroup partner member condition, who were exposed to the extended contact manipulation, held marginally more positive evaluations toward the outgroup than participants in the ingroup partner member condition and control contact condition. There was no marginal effect or indication of effect in the partner group member conditions (ingroup and outgroup) and control contact condition. Although this finding suggests an interaction between



extended contact and the ingroup partner group member, it was not statistically significant, and should not be mistaken as support for Hypothesis 2.

Rounding out this set of analyses was a test of national ingroup identity as a moderator of extended contact in the ingroup identity partner group condition. The hypotheses stated that participants who identified more strongly with being American, when paired with an American confederate in the extended contact condition, would be more influenced by the confederate's friendship with an outgroup member. The idea being that this influence would translate into a reevaluation of the participant's attitudes toward the outgroup and result in more positive evaluations toward the Arab target group. Ingroup members whose identity strength was low, on the other hand, would not be influenced by an American ingroup's friendship with an outgroup member. Although theoretically compelling, national ingroup identity did not moderate the relationship between the contact condition and the partner group membership condition, and there were no indications of any trends toward an effect at high and low levels of national ingroup identity. Hypothesis 2a was not supported.

Taken together, the results for Hypotheses 1, 2 and 2a suggest that an extended contact intervention can influence positive evaluations and, potentially, behavior toward an outgroup, above and beyond quality contact, but that a shared ingroup identity may not be necessary to facilitate this effect. Furthermore, there was no evidence that one's identity strength as an American (national ingroup identity) influenced the effects of extended contact in the ingroup partner group membership condition.

On the surface, these results do begin to answer one of the primary questions this study asked: Are improved intergroup relationships facilitated by a shared ingroup identity? However, an assessment of the study design and setting has highlighted two interesting intergroup dynamics that may have influenced the results of the study. First, the design of the study in which a participant had the extended contact encounter with either an ingroup (American) confederate or an outgroup (Chinese) confederate may have presented a direct

intergroup contact experience. In both partner group conditions (ingroup and outgroup), one could assert that all four principles of Allport's (1954) contact hypothesis were in operation. Each participant was paired with a confederate (American or Chinese) in an environment that promoted equality, in which participants cooperated to fulfill a shared goal, and this activity was approved by authority at three different levels - the researcher, the psychology department, and the university. Furthermore, participants disclosed personal information about themselves by way of the personal profiles (Pettigrew, 1998). The intergroup model of contact (Hewstone & Brown, 2005) suggests that direct encounters with an outgroup member (in the current example, the Chinese confederate) in which the group identities of the ingroup and outgroup are kept salient are particularly effective in improving intergroup relations. If the outgroup member is perceived as typical of the outgroup, this allows positive encounters to generalize to the outgroup, and, potentially, to other outgroups (Hewstone & Brown, 2005; Pettigrew, et al., 2007). The manipulation check for the partner group's ingroup and outgroup identity revealed that participants felt more similar to the ingroup member than the outgroup member. But this finding, seen in the context the intergroup model of contact, may have enhanced the intergroup encounter by virtue of the positive encounter with the Chinese outgroup member, despite obvious national identity differences, which may have influenced the participant to consider her attitudes toward the Arab outgroup member in a favorable light upon learning that the confederate had an outgroup friend. This notion receives support, in part, by the positive responses, across experimental conditions, to the question on the experimental follow-up questionnaire that asked participants if they would be willing to work with the confederate on another project. There were no differences in responses by contact condition or partner group conditions, indicating that the participants did not hold any animosities toward the outgroup partner group confederate because of her different national identity, and perhaps that some other shared identity (e.g., University affiliation) overshadowed the national identity manipulation.

Second, participants who volunteer to participate in a study titled “Social Groups on Campus,” to help the university decide which social groups should be on campus in coming months, may be more interested in being involved with other people. Wright (2011) contends that a desire for personal self-expansion may influence some people to seek out friendships with members of different outgroups, even in the face of intergroup anxiety and uncertainty. Being exposed to people from different cultures, who may have customs and beliefs different from one’s own, in a positive setting, is a means of expanding one’s experiences and sense of self.

#### *4.1.2 Comparisons of Outgroup Attitudes among Target Groups*

Next, I compared the attitude and behavior outcomes for the three groups represented in the study. Overall, attitudes and behavior toward the European target group were more positive than attitudes and behavior toward the Arab and Latino groups. These ratings corroborate previous research that found that Arabs and Latinos evoked significantly higher levels of anxiety (worry, anxiety, fear) compared to Europeans, and Arabs were perceived as more likely to want to harm the United States compared to Latino, European, Indian, Asian, Russian, and African immigrants in the United States (Lyons et al., 2010).

Of particular interest in the study presented here is that attitudes toward Arabs were more positive on the post-experimental survey given after the laboratory phase of the study compared to attitudes toward Arabs in the preexperimental survey, which was completed online without any experimental manipulation. The effect was evident across the ingroup partner group membership condition, and it was strongest among participants who were in the extended contact manipulation. This test of attitudes provides the only significant finding for the partner group membership condition, and suggests that being paired with a person who shared a national identity made an impact. In the context of this study, namely improving intergroup relations with Arab immigrants in the United States, these findings are promising. Even more

telling about the impact of the experimental manipulation is that there were no significant changes in attitudes over time toward the European and Latino groups.

#### *4.1.3 Tests of Mediation*

Finally, I tested the mediators of extended contact – intergroup anxiety, ingroup norms, outgroup norms, and self in the outgroup. I also tested a moderated mediation model with national ingroup identity as the moderator of the contact condition. Contrary to predictions and findings in the literature (e.g., Cameron et al., 2006; 2011; Gómez et al., 2011; Tausch et al., 2011; Turner et al., 2008), there were no indirect effects of mediation on extended contact predicting evaluations toward the Arab target immigrant group.

The mediation tests raise questions about collecting the mediation measures immediately following the experimental manipulation phase of the study. In cross-sectional studies, questions aimed at gathering information about the mediators have been typically asked at the same time as questions pertaining to the outcome measure. However, the brevity of the extended contact manipulation and the immediacy of the mediator assessment may not have allowed for a sufficient impact of the intervention on perceptions of ingroup norms, outgroup norms, self in the outgroup, and a reduction in intergroup anxiety.

#### 4.2 Limitations

As the discussion on the study's design above illustrates, large, high impact studies in which many factors are measured can be exposed to influential variables that are not part of the original study design. I am not certain that these factors (i.e., direct contact) were enacted, but even that uncertainty raises questions about the internal validity of the study. In addition to the methodological limitations that have been discussed above in relation to specific manipulations and hypotheses, perhaps most critical to the study presented here was the relatively small sample size to test the many key factors of interest. Lack of statistical power was clearly evident in the results. Even with the significant finding for the extended contact condition, the effects

were small. These results could be confirmed or even refuted by collecting more data from additional participants.

Using a convenience sample at the university also presents some limitations, especially at a university where the student body diversity is ranked in the top 10 percent among national universities in the United States (Morse, 2010). The students at this university have daily contact with other students from many different cultures, ethnicities, and nations. Although the amount of contact, per se, is not a reliable predictor of positive intergroup attitudes, when regular contact is realized in an atmosphere, such as that at a university, that promotes critical thinking, discussion, and debate, a possible outcome of these contact encounters could be some indirect effects of quality contact.

#### 4.3 Future Research

There is little doubt among researchers and theorists that extended contact interventions can have a positive impact and improve intergroup relations. However, there is still a need for experimental research to corroborate these findings. Although I found support for an extended contact intervention, and there was evidence that ingroup partner group membership was significantly associated with improved attitudes over time, the answer to the primary research question – that of the role of a shared ingroup identity – remains vague. Future research should continue to pursue this line of research under various conditions. Perhaps “American” was too broad of an identity for the ingroup identity manipulation to be effective both as the identity of the ingroup exemplar and as a moderator of the experimental manipulation. In communities, group members may naturally divide themselves into ingroup and outgroup social identities based on, for example, ethnicity, religious affiliation, political ideology, and economic status. Group differences along these lines are usually characterized by a history of conflict, feelings of threat, and lack of trust between the groups (Brewer, 1999; Stephan, Renfro, & Davis, 2008; Stephan & Stephan, 2000; Tausch, Hewstone, & Roy, 2009). The literature attests to the effectiveness of extended contact in reducing intergroup conflict, especially between

groups that are geographically or ideologically segregated (e.g., Christ et al., 2010; Dhont & Van Hiel, 2011; Turner et al., 2008). These findings are relevant to the current study as one could argue that the environment in which the study was conducted could be described as a “mixed neighborhood.” Therefore, direct intergroup hostilities or conflict are less likely to influence intergroup attitudes. Additionally, on university campuses, it may be more difficult to identify salient social identities that can be maintained throughout an experiment. Some examples of smaller, close-knit groups that may work are fraternity or sorority memberships, intercollegiate sports team rivalries, residents of different on-campus housing sites, different colleges or schools on campus (e.g., English department versus the Chemistry department), and even religious or political affiliations.

A modified version of the experiment presented here could be conducted in which the ingroup and outgroup confederates are not in direct contact with the participants. Not only would this control for the unintentional effects of direct contact in an experimental setting, but it may eliminate the need for confederates who can fulfill the role of both an ingroup and outgroup exemplar. Another option is to replicate Wright et al. (1997, study 4) by having participants observe friendly, neutral, and hostile interactions between two ingroup members, two outgroup members, and between an ingroup and an outgroup member. This would isolate the transmitter of extended contact in a way that does not directly involve the observer, and, therefore, obtain a clearer indication of the role of the ingroup member in an extended contact intervention. And, a test of the mediators after an experimental manipulation is still needed.

Recent research has delved into other psychological predictors of extended contact, such as the role of close, intimate ingroup relationships, extended contact and trust of the outgroup (Tausch et al., 2011), extended contact and attitude certainty, which is related to long-lasting attitude changes (Christ et al., 2011), and how extended contact can predict more favorable intergroup expectancies (Gómez et al., 2011). Each of these areas of research merits wider examination and confirmation through experimentation.

#### 4.4 Conclusion

The extended contact hypothesis has justifiably elicited great interest in recent years, and the results of research conducted worldwide show great promise for how this simple, easy-to-implement intervention can improve intergroup relations. Despite this increased interest, there are still very few published accounts of experiments using an extended contact manipulation or intervention since 1997, when the model was first proposed (Hewstone & Swart, 2011). The research herein was intended, in part, to address that gap and to explore one of the basic tenets of the hypothesis: that knowing an ingroup member with an outgroup friend is a catalyst for changed attitudes and perceptions of the outgroup. Finding experimental support for the extended contact hypothesis within the relevant context of evaluations toward Arabs in the United States is hopeful, and sheds light on how this simple intervention program can be implemented to foster better relationships with a group that has been feared and mistrusted in recent years.

## REFERENCES

- Aboud, F. E., & Doyle, A. B. (1996). Does talk of race foster prejudice or tolerance in children? *Canadian Journal of Behavioural Science, 28*, 161-170.
- Aboud, F. E., & Fenwick, V. (1999). Exploring and evaluating school-based interventions to reduce prejudice. *Journal of Social Issues, 55*, 767-786. Allport, G. W. (1954). *The nature of prejudice*. Cambridge, MA: Perseus Books.
- Abrams, D., & Rutland, A. (2008). The development of subjective group dynamics. In S. R. Levy & M. Killen (Eds.), *Intergroup attitudes and relations in childhood through adulthood* (pp. 47-65). Oxford: University Press.
- Aiken L. S. & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park, CA: Sage.
- Allport, G.W. (1954). *On the nature of prejudice*. Cambridge, MA: Perseus Books.
- Aron, A., & Aron, E.N. (1996). Self and self-expansion in relationships. In G. Fletcher & J. Fitness (Eds.), *Knowledge structures in close relationships: A social psychological approach* (pp. 325-344). Hillsdale, NJ: Erlbaum.
- Aron, A., & Aron, E.N., (1986). *Love and the expansion of self: Understanding attraction and satisfaction*. Washington, D.C.: Hemisphere Publishing.
- Aron, A., Aron, E., & Smollan, D. (1992). Inclusion of other in self scale and the structure of interpersonal closeness. *Journal of Personality and Social Psychology, 63*, 596-612.
- Berger, J. (2009, November 8). Army chief concerned for Muslim troops. The New York Times, retrieved from <http://www.nytimes.com/2009/11/09/us/politics/>
- Brewer, M. B. (1999). The psychology of prejudice: Ingroup love or outgroup hate? *Journal of Social Issues, 55*, 429-444.
- Brown, R., & Hewstone, M. (2005). An integrative theory of intergroup contact. *Advances in Experimental Social Psychology, 37*, 255-343.
- Cameron, L., & Rutland, A. (2008). Changing children's intergroup attitudes. In S. R. Levy & M. Killen (Eds.), *Intergroup attitudes and relations in childhood through adulthood* (pp. 191-203). Oxford: University Press.
- Cameron, L., & Rutland, A. (2006). Extended contact through story reading in school: Reducing children's prejudice towards the disabled. *Journal of Social Issues, 62*, 489-510.
- Cameron, L., Rutland, A., Brown, R., & Douch, R. (2006). Changing children's intergroup attitudes toward refugees: Testing different models of extended contact. *Child Development, 77*, 1208-1219.



- Cameron, L., Rutland, A., Hossain, R., & Petley, R. (2011). When and why extended contact work? The role of high quality direct contact and group norms in the development of positive ethnic intergroup attitudes amongst children. *Group Processes and Intergroup Relations, 14*, 193-206.
- Christ, O., Hewstone, M., Tausch, N., Wagner, U., Voci, A., Hughes, J., & Cairns, E. (2010). Direct contact as a moderator of extended contact effects: Cross-sectional and longitudinal impact on outgroup attitudes, behavioral intentions, and attitude certainty. *Personality and Social Psychology Bulletin, 36*, 1662-1674.
- Crawford, S. (2009, October 19). Dallas area Muslims fear backlash from arrests tied to terror plot. The Dallas Morning News, retrieved from <http://www.dallasnews.com/sharedcontent/dws/dn/latestnews/stories/101909dnmetmusiimangst.3f4b3c3.html>
- Crocker, J., & Luhtanen, R. (1990). Collective self-esteem and ingroup bias. *Journal of Personality and Social Psychology, 58*, 60-67.
- Das, E., Bushman, B. J., Bezemer, M., Kerkhof, P., & Vermeulen, I. (2009). How terrorism news reports increase prejudice against outgroups: A terror management account. *Journal of Experimental Social Psychology, 45*, 453-459.
- Dovidio, J.F., Eller, A., & Hewstone, M (2011). *Improving intergroup relations through direct, extended and other forms of indirect contact*. *Group Processes & Intergroup Relations, 14*, 147-160.
- Gómez, A., Tropp, L. R., & Fernández, S. (2011). When extended contact opens the door to future contact: Testing the effects of extended contact on attitudes and intergroup expectancies in majority and minority groups. *Group Processes & Intergroup Relations, 14*, 161-173.
- Haddock, G., Zanna, M. P., & Esses, V. M. (1993). Assessing the structure of prejudicial attitudes: The case of attitudes toward homosexuals. *Journal of Personality and Social Psychology, 65*, 1105-1118.
- Hayes, A. F. (2009). Beyond Baron and Kenny: Statistical mediation analysis in the new millennium. *Communication Monographs, 76*, 408-420.
- Hayes, A. F. (2009). SPSS moderated mediation macro: Updated version. Retrieved from <http://www.comm.ohio-tate.edu/ahayes/SPSS%20programs/modmed.htm>.
- Hewstone, M., & Brown, R. (1986). Contact is not enough: An intergroup perspective on the "Contact Hypothesis." In M. Hewstone & R. Brown (Eds.), *Contact and conflict in intergroup encounters* (pp. 1-44). Oxford: Blackwell.
- Hewstone, M., Rubin, M., & Willis, H. (2002). Intergroup bias. *Annual Review of Psychology, 53*, 575-604.
- Hewstone M. & Swart, H. (2011). Fifty-odd years of inter-group contact: From hypothesis to integrated theory. *British Journal of Social Psychology, 50*, 374-386.
- Kenworthy, J., Holovics, M., Popan, J., Lyons, P., & Jones, J. (2011). Correlates, antecedents,

and consequences of identification strength: A collection of meta-analytic reviews and a theoretical integration. Manuscript submitted for publication.

- Kenworthy, J., Turner, R., Hewstone, M., & Voci, A. (2005). Intergroup contact: When does it work, and why? In J. F. Dovidio, P. Glick, & L. Rudman (Eds.), *On the Nature of Prejudice, Fifty Years after Allport* (pp. 278-292). Malden, MA: Blackwell.
- Kiu, L., Wright, S.C., & Teows, M. (2007). *The extended contact effect: The influence of group typicality on intergroup attitudes*. Paper presented at the Society for Personality and Social Psychology, Memphis, TN.
- Konrath, S., Bushman, B.J., & Campbell, W.K. (2006). Attenuating the link between threatened egotism and aggression. *Psychological Science, 17*, 995-1001.
- Liebkind, K., & McAlister, A. L. (1999). Extended contact through peer modeling to promote tolerance in Finland. *European Journal of Social Psychology, 29*, 765-780.
- Lickel, B., Miller, N., Stenstrom, D.M., Denson, T.F., & Schmader, T. (2006). Vicarious retribution: The role of collective blame in intergroup aggression. *Personality and Social Psychology Review, 10*, 372-390.
- Lyons, P., Kenworthy, J., & Popan J. (2010). Ingroup identification and group-level narcissism as predictors of U.S. citizens' attitudes and behavior toward Arab immigrants. *Personality and Social Psychology Bulletin, 36*, 1267-1280.
- Miller, N. (2002). Personalization and the promise of contact theory. *Journal of Social Issues, 58*, 387-410.
- Morse, R. (2010). Best colleges: Ethnic diversity among top schools. *U.S. News & World Report*. Retrieved from <http://colleges.usnews.rankingsandreviews.com/best-colleges/rankings/national-universities/campus-ethnic-diversity>.
- Paolini, S., Hewstone, M., Cairns, E., & Voci, A. (2004). Effects of direct and indirect cross-group friendships on judgments of Catholics and Protestants in Northern Ireland: The mediating role of an anxiety-reduction mechanism. *Personality and Social Psychology Bulletin, 30*, 770-786.
- Pettigrew, T. (1998). Intergroup contact theory. *Annual Review of Psychology, 49*, 65-85.
- Pettigrew, T.F., Christ, O., Wagner, U., & Stellmacher, J. (2007). Direct and indirect intergroup contact effects on prejudice: A normative interpretation. *International Journal of Intercultural Relations, 31*, 411-425.
- Pettigrew, T., & Tropp, L. (2008). How does intergroup contact reduce prejudice? Meta-analytic tests of three mediators. *European Journal of Social Psychology, 38*, 922-934.
- Pettigrew, T. & Tropp, L. (2006). A Meta-analytic test of intergroup contact theory. *Journal of Personality and Social Psychology, 90*, 751-783.
- Preacher, K. J., Rucker, D. D., & Hayes, A. F. (2007). Addressing moderated mediation hypotheses: Theory, methods, and prescriptions. *Multivariate Behavioral Research, 42*, 185-227.

- Sharp, M., Voci, A., & Hewstone, M. (2011). Individual difference variables as moderators of the effect of extended cross-group friendships on prejudice: Testing the effectiveness of public self-consciousness and social comparison. *Group Processes & Intergroup Relations*, *14*, 207-221.
- Sherif, M., Harvey, O. J., White, B. J., Hood, W. R., & Sherif, C. W. (1961). *Intergroup conflict and cooperation: The Robbers Cave experiment*. Norman OK: University of Oklahoma Book Exchange.
- Stephan, W. G., & Finlay, K. (1999). The role of empathy in improving intergroup relations. *Journal of Social Issues*, *55*, 729-743.
- Stephan, W. G., Renfro, C. L., & Davis, M. D. (2008). The role of threat in intergroup relations. In U. Wagner, L. R. Tropp, G. Finchilescu, & C. Tredoux (Eds.), *Improving Intergroup Relations: Building on the Legacy of Thomas F. Pettigrew*. (pp. 55-72). Malden, MA: Blackwell.
- Stephan W. G., & Stephan, C. W. (2000). An integrated threat theory of prejudice. In S. Oskamp (Ed.), *Claremont symposium on applied social psychology* (pp. 23-46). Hillsdale, NJ: Erlbaum.
- Tajfel, H. (1978). Social categorization, social identity and social comparison. In H. Tajfel (Ed.), *Differentiation Between Social Groups* (pp. 61-76). London: Academic Press.
- Tajfel, H. (1981/2001). Social stereotypes and social groups. In M.A. Hogg & D. Abrams (Eds.), *Intergroup relations: Essential readings* (pp. 132-145). Philadelphia: Psychology Press. (Reprinted from *Intergroup Behavior*, 144-167, J.C. Turner & H. Giles, Eds., Oxford, UK: Blackwell).
- Tajfel, H., Billig, M. G., Bundy, R. P., & Flament, C. (1971). Social categorization and intergroup behavior. *European Journal of Social Psychology*, *1*, 149-178.
- Tajfel, H., & Turner, J. C. (1986). The social identity theory of intergroup behavior. In S. Worchel & W. Austin (Eds.), *Psychology of intergroup relations* (pp. 7-24). Chicago: Nelson-Hall.
- Tausch, N., Hewstone, M., & Roy, R. (2009). The relationship between contact, status, and prejudice: An integrated threat theory analysis of Hindu-Muslim relations in India. *Journal of Community & Applied Social Psychology*, *19*, 83-94.
- Tausch, N., Hewstone, M., Kenworthy, J., Cairns, E., & Christ, O. (2007). Cross-community contact, perceived status differences, and intergroup attitudes in Northern Ireland: The mediating role of individual-level versus group-level threats and the moderating role of social identity. *Political Psychology*, *28*, 53-68.
- Tausch, N., Hewstone, M., Schmid, K., Hughes, J., & Cairns, E. (2011). Extended contact effects as a function of closeness of relationship with ingroup contacts. *Group Processes & Intergroup Relations*, *14*, 239-254.
- Tropp, L. R. & Wright, S. C. (2001). Ingroup identification as the inclusion of ingroup in the self. *Personality and Social Psychology Bulletin*, *27*, 585-600.

- Turner, R.N., Hewstone, M., Voci, A. (2007). Reducing explicit and implicit outgroup prejudice via direct and extended contact: The mediating role of self-disclosure and intergroup anxiety. *Journal of Personality and Social Psychology*, 93, 369-388.
- Turner, R. N., Hewstone, M., Voci, A., & Vonofakou, C. (2008). A test of the extended intergroup contact hypothesis: The mediating role of intergroup anxiety, perceived ingroup and outgroup norms, and inclusion of the outgroup in the self. *Journal of Personality and Social Psychology*, 95, 843-860.
- U.S. Department of Justice Civil Rights Division (2007). Enforcement and outreach following the September 11 terrorist attacks. Retrieved from <http://www.U.S.doj.gov/crt/legalinfo/discrimupdate.htm>.
- U.S. Equal Employment Opportunity Commission, (2002). Questions and answers about the workplace rights of Muslims, Arabs, South Asians, and Sikhs under the Equal Employment Opportunity laws. Retrieved from <http://www.eeoc.gov/facts/backlash-employee.html>.
- Wright, S. C. (January, 2011). *Cross-group friendships and self change*. Paper presented at the meeting of the Society for Personality and Social Psychology Annual Conference: Group Processes and Intergroup Relations Program, San Antonio, Texas.
- Wright, S. C., Aron, A., & Brody, S. (2008). Extended contact and including others in the self. In U. Wagner, L. R. Tropp, G. Finchilescu, & C. Tredoux (Eds.), *Improving Intergroup Relations: Building on the Legacy of Thomas F. Pettigrew*. (pp. 143-157). Malden, MA: Blackwell.
- Wright, S. C., Aron, A., McLaughlin-Volpe, T., & Ropp, S. A. (1997). The extended contact effect: Knowledge of cross-group friendships and prejudice. *Journal of Personality and Social Psychology*, 73, 73-90.

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