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Explaining the contact caveat: The role of social identity and intergroup threat

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EXPLAINING THE CONTACT CAVEAT:
THE ROLE OF SOCIAL IDENTITY
AND INTERGROUP THREAT

A Thesis

by

JESSE ACOSTA

Submitted to the Graduate School of
The University of Texas–Pan American
In partial fulfillment of the requirements for the degree of

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TOWARD EXPLAINING THE CONTACT CAVEAT:
THE ROLE OF SOCIAL IDENTITY
AND INTERGROUP THREAT

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by
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July 2015

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ABSTRACT

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This project has attempted to offer an explanation for the differential roles of positive and negative contact, wherein negative contact more strongly predicts changes in prejudice than positive contact (Barlow et al., 2007). In an attempt to replicate and extend on this relationship, intergroup threat theory and social identity theory are incorporated in a model intended to explain this differential relationship. This study measured the attitudes of 227 Mexican Americans toward Caucasians and Mexican Immigrants. This analysis offers a partial replication of Barlow et al., with unfavorable attitudes toward Whites leading to stronger changes when contact was negative. When evaluating Whites, only negative contact led to significant changes in reported threat, which had a subsequent influence on reported prejudice. Both positive and negative contact led to significant changes in reported threat for Mexican immigrants. Social identity did not appear to moderate this relationship.

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CHAPTER I

INTRODUCTION

Intergroup contact has long been viewed positively and as a means of improving intergroup relationships. Indeed, findings from intergroup contact theory-driven research appear to be widely in agreement with this view, indicating that contact between groups is a likely causal factor in the reduction of prejudice toward outgroups (Pettigrew & Tropp, 2006).

Although researchers as early as Allport (1954) have noted the capacity for contact to increase prejudice, a relatively small amount of research has focused on negative outcomes of contact or attempted to demonstrate the variables involved in negative outcomes of intergroup contact.

Barlow et al. (2012) provided an important step in the direction of understanding negative outcomes of intergroup contact by noting a caveat of the contact hypothesis. Across two studies, Barlow et al. demonstrated an interaction between quantity and quality of contact (in predicting prejudice) and demonstrated a differential effect of contact valence in predicting prejudice. That is, quantity of negative contact led to stronger increases in prejudice than quantity of positive contact led to decreases in prejudice. In this study, I seek to replicate the findings of Barlow et al. and explore a potential moderating and mediating variable to further explain the stronger impact of negative contact.

More specifically, this study will attempt to replicate and extend the work of Barlow et al. (2012) by, firstly, replicating their results in a Mexican-American sample and, secondly, demonstrating the roles of intergroup threat and social identification in predicting changes

In prejudice (due to positive or negative contact). Specifically, I expect that both positive and negative contact affect prejudice indirectly through the perceived threat expressed by ingroup members; furthermore, these effects will be strongest for people who identify strongly with their ingroup. Although positive contact is also expected to be influenced by threat and social identity, I expect their roles to be more pronounced under conditions of negative contact. This cross-sectional study will therefore employ a moderated mediation analysis of Mexican-Americans contact with and attitudes toward Caucasian Americans and Mexican immigrants. Threat is expected to play a mediating role in the relationship between negative (and positive) contact and prejudice, while social identification (i.e., identification strength) is expected to moderate the indirect effect of threat on prejudice (see Figure 1 below for the conceptual model).

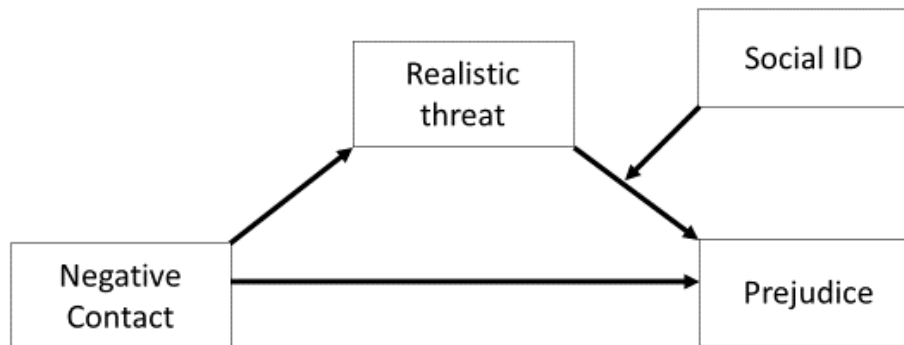


Figure 1: Moderated Mediation Conceptual Model

CHAPTER II

REVIEW OF LITERATURE

Intergroup Contact

Intergroup contact refers to the interactions that occur between ingroup and outgroup members. Outcomes of intergroup contact, especially prejudice, have been assessed both historically and in more modern work. Allport (1954) originally suggested that intergroup contact would lead to reductions of prejudice, and, building off of the work of Williams (1947), put forward four key conditions that he asserted would foster reductions in prejudice: 1) both groups perceive the other as being of equal status, 2) both groups have common goals, 3) there is cooperation between the two groups, and 4) that authorities and social institutions support positive outcomes of intergroup contact. Pettigrew and Tropp (2006) provide strong support for these conditions by demonstrating, in their meta-analysis, a stronger reduction in prejudice for groups meeting Allport's conditions. This meta-analysis also revealed (across 513 studies) a largely favorable effect of intergroup contact, where intergroup contact tended to lead to reductions in prejudice, even in situations where Allport's conditions were not explicitly met.

Recently, the favorable effects of intergroup contact were demonstrated through a 2-month longitudinal design. In this assessment, researchers (Dhont, Van Hiel, De Bolle, & Roets, 2012) suggested that more frequent contact reports at Time 1 led to subsequent decreases in prejudice at Time 2. However, despite this trend, they noted that some individuals showed

increases in prejudice. Pettigrew and Tropp (2005) also noted that Allport's conditions are not the only factors influencing contact outcomes. In fact, their meta-analysis suggested instances in which there could be increases in prejudice as a result of intergroup contact, and therefore suggest a need to explore the role of negative contact experiences.

Contact quality and quantity are two key variables whose roles have been clearly demonstrated in contact theory research (e.g., Barlow et al., 2012; Cameron, Rutland, Hossain, & Petley, 2011; Ridge & Montoya, 2013; Turoy-Smith, Kane, & Pedersen, 2013; West, Holmes, & Hewstone, 2011). For example, Ridge and Montoya (2013) demonstrated a negative relationship between quality of contact and prejudice towards Mexican's in the United States, and this relationship was mediated by intergroup threat. Similar results were obtained in research measuring prejudice toward Indigenous Australians, where positive contact led to decreases in prejudice both directly and indirectly (through intergroup threat; Turoy-Smith et al., 2013). In two studies, Barlow et al. (2012) demonstrated the differential effects of quantity of positive and negative contact on prejudice. Their first study sought to test this relationship in the context of Australian ingroups prejudice towards outgroup asylum seekers. An analysis of the interaction between contact quantity and contact valence showed stronger changes in prejudice when contact valence was negative. The researchers replicated this study in a United States sample using Black and White Americans as the intergroup context. The relationship remained consistent, with quantity of negative contact consistently explaining more of the variance, in indices of prejudice, than positive contact.

These findings not only serve to demonstrate that contact quantity alone is not sufficient in predicting changes in prejudice, but they also raise a number of important questions. Most

notably, why do groups exhibit stronger responses to negative contact? Barlow et al. (2012) and others show that a differentiation between positive and negative contact may be necessary in accurately predicting changes in prejudice. But what about negative contact creates these stronger changes in prejudice?

Intergroup threat and social identity factors have had prominent roles in the assessment of ingroup bias (e.g. Cairns, Kenworthy, Campbell, & Hewstone, 2006; Jetten, Spears, & Manstead, 1997; 2001). In fact as Tajfel and Turner (1979) originally suggested, identification with ones ingroup is likely to foster stronger ingroup bias. Its role has proven much stronger under conditions in which threat is perceived (e.g. Jetten et al., 2001; 1997; Voci, 2004). I predicted, based on prior research and theory, that intergroup threat and social identity will play prominent roles in further explaining the positive-negative asymmetry demonstrated by Barlow et al. (2012). That is, the stronger influence of negative contact on prejudice would be explained by the stronger mediating role of intergroup threat, especially among those with higher levels of ethnic identity (modeled in Figure 1, pg. 2).

Social Identity

Social identity is defined as the part of the self-concept that is acquired through the perceived membership of a social group. As was first suggested by Tajfel and Turner (1979), a person's social identity has the capacity to influence how they experience interactions with other groups. A stronger ingroup identity can lead to a stronger tendency to perceive one's group as positively distinct from the outgroup, which can lead to a subsequent increase in ingroup bias (e.g., Brown & Hewstone, 2005; Nesdale & Flessner, 2001). Social identity has played a prominent, and, as will be noted, a sometimes inconsistent role in many intergroup outcomes; though social identity has achieved considerable success when coupled with other intergroup

measures, such as intergroup threat (e.g., Cairns et al., 2006; Falomir-Pichastor & Frederic, 2013; Riek, Mania, Gaetner, McDonald, & Lamoreaux, 2010) and intergroup contact (e.g., Gómez, Eller, & Vázquez, 2013; Tynes, Giang, & Thompson, 2008).

Operario and Fiske (2001) demonstrated that minorities perceive subtle negative interactions with whites as involving more prejudice when ethnic identification is high. Similar findings have also been demonstrated in other studies (e.g., Major, Quinton, & Schmader, 2003; Sellers & Shelton, 2003). This effect may be partially explained by research conducted by Yogeeswaran, Adelman, Parker, and Dasgupta (2014), who demonstrated that expression of group identification by minorities leads to increased prejudice by majority Whites. The work of Yogeeswaran et al. (2014) is also significant for other reasons. In their assessment, they showed that attitudes changed most drastically when the national identity of majority group members was high. This finding is consistent with other social identification studies (e.g., Brown, Capozza, Paladino, & Valpato, 1996; Duckitt & Mphuthing, 1998; Sassenberg & Wieber, 2005). Brown et al. reported in their meta-analysis a mean correlation of $r = 0.23$ for the influence of identification on explicitly assessed bias. Experimental work also provides evidence for the effects of identity strength on intergroup bias. For example, Sassenberg and Wieber (2005), experimentally induced variations in identity strength using previously developed methods (Kessler & Hollbach, 2005). Their results demonstrated that high identifiers exhibited stronger increases in implicitly assessed prejudice as well as explicitly assessed intergroup bias. Similar results were obtained across other experiments (Jetten, Spears, & Manstead, 1997, 2001; Noel, Wann, & Branscombe, 1995).

It should be noted that the effect of social identity on attitudes is typically not so direct, and, in fact, most studies tend to assess social identity by testing the effects of multiple variables. Thus, social identity likely influences prejudice through a process that involves moderating and mediating variables. As Duckitt and Mphuthing (1998) note, many studies have reported significant relationships between identity strength and out-group attitudes (e.g., Berry, Kalin, & Taylor, 1977; Chang & Ritter, 1976; Morse & Allport, 1952; Ruttenberg, Zea, & Sigelman, 1996). In contrast, many other assessments have demonstrated either weak or null relationships (Heaven, Rajab, & Ray, 1984; Ray & Furnham, 1984; Ray & Lovejoy, 1986; Struch & Schwartz, 1989). In fact, the previously mentioned meta-analysis of Brown et al. (1996), produced only a weak, but statistically significant, correlation ($r = 0.23$). Duckitt and Mphuthing (1998) sought to challenge the role of social identity. Their results indicated a lack of support for social identity theory (SIT). That is, strength of identification did not appear to negatively influence outgroup attitudes; instead, attitudes tended to more strongly predict identity strength (though still consistent with other suggestions of SIT)

In summary, social identity's role has only been weakly demonstrated in outcomes of prejudice. The following section will address the role of intergroup threat, as well as its influence on intergroup attitudes when social identification is high.

Intergroup Threat

Intergroup Threat Theory (Stephan, Ybarra, & Morrison, 2009), previously referred to as Integrated Threat Theory (Stephan & Stephan, 2000), posits that intergroup threat occurs when ingroup members believe that outgroup members are in a position to cause harm. The level of

threat experienced by an ingroup towards an outgroup can influence many outcomes of intergroup contact. This is done primarily through cognitive, emotional, and behavioral responses to intergroup relationships (Stephan, Ybarra, & Morrison, 2009). According to Intergroup Threat Theory, there are two main sources of threat to the group that can occur. These are *symbolic threats*, which are threats to a group's religion, values, belief system, ideology, philosophy, morality, or worldview, and *realistic threats*, which are threats to a group's power, resources, and general welfare (Stephan et al., 2009). Though the concept of intergroup threat has been recently revised, it has maintained a prominent influence in the study of intergroup relations. Kenworthy, Turner, Hewstone, and Voci (2005), for instance, demonstrated a stronger role of affective factors (e.g., intergroup anxiety) in predicting prejudice (over cognitive processes (e.g., knowledge about the outgroup)). This was similarly shown in Pettigrew and Tropp's (2008) meta-analysis, wherein reductions in intergroup anxiety (a subtype of threat) more strongly predicted reductions in prejudice than cognitive factors (e.g., knowledge about outgroups). Aside from research on intergroup anxiety, intergroup threat alone has previously been assessed in relation to prejudice (e.g., Quillian, 1995; Vaes & Wicklund, 2002). Voci and Hewstone (2003) analyzed intergroup threat and anxiety in a model designed to explain intergroup attitudes. In their research, intergroup anxiety and threat played a mediating role in the relationship between contact and intergroup attitudes. This relationship was also moderated by other factors, such as group salience. Other models have assessed prejudice more directly (e.g., Cook, Cottrell, & Webster, 2014; Onraet & Van Hiel, 2013; Włodarczyk, Basabe, & Bobowik, 2014). Cook et al. (2014) experimentally induced threat and reported the influence on anti-atheist prejudice. The results suggested that as threat increased, participants reported increased negative affect and greater discriminatory intentions towards atheists. Similar

results were demonstrated in other studies (e.g., Brambilla & Butz; 2013; Brambilla, Sacchi, Pagliaro, & Ellemers, 2013; Butz & Yogeeswaran, 2011).

To first experience group threat one must first identify with a group, therefore, social identity is also expected to amplify the influence of intergroup threat. In fact, as is reviewed in the following sections, intergroup threat and social identity have played prominent roles in predicting many outcomes of intergroup relationships (e.g., Cairns, Kenworthy, Campbell, & Hewstone, 2006; Durrheim, Dixon, Tredoux, Eaton, Quayle, & Clack, 2011; Falomir-Pichastor & Fredric, 2013; Hackel, Looser, & Van Bavel, 2014).

Threat can be assessed alongside social identity in various ways. Social Identity Threat Theory (Steele, 1997, 2010; Steele & Aronson, 1995; Steele, Spencer, & Aronson, 2002) is primarily interested in the effects of threat to one's social identity. Previous work (Kray & Shirako, 2012; Markus & Moya, 2010; Roberson & Kulik, 2007) suggests that different social groups can experience the same setting in psychologically distinct ways. This implies that social identity has the capacity to influence evaluations of the interactions that occur between ingroups and outgroups. Emerson and Murphey's (2014) work provided a review of the role of social identity threat in the workplace for ethnic minorities and Whites. Because of the increased vigilance that occurs as a result of perceived threat to one's social identity (Murphy, Steele, & Gross, 2007; Murphy & Taylor, 2012; Steele, 2010; in Emerson & Murphey, 2014) it is expected that minorities might have the propensity to perceive interactions more negatively than they were intended. Such is the case when majority group members use of positive stereotypes (e.g., athletic ability of blacks) are perceived more negatively by minorities (Cheryan & Bodenhausen, 2000; Cocchiara & Quick, 2004; Siy & Cheryan, 2013).

Other research suggests that social identity often moderates the effects of perceived threat, which is most similar to the type of relationship being assessed here. Morrison and Ybarra (2008) demonstrated the moderating effects of identity on intergroup threat and social-dominance orientation (SDO) in two experiments. Both experiments tested student samples who identified strongly with their college major. It was reported that participants identifying strongly with their major reported greater increases in SDO as a result of threat to one's college major. Additionally, the work by Bizman and Yinon (2001) played a strong role in the method of analysis for this project. Their research demonstrated the moderating role of social identity across the various forms of intergroup threat (i.e. realistic threat, symbolic threat, and intergroup anxiety). In their assessment, realistic threat strongly predicted prejudice for high identifiers, whereas intergroup anxiety led to stronger increases in prejudice for low identifiers. Symbolic threat, on the other hand, was not a significant predictor for high or low identifiers. Through a similar analysis, the results of Tausch et al. (2007) demonstrated a contrary pattern. That is, symbolic threat was a stronger predictor for high identifiers, and realistic threats were not significant for high or low identifiers. Bizman and Yinon measured attitudes toward immigrants, whereas Taush et al. made their assessment toward religious groups, which would explain their differing outcomes. As a result of the groups being assessed for this project (Mexican immigrants and Caucasian people), I expect my results to follow in line with what was achieved by Bizman and Yinon, that is, realistic threat, rather than symbolic threat, will be most relevant.

Although previous research has demonstrated the moderating and mediating roles of social identity and threat on outcomes of contact and prejudice (e.g., Emerson & Murphey, 2014; Yogeeswaran et al., 2014; Morrison & Ybarra, 2008), similar models have not assessed the

moderating effects of social identity on intergroup threat when positive and negative contact are assessed separately.

The current study

As previous sections have suggested, my study will seek to explain the differential effects of positive and negative contact on intergroup attitudes. First, I will attempt to replicate the results obtained by Barlow et al. (2012), where quantity of negative contact predicted stronger changes in prejudice than positive contact. Next, I will explore the roles of intergroup threat and social identity on this outcome. For this assessment I will first test the mediating role of intergroup threat in predicting changes in prejudice due to positive and negative contact. Next I will attempt to replicate the results of Bizman and Yinon, (2001), where social identity is expected to moderate the relationship between realistic threat and prejudice. My last analysis will attempt to demonstrate a model which may explain the positive-negative asymmetry being tested. A moderated mediation analysis will be conducted for these purposes, where intergroup threat will mediate the relationship of negative (and positive) contact and prejudice, while social identity will moderate the path from threat to prejudice. Furthermore, in models assessing the role of positive and negative contact, intergroup threat and social identity are expected to play more influential roles in changing prejudice when contact is negative. I will be testing these models in the context of Mexican-American's attitudes and experiences with Mexican immigrants. This study will also contribute to the literature by assessing Mexican-Americans attitudes toward Caucasian people. Mexican-Americans, despite being the fastest growing demographic in the U.S., have not been adequately represented with regard to their attitudes toward Whites. Because this study will attempt to extend the work of Barlow et al. (2012), I will

follow their procedures and measures closely in an attempt to replicate and extend their results. Therefore, multiple indices of prejudice will be employed where possible and the contact measure used in their study (Study 2) will be adapted for this context. Validated measures of social identity and intergroup threat will also be included to address the hypotheses of interest.

CHAPTER III

METHODOLOGY AND FINDINGS

Participants, Measures, and Procedures

Undergraduate students from a university in South Texas were recruited for this study ($n = 227$, 69% female), with a mean age of 21.84 ($SD = 5.12$). Participants received course credit for taking part in this research. Because Hispanic Americans are the ingroup in the current study, I have excluded Non-Hispanics/Non-Latinos from all analyses. Participants who self-reported as non-U.S. citizens were also excluded from the analysis.

Participants were recruited through the Psychology Department's online participant pool. Students were told that the survey study would ask about their contact with Caucasian people and Mexican immigrants and would take on average 30 minutes to complete. After giving consent, they were directed to the internet survey. The measures used for this study were based closely on the measures of Barlow et al. (2012). Therefore, I have adapted their contact measure (from study 2) into this study and have also employed multiple indices of prejudice.

Positive/Negative contact. Positive and negative contact was measured using two items obtained directly from Barlow et al. (2012): "On average, how frequently do you have POSITIVE/GOOD contact with White people?" and "On average, how frequently do you have NEGATIVE/BAD contact with White people?" These same items were also adapted to the Mexican immigrant context. Both items used a 7-point scale ranging from $1 = \textit{never}$ to $7 = \textit{extremely frequently}$.

Contact Quality and Quantity (Islam & Hewstone, 1993). Contact quantity ($\alpha = .92$) and quality ($\alpha = .63$) achieved adequate reliabilities for the Mexican immigrant outgroup. Similar

reliabilities (α) were achieved for the White outgroup, with reports of .95 for quantity of contact and .65 for quality of contact. When measuring quality of contact ($1 = \text{Not at all}$ to $5 = \text{Very much}$), the following statement was shown, “When you meet Mexican immigrants, in general do you find the contact,” which was followed by ratings for various adjectives (e.g., pleasant). An example item of contact quantity ($0 = \text{None at all}$ to $4 = \text{A great deal}$) includes: “Thinking of social contact—whether at home, or at work, or somewhere else—how much contact do you have with Mexican immigrants in general?”

Anti-White Attitudes ($\alpha = .90$) were measured using a 20-item inventory (the Johnson-Lecci Scale; Johnson & Lecci, 2003). There are four subscales associated with this measure (e.g., ingroup directed stigmatization and discriminatory expectations (7-items), outgroup directed negative beliefs (4-items), negative views toward ingroup-outgroup relations (3-items), and negative verbal expression toward the outgroup (6-items)). Following Lecci and Johnson (2008), only two of these subscales (outgroup-directed negative belief and negative verbal expression) were used to represent anti-White attitudes. This full 20-item scale previously demonstrated an internal (α) reliability of .74 and a test-retest reliability of .80. Example items include: “I believe that the success of a White person is due to their color”, “I consider myself a racist towards Whites”, “I have spoken negatively about Whites without concern as to their feelings”, and “I have called a White ‘redneck’”.

Modern Prejudice. The modern prejudice toward Mexican immigrants scale ($\alpha = .71$) was adapted from the work of Akrami, Ekehammar, and Tadesse (2000), which built off of the earlier work of McConahay (1986) and Sears’ (1988). Eight items were adapted for the current context; examples include, “Discrimination against Mexican immigrants is no longer a problem in the U.S.”, “It is easy to understand immigrants’ demands for equal rights.”, and “Special

programs are needed to create jobs for immigrants.” The items have been scaled using a 5-point Likert scale ($1 = \textit{Strongly Disagree}$ and $5 = \textit{Strongly Agree}$). The original scale (Akrami et al., 2000) achieved an internal reliability estimate (α) of .83.

Classical Prejudice. Classical prejudice ($\alpha = .80$) toward Mexican immigrants was similarly adapted from the work of Akrami et al. (2000). The 7-items were scaled from $1 = \textit{Strongly Disagree}$ and $5 = \textit{Strongly Agree}$, and some examples include: “Mexican immigrants do not keep their homes tidy.”, “Mexican immigrants do not take care of their personal hygiene.”, and “Mexican immigrants are generally honest people.” This scale achieved a reliability estimate (α) of .71.

Attitudes toward Outgroups. Additionally, attitudes toward Mexican immigrants and Caucasian people was assessed using a feeling thermometer items with scores ranging from 0 (*Extremely unfavorable*) to 100 (*Extremely favorable*) and analyzed in increments of 10. These items were reverse scored for consistency with the other measures of prejudice. The item was adapted from Esses, Haddock, and Zanna (1993) and has been used by Lyons, Coursey, and Kenworthy (2013). The item states: “In general, how favorable or unfavorable do you feel about Mexican immigrants?”

Identity strength. To assess strength of identification ($\alpha = .88$), a three item scale was adapted from Durrheim et al. (2011). The items were measured using 5-point Likert scale ($1 = \textit{Strongly agree}$ to $5 = \textit{Strongly disagree}$) and include the following: (1) Being Hispanic/Latino(a) is an important part of who I am, as a person. (2) I feel good about being Hispanic/Latino(a). (3) I feel strong ties with Hispanics/Latino(a)s as a group. The items have been adapted from a number of studies (e.g., Ellemers, Spears, & Doosje, 1997; Jetten, Postmes, & McAuliffe, 2002;

Luhtanen & Crocker, 1992; Sellers, Rowley, Chavous, Shelton, & Smith, 1997; in Durrheim et al.).

Realistic Threat. Perceived realistic threats towards Whites ($\alpha = .77$) was measured in a political, economic, and criminal context. This measure consisted of nine items (scaled from 1 = *strongly disagree* to 7 = *strongly agree*) and was adapted from items in Stephan et al. (2002, 1999). In contrast, perceived realistic threat toward Mexican immigrants ($\alpha = .84$) was adapted from Stephan et al. (1999, 2000, 2002) and consisted of 11-items. Example of each include: “Whites have more political power than they should in this country.”, “Whites pose a greater threat to public order and safety than other racial or ethnic groups.”, “Too much money is spent on social services for Whites.”, “Whites do not pose a threat to the academic outcomes of people in the U.S.”, “Whites are contributing to the increase in crime in the U.S.”, “Economic treaties with the U.S. have a negative impact on Mexican immigrant workers.”, “Stricter limitations should be placed on the number of Mexican immigrants who are allowed to work in this country.”, and “Mexican Immigrants get more from this country than they contribute.” Riek et al. (2010) achieved reliability scores of .90 for realistic threats.

Method of Analysis. Each hypothesis was tested using multiple regression. Following Barlow et al. (2012), the first assessment tested the predictive ability of positive and negative contact in predicting the indices of prejudice used here. Although both positive and negative contact are expected to produce significant results for all indices of prejudice, negative contact was expected to explain more of the variance for each outcome. As previously noted, our mediating (threat) and moderating (social identity) variables were tested separately prior to the moderated mediation model. Also, each model will be tested under conditions of both positive and negative contact. All regression analyses were tested using Hayes (2014) PROCESS macro

for SPSS, which also allows for bootstrapping of our moderated mediation model, which is suggested by Preacher, Rucker, and Hayes (2007). All bootstrapped models will be set at 5000 resamples with 95% confidence intervals

Results

All scales demonstrated adequate reliability, with the lowest scale reliability at $\alpha = .71$ (modern prejudice) and the highest at $\alpha = .90$ (anti-White attitudes). Correlations, descriptives, and reliabilities can be found in Table 1a for the White outgroup variables and Table 2b for the Mexican immigrant outgroup.

Table 1a: Correlations, Descriptives, and Scale Reliabilities (White outgroup)

Measure	1	2	3	4	5	6	7	8
1. Anti-White Attitudes	--	.41***	.40***	-.06	-.29***	.21**	-.15	-.38***
2. Unfavorable Attitudes		--	.32***	-.02	-.25**	.31***	.09	-.39***
3. Realistic Threat			--	.16*	-.11	.15*	-.21**	-.33***
4. Social ID				--	.10	.01	.01	.05
5. Positive Contact					--	-.23**	.43***	.46***
6. Negative Contact						--	.03	-.28***
7. Quantity of Contact							--	.31***
8. Quality of Contact								--
<i>M</i>	37.4	65.95	37.72	35.38	5.05	2.93	11.96	14.12
<i>SD</i>	8.64	22.39	8.12	5.43	1.03	1.14	3.62	2.69
<i>N</i>	165	186	181	172	187	187	186	189
Cronbach's α	.90	--	.77	.88	--	--	.90	.63

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 1b: Correlations, Descriptives, and Scale Reliabilities (Immigrant outgroup)

Measure	1	2	3	4	5	6	7	8	9	
1. Modern Prejudice		.58**								
2. Classical Prejudice	--	*	.30***	.64***	-.30***	-.19*	.22**	-.12	.38***	
3. Unfavorable Attitudes		--	.50***	.67***	-.35***	.38***	.35***	-.24**	.50***	
4. Realistic Threat			--	.43***	-.24**	.37***	.37***	.20**	.44***	
5. Social ID				--	-.18*	-.25**	.33***	-.18*	.45***	
6. Positive Contact					--	.37***	-.17*	.26***	.27***	
7. Negative Contact						--	-.21**	.49***	.51***	
8. Quantity of Contact							--	.03	.38***	
9. Quality of Contact								--	.38***	
<i>M</i>	20.0	2	16.82	65.15	39.16	35.38	4.76	2.88	13.19	14.02
<i>SD</i>		4.15	4.28	24.24	9.75	5.63	1.28	1.30	4.40	3.15
<i>N</i>		179	181	185	174	172	187	187	188	188
Cronbach's α		.71	.80	--	.84	.88	--	--	.92	.65

* $p < .05$, ** $p < .01$, *** $p < .001$

Replication. Our main analysis requires the replication of the results of Barlow et al. (2012). The results were inconsistent when predicting prejudice with positive and negative contact. The feeling thermometer (for the white outgroup) was the only outcome following in line with the results of Barlow and colleagues, with negative contact ($b = 5.23$, $SE = 1.75$, $CI = [8.50, 2.12]$) related more strongly to favorability scores than positive contact ($b = -4.05$, $SE = 1.76$, $CI = [-7.21, -.31]$). Anti-White attitudes also presented significant changes as a result of contact valence. However, attitudes showed a slightly stronger decrease when contact was positive ($b = -2.05$, $SE = .65$, $CI = [-.73, -3.26]$), than it increased when contact was negative ($b = 1.17$, $SE = .67$, $CI = [2.41, -.03]$). As can be seen in Table 2 below, neither positive nor negative

contact produced significant changes in modern prejudice, classical prejudice, and scores of unfavorable feelings held toward Mexican immigrants. Thus, it appears as though contact alone may be sufficient for predicting changes in prejudice, though this does not hold for Mexican immigrants. These inconsistencies are explored further in the discussion and limitations sections.

Table 2: Replication results

Predictors		Anti-White	Unfavorable Attitudes (Whites)	Modern Prejudice (Mex)	Classical Prejudice (Mex)	Unfavorable Attitudes (Mex)
1. Positive Contact	<i>B</i>	-2.05	-4.05	.01	-.22	1.95
	β	-.25	-.19	-.15	-.32	-.30
	<i>SE</i>	.65	1.75	.41	.36	1.76
	<i>CI</i>	[-.73, -3.26]	[-.31, -7.21]	[.74, -.83]	[.44, -.95]	[5.68, -1.32]
2. Negative Contact	<i>B</i>	1.17	5.23	.21	.43	-.39
	β	.16	.27	.19	.29	.31
	<i>SE</i>	.61	1.64	.31	.31	1.60
	<i>CI</i>	[2.41, .03]	[8.50, 2.12]	[.80, -.43]	[1.04, -.17]	[2.73, -3.56]

Contact Quantity X Contact Quality. The interaction between contact quantity (x) and contact quality (moderator) failed to produce any significant effects on all indices of prejudice for each outgroup. Therefore, whether or not the amount of contact had with outgroups led to changes in prejudice did not seem to depend on the quality of that contact.

Mediation Analysis. As previously noted, intergroup threat has, across a number of studies, demonstrated its utility as a mediator between the relationship of contact and prejudice. However, given the lack of replication noted in the previous section, part of the following simple mediation and moderated mediation models should be regarded as strictly exploratory. The indirect and direct (in brackets) effects (bootstrapped 5000 times with a 95% CI) on the relationship between negative contact and prejudice through intergroup threat are as follows: anti-white attitudes ($b = .50$ (1.12), $SE = .38$, $CI = [1.09, .11]$), unfavorable attitudes toward whites ($b = .89$ (5.11**), $SE = .50$, $CI = [-.16, -2.16]$), modern prejudice ($b = .72$ (-.03), $SE =$

.18, $CI = [1.09, .40]$), classical prejudice ($b = .67 (.40^*)$, $SE = .17$, $CI = [1.03, .37]$), and unfavorable feelings held toward Mexican immigrants ($b = 2.15 (5.22^*)$, $SE = .63$, $CI = [3.58, 1.10]$). Intergroup threat clearly acted consistently as a significant mediator when contact was negative. However, there was less consistency between evaluations when contact was positive. For whites, realistic threat did not act as a significant mediator for either outcome (i.e. Anti-White Attitudes ($b = -.41 (-1.85^{**})$, $SE = .28$, $CI = [.04, -1.09]$) and unfavorable attitudes toward whites ($b = .73 (4.57^*)$, $SE = .57$, $CI = [2.10, -.16]$). Though, when evaluating Mexican immigrants, realistic threats were a significant mediator (i.e. Modern prejudice ($b = -.53(-.10)$, $SE = .17$, $CI = [-.22, -.89]$), Classical prejudice ($b = -.50 (-.64^{***})$, $SE = .16$, $CI = [-.20, -.84]$), and unfavorable attitudes toward the outgroup ($b = -1.74 (-4.96^*)$, $SE = .59$, $CI = [-3.00, -.70]$)). One of the original hypothesis states that intergroup threat will be of significant indirect influence for both forms of contact valence. According to this analysis, it does not appear as though this expectation will hold true for all outgroups.

Moderation Analysis. The moderation analysis failed to produce the expected results. Therefore, the influence of positive/negative contact on prejudice did not appear to depend on a person's level of identification with their ingroup. This was true whether evaluating Mexican immigrants or Whites.

Moderated Mediation Analysis. As can be seen in Tables 3a and 3b, the moderated mediation model suggested did not hold for Mexican-American's attitudes toward White American's. When measuring anti-White attitudes ($n = 160$), the tested interaction (i.e., threat X ethnic ID) did not significantly influence anti-White attitudes under conditions of positive ($b = -.02$, $SE = .02$, $CI = .01, -.05$) or negative ($b = -.02$, $SE = .02$, $CI = .01, -.05$) contact. When analyzing this same model with the feeling thermometer, a similar trend occurs. The conditional

indirect effect under conditions of positive ($b = -.02$, $SE = .02$, $CI = .01$, $-.05$) and negative ($b = -.02$, $SE = .02$, $CI = .01$, $-.05$) contact led to insignificant changes resulting from the interaction.

Table 3a: Moderated Mediation Analysis -- Anti-White Attitudes

Predictors	Realistic Threat			Anti-White Attitudes		
	B	SE	CI	B	SE	CI
Constant	42.55	4.11	[50.72, 34.40]	4.65	23.71	[51.71, -42.41]
Positive Contact	-.93	.79	[.63, -2.49]	-1.51	.76	[-.01, -3.02]
→Realistic Threat				1.20	.61	[2.41, -.01]
→Threat X Ethnic ID				-.02	.02	[.01, -.05]
Constant	32.61	2.25	[37.07, 28.16]	-4.93	23.41	[41.55, -51.40]
Negative Contact	1.77	.72	[3.18, .35]	1.07	.73	[2.51, -.38]
→Realistic Threat				1.20	.62	[2.42, -.02]
→Threat X Ethnic ID				-.02	.02	[.01, -.05]

Table 3b: Moderated Mediation Analysis -- Feeling Thermometer (Whites)

Predictors	Realistic Threat			Feeling Thermometer (Whites)		
	B	SE	CI	B	SE	CI
Constant	40.82	3.84	[48.48, 33.16]	86.27	65.75	[216.58, -44.04]
Positive Contact	-0.64	0.74	[.83, -2.10]	4.68	2.05	[8.75, .61]
→Realistic Threat				-1.41	1.70	[1.95, -4.78]
→Threat X Ethnic ID				.01	.05	[.10, -.07]
Constant	33.77	2.02	[37.78, 29.77]	115.42	64.18	[242.62, -11.79]
Negative Contact	1.29	.64	[2.54, .03]	-4.60	1.80	[-1.03, -8.17]
→Realistic Threat				-1.25	1.69	[2.11, -4.60]
→Threat X Ethnic ID				.01	.05	[.10, -.08]

The previous results were similarly demonstrated in subject's attitudes toward Mexican immigrants. The moderated mediation model did not hold when contact was positive, as the interaction led to insignificant changes in modern prejudice ($b = .01$, $SE = .01$, $CI = .02$, $-.01$), classical prejudice ($b = .01$, $SE = .01$, $CI = .02$, $-.01$), and rating of unfavorable attitudes ($b = -.05$, $SE = .04$, $CI = .04$, $-.14$). When contact was negative, the interaction was no longer significant for modern prejudice ($b = .01$, $SE = .01$, $CI = .02$, $-.01$), classical prejudice ($b = .00$, $SE = .01$, $CI = .01$, $-.01$), and rating of unfavorable attitudes ($b = -.06$, $SE = .04$, $CI = .03$, $-.15$). Tables 4a, 4b, and 4c summarize the results of each indices of prejudice toward Mexican

immigrants.

Table 4a: Moderated Mediation Analysis -- Modern Prejudice (Mexican Immigrants)

Predictors	Realistic Threat			Modern Prejudice		
	B	SE	CI	B	SE	CI
Constant	51.11	4.21	[59.45, 42.77]	24.38	9.78	[43.78, 4.98]
Positive Contact	-2.51	0.82	[-.88, -4.15]	-.23	.30	[.37, -.83]
→Realistic Threat				-.02	.26	[.50, -.54]
→Threat X Ethnic ID				.01	.01	[.02, -.01]
Constant	30.23	2.40	[34.98, 25.47]	23.60	9.68	[42.81, 4.40]
Negative Contact	2.77	.72	[4.21, 1.34]	-.38	.27	[.15, -.91]
→Realistic Threat				.03	.26	[.55, -.49]
→Threat X Ethnic ID				.01	.01	[.02, -.01]

Table 4b: Moderated Mediation Analysis -- Classical Prejudice (Mexican Immigrants)

Predictors	Realistic Threat			Classical Prejudice		
	B	SE	CI	B	SE	CI
Constant	30.23	2.40	[34.98, 25.47]	23.60	9.68	[42.81, 4.40]
Positive Contact	2.77	.72	[4.21, 1.34]	-.38	.28	[.15, -.91]
→Realistic Threat				.03	.26	[.55, -.49]
→Threat X Ethnic ID				.01	.01	[.02, -.01]
Constant	51.76	4.30	[60.28, 43.24]	15.08	8.68	[32.30, -2.15]
Negative Contact	-2.57	.85	[-.89, -4.24]	-.77	.28	[-.22, -1.32]
→Realistic Threat				.26	.23	[.71, -.20]
→Threat X Ethnic ID				.00	.01	[.01, -.01]

Table 4c: Moderated Mediation Analysis -- Feeling Thermometer (Mexican Immigrants)

Predictors	Realistic Threat			Feeling Thermometer (Mexican Immigrants)		
	B	SE	CI	B	SE	CI
Constant	51.66	4.19	[59.97, 43.35]	7.78	61.35	[129.48, -113.91]
Positive Contact	-2.58	.82	[-.95, -4.21]	6.49	1.95	[10.35, 2.63]
→Realistic Threat				.98	1.62	[4.20, -2.24]
→Threat X Ethnic ID				-.05	.04	[.04, -.14]
Constant	30.49	2.39	[35.24, 25.74]	30.23	61.38	[151.99, -91.52]
Negative Contact	2.76	.72	[4.20, 1.33]	-4.71	1.73	[-1.29, -8.13]
→Realistic Threat				1.38	1.65	[4.64, -1.89]
→Threat X Ethnic ID				-.06	.04	[.03, -.15]

CHAPTER IV

DISCUSSION

The main objective of this project was to attempt to further examine results from Barlow et al. (2012) who demonstrated stronger changes in reports of prejudice when contact is negative. Based on prior research, intergroup threat and social identity were expected to play significant roles. Thus, a moderated mediation model was suggested and hypothesized to be more influential when contact is negative. The analysis was based on the attitudes of Mexican-American's toward Whites and Mexican immigrants, and demonstrated a partial replication of the results of Barlow et al., with unfavorable feelings toward Whites changing more significantly when contact was negative. However, a replication of their Study 1 results showed no interaction between contact quantity and quality in predicting outgroup attitudes. Also contrary to expectations, contact alone did not appear to influence prejudice toward Mexican immigrants, implying that there may be other variables of interests that may depend on the outgroups being evaluated. The suggested moderator did not appear to improve the predictive ability of intergroup threat, as the interaction (i.e. realistic threat X social identification) was not significant for all outcomes when contact was positive and negative. In other words, the indirect influence of realistic threats on prejudice resulting from positive or negative contact did not depend on the person's identification with their ingroup.

According to a simple mediation analysis, realistic threats led to significant indirect effects when contact was negative for both Whites and Mexican immigrants. Interestingly,

realistic threats also acted as a mediator when contact was positive for Mexican immigrants only. This analysis can potentially be explained by the work of Riek et al. (2010), who showed that a common ingroup identity can lead to reductions in perceived threat. Although no attempt was made to verify this, this particular region of south Texas is ethnically homogenous, with Mexican-Americans making up the largest subset of the population. A high amount of contact is often expected with Mexican immigrants, given the cultural and familial similarities that often occur. Because of this, there may be reason to believe that perceived commonalities and differences between ingroups and outgroups may be more important than simply the individuals own ethnic identity.

Although this research did not support the originally suggested model, findings from this study add information to the literature by 1) further specifying the role of intergroup threat, 2) disconfirming the role of ethnic identity given a moderated mediation model (with the interaction occurring at the b path), and 3) suggesting the need to measure commonalities between group identities when evaluating the effects of contact quality.

Limitations and future directions

According to Hayes (2012), a sufficiently large sample size is often necessary when producing an analysis in multiple regression. Although the simple mediation and moderation analysis may have contained a sufficient sample size, the moderated mediation model may require a much larger sample size for changes to be detected. Furthering this issue was the relative lack of reports of negative contact for both outgroups. Although this outcome can be construed as positive for a number of reasons, it places strict limitations on my interpretation of the data, given that the end of the quality of contact distribution I was most interested in was also the end that was most lacking. With this in mind a larger sample size would have been more

desirable to achieve the statistical power needed for this analysis. Furthermore, data was collected measuring the attitudes of Mexican-American's in a small region of South Texas. These results may not generalize to other Mexican-American's from other parts of the country. Measuring contact between Whites and Mexican immigrants may be another difficulty of this study. Given the ethnic homogeneity of the region, contact with Whites may be extremely low, making the detection of any effects even more difficult. Although contact with Mexican immigrants is expected to be high, its exact measurement is likely impossible, as a distinction between Mexican-Americans and Mexican immigrants in this region is not always obvious. This hints at the final limitation, which is the self-reported means by which this data was collected. As has already been noted, many factors can influence the reporting of accurate results. These results thus may not be an accurate reflection of the relationships that are actually occurring in nature, given the potential for confounding variables occurring for each individual reports.

Future research directions should attempt to provide experimental evidence for not only the differential influence of positive and negative contact, but also the mediating role of intergroup threat. Replication of these results across various groups may also be necessary. As can be seen in this analysis, intergroup threats influence on prejudice may differ as a result of the groups that are being analyzed. Research should attempt to assess reasons for this variation. The role of a common ingroup identity (as suggested by Reik et al., 2010) may be a good starting point. Lastly, given the limitations of this study, further attempts to specify social identities role should be made. For instance, perhaps experimental evidence will allow for the effect of social identity to be detected prior to contact (i.e. influencing expectations of contact) rather than their evaluations prior to contact.

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BIOGRAPHICAL SKETCH

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