

POSITIVE AND NEGATIVE CONTACT AS PREDICTORS OF ATTITUDES
TOWARD LAW ENFORCEMENT

By

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Abstract

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Using intergroup contact theory (ICT), which posits that contact experiences with members of outgroups relate to attitudes toward those outgroups as a whole, the current study examines how positive and negative experiences with members of law enforcement predict general attitudes toward law enforcement. It specifically examines how attitudes toward individual members of law enforcement from contact experiences generalize to law enforcement as a whole, and how this generalization process is more or less effective when members of law enforcement are seen as more or less representative of law enforcement as a group (i.e., when law enforcement group membership is salient). I predicted that positive contact experiences with members of law enforcement would relate to positive attitudes toward those individuals, which in turn would predict positive attitudes toward law enforcement in general. However, this process should be more effective when the individuals from those experiences are seen as typical and representative of law enforcement. A similar process should occur for negative contact experiences, except that negative experiences would predict less favorable attitudes. To assess these relationships, I collected data from an online sample of Americans ($N = 505$) through Amazon Cloud Research. The primary predictions were mostly supported. While the relationship between contact experiences with members of law enforcement and attitudes toward those individuals was inconsistent across analyses, attitudes toward

individual members of law enforcement strongly related to general attitudes toward law enforcement, and this depended on the degree to which those individuals were seen as typical and representative of law enforcement. This was true for positive and negative contact. These findings make theoretical contributions to ICT by examining negative contact in conjunction with group salience and have important implications for how law enforcement should interact with members of their communities.

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Introduction

In recent years, the relationship between the police and the public has been in a poor state. In comparison to 2016, ratings of law enforcement in the United States in 2020 saw an overall decrease, with at least 10% fewer people rating the police as doing a good or excellent job in using appropriate force, treating people from different races and ethnicities equally, and providing accountability for misconduct (Pew Research Center, 2021). Additionally, confidence in law enforcement in 2020 was at its lowest point since the issue was first surveyed in 1993 (Brenan, 2021). It seems reasonable to assume that the increased nationwide awareness of the Black Lives Matter movement and its objectives that took place in the Summer of 2020 is related to these shifts. In a sample of Georgia college students, Verhaeghen and Aikman (2022) found that police were evaluated more negatively in terms of attitudes and confidence in the Fall of 2020 in comparison to 2019. These justifiable decreases in favorable attitudes toward police have worrying implications, as trust and confidence in law enforcement are positively associated with compliance and cooperation with law enforcement (Tyler & Jackson, 2013), as well as perceptions of police legitimacy (Tyler et al., 2015). These factors are important, as they contribute to the ability of police to perform their jobs effectively. Because positive attitudes toward the police are associated with favorable outcomes, examining the factors that contribute to attitudes toward law enforcement can help to improve police-civilian relations.

Predictors of Attitudes Toward Police

A wide variety of potential factors contribute to attitudes toward police, including race, ethnicity, age, gender, education, homeownership, socioeconomic status, prior contact with police, prior crime victimization, fear of crime, and perceived safety (Alberston & Gorey, 2018; Berthelot et al., 2018; Bolger et al., 2021; Eller et al., 2007; O'Connor Shelley et al., 2013; Scaglione & Condon, 1980; Schuck & Rosenbaum, 2008). Of these, race and prior contact with police seem to be the most significant factors. White people tend to evaluate law enforcement more positively than people of color, and more prior contact with police usually results in less favorable attitudes (Alberston & Gorey, 2018; Berthelot et al., 2018; Eller et al., 2007; Scaglione & Condon, 1980; Schuck & Rosenbaum, 2008). All of these elements have at least some evidence for their association with attitudes toward police, but age and socioeconomic status, which are frequently assessed demographic variables, are significant predictors in only a few of the studies that examined them (Bolger et al., 2021; O'Connor Shelley et al., 2013; Schuck & Rosenbaum, 2008). Additionally, race, which is often found to be a strong predictor of attitudes toward police, is sometimes not significant, meaning that these demographics are inconsistent predictors of attitudes (O'Connor Shelley et al., 2013).

Although prior contact with police is one of the strongest predictors of attitudes toward police, there are some inconsistencies in these findings as well. While prior police contact is usually negatively associated with favorable attitudes, some studies did not find any such relationship (Bolger et al., 2021; O'Connor Shelley et al., 2013). Bolger et al. (2021) speculated that their null result for a contact-attitudes relationship in their meta-

analysis of 66 studies may partially be due to the lack of assessment of the nature of contact in the studies they included. This seems likely, as police contact differs in its relationship with attitudes when the nature of contact is distinguished as being either positive or negative (Cheurprakobkit, 2000; Hu et al., 2020; Schuck et al., 2005). When the nature of prior contact is negative, it is associated with more negative attitudes, and when the nature of contact is positive, it is associated with more positive attitudes. While negative and positive contact operate in opposite directions in their relationships with attitudes, the association appears stronger for negative contact (Cheurprakobkit, 2000; Hu et al., 2020; Schuck et al., 2005). The examination of contact in both positive and negative dimensions provides a better understanding of how prior contact with police is related to attitudes toward police.

Intergroup Contact Theory

The relationship between contact with a certain group and attitudes toward that group is well established. Research demonstrating the positive effect of contact between groups can be seen as far back as 1945 when it was observed that the more times white sailors were shipped out to sea with black sailors, the less prejudice these white sailors held toward black people in general (Brophy, 1945). This contact-prejudice relationship materialized from a research standpoint with Allport's (1954) contact hypothesis. Allport (1954) stated that contact between groups can reduce prejudicial attitudes toward an outgroup (a group with which one does not identify) when the contact occurs under conditions where one group does not have power over the other, the groups hold common goals, the contact is sanctioned by institutional supports, and the nature of the contact is

cooperative. This idea that contact between groups under certain circumstances can positively impact attitudes between those groups has progressed into what is currently known as intergroup contact theory. The current theory acknowledges the benefit but not the absolute necessity of Allport's (1954) conditions. Further, this theory addresses the conditions which facilitate the generalization of prejudice reduction to an entire outgroup, such as the role of group salience (Pettigrew, 1998).

There is a large body of evidence supporting intergroup contact theory. In a meta-analysis that included over 500 studies, Pettigrew and Tropp (2006) found that contact reduces prejudice between groups, even in the absence of Allport's (1954) conditions. However, it should be noted that the ability of contact to reduce prejudice was less significant without such conditions (Pettigrew & Tropp, 2006). Whereas most contact research is concerned with racial and ethnic groups, the prejudice reduction effect of contact functions similarly with other kinds of group memberships as well (Pettigrew & Tropp, 2006; Pettigrew et al., 2011). Outgroup contact with gay men and lesbian women is associated with more positive attitudes in general toward gay men and lesbian women (Collier et al., 2012), and outgroup contact with higher-weight individuals has even been shown to be associated with weaker "anti-fat attitudes" (Ganesan & Carter-Sowell, 2021, p. 123). Contact reduces prejudice across a variety of groups but also can extend beyond the individuals who have had contact experiences with an outgroup. Having knowledge of or observing positive contact experiences between a fellow ingroup friend and a member of an outgroup can reduce prejudicial attitudes as well (Wright et al., 1997). This may even extend into a contextual effect, where individuals living in an area where those

around them interact positively with members of an outgroup experience reductions in prejudice. Essentially, in places where many people have positive intergroup contact experiences, those positive experiences predict more tolerant norms, which then lead to prejudice reduction (Christ et al., 2014).

The positive benefit of intergroup contact most effectively generalizes toward an entire outgroup (rather than the single individual with whom the contact occurs) when group membership is salient (Pettigrew et al., 2011). Specifically, the contact is most effective when interacting with an outgroup member who is perceived as a typical and representative member of the outgroup (i.e., prototypical), and if the outgroup is perceived to be homogenous (Brown et al., 1999). Presumably, a positive experience with a very typical member of a homogenous outgroup can more easily create the perception that *most* members of the outgroup are favorable in comparison to how well a non-typical member could create that perception. Although both play a role, typicality is a stronger predictor for outgroup prejudice reduction than outgroup homogeneity. The role of group salience as a moderator for contact-attitude relationships is demonstrated in both correlational studies (Brown et al., 1999, Study 2; Voci & Hewstone, 2003), as well as experiments (Brown et al., 1999, Study 1; Wilder, 1984).

For the sake of clarity, it should be noted that in contact theory literature, group salience and group prototypicality are sometimes used interchangeably, even though group salience has been described by Brown et al. (1999) as including both prototypicality and homogeneity of the outgroup. For example, Voci and Hewstone (2003) operationalized salience only using questions that pertain to prototypicality but

not homogeneity. They also included a distinct variable that represented homogeneity, defined as the perceived variability of the outgroup, but this was not incorporated into group salience. Additionally, even though Brown et al. (1999) used both prototypicality and homogeneity to represent group salience in their first study, they do not include homogeneity (citing potential methodological issues) in their measure of group salience in their second study. The current work treats salience similarly to Voci and Hewstone (2003) by emphasizing the prototypicality aspect in operationalizing salience and includes a separate measure of homogeneity.

Contact will not always result in prejudice reduction (Pettigrew & Tropp, 2006). If contact experiences are negative, they can lead to an increase in prejudicial attitudes (Barlow et al., 2012) in both cognitive and affective dimensions (Aberson, 2015). These negative effects usually appear in instances when contact occurs in an involuntary manner and is perceived as threatening (Pettigrew & Tropp, 2011). The process of attitude generalization due to the role of group salience should apply in instances of negative contact as well. Greater group salience should lead to attitudes toward outgroups that are more negative as a result of negative contact, as salience would amplify contact effects due to the process of generalization from a typical outgroup member to the entire outgroup. This generalization process should occur in the direction of the contact valence, rather than simply impacting attitudes positively. This could help to explain why negative contact experiences tend to have a stronger association with prejudicial attitudes than do positive contact experiences (Aberson, 2015; Barlow et al. 2012). This asymmetry could be due to the role of group salience, as negative contact experiences with an outgroup

member can lead to a perception of that individual being a more typical member of their group, which, in turn, contributes to generalization effects (Paolini et al., 2010). In addition to this explanation, negative experiences could also be more strongly associated with attitudes than positive experiences simply because negative experiences tend to be more psychologically salient than positive experiences (Baumeister et al., 2001).

Police and Intergroup Contact Theory

There is little research that examines intergroup contact in the context of interactions with law enforcement (see Eller et al., 2007; Peyton et al., 2019, for exceptions). This is surprising, as law enforcement researchers have clearly identified contact as a significant contributing factor in the development of attitudes toward police (Alberton & Gorey, 2018; Bolger et al., 2021). Additionally, researchers in both intergroup contact and law enforcement research have independently come to some of the same conclusions about certain aspects of intergroup contact theory, such as the opposite impacts of positive versus negative contact and the stronger predictive power of negative contact of attitudes toward police (e.g., Aberson, 2015; Barlow et al. 2012; Cheurprakobkit, 2000; Hu et al., 2020; Schuck et al., 2005). Law enforcement research and intergroup contact research have come to some of the same conclusions independently, but research on law enforcement could benefit from using intergroup contact theory, as its theoretical depth could provide a richer understanding of the development of attitudes toward police, and potential avenues to improve such attitudes (Al Ramiah & Hewstone, 2013; Pettigrew & Tropp, 2011; Pettigrew et al., 2011). As a result, I propose research that combines the differential contact effects of positive and

negative contact along with the role of group salience in the generalization process of contact experiences from individual members of law enforcement to police as a whole.

Examining law enforcement as the target of intergroup contact not only allows for a greater understanding of the determinants of attitudes toward law enforcement but also provides a new context to test the theory of intergroup contact. In some ways, it has tested aspects of the theory already by showing that general contact with police is associated with negative attitudes (Alberton & Gorey, 2018; Bolger et al., 2021). This demonstrates that a circumstance in which contact is usually involuntary and potentially threatening tends to lead to more negative attitudes, as discussed by Pettigrew and Tropp (2011). Examining a context in which the frequency of negative interactions is high also addresses a call within intergroup contact research for more studies on negative contact, as most work regarding intergroup contact has been focused on positive contact (Pettigrew & Tropp, 2006). It would also align with this call to analyze the role of group salience in negative contact, as much of the research regarding group salience examines positive contact (e.g., Brown et al., 1999; Voci & Hewstone, 2003; Wilder, 1984), and much less examines negative contact.

The Current Study

Given the general public's poor attitudes toward law enforcement in the United States (Brenan, 2021; Pew Research Center, 2021), and the benefits that come with more positive attitudes (Tyler et al., 2015; Tyler & Jackson, 2013), it is clear that the issue of attitudes toward police warrants attention. More favorable attitudes toward police contribute to perceptions of police legitimacy, a concept that refers to the degree of

acceptance of law enforcement as a respected authority (Tyler, 2004). This concept is valuable, as viewing the police as legitimate leads to greater compliance with the law and authorities. Although there are many determinants of these beneficial attitudes, contact seems to play a major role (Alberton & Gorey, 2018; Berthelot et al., 2018; Cheurprakobkit, 2000; Eller et al., 2007; Hu et al., 2020; Schuck et al., 2005; Schuck & Rosenbaum, 2008). Despite this, research in the past that addressed contact effects and law enforcement has rarely effectively used the body of knowledge that is afforded to it by intergroup contact theory (e.g., Eller et al., 2007; Peyton et al., 2019). Due to this lack of integration, research regarding attitudes toward law enforcement has missed out on an understanding of certain components of contact effects, such as the attitude generalization effects of group salience (Brown et al., 1999; Voci & Hewstone, 2003; Wilder, 1984). Conversely, intergroup contact theory has rarely addressed contact in the context of police interactions (e.g., Eller et al., 2007; Peyton et al., 2019). Finally, law enforcement is not only a relevant, topical group to study, but also meets the criteria for calls for more research on negative contact (Pettigrew & Tropp, 2006).

The current study applies intergroup contact theory, which relates contact experiences with an outgroup to attitudes toward that outgroup, to the American public's relationship with law enforcement. Moreover, this work seeks to expand intergroup contact theory by using the presumably threatening context of interactions with police to explore the potential differential associations of positive versus negative contact experiences as they relate to attitudes, as well as the role of group salience as it relates to the generalization of attitudes in both positive and negative contact experiences. Along

with these theoretical aspects, the current work intends to contribute to the body of knowledge that informs policy and practice related to law enforcement, as well as police-community interventions that help to improve attitudes (see Hill et al., 2021). This study collected data from civilian participants in the United States regarding their positive and negative contact experiences with law enforcement, perceived group salience of the members of law enforcement with whom they have had positive and negative contact, attitudes toward specific members of law enforcement from contact experiences, and attitudes toward members of law enforcement as a whole.

Hypotheses

Based on previously established contact-attitude relationships and their potential application to this novel setting, this study hypothesized that (see Figure 1 for hypotheses related to positive contact experiences and Figure 2 related for hypotheses related to negative contact):

Hypothesis 1a

Positive contact experiences with members of law enforcement will positively predict general attitudes toward law enforcement.

Hypothesis 1b

Positive contact experiences with members of law enforcement will positively predict attitudes toward specific members of law enforcement from positive contact experiences.

Hypothesis 2a

Negative contact experiences with members of law enforcement will negatively predict general attitudes towards law enforcement.

Hypothesis 2b

Negative contact experiences with members of law enforcement will negatively predict attitudes toward specific members of law enforcement from negative contact experiences.

Hypothesis 3a

Attitudes toward specific members of law enforcement from positive contact experiences will positively predict general attitudes toward law enforcement.

Hypothesis 3b

Attitudes toward specific members of law enforcement from negative contact experiences will positively predict general attitudes toward law enforcement.

Hypothesis 4a

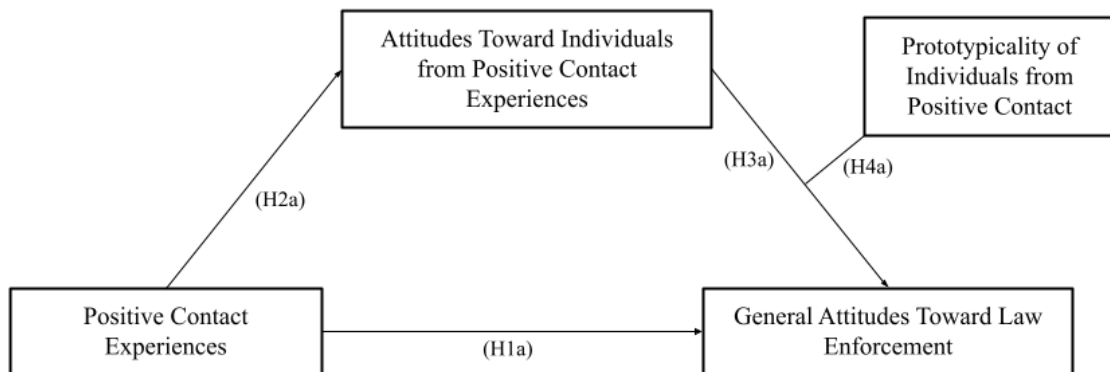
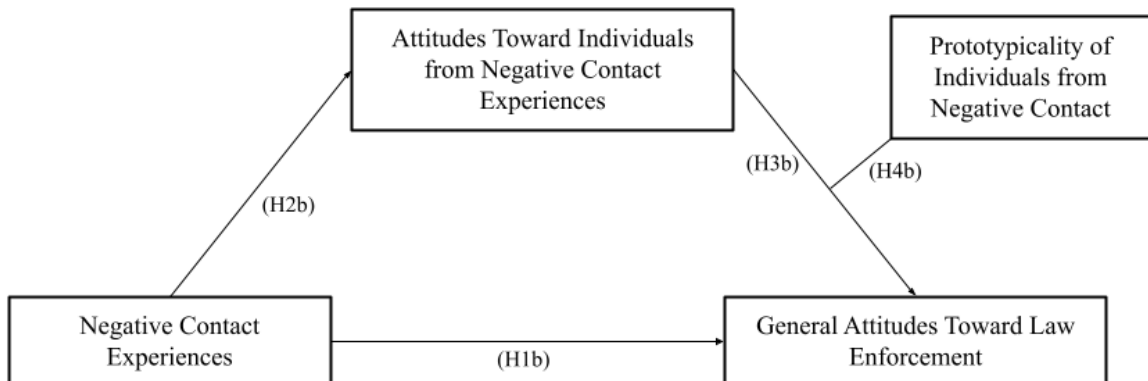
Prototypicality will moderate the relationship between attitudes toward specific members of law enforcement from positive contact experiences and global attitudes towards law enforcement such that the relationship between attitudes toward individuals from positive experiences and general attitudes toward law enforcement will be stronger when prototypicality is high in comparison to when it is low.

Hypothesis 4b

Prototypicality will moderate the relationship between attitudes toward specific members of law enforcement from negative contact experiences and global attitudes towards law enforcement such that the relationship between attitudes toward individuals from negative experiences and general attitudes toward law enforcement will be stronger when prototypicality is high in comparison to when it is low.

Hypothesis 5

Negative contact will be a stronger predictor of global attitudes toward law enforcement than positive contact.

Figure 1*Positive Contact Hypotheses***Figure 2***Negative Contact Hypotheses*

Methods

Participants

The final sample consisted of 505 participants. The first wave of data collection was composed of 250 participants, and the second was composed of 255. Participants were recruited through Amazon Mechanical Turk (MTurk), and the sample was restricted to those who are English speakers, reside in the United States, and have had prior contact with law enforcement. Participants had a mean age of 42.19 ($SD = 12.47$). There were slightly more men (254) than women (239). The majority of participants were White (363), followed by Black (51), Asian-American or Pacific Islander-American (34), those identifying with more than one race (22), and Latino/a (20). Participants identified most commonly as middle-class (234). Amazon Mechanical Turk participants were compensated 75 cents by the researcher through the Mturk organization.

Procedure

This study used Qualtrics, an online survey platform, and took place after approval by Cal Poly Humboldt's Institutional Review Board (IRB Number: IRB 22-050; 2022, December 2). Participants first provided informed consent. If participants checked the box indicating that they agree to take part in the study, they completed self-report surveys related to their experiences with law enforcement, attitudes toward law enforcement, thoughts and experiences related to crime, and demographic information. Participants in the second wave of data collection also completed a measure of their awareness of a recent instance of police brutality (Alfonseca et al., 2023), as well as their emotions related to the incident. Participants who reported no positive or negative contact

experiences with members of law enforcement were not presented with the follow-up measures related to those experiences. Upon completion of the survey, which took approximately five minutes, participants were presented with a document that explained the nature of the study. Participants were thanked and compensated for their time.

Measures

Positive Contact Experiences

To assess positive contact experiences, participants responded to a single item asking about their perceived frequency of positive contact experiences with members of law enforcement (*e.g., On average, how frequently do you have POSITIVE/GOOD contact experiences with members of law enforcement?*). Responses ranged from 0 (*never*) to 8 (*very frequently*) based on the perceived frequency. This assessment of contact experiences is an adaptation of an item from Barlow et al. (2012). Higher scores indicate more positive contact experiences.

Negative Contact Experiences

To assess negative contact experiences, participants responded to a single item asking about their perceived frequency of negative contact experiences with members of law enforcement (*e.g., On average, how frequently do you have NEGATIVE/BAD contact experiences with members of law enforcement?*). Responses ranged from 0 (*never*) to 8 (*very frequently*) based on perceived frequency. This assessment of contact experiences is an adaptation of an item from Barlow et al. (2012). Higher scores indicate more negative contact experiences.

Group Salience/Prototypicality in Positive Contact Experiences

To assess group salience in positive contact experiences, participants were asked to reflect on the members of law enforcement with whom they had positive contact experiences and respond to two semantic differential items. One item was related to how typical of law enforcement members they perceived those individuals to be (*e.g., Extremely atypical members of law enforcement; Extremely typical members of law enforcement*), and the other item was related to how representative of law enforcement as a whole they perceived those individuals to be (*e.g., Extremely unrepresentative of law enforcement as a group; Extremely representative of law enforcement as a group*). Responses ranged from 1 to 7. These items were created for the purpose of this study, but were adapted from Voci and Hewstone (2003). Responses were averaged to create a group salience score where higher scores indicate greater perceived group salience.

Group Salience/Prototypicality in Negative Contact Experiences

To assess group salience in negative contact experiences, participants were asked to reflect on the members of law enforcement with whom they had negative contact experiences and respond to two semantic differential items. One item was related to how typical of law enforcement members they perceived those individuals to be (*e.g., Extremely atypical members of law enforcement; Extremely typical members of law enforcement*), and the other item was related to how representative of law enforcement as a whole they perceived those individuals to be (*e.g., Extremely unrepresentative of law enforcement as a group; Extremely representative of law enforcement as a group*). Responses ranged from 1 to 7. These items were created for the purpose of this study but

were adapted from Voci and Hewstone (2003). Responses were averaged to create a group salience score where higher scores indicate greater perceived group salience.

Perceptions of Police Scale for Specific Attitudes in Positive Contact Experiences

To assess attitudes toward law enforcement members from previous positive contact experiences, this study used an adapted version of the Perceptions of Police Scale (POPS; Nadal & Davidoff, 2015), which consists of 11 items (*e.g., Those police are good people*). This scale originally measured attitudes toward police in general, so the items presented to participants were adjusted to apply to specific members of law enforcement. An explanation was included that these items pertain only to the individual members of law enforcement from their positive contact experiences. Responses ranged from 1 (*strongly disagree*) to 7 (*strongly agree*) and were averaged to create an overall score where higher scores indicate more favorable attitudes toward members of law enforcement from positive contact experiences.

Perceptions of Police Scale for Specific Attitudes in Negative Contact Experiences

To assess attitudes toward law enforcement members from previous negative contact experiences, this study used an adapted version of the Perceptions of Police Scale (POPS; Nadal & Davidoff, 2015), which consists of 11 items (*e.g., Those police are good people*). This scale originally measured attitudes toward police in general, so the items presented to participants were adjusted to apply to specific members of law enforcement. An explanation was included that these items pertain only to the individual members of law enforcement from their negative contact experiences. Responses ranged from 1 (*strongly disagree*) to 7 (*strongly agree*) and were averaged to create an overall score

where higher scores indicate more favorable attitudes toward members of law enforcement from negative contact experiences.

Perceptions of Police Scale for General Attitudes

To assess attitudes toward law enforcement as a whole, this study again used the Perceptions of Police Scale (POPS; Nadal & Davidoff, 2015), which consists of 11 items (*e.g., The police are good people*). Responses ranged from 1 (*strongly disagree*) to 7 (*strongly agree*) and were averaged to create an overall score where higher scores indicate more favorable attitudes toward law enforcement as a whole. Reliability coefficients for variables in positive and negative contact models are reported in Table 1 and Table 2.

Table 1

Reliabilities, means, standard deviations, and intercorrelations for main variables in positive contact models

Variable	α	$M(SD)$	1	2	3
1. Positive contact experiences	-	4.49(2.35)	-	-	-
2. Attitudes toward individuals	.96	5.41(1.04)	.43***	-	-
3. Group salience	$r = .88$	4.99(1.65)	.56***	.44***	-
4. General attitudes	.98	4.53(1.50)	.67***	.67***	.73***

Note. *** $p < .001$.

Table 2

Reliabilities, means, standard deviations, and intercorrelations for main variables in negative contact models

Variable	α	$M(SD)$	1	2	3
1. Negative contact experiences	-	5.06(1.28)	-	-	-
2. Attitudes toward individuals	.97	5.00(1.49)	-.07	-	-
3. Group salience	$r = .88$	5.05(1.20)	.54***	-.10*	-
4. General attitudes	.98	4.75(1.48)	-.45***	0.60***	-.55***

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

Exploratory Measures

Although the following measures were not relevant to the main analyses of this thesis, they were collected for future exploratory analyses.

Victimization Experiences

Participant victimization experiences were collected for future exploratory analyses because they have been found to be a predictor of attitudes toward law enforcement (Berthelot et al., 2018). To assess victimization experiences, participants were asked a series of six questions related to their experiences as victims of crimes (*e.g.*, *Have you been a victim of property destruction?*). This scale is based on that of Hu et al. (2020), with the content of specific items coming from the Office for Victims of Crime (2020). Responses for these items were binary (1 = *yes*, 0 = *no*) and were summed to create an overall score of how many crimes participants had been a victim of (0 = participants have not been the victim of any crime, 6 = participants have been the victim of every listed crime).

Fear of Crime

Participant fear of crime was collected for future exploratory analyses because it has been found to be a predictor of attitudes toward law enforcement (Bolger et al., 2021). To assess fear of crime, participants responded to six items that ask how much they worry about being the victim of different types of crime (*e.g.*, *Someone vandalizing your home*). This scale comes from Sims et al. (2002). Scale responses ranged from 1 (*Not worried at all*) to 7 (*Extremely worried*) and were averaged to create an overall score where a higher score indicates a greater fear of crime.

Entitativity of Law Enforcement

Entitativity serves as an operationalization of group homogeneity and was collected for future exploratory analyses to combine with prototypicality as a means of operationalizing group salience similarly to how Brown et al. (1999) intended. To assess the perceived homogeneity of law enforcement, participants responded to four items related to how entitative they perceive law enforcement as a group (*e.g., There are strong ties among police officers*). This measure was adapted from Hogg et al. (2007). Response values ranged from 1 (*Strongly Disagree*) to 7 (*Strongly Agree*) and were averaged to create an overall score where higher scores indicate greater perceptions of law enforcement entitativity.

Efficacy of Law Enforcement

Efficacy, which is closely related to entitativity (Clark & Wegener, 2009), was collected because it may have implications for perceptions of attitudes toward law enforcement in general, as groups that are perceived as more able to achieve their goals would presumably be incredibly threatening if you also perceive them to be working against you. To assess the perceived efficacy of law enforcement, participants responded to one item related to their perception of the ability of law enforcement to achieve their goals (*e.g. Police officers as a group can achieve their goals*). Response values ranged from 1 (*Strongly Disagree*) to 7 (*Strongly Agree*), where a higher value means greater perceived efficacy of law enforcement

Legitimacy of Black Lives Matter Movement

Perceived legitimacy of Black Lives Matter was collected for future exploratory analyses because it may be a contributing factor to attitudes toward law enforcement, as evidenced by the dip in favorable attitudes toward police in 2020 (Verhaeghen & Aikman, 2022). To assess the perceived legitimacy of the Black Lives Matter (BLM) movement, participants responded to five items related to how legitimate they find the Black Lives Matter movement to be, specifically in relation to their goals of ending police brutality (*e.g., The BLM movement and their agenda to end police brutality is legitimate*). Response values ranged from 1 (*Strongly Disagree*) to 7 (*Strongly Agree*) and were averaged to create an overall score where higher scores indicate greater perceptions of legitimacy of the BLM movement. Legitimacy items come from McDowell (2023) adapted from van der Toorn et al. (2011).

Awareness of Police Brutality Event involving Tyre Nichols

Participant awareness of the police brutality event involving Tyre Nichols was collected for future exploratory analyses to examine if an instance of police misconduct might significantly impact attitudes toward law enforcement. To assess this, participants read a brief description of the instance of police brutality that had occurred approximately one week prior to the second wave of data collection that resulted in the death of Tyre Nichols (Alfonseca et al., 2023). Then, they responded to one item that asked about their level of awareness of the event (*e.g., Before reading this information, how aware were you of this event involving Tyre Nichols?*). Response values ranged from 1 (*Not at all*

aware) to 5 (*Extremely Aware*), where higher scores indicate greater awareness. This measure was only presented to those participants in the second wave of data collection.

Emotions Related to the Tyre Nichols Event

To assess some of the emotional reactions to the event involving Tyre Nichols, participants indicated the degree to which they felt a variety of emotions in relation to the event. (*e.g., When I think about the event involving Tyre Nichols, I feel...*) In total, there were 13 emotions listed (*e.g., angry*). Response values ranged from 1 (*Strongly Disagree*) to 7 (*Strongly Agree*).

Demographics

To assess demographic variables, participants reported their gender identity, age, race, ethnicity, socioeconomic status, and if they were a member of law enforcement.

Results

Data cleaning, preparation, and analyses were conducted in RStudio. Prior to statistical analysis, data were examined for missing values, potential outliers, means and standard deviations that seem improbable, values outside of the specified ranges outlined in the measures section, and survey responses faster than two minutes. Thirty-one responses were excluded for completion times faster than two minutes, which pilot testing of the survey deemed as an impossible length of time to complete the survey. Two incomplete surveys were excluded. Three self-reported age responses were deleted, as they were greater than 200. The highest age after deleting these responses was 85. Other than these corrected issues, there were no other problems on the above dimensions. While the first and second waves were collected two weeks apart, there were no significant differences between them in general attitudes toward law enforcement, $t(503) = 0.27, p = .79$. The first wave ($M = 4.51, SD = 1.50$) was similar enough to the second wave ($M = 4.55, SD = 1.51$) that they were combined for analyses.

Skew and kurtosis of each variable were examined, and statistical models were examined for nonlinearity, heteroscedasticity, and normality to assess regression assumptions. Predictor variables were also examined for multicollinearity, and tests for multivariate outliers were conducted. Across the variables used in the positive and negative contact models, tests of skew and kurtosis found that there were some issues with normality for individual variables. However, an examination of the residuals of the regression models indicate minimal to no issues with linearity, heteroscedasticity, or normality. Further, Breusch-Pagan tests examining heteroscedasticity of the positive and

negative contact models were non-significant ($ps > .25$). None of the correlation coefficients between predictor variables exceeded .60, and all tolerance statistics for each variable across both models were greater than .60. These values suggest no issues with multicollinearity. While some individual variables were non-normal, an examination of true regression assumptions indicates that they are met. Significance tests for Mahalanobis values indicate that there were multivariate outliers ($ps < .001$) for both positive and negative contact models. For this reason, analyses with and without multivariate outliers were performed for the positive and negative contact models.

Tests of all assumptions were also performed for the multiple regression directly comparing the frequency of positive and negative contact experiences. There were no issues with residuals, multicollinearity, or multivariate outliers.

Mediated Moderation - Positive Contact

Data were analyzed using a mediated moderation (model 14) using the Hayes PROCESS macro in R (Hayes, 2013). This analysis examines Hypotheses 1a, 2a, 3a, and 4a. The index of moderated mediation was significant for the indirect effect of positive contact experiences with members of law enforcement on general attitudes toward law enforcement through attitudes toward individual members of law enforcement from positive contact experiences, moderated by group salience from positive contact experiences, $b^* = 0.01$, $SE = 0.005$, 95% CI [0.009, 0.029]. The indirect effect was stronger when group salience was high compared to low. Attitudes toward individuals from positive experiences partially mediated the relationship between the frequency of positive contact experiences and general attitudes toward law enforcement, as the direct

effect in the model was still significant after accounting for the indirect effect. As the frequency of positive contact experiences increased, so did the favorability of attitudes toward individual members from positive experiences. In turn, these attitudes related to more positive general attitudes toward law enforcement, especially when perceptions of group salience were high, rather than low. See Table 3 for complete statistical reporting and Figure 3 for a visual representation of the relationship between attitudes toward individuals from positive contact experiences and general attitudes toward law enforcement at high and low levels of prototypicality.

Table 3

Test of conditional indirect effects of positive contact experiences on general attitudes toward law enforcement, through attitudes toward individual members of law enforcement from positive contact experiences and moderated by group salience in positive experiences

	<i>b*(SE)</i>	<i>t</i>	95% C.I.
<i>Outcome: Attitudes toward members of law enforcement from positive contact experiences</i>			
Frequency of positive contact experiences	0.21(0.02)	10.48	0.167, 0.244
<i>Outcome: General attitudes toward law enforcement</i>			
Frequency of positive contact experiences	0.15(0.02)	7.89	0.115, 0.192
Attitudes toward members of law enforcement from positive contact experiences	0.56(0.04)	14.52	0.488, 0.641
Group salience in positive contact experiences	0.38(0.03)	14.59	0.327, 0.492
Interaction term	0.07(0.02)	3.78	0.032, 0.102
<i>Simple Slopes: General attitudes toward law enforcement</i>			
High group salience	0.67(0.05)	12.67	0.563, 0.770
Low group salience	0.43(0.05)	9.46	0.341, 0.520
<i>Conditional indirect effects: Attitudes toward members of law enforcement from positive contact experiences</i>			
High group salience	0.14(0.02)		0.102, 0.174
Low group salience	0.09(0.02)		0.059, 0.120

Note. Interaction term is attitudes toward individuals from positive contact experiences x group salience in positive contact experiences. Parameter estimates calculated with 10,000 bootstrapped iterations.

Figure 3

General attitudes toward law enforcement predicted by attitudes toward individuals from positive contact experiences, moderated by group salience/prototypicality



Mediated Moderation - Negative Contact

This analysis examines Hypotheses 1b, 2b, 3b, and 4b. The index of moderated mediation was not significant for the indirect effect of negative contact experiences with members of law enforcement on general attitudes toward law enforcement through attitudes toward individual members of law enforcement from negative contact experiences, as moderated by group salience from negative contact experiences, $b^* = -0.006$, $SE = 0.005$, 95% CI [-0.015, 0.003]. The indirect effect was not significant when group salience was high or low. Attitudes toward individuals from negative experiences did not mediate the relationship between the frequency of negative contact experiences and general attitudes toward law enforcement. The frequency of negative contact experiences did not relate to the favorability of attitudes toward individual members from negative experiences. However, attitudes toward individuals from negative experiences positively related to general attitudes toward law enforcement, especially when perceptions of group salience were high, rather than low. See Table 4 for complete statistical reporting and Figure 4 for a visual representation of the relationship between attitudes toward individuals from negative contact experiences and general attitudes toward law enforcement at high and low levels of prototypicality.

Table 4

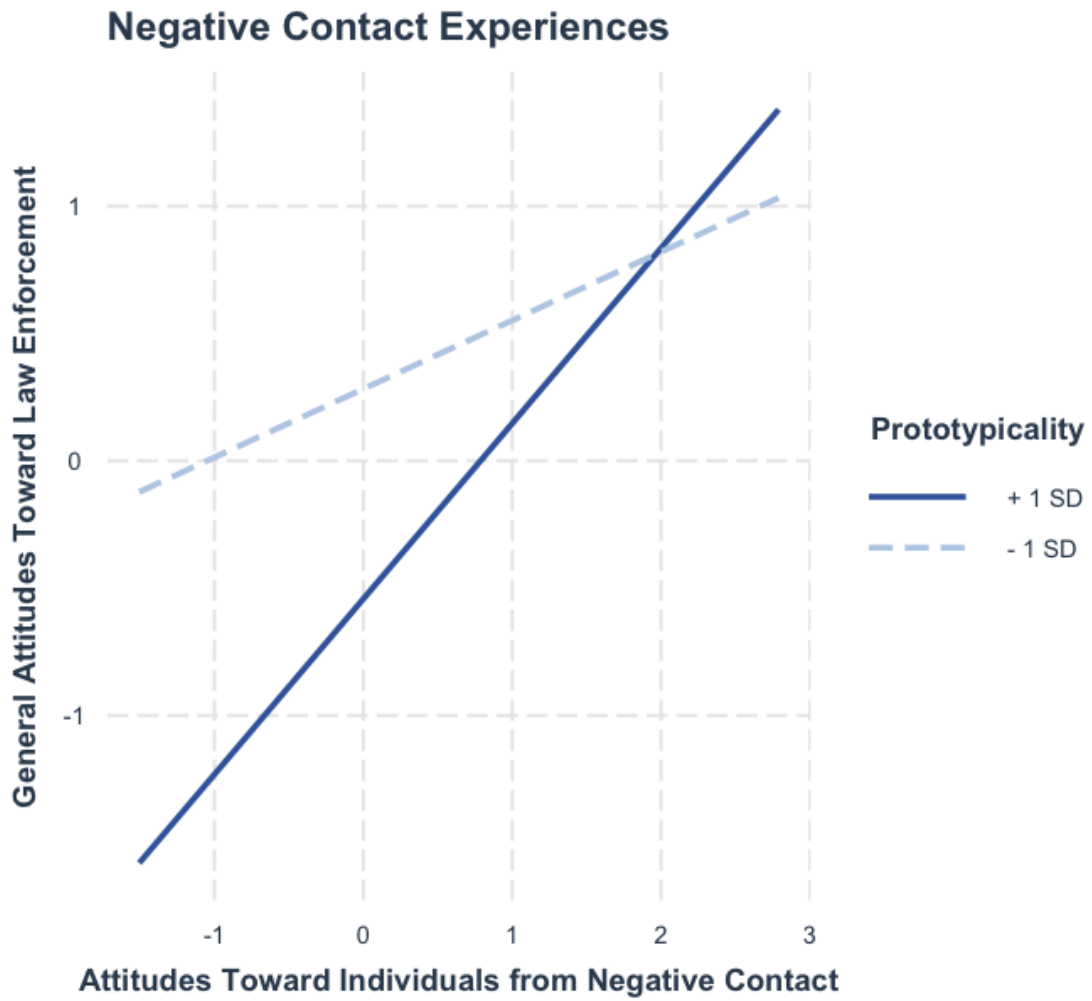
Test of conditional indirect effects of negative contact experiences on general attitudes toward law enforcement, through attitudes toward individual members of law enforcement from negative contact experiences and moderated by group salience in negative experiences

	<i>b*(SE)</i>	<i>t</i>	95% C.I.
<i>Outcome: Attitudes toward members of law enforcement from negative contact experiences</i>			
Frequency of negative contact experiences	-0.04(0.03)	-1.46	-0.109, 0.016
<i>Outcome: General attitudes toward law enforcement</i>			
Frequency of negative contact experiences	-0.06(0.02)	-2.65	-0.101, -0.016
Attitudes toward members of law enforcement from negative contact experiences	0.51(0.03)	16.10	0.452, 0.578
Group salience in negative contact experiences	-0.33(0.03)	-12.12	-0.386, -0.278
Interaction term	0.12(0.02)	7.54	0.089, 0.153
<i>Simple Slopes: General attitudes toward law enforcement</i>			
High group salience	0.79(0.04)	19.33	0.706, 0.866
Low group salience	0.24(0.05)	4.40	0.134, 0.349
<i>Conditional indirect effects: Attitudes toward members of law enforcement from negative contact experiences</i>			
High group salience	-0.04(0.03)		-0.092, 0.021
Low group salience	-0.01(0.01)		-0.033, 0.006

Note. Interaction term is attitudes toward individuals from negative contact experiences x group salience in negative contact experiences. Parameter estimates calculated with 10,000 bootstrapped iterations.

Figure 4

General attitudes toward law enforcement predicted by attitudes toward individuals from negative contact experiences, moderated by group salience/prototypicality



Mediated Moderation - Positive Contact with Multivariate Outliers Removed

When multivariate outliers were removed, the index of moderated mediation for the positive contact model described above was no longer significant, $b^* = 0.02$, $SE = 0.013$, 95% CI [-0.001, 0.048]. The strength of the indirect effect did not change as a function of group salience. However, attitudes toward individuals from positive experiences still partially mediated the relationship between the frequency of positive contact experiences and general attitudes toward law enforcement, as the direct effect in the model was still significant after accounting for the indirect effect. As the frequency of positive contact experiences increased, so did the favorability of attitudes toward individual members from positive experiences. In turn, these attitudes related to more positive general attitudes toward law enforcement, especially when perceptions of group salience were high, rather than low. See Table 5 for complete statistical reporting.

Table 5

Test of conditional indirect effects of positive contact experiences on general attitudes toward law enforcement, through attitudes toward individuals from positive contact experiences and moderated by group salience in positive experiences, with multivariate outliers removed

	<i>b*(SE)</i>	<i>t</i>	95% C.I.
<i>Outcome: Attitudes toward members of law enforcement from positive contact experiences</i>			
Frequency of positive contact experiences	0.47(0.04)	10.44	0.381, 0.557
<i>Outcome: General attitudes toward law enforcement</i>			
Frequency of positive contact experiences	0.23(0.03)	7.47	0.171, 0.294
Attitudes toward members of law enforcement from positive contact experiences	0.35(0.03)	12.81	0.299, 0.408
Group salience in positive contact experiences	0.43(0.03)	14.33	0.328, 0.485
Interaction term	0.05(0.02)	2.13	0.004, 0.097
<i>Simple Slopes: General attitudes toward law enforcement</i>			
High group salience	0.40(0.03)	10.55	0.325, 0.474
Low group salience	0.30(0.04)	9.08	0.237, 0.368
<i>Conditional indirect effects: Attitudes toward members of law enforcement from positive contact experiences</i>			
High group salience	0.19(0.03)		0.139, 0.238
Low group salience	0.14(0.02)		0.096, 0.192

Note. Interaction term is attitudes toward individuals from positive contact experiences x group salience in positive contact experiences. Parameter estimates calculated with 10,000 bootstrapped iterations.

Mediated Moderation - Negative Contact with Multivariate Outliers Removed

When multivariate outliers were removed, the previously insignificant index of moderated mediation for the negative contact model was significant, $b^* = -0.028$, $SE = 0.012$, 95% CI [-0.052, -0.004]. The indirect effect was stronger when group salience was high in comparison to low. Attitudes toward individuals from negative experiences partially mediated the relationship between the frequency of negative contact experiences and general attitudes toward law enforcement, as the direct effect in the model was still significant after accounting for the indirect effect. The frequency of negative contact experiences negatively predicted the favorability of attitudes toward individual members from negative experiences, which in turn were negatively related to general attitudes toward law enforcement, especially when perceptions of group salience were high, rather than low. See Table 6 for complete statistical reporting.

Table 6

Test of conditional indirect effects of negative contact experiences on general attitudes toward law enforcement, through attitudes toward individuals from negative contact experiences and moderated by group salience in negative experiences with multivariate outliers removed

	<i>b*(SE)</i>	<i>t</i>	95% C.I.
<i>Outcome: Attitudes toward members of law enforcement from negative contact experiences</i>			
Frequency of negative contact experiences	-0.13(0.05)	-2.53	-0.238, -0.030
<i>Outcome: General attitudes toward law enforcement</i>			
Frequency of negative contact experiences	-0.17(0.04)	-2.78	-0.174, -0.029
Attitudes toward members of law enforcement from negative contact experiences	0.43(0.03)	14.14	0.371, 0.491
Group salience in negative contact experiences	-0.42(0.03)	-11.89	-0.484, -0.346
Interaction term	0.21(0.03)	6.74	0.148, 0.270
<i>Simple Slopes: General attitudes toward law enforcement</i>			
High group salience	0.69(0.04)	16.38	0.606, 0.772
Low group salience	0.18(0.05)	3.26	0.071, 0.285
<i>Conditional indirect effects: Attitudes toward members of law enforcement from negative contact experiences</i>			
High group salience	-0.09(0.04)		-0.166, -0.013
Low group salience	0.09(0.02)		-0.054, -0.002

Note. Interaction term is attitudes toward individuals from negative contact experiences x group salience in negative contact experiences. Parameter estimates calculated with 10,000 bootstrapped iterations.

Multiple Regression - Positive and Negative Contact

This analysis examines Hypotheses 5. Taken together, the frequency of positive and negative contact experiences significantly predicted general attitudes toward law enforcement, $R^2 = .51$, $F(2, 502) = 263.7$, $p < .001$. When examined individually, the frequency of positive contact positively predicted general attitudes toward law enforcement ($b^* = 0.59$, $p < .001$, $sr^2 = .31$), and the frequency of negative contact negatively predicted attitudes toward law enforcement ($b^* = -0.26$, $p < .001$, $sr^2 = .06$).

Discussion

The purpose of this study was to extend the intergroup contact literature to attitudes toward law enforcement in a way that advances both psychological theory and law enforcement practice. This study sought to examine how different types of contact relate to attitudes toward law enforcement in different ways, the underlying mechanism of these contact-attitude relationships, and the conditions under which attitudes generalize from an individual to their group in general. There was good overall support for many of the hypothesized relationships that related to these study aims. Participants who had more frequent positive experiences with members of law enforcement tended to have more favorable attitudes toward police in general, and participants who had more frequent negative contact experiences tended to have less favorable attitudes toward police in general. This was the case for analyses that included and excluded multivariate outliers. These findings strongly supported Hypotheses 1a and 1b, respectively, and align with previous findings regarding positive and negative contact (Aberson, 2015; Barlow et al., 2012).

Along with attitudes toward law enforcement in general, more frequent positive contact experiences also related to more favorable attitudes toward members of law enforcement from their positive contact experiences. This was the case when analyses included or excluded multivariate outliers, providing strong support for Hypothesis 2a. Alternatively, Hypothesis 2b was not as strongly supported. Greater frequency of negative contact experiences with members of law enforcement related to less favorable attitudes toward individual members of law enforcement from contact experiences, but

this effect was only seen when multivariate outliers were excluded. In the analysis with multivariate outliers included, this relationship was not significant. Attitudes toward individual members of law enforcement were not consistently predicted as an outcome of the frequency of contact experiences but they were a strong predictor of general attitudes toward law enforcement. More favorable attitudes toward individuals from both positive and negative contact experiences were strongly related to more favorable general attitudes toward law enforcement. Moreover, the strength of these relationships changed based on group salience (operationalized in this study as prototypicality). When participants perceived the members of law enforcement with whom they had interacted to be more typical and representative of law enforcement as a group, their attitudes toward those individuals generalized more effectively to attitudes toward law enforcement in general in comparison to when they perceived the individuals they interacted with to be atypical or unrepresentative. These results were the same regardless of the exclusion of multivariate outliers and thus provide strong support for Hypotheses 3a, 3b, 4a, and 4b. Additionally, these results align with previous literature examining the role of group salience in attitude generalization in positive contact experiences (Brown et al., 1999; Voci & Hewstone, 2003; Wilder, 1984), and demonstrate that these same generalization processes function similarly for negative contact experiences.

This study hypothesized a series of specific relationships that made up two mediated moderation models. When examining all of these relationships together instead of individually, interesting results emerge. For positive contact experiences, these results seem to show that attitudes toward individual members of law enforcement, moderated

by group salience in those experiences, is an underlying mechanism that explains some of the relationship between positive contact experience and attitudes. However, this was only true when multivariate outliers were included in analyses. When they were excluded, attitudes toward individuals still appeared to be an underlying mechanism of the relationship between positive contact and general attitudes, but this mechanism was not any better at explaining the relationship between positive contact and general attitudes when group salience was high or low. Similar issues with consistency emerged in the mediated moderation models for negative contact. When multivariate outliers were included, the frequency of negative contact experiences did not relate to attitudes toward members of law enforcement from those experiences, giving no evidence to suggest that attitudes toward individuals was an underlying mechanism for the relationship between negative contact and general attitudes. However, when multivariate outliers were removed, attitudes toward individual members of law enforcement, moderated by group salience in those experiences partially explained the relationship between the frequency of negative contact and general attitudes toward law enforcement. When examining all of the hypothesized relationships together, the cohesive story that each of these models tell is somewhat inconsistent. However, many of the specific elements of this structure of relationships were strongly supported.

Unexpectedly, positive contact experiences were a better predictor of attitudes toward law enforcement than the frequency of negative contact experiences. This is surprising because previous studies have found the opposite effect (Aberson, 2015; Barlow et al., 2012). One reason why negative contact is thought to be a stronger

predictor of attitudes towards groups than positive contact is that negative experiences may make group membership more salient than positive experiences (Paolini et al., 2010). The underlying assumption of this explanation is that one might expect negative interactions with a member of an outgroup that one feels unfavorably toward. With this in mind, negative experiences may align with those expectations more than positive experiences, which makes those individuals from negative contact experiences seem more typical and representative of their group. This same logic applies to the findings of this study, but in the opposite direction. Participants in the sample largely felt favorably toward law enforcement in general, with a mean favorability score of 4.53 on a scale that ranged from 1-7. It could be that participants as a whole expected to have positive experiences with law enforcement, so positive experiences made members of law enforcement seem more typical and representative of their group, which led to greater generalization of attitudes from these experiences to law enforcement in general.

Limitations

Whereas these mediated-moderation models for positive and negative contact experiences were the planned analyses, in hindsight this may not have been appropriate in the context of the main predictors. This may be an explanation for the inconsistent findings. I predicted that the greater frequency of positive or negative experiences would relate to attitudes toward individuals from those experiences, but this may be somewhat flawed logic. This prediction would make sense based on the contact theory literature if the main predictors assessed the *quality* of contact experiences (Pettigrew & Tropp, 2006), but not necessarily the quantity of contact experiences. Logically, having many

experiences shouldn't meaningfully impact attitudes toward individuals from those experiences. Whether participants had infrequent or frequent experiences, there is no theoretically based reason to assume that the attitudes toward individuals from all of their experiences on average should differ.

Despite the fact that the frequency of contact experiences theoretically shouldn't predict attitudes toward individual members of law enforcement, some of the analyses found that these relationships were significant in positive and negative contact models. An explanation for this might be that the greater frequency of positive contact experiences led to more favorable attitudes toward law enforcement in general, which in turn led to perceiving individual members of law enforcement more favorably. This should be especially true for members of law enforcement perceived as typical and representative of their group and should operate similarly for negative contact as well. To test this explanation, analyses predicting attitudes toward individual members of law enforcement from the frequency of contact experiences, mediated by general attitudes of law enforcement and moderated by group salience were conducted. For models assessing both positive and negative contact experiences, the relationships between the frequency of contact experiences and attitudes toward individual members of law enforcement were fully mediated by general attitudes toward law enforcement and moderated by group salience. This indicates that the significant relationships between the frequency of contact experiences and attitudes toward individuals from those experiences in the original analyses can likely be explained by the favorability of attitudes toward law enforcement in general. Although this explanation makes sense theoretically and this model provides a

stronger statistical explanation of the current data, this was not the original conceptualization of these relationships, thus more work is needed to replicate this finding.

This issue speaks to a central limitation of this study; the assessed relationships are correlational. While we can make some inferences about causality by viewing these correlational findings in the context of previous studies that manipulated contact, this study in a vacuum does not provide clear-cut causal directions of these relationships and does not maximize internal validity.

Future Work

Future work should address the limitations of this study that are attributed to the correlational design by replicating aspects of this study experimentally. Assigning participants to conditions in which they have a positive or negative interaction with a member of law enforcement that seems more or less typical of their group allows us to parsimoniously draw causal conclusions about the roles of group salience in positive and negative interactions with members of law enforcement. On a small scale, this would provide confidence in the temporal direction of these relationships. On a much larger scale, examining intergroup contact theory in a causal fashion helps to address recent concerns that contact may not truly cause intra-individual attitude change, but may be a reflection of the fact that those with favorable attitudes toward a given group being more likely to interact with that group (Friehs et al., 2023). Along with these methodological adjustments, future research should advance the current study by examining willingness to engage in collective action as an outcome variable. Previous studies on collective

action have established that positive and negative contact have implications for a willingness to mobilize on behalf of a disadvantaged group (Reimer et al., 2016). Law enforcement is an especially important group to examine in relation to collective action, as social change in the form of police reform is an important ideal in the American context (Crabtree, 2022). If positive contact experiences with members of law enforcement can serve as a means of stifling the motivation of those who were previously energized, it can be used as a tool to maintain the status quo that many Americans are unhappy with.

Conclusions

Despite some of the limitations of this study, it makes theoretical and practical contributions in a variety of areas. This study has expanded the theory of intergroup contact to law enforcement in a manner that is more statistically and theoretically rigorous than previous studies (e.g., Eller et al., 2007; Peyton et al., 2019). By examining the role of group salience in negative contact experiences, it has also played a role in answering the call within intergroup contact research for research on negative contact (Pettigrew & Tropp, 2006). In examining group salience, this study also contributes to literature examining determinants of attitudes toward law enforcement. While contact with law enforcement has been identified as a contributor to attitudes toward police (Cheurprakobkit, 2000; Hu et al., 2020; Schuck et al., 2005), I am not aware of any studies in which group salience has been incorporated into this relationship. This addition of group salience to the existing understanding of contact and attitudes toward law enforcement may provide important insight into how members of law enforcement

should interact with members of their communities. For example, given that group salience amplifies contact-attitude relationships, police officers should look for opportunities to make positive connections with members of their communities specifically when they are in uniform, as a police uniform presumably makes group membership incredibly salient. In addition to these everyday interactions, the findings of this study related to group salience can also inform the practices involved in interventions between community members and law enforcement intended to improve intergroup attitudes like those facilitated by Hill et al. (2021).

Improving attitudes toward law enforcement is an incredibly complex, nuanced, and expansive puzzle that requires change and improvement on a variety of dimensions. A single study does not and cannot solve the whole puzzle, but I hope this thesis can serve as a small piece of it.

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