

Contact itself or contact's success? How intergroup contact improves attitudes

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Abstract

Intergroup contact is one of the most common methods of reducing intergroup prejudice and improving group relations, but it is not always successful. Most scholarship focuses on conditions under which contact will or will not improve attitudes to explain its success or failure. Instead of focusing on the conditions under which contact occurs to explain success or failure, I focus on the outcomes that contact achieves. I propose that intergroup contact will improve attitudes when the contact helps groups achieve a desirable outcome and that the underlying mechanism through which contact improves intergroup attitudes is changing group members' perceptions about the likely outcomes of intergroup interaction. As a first test of the idea that contact's effects depend on the perception that contact helps achieve desirable outcomes, I conduct an experiment in which subjects experience successful or unsuccessful vicarious intergroup contact. The results suggest that intergroup attitudes only improve if contact is successful. I end by discussing the implications for contact theory and for contact-based interventions.

Keywords: taxation, tax compliance, service delivery, field experiment, Malawi

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1 Introduction

Intergroup contact is the preeminent means of reducing prejudice and improving affect towards an outgroup. Be the groups based on ethnicity (Burns, Corno, and La Ferrara 2015; Boisjoly et al. 2006; Van Laar et al. 2005), religion (Mousa 2018; Weiss 2019), gender (Finseraas et al. 2016), ability (Evans 1976; Krahe and Altwasser 2006; Sheare 1974), socioeconomic status (Rao 2019), or age (Meshel and MCGlynn 2004), cross-group interaction can improve relations between groups. Reviews and meta-analyses confirm the positive effects from contact in real-world settings and international organizations base programs and policies on the idea that cross-group interaction improves relations, decreases violence, and reduces discriminatory behavior.¹

But contact does not always improve attitudes, and scholars still debate when contact will improve attitudes and when it will not. A review by Paluck, Green, and Green (2019) suggests contact's effects are weak for ethnic prejudice, and Gubler (2011) suggests contact causes backlash effects for highly prejudiced people. Some scholars postulate that contact is only effective when it meets certain conditions, but other scholars argue about whether and when those conditions are necessary (Pettigrew and Tropp 2006; Pettigrew et al. 2011). To use contact theory to reduce prejudice, discrimination, and conflict throughout the world, it is vitally important to understand when and how contact will improve attitudes between groups.

Researchers have made great strides towards understanding when and how contact will improve attitudes by focusing on cognitive mechanisms – what contact does in the minds of participants. Originally, Allport (1954) focused on dispelling negative stereotypes. Recent findings suggest contact must trigger empathy (Broockman and Kalla 2016), relieve anxiety (Page-Gould, Mendoza-Denton, and Tropp 2008), or make salient a shared identity (Gaertner and Dovidio 2014). Another vein of research focuses on how participants resolve the cognitive dissonance that positive cross-group contact creates. When participants resolve dissonance by updating attitudes, attitudes improve; when participants resolve dissonance by doubling down on existing attitudes, negative attitudes remain or are strengthened (Gubler 2013).

I build on this work and focus specifically on when participants are motivated to resolve cognitive dissonance by updating attitudes, rather than doubling down on negative attitudes. Drawing on theories that conceptualize humans as goal-oriented beings, I propose that participants will update attitudes when they believe that cross-group interaction will help them and their group achieve goals. Achieving those goals through cross-group cooperation provides participants with the motivation to update attitudes about the other side. If cross-group cooperation does not help participants achieve their goals, participants have no reason to change attitudes and are likely to resolve cognitive dissonance by doubling-down on existing attitudes. This theory suggests that the process of working together is not enough to change attitudes; the working together must achieve something of value.

To test the hypothesis that contact's effects depend on the perception that contact helps achieve goals, I conduct a lab experiment in which subjects experience intergroup contact vicariously by watching a video. In the video, two people from opposing political parties cooperate to achieve a shared goal. In one condition, they achieve their goal and in the other they fail to achieve their goal. If the effects of contact depend on contact helping the participants achieve a goal, attitudes should only improve in the “good outcome” condition. If contact itself improves outcomes, regardless of the achievement of a goal, then attitudes should improve in both the “good outcome” and “bad outcome” condition.

The results suggest that most effects of contact depend on contact helping groups achieve goals. When subjects saw group members achieve their joint goal through contact, ingroup favoritism and outgroup animosity decreased relative to other experimental groups. The video diminished the difference between ingroup and outgroup members on an index that includes measures of affect, social distance, feelings of threat, attributions of blame, willingness to interact with outpartisans, and information seeking. When subjects saw group members cooperate with the other side but fail to achieve their goals, they favored their ingroup over the

¹See [Search for Common Ground](#), [Mercy Corps](#), and [United States Institute of Peace](#) for examples.

outgroup on all measures. These subjects' attitudes were often worse than a control group who saw no video.

Partisan affiliation moderates the effects of the videos. Republicans in the control group express less ingroup bias than Democrats in the control group, but Republicans are unaffected by watching either contact video. The ingroup bias of Democrats, on the other hand, significantly decreases after watching the video where group members cooperate and achieve a joint goal. This difference highlights the importance of pretreatment context when interpreting experimental results (Druckman and Leeper 2012; Slothuus 2016). As the minority opinion group in this sample, the Republican subjects are likely pretreated with salient intergroup contact with Democrats, nullifying the effect of vicarious contact through videos. Democrat subjects are less likely to be pretreated with salient group contact because minority opinion groups (in this context, Republicans) generally keep quiet about their opinions around majority group members (Bassili 2003; Noelle-Neumann 1974).

This study contributes to the literature about intergroup contact in four main ways. First, it suggests that the effects of contact are conditional on contact helping achieve goals. Contact itself may improve relations a small amount, but major gains are made when contact successfully achieves something of value to both parties. This implication is especially relevant for organizations using contact-based programs to reduce prejudice, discrimination, and group-based violence. Contact-based interventions should accomplish something of value to the participating individuals and groups. Achieving something of value through cross-group cooperation provides group members with the motivation to improve attitudes towards the outgroup.

Second, this study suggests that motivation is a key mechanism through which contact improves attitudes. This study fits best with Gubler (2013)'s theory that improving attitudes towards another group requires individuals to resolve cognitive dissonance by updating attitudes. I add that individuals can be motivated to update attitudes about the other side when they believe cooperation with other side can help achieve goals. Other mechanisms, such as dispelling stereotypes, increasing empathy, reducing anxiety, and making a shared identity salient all increase the likelihood that cooperation can help participants achieve goals. It is very unlikely that an individual will perceive cross-group interaction can help achieve goals if that individual holds negative stereotypes about the other side, cannot empathize with them, feels anxiety when interacting with them, and sees no overlapping interests.

Third, this study suggests that the effect of contact-based interventions differ for majority and minority group members. Contact-based interventions may be most effective at improving the attitudes of majority groups members, who experience less intergroup contact in their daily lives. Minority group members, who experience frequent intergroup contact, may be less affected by new instances of contact.

Fourth, this study is also relevant to the literature about affective partisan polarization. Partisan disdain has increased drastically in recent years, and many scholars believe it harms social life and effective governance in the United States (Sinclair 2014; Iyengar et al. 2019; Hetherington and Rudolph 2015). Huddy and Yair (2019) suggests that learning about amicable interactions between political party leaders improves partisans attitudes towards the outparty. This study extends that finding to show that amicable interactions between regular partisans can also decrease affective polarization.

In the next section, I lay out the theoretical arguments for contact itself improving attitudes and for contact only improving attitudes when it helps group members achieve a goal. I then describe the vicarious contact video and lab experiment designed to test the effect of contact with and without goal achievement. Lastly, I present the experiment's results and discuss their implications.

2 Overcoming Group Bias

The goal of intergroup contact is to improve participants' attitudes towards an outgroup, and contact accomplishes this improvement by structuring positive interactions between ingroup and outgroup members. From some perspectives, any effects of contact are surprising. Improving outgroup attitudes requires a participant with negative attitudes to dismiss their negative attitudes because of the positive interactions,

rather than dismiss the positive interactions because of their negative attitudes (Gubler 2013). Research about cognitive dissonance and motivated reasoning suggest that this kind of change is unlikely for most people (Festinger 1962; Tavris and Aronson 2008; Paharia, Vohs, and Deshpandé 2013; Kraft, Lodge, and Taber 2015; Kunda 1990; Ward et al. 1997). First, it is less cognitively costly for an individual to reject one piece of new information than to reject their worldview. Second, as the individual seeks to form an accurate view of the world, one piece of new information is more likely to be aberrant than a worldview built on a lifetime of information-gathering.

These factors provide a strong motivation for individuals to maintain their existing attitudes. For something like intergroup contact to cause attitude change, the contact must motivate individuals to change attitudes more strongly than other factors motivate individuals to maintain attitudes. What could provide that motivation?

First, individuals may be motivated to hold accurate views of the world (Kunda 1990). Positive intergroup contact can provide powerful firsthand experience that previous beliefs were inaccurate, especially when those previous beliefs were based on little information. For example, a belief that the other side is lazy could be dispelled by interactions with diligent by outgroup members. Second, individuals may be more motivated to maintain positive beliefs about themselves than they are motivated to maintain negative outgroup attitudes. Individuals receive psychological rewards from the belief that they are fair and moral people (Rilling et al. 2002; Bandura 1999), and positive intergroup contact reveals that negative outgroup attitudes are unfair and immoral. Thirdly, the very expectation of interaction with a group provides motivation to improve attitudes towards that group (Klein and Kunda 1992).

Those motivations apply to contact itself; they do not depend on the outcome of contact. But positive outcomes from contact can also provide powerful motivation to change attitudes because humans are motivated to obtain positive outcomes and achieve goals (Huang and Bargh 2014; Tate, Stewart, and Daly 2014; Lewin 2013). Objects in an individual's environment are evaluated as a function of their ability to satisfy active goals, with more positive evaluations made when objects are perceived to be more compatible with those goals (Markman and Brendl 2000). If a negatively evaluated object is shown to help achieve a goal, goal achievement motivates more positive evaluations about that object. Interactions with members of disliked outgroups are, in general, not expected to generate positive outcomes or help achieve goals. Contact that achieves a goal can change that expectation and thereby motivate positive evaluations of the outgroup.

For cooperative contact, these goal-oriented theories suggest that cooperative contact is especially likely to improve attitudes towards the outgroup if contact helps an individual achieve her goals. First, the contact itself provides counter-stereotypical experiences that conflict with negative outgroup stereotypes. These experiences cause cognitive dissonance due to the motivations to hold accurate views about the world, maintain positive beliefs about the self, and hold positive evaluations about people we expect to interact with frequently. Second, achieving a goal through cross-group cooperation provides a counter-expectant experience that is dissonant with the belief that working with the outgroup generates negative outcomes. Associating cross-group interaction – and, by extension, the outgroup – with achieving goals provides motivation to reject negative attitudes because those negative attitudes deter cross-group interaction and prevent goal achievement.

[chris: here considering a subsection on affective partisan polarization and majority/minority group differences. What do you think?]

3 Experimental Design

To test the hypothesis that cooperative contact is especially likely to improve attitudes when that contact leads to achievement of a shared goal, I conducted an experiment with students in the University of Illinois subject pool. In the experiment, subjects watch a video in which two students collaborate on a class project. One student is a Republican and the other is a Democrat. In one condition, their class project receives an A grade; I refer to this as the “good video” condition. In the other experimental condition, their class project receives a D; I refer to this as the “bad video” condition. A control group of subjects watch no video.

The video is approximately 7 minutes long.

3.1 Intervention

People commonly experience intergroup contact vicariously through televised media programs, and researchers have dubbed this type of simulated contact experience *vicarious intergroup contact*. Based on Bandura (1971)'s social learning theory, which posits that individuals learn attitudes and behavior by modeling what they observe, and Horton and Richard Wohl (1956)'s idea of parasocial interaction, which posits that viewers react to television characters as if the characters are real people, researchers have developed and tested theories of when and how videos displaying cross-group interaction improve attitudes. These theories and tests show that vicarious intergroup contact improves attitudes towards the outgroup in much the same way that direct contact improves attitudes, including similar effect sizes, mechanisms, and personal and social correlates (Wright et al. 1997; Pettigrew et al. 2007; Vezzali et al. 2014; Page-Gould, Mendoza-Denton, and Tropp 2008; Moyer-Gusé, Dale, and Ortiz 2018). Vicarious contact through videos has successfully reduced prejudice against gay people (Schiappa, Gregg, and Hewes 2005, 2006) and improved affect of Germans towards Chinese and vice versa (Eller et al. 2011).

The video in this study was designed to maximize the effects of vicarious contact. Research on vicarious learning shows importance for modeled characters to be relatable to subjects (Rosenthal et al. 1978; Bandura 1969). In this video, the characters, like the subjects, are University students. The video is filmed on Illinois' campus, in locations familiar to the student subjects. The film's characters discuss topics relevant to student subjects, like college classes and their experiences in high school. The characters should be very relatable to subjects.

The video also fits the conditions Allport (1954) believed were necessary for group contact to improve relations: cooperation with equal status to achieve a common goal with support of authorities. The students in the video work together on a class project for which both want a high grade. They are equal partners in the project; one does not dominate the other. Their teacher, a relevant authority figure, assigns them to their work group and the students are encouraged to work through their differences by friends and family. The only differences comes in the video's final scene, where the students are either rewarded for doing good work to reinforce the idea that cross-group interaction is good or punished for doing bad work to reinforce the idea that cross-group interaction is bad.

The video also features interaction between groups for which a salient and powerful cleavage exists: political partisanship. Recent studies suggest that negative affect and discrimination towards members of different political parties is now on par with negative affect and discrimination towards members of different racial groups (Iyengar and Westwood 2015; Iyengar et al. 2019). Partisan disdain is displayed even more openly due to a lack of norms against expressing negative partisan affect. If outpartisan animus can be ameliorated through vicarious contact, it's likely that vicarious contact could ameliorate animus between many other groups.

The video contains six scenes, an opening and five acts, which is typical of television programs. In the video's opening scene, the characters are assigned by their teacher to work together on a group project. In Act I, they meet to work on the project and their political differences are revealed in a conversation about President Trump and the issue of abortion. It is important to establish their group difference early because intergroup contact has no effect if participants and observers are unaware of group affiliations (Voci and Hewstone 2003). In Act II, the characters separately express reservations about working together to friends and family members, and are encouraged by their friends and family to work together. This scene is important to establish that the intergroup contact is supported by their ingroup.

In Act III, the two characters again meet to work on the project and share details of their lives before college. In Act IV, they meet to finish the project and discuss their lives in college. These scenes establish the shared humanity of the characters and help the subjects relate to the experiences of the characters. In the final scene, Act V, they meet with their professor to receive her comments on their paper. In the "good" condition,

the professor congratulates them for overcoming their differences and receiving the highest grade in the class. In the “bad” condition, the professor informs the students that they received the lowest grade in the class and implores them to work through differences more effectively in the future. The final scene demonstrates that cross-group interaction will or will not help subjects achieve goals.

3.2 Procedure

The study was conducted in a small computer lab. To maximize privacy, no more than three subjects were ever present in the lab at one time and room dividers were placed so that the lab was divided into three discrete sections not visible from other sections. All subjects were told that they would participate in two separate studies, one in which they may watch a video and answer questions and one for which they will be asked questions about different groups in America; subjects are then assigned a subject ID to be input before study one and an experimental condition number to be used for study two. The separation of the video from outcome measurement was done to mitigate experimenter demand effects by which subjects behave differently because they have inferred the purpose of the experiment.

After the introduction, subjects were randomly assigned to one of three experimental conditions: (1) the “good” condition in which the video’s characters receive the highest grade on their project, (2) the “bad” condition in which the video’s characters receive the lowest grade on their project, or (3) a control condition in which subjects do not watch the video. Subjects assigned to watch a video answer questions about topics discussed in the video and a manipulation check to ensure they watched the video. Subjects in the control group are asked generic versions of these questions that do not refer back to the video.

Subjects are then thanked for completing study one and asked if they are ready to begin study two. Once subjects are ready, they are told that study two will randomly select them to answer questions about people from different groups in America. Those groups were: (1) Muslims and Christians, (2) African-Americans and Caucasians, (3) Republicans and Democrats, (4) The rich and the poor, (5) Voters and non-voters, (6) Rural people and urban people. Groups were chosen based on salience at the time of the study.² Subjects then enter the “experimental condition number” they were assigned upon entering the lab; this number ostensibly assigns subjects to answer questions about one of the six categories listed above. In reality all subjects answered questions about Republicans and Democrats. After subjects answer questions about Republicans and Democrats, the study is completed and subjects leave the lab.

4 Outcomes and Hypotheses

During the study, subjects answer two distinct sets of questions. The first set is about topics from the video. These questions are primarily to distract the respondents and convince them that the first study, the video intervention, is separate from the second study. The video questions ask about the relatability of the video’s characters, if the characters worked well together or if working together was a problem, the subject’s attitudes towards abortion, and the subject’s perception of the abortion attitudes of typical Democrats and Republicans.

Subjects are then asked about Democrats and Republicans. For both parties, subjects are asked questions to measure their affect towards people from the party, social distance, feelings of threat, blame attribution, willingness to interact with partisans, and desire for information about political organizations aligned with each party. Where outcomes are measured with multiple questions, I combine the questions into party-specific additive indices. For each specific outcome, I assign respondents their ingroup score minus their outgroup score to measure how much they favor their ingroup over their outgroup in that domain.³

²Relations between African-Americans and Caucasians and between Republicans and Democrats are almost permanently salient in American politics. Relations between Muslims and Christians were salient because of Executive Order 13769, colloquially known as the “Muslim ban” on travel to the United States. Relations between rural people and urban people and between voters and non-voters were salient after the 2016 Presidential election, in which rural and urban areas seemed deeply divided. Relations between the rich and the poor are salient on college campuses and were especially salient after the 2016 Presidential election.

³For example, each respondent answers a feeling thermometer question about Democrats and about Republicans. For subjects who

I then create my main outcome of interest, subject's overall partisan bias, by combining the measures of specific attitudes into an inverse-covariance weighted (ICW) index.⁴ As a robustness check, I also combine the outcomes into an additive index; the results hold with both methods of index construction. More details about the questions measuring specific outcomes are given below; the wording used for each question and the results using an additive index are included in the Measures Appendix and the Results Appendix, respectively.

A background survey sent to respondents about a month before they participated in this study measures demographic information. From it, I use the respondent's self-reported *Partyidentification* to assign the respondents a partisan ingroup and partisan outgroup. For respondents who self-report as independents or who missed the background survey⁵, I supplement self-reported party affiliation with feeling thermometer ratings. For those respondents, I assign them a party affiliation if their highest rated party is at least a 50 on the feelings thermometer and at least 10 points higher than the other party. Respondents left without a partisan affiliation are removed from the analysis. Among subjects for which I have both self-reported party affiliation and feeling thermometer responses, these metrics agree in over 70% of cases. In ~25% of cases one metric classifies partisans in the other metric as independents. In only 5% cases do these metrics disagree and place respondents in opposing camps.

4.1 Main Outcomes

Attitudes Index: I list each hypothesis separately below, but my interest is in evaluating the effect of the contact video treatment on subjects' overall partisan bias, not evaluating its effect on one or another component of their overall attitude. I hypothesize that the good video treatment will reduce subject's overall bias against their partisan outgroup. To evaluate the effect of showing subjects a positive and successful contact experience on subjects' partisan bias, I propose a H_0 . I measure overall evaluations with an inverse-covariance weighted index of all other outcomes. I have strong expectations about overall partisan bias and consider analysis of this outcome confirmatory. I will analyze other outcomes to provide some evidence for what components of this overall attitudinal index were changed by the video.

- **H_0 : The difference between subjects' overall evaluation of copartisans and subjects' overall evaluation of outpartisans will be reduced by the good video treatment.**

Outgroup affect: Generalized negative affect towards outpartisans drives many of the adverse consequences of partisanship, from refusal to form social relationships with outpartisans to government distrust (Iyengar et al. 2019; Hetherington and Rudolph 2015). I measured outgroup affect with a feeling thermometer and questions about positive and negative emotional activation when thinking about Democrats and Republicans. The use of a feeling thermometer to measure partisan affect comes from Iyengar, Sood, and Lelkes (2012); the emotional activation questions are based on Parker and Janoff-Bulman (2013).

- **H_1 : The difference between subjects' affect for copartisans and subjects' affect for outpartisans will be reduced by the "good" video treatment.**

identify with the Democratic party, their response for Democrats is their *ingroupfeeling* score and their response for Republicans is their *outgroupfeeling* score; for subjects who identify with the Republican party, this is switched. My outcome of interest, the difference between the *ingroupfeeling* score and the *outgroupfeeling* score, is *feelingdifference*.]

⁴I use an index because I am interested in the ensemble of attitudes that reflect how an individual feels about their partisan outgroup. I am interested in specific attitudes, like feelings of social distance, only instrumentally, insofar as those component attitudes inform me about each subject's holistic attitude toward the outgroup. I also increase my ability to detect effects, despite a relatively small sample, by leveraging these multiple attitudinal domains into components of a holistic attitudinal concept. I use inverse-covariance weighting to make my overall index because, conceptually and statistically, some of these outcomes are highly related whereas others are only marginally related. Inverse-covariance weighting constructs an index by down-weighting index questions that are correlated with other index questions and up-weighting those that are uncorrelated with other questions. This approach maximizes the amount of unique information the index takes from each question and prevents "double counting" when two questions measure the same underlying concept. ICW is preferable to an additive index in my case because the specific outcomes being combined into an index were not chosen to measure distinct components of an underlying concept.

⁵Subjects who joined the subject pool late missed the background survey

Social distance: Social distance between Democrats and Republicans has escalated in recent decades, with respondents increasingly expressing displeasure at the idea of their children marrying an outpartisan (Iyengar, Sood, and Lelkes 2012). I measured social distance using a modified Bogardus social distance index (Bogardus 1926). Subjects were asked if they would be happy to have a Republican/Democrat as one of twelve types of relationships, such as the governor of the subject's state or as a roommate. The use of social distance to measure partisan bias comes from Iyengar, Sood, and Lelkes (2012).

- **H₂: The difference between subjects' social distance to copartisans and subjects' social distance to outpartisans will be reduced by the "good" video treatment.**

Feelings of threat: The rhetoric around partisan debates suggests that partisans feel that the other side is a threat to them. For Democrats, Republicans threaten their social freedoms and the nation's civil rights; for Republicans, Democrats threaten their economic rights and the nation's security. I measured feelings of threat with a nine question index asking how threatening the subjects found Republicans/Democrats in a variety of ways. The items measured distrust of outpartisans and threats to: American society, personal values, personal freedoms, fairness and justice, economic opportunities, physical health, physical safety, and the functioning of America. These threat questions are based on Parker and Janoff-Bulman (2013).

- **H₃: The difference between subjects' feelings of threat from copartisans and subjects' feelings of threat from outpartisans will be reduced by the "good" video treatment.**

Blame Attribution: Partisans increasingly attribute blame to outpartisans for problems occurring in America. I measured the tendency to blame the other side with one question: "Some people say [Democrats/Republicans] are responsible for most of the problems in this country, some say [Republicans/Democrats] are responsible, while others say that both groups are responsible for the problems here. Which is closer to your view?" Subjects are assigned a 1 if they say both groups are responsible and a 0 if they say the other group is responsible.⁶

- **H₄: Subjects viewing the "good" video treatment will be more likely to express that both Democrats and Republicans are responsible for problems in America.**

Willingness to interact with outpartisans: Several studies have noted that Americans avoid interacting with or living among outpartisans (Iyengar et al. 2019; Center 2017; Huber and Malhotra 2017). Isolating ourselves in enclaves of copartisans prevents experiences that could reduce partisan prejudice (Mutz 2006). I measure willingness to interact with outpartisans by asking if respondents would (1) join a group and (2) live in a community with some percentage of the other party. The percentage is randomized to be 5% or 75%; the percentage is the same for those two questions but varies across individuals. A respondent saying yes to both is assigned a 1, a respondent saying yes to one is assigned a 0.5, and a respondent saying yes to neither is assigned a 0.

These questions allow me to determine how willing respondents are to enter situations where cross-group interaction is likely. These questions can also be analyzed as a survey experiment to learn how sensitive respondent's are to small percentages versus large percentages of outpartisans. In this survey experiment, which I am calling a percent experiment, I look at the difference between the proportion of respondents who would join groups/live in communities with 5% outpartisans compared to 75% outpartisans. I expect treated individuals to become more willing to interact with outpartisans overall and less sensitive to higher proportions of outpartisans. These questions were based on a question from the GSS asking respondents if they would favor or oppose living in a neighborhood that was half white/black.

⁶No subjects attributed blamed their own group.

- **H₅: The difference between subjects’ willingness to interact with copartisans and subjects’ willingness to interact with outpartisans will be reduced by the “good” video treatment.**

Information Seeking: Seeking information that confirms pre-existing biases and avoiding information that challenges pre-existing biases is one contributor to the partisan divide in America (Nickerson 1998; Stroud 2011). I measure information seeking by requests for information about political organizations aligned with each party. Before subjects left the lab but ostensibly after they had completed the study, the survey asks subjects if they would like information about various organizations “to help connect students with organizations they might be interested in.”⁷ Heritage Foundation, Americans for Prosperity, and College Republicans counted as Republican-oriented organizations. Southern Poverty Law Center, Center for American Progress, and College Democrats counted as Democrat-oriented organizations. For *ingroup information*, subjects are assigned the number of ingroup organizations they select; for *outgroup information*, subjects are assigned the number of outgroup organizations they select. For robustness, I also assign *ingroup information* a 1 if the respondent selected any organizations from their ingroup and a 1 for *outgroup information* if respondents selected any organizations from their outgroup.

- **H₆: The difference between subjects’ desire for information about copartisans and subjects’ desire for information about outpartisans will be reduced by the “good” video treatment.**

Table 1 shows descriptive statistics for the sample on all outcomes. Outcomes are scaled from -1 to +1 so that positive numbers indicate ingroup bias, negative numbers indicate outgroup bias, and 0 indicates no bias towards ingroup or outgroup. Subjects, on average, show a moderate amount of bias towards their own partisan group. This bias is strongest for social distance and feelings of threat, but is present for each outcome.

	Group Affect	Social Distance	Blame Attribution	Threat	Willingness to Interact	Information Seeking
Mean	0.33	0.37	0.22	0.38	0.14	0.14
SD	0.24	0.28	0.41	0.28	0.46	0.30

4.1.1 Exploratory Outcomes

[chris: originally included this exploratory analysis of abortion attitudes to give the paper’s results more substance. Now that I have an interesting Dem/Rep difference to fill out the results section, I am planning to remove this analysis of abortion attitudes. What are your thoughts?]

Attitudes towards abortion: Differences in attitudes about abortion, real or perceived, form one of the strongest cleavages between Democrats and Republicans. Some members on both sides view abortion as a moral issue for which they have a moral imperative to influence public policy. The characters in the video discuss their conflicting attitudes towards abortion, providing reasonable arguments for their opposing views. Exposure to these arguments could moderate the views of the subjects and could reduce the perceived distance between Democrats and Republicans on the abortion issue. I have weak expectations about abortion attitudes and consider analysis of these outcomes exploratory.

- **H₇: Only the “good” video treatment will reduce in extremity subjects’ attitudes towards abortion and subjects’ perception of the abortion attitudes of typical Democrats and Republicans.**

⁷The exact wording is: “To help connect students with organizations they might be interested in, we have gathered information about several organizations. Would you like to receive information from any of the following groups: Heritage Foundation, Americans for Prosperity, Southern Poverty Law Center, Center for American Progress, College Democrats, College Republicans.” Subjects who selected an organization were sent a brief description of the organization and a link to the organization’s website.

Party	Female	Male	Missing
Democrats	35	27	13
Republicans	14	12	1
Independents	2	7	1

Table 2: Subject partisan affiliation and gender. The table shows the number of male and female Republicans, Democrats, and independents in the study. Gender is missing for respondents who did not complete the background survey. Independents are removed for the analysis.

4.1.2 Covariate Adjustment

My main analyses will have no control variables; treatment is randomly assigned, so no subject characteristics should confound the treatment effect. I will also conduct a secondary analyses for robustness using two variables for covariate adjustment, the respondent’s *gender* and *party affiliation*.⁸ Though these variables should not confound the effect of treatment on outcomes in an experiment, they could explain variation in the outcomes described above and increase the precision of statistical estimates. Republicans and Democrats in my sample may have systematically different attitudes towards their partisan outgroup because Democrats are a substantial majority in the sample. Majority groups often look at minority groups differently than minority groups look at majority groups (Shelton 2000; Monteith and Spicer 2000). Females and males may also hold systematically different views towards the two parties because of systematic differences in the policy preferences and partisan affiliations of men and women (Box-Steffensmeier, De Boef, and Lin 2004). There is no need to control for age or education level because those do not vary throughout the sample. By using these as covariates in a regression, I will absorb error but not affect the relationship between treatment and outcomes. Table 2 shows subjects broken down by partisan affiliation and gender.

4.1.3 Mediators

[chris: as with the exploratory outcome of abortion attitudes, I originally included this look at potential mediators to give the paper’s results more substance. I am now planning to remove – thoughts? I have done none of this analysis.]

Two factors should mediate the effect of watching the videos on the attitudes of subjects: the respondent’s gender and how much respondents relate to the video’s characters. Research on vicarious learning shows importance for modeled characters to be relatable to subjects (Bandura 1969), and researchers have specifically pointed to the importance of gender congruence for vicarious learning (Rosenthal et al. 1978). The video’s characters are female, so I expect stronger effects among females than males. I also expect stronger effects for subjects who self-report that they found the characters relatable. I have weak expectations about mediation by gender and relatability and consider these exploratory analyses.

- **H_m1: Effects of the video treatment will be stronger for subjects who found the video’s characters relatable.**
- **H_m2: Effects of the video treatment will be stronger for female subjects.**

4.2 Estimation

I estimate the effect of assignment to watch the good video and the bad video. As specified in the hypotheses, my outcomes are an outgroup attitudes index (H_0), group affect (H_1), social distance (H_2), feelings of threat (H_3), blame attribution (H_4), willingness to interact (H_5), and information seeking (H_6).

My estimator of the average treatment effects are mean differences. I use the following linear model in equation 1 and ordinary least squares (OLS) to calculate those estimates.

⁸I also expect people from different ethnic backgrounds to hold systematically different views of the two parties. I do not use this as a covariate, however, because the sample includes too few subjects from most ethnic groups to calculate effects by ethnic group.

$$Y_i = \beta_0 + \beta_1 Z_i + \epsilon_i \quad (1)$$

where i is the individual, Y is the outcome, and Z is the treatment indicator.

In the Results Appendix, I also present results from 2, a model using covariates to absorb error and account for any possible confounding due to the imbalance from a relatively small sample..

$$Y_i = \beta_0 + \beta_1 Z_i + Z_i * X_i + \epsilon_i \quad (2)$$

where i is the individual, Y is the outcome, Z is the treatment indicator, and X is the set of mean-deviated for individual i . My covariates are the gender and partisan affiliation of individual i . This regression adjusts for covariates by interacting mean-deviated covariates with the treatment indicator (Lin 2013).

[chris: thinking about showing a balance test between groups on the few covariates I have. What do you think – necessary or unnecessary?]

5 Results

In the analysis that follows, I first present the treatment effect on each outcome for subjects assigned to watch the good video and the bad video relative to the control group. The good video decreases ingroup bias on every outcome relative to the control group, and the good video statistically decreases bias on an index of outcomes. The bad video, on the other hand, has no effect on any outcome and may increase ingroup bias for some outcomes.

Next I present the results on each outcome separately for Democrats and Republicans. Republicans in the control group display less ingroup bias than Democrats in the control group, but the good video has no effect on Republicans. Republicans who watch the bad video, however, exhibit more ingroup bias than Republicans who watched no video. Democrats who watched the good video show less ingroup bias than Democrats in the control group, but Democrats were unaffected by the bad video. I interpret this difference not as something intrinsic to Democrats and Republicans, but something intrinsic to majority and minority groups.

5.1 Main Results

Figure 1 reports the results for the outcomes index and for each outcome that makes up the index. Coefficients in the figure are positive if ingroup bias increased and negative if ingroup bias decreased. The good video lowered bias towards the ingroup on every outcome, and by about 0.31 standard deviations on the outcome index ($p=0.026$ without covariates and 0.012 with covariates). The effect of the good video is strongest on blame attribution – only 8.5% of subjects treated with the good video blame the other side for the country’s problems, compared to 28% in the control group and the bad video group. Conversely, we have no evidence that the bad video impacted bias towards the ingroup. None of the coefficients are distinguishable from zero, and the largest coefficient, willingness to interact, suggests that the bad video discouraged cross-group interactions. About 60% of subjects who watched the bad video expressed no preference for interacting with copartisans or outpartisans, compared to 77% of subjects who watched the good video and 69% of the control group.⁹

⁹I cannot estimate confidence intervals for Republicans because 100% of Republicans are willing to interact with groups of 5% Democrats.

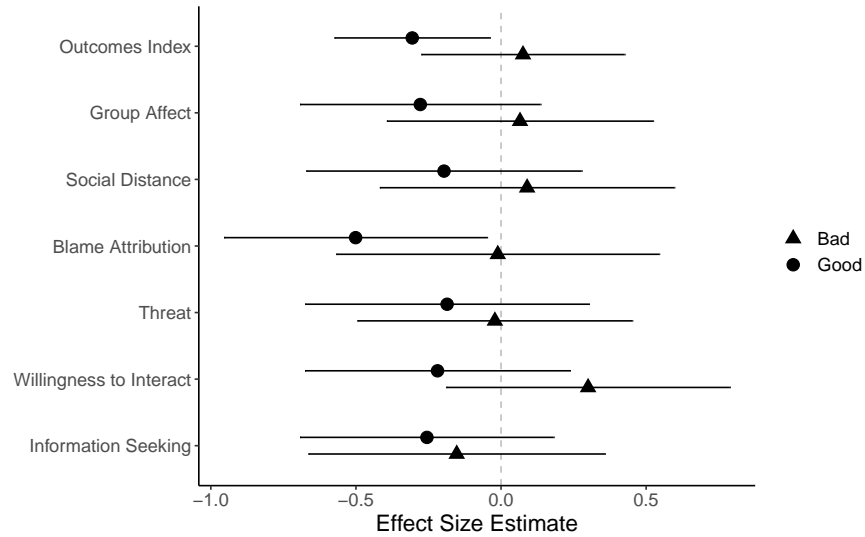


Figure 1: Effect of treatment assignment on survey outcomes. Points are average treatment effects estimated using OLS (● represents Equation 1). Lines are 95% confidence intervals.

I also measure willingness to interact by comparing the proportion of subjects willing to join a group or live in a community with 5% outpartisans compared to 75% outpartisans. Here we see that subjects who watched the good video do not differ from the control group: subjects in those conditions are about 35% - 40% less willing to interact with outgroup members than ingroup members. The bad video, however, substantially decreased subjects' willingness to interact with large percentages of outpartisans. Subjects in the bad condition are about 70% less willing to interact with outgroup members, meaning that the effect of moving from 5% to 75% outgroup members in the bad condition is twice the effect of moving from 5% to 75% outgroup in the control or good condition.

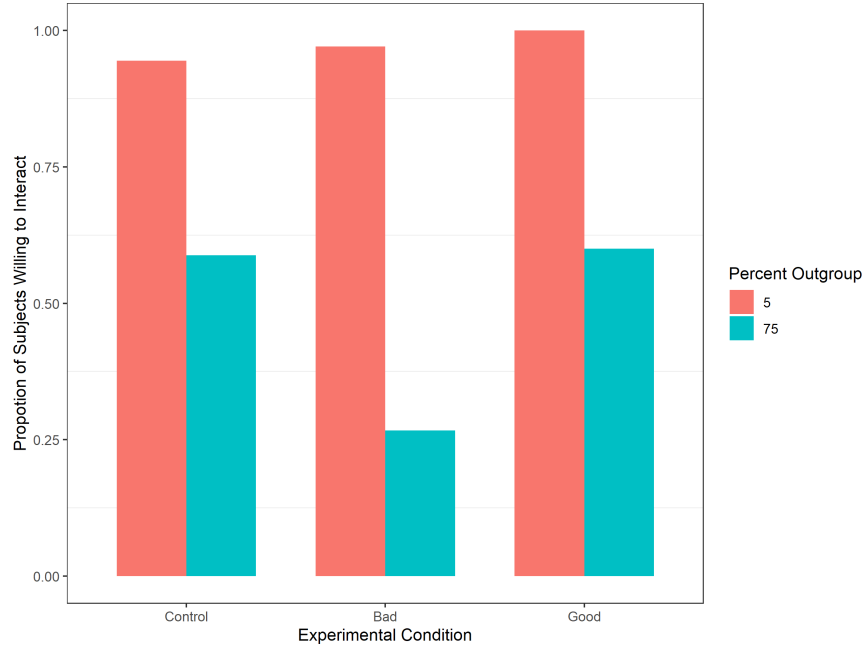


Figure 2: Willingness to join a group and live in a community dependent on the proportion of outpartisans in the group or community. Red bars represent 5% outpartisans, blue lines represent 75% outpartisans.

While few of the individual results are statistically significant, the pattern of results, reflected in the outcome index, indicates that the good video decreased partisan bias and the bad video had no systematic effect on partisan bias. This pattern of results holds in the additive index and strengthens when including covariates in statistical models, both presented in the Results Appendix. [chris: link to appendix].

5.2 Democrats and Republicans

The aggregate effects hide major differences by partisan affiliation. Democrats and Republicans entered the experiment with very different feelings towards outpartisans, and Democrats and Republican responded substantively differently to the videos. Table 3 below shows the mean for each outcome by party in the control group, and Figure 3 reports the effect of the good video and the bad video for Democrats and Republicans separately. The outcomes in the table are coded so that positive numbers indicate copartisan bias, negative numbers would indicate outpartisan bias, and 0 indicates no bias based on partisan status. Coefficients in the figure are positive if ingroup bias increased and negative if ingroup bias decreased. The sample contains more Democrats than Republicans (see Table 2), and consequently estimates of effects among Republicans are less certain, represented by larger confidence intervals.

	Group Affect	Social Distance	Blame Attribution	Threat	Willingness to Interact	Information Seeking
Democrat Mean	0.39	0.44	0.36	0.47	0.16	0.18
Republican Mean	0.16	0.14	0.00	0.11	0.00	0.19

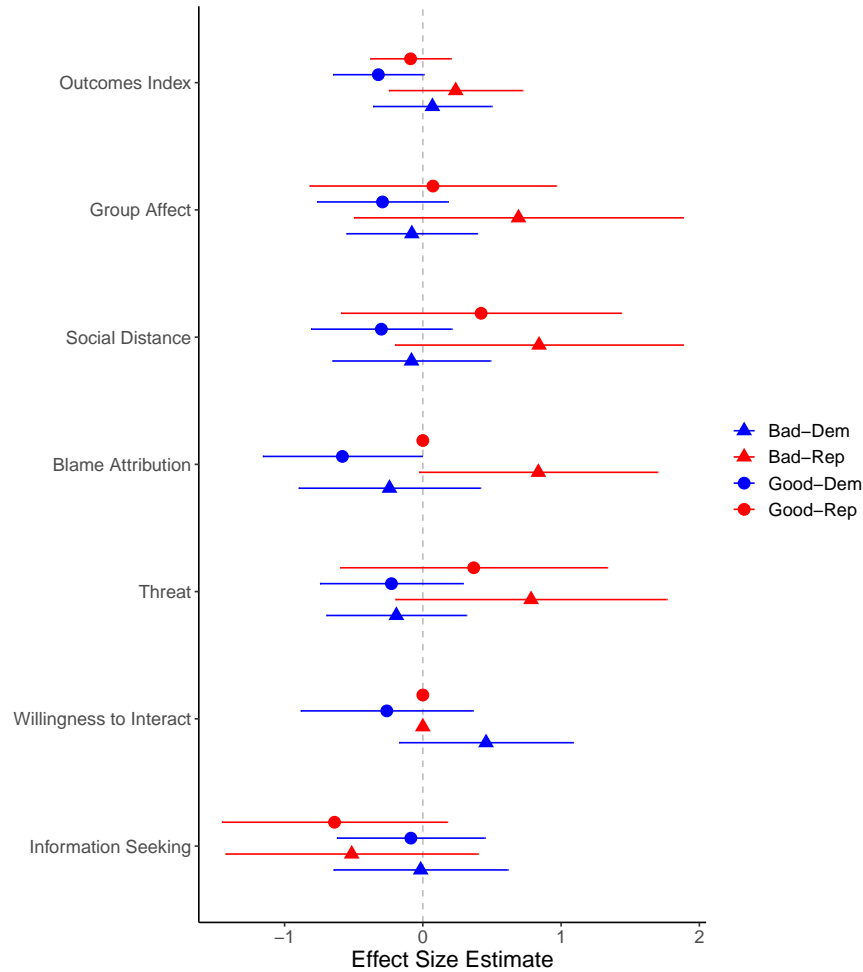


Figure 3: Effect of treatment assignment on survey outcomes among Democrats and Republicans. Points are average treatment effects estimated using OLS. Lines are 95% confidence intervals. There are no confidence intervals on the "interact" outcome for Republicans or on the "blame" outcome for Republicans who watched the good video because no Republicans expressed ingroup or outgroup bias on these outcomes.

Republicans in the control group show less overall ingroup bias than Democrats, possibly because Republicans are the minority group (less than 1/3 of subjects are Republicans). Notably, no control group Republicans blamed the other side for problems in the country or expressed a preference for interacting with copartisans over outpartisans. Democrats in the control group, however, feel a significant amount of threat and social distance from Republicans, tend to blame Republicans for problems in the country, and express a preference for interacting with other Democrats.

The videos affect Democrats and Republicans differently. The “good” video has no effect on Republicans overall, but the “bad” video increases their ingroup bias by 0.08 standard deviations (this effect is not statistically significant). Conversely, the “bad” video has no effect on Democrats, but the “good” video decreases their ingroup bias by 0.32 standard deviations ($p=0.054$ without covariates and 0.019 with covariates.) These differences are most pronounced for blame attribution, where the good video decreases Democrats’ ingroup bias ($p < 0.10$) and the bad video increases Republicans ingroup bias ($p < 0.10$). For willingness to interact, Democrats seem less willing to interact after watching the bad video, the only outcome for which the bad video increases ingroup bias among Democrats.¹⁰ For information seeking, Republicans

¹⁰I cannot estimate effects of confidence intervals on willingness to interact for Republicans because all Republicans, regardless of

who watch any video display less bias, the only outcome for which watching any video decreases bias among Republicans.

To visualize how the videos affected overall ingroup bias for Democrats and Republicans, Figure 4 shows mean index scores for Democrats and Republicans in each experimental condition. Error bars represent one standard deviation among the subgroup. For interpretability, the index is scaled from 0-1 where 1 is the maximum amount of ingroup bias observed and 0 is the minimum amount of ingroup bias observed. As the graph shows, Republicans in every experimental condition are less biased than Democrats. While no experimental condition makes Democrats less biased than control group Republicans, Democrats who saw the good video do not express statistically more ingroup bias than control group Republicans. Two other details of the figure are worth mention. First, the error bars are smaller for Republicans than for Democrats, representing that this sample's Democrats are more varied in their partisan bias than this sample's Republicans. Second, the error bars are smaller for subjects who watched the good video compared to the bad video, representing that the bad video engendered more varied responses than the good video.

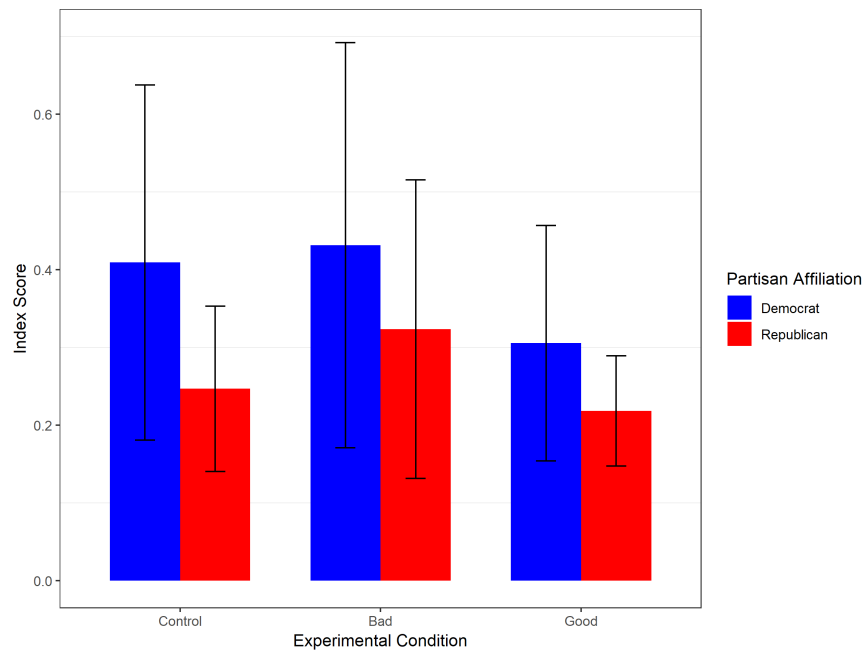


Figure 4: Mean partisan bias on survey index among Democrats and Republicans in different experimental groups. Index scores are scaled from 0-1 where 0 is the minimum amount of partisan bias and 1 is the highest amount of partisan bias.

The last illustrative difference between Democrats and Republicans comes from analyzing the questions measuring willingness to interact with outpartisans when the percentage of outpartisans is 5% compared to 75%. Figure 5 show these questions broken down by subjects' partisan affiliation. Among Republicans, I observe no statistical differences by group, but watching *any* video descriptively decreases Republicans' willingness to interact with a large percentage of Democrats, perhaps by reminding Republicans of differences between groups. Among Democrats, willingness to interact with Republicans is consistent between the control group and the good video group, but plummets in the bad video group: less than 20% of Democrats in the bad video condition are willing to interact with large percentages of Republicans.

condition, responded the same way to the question: no group bias.

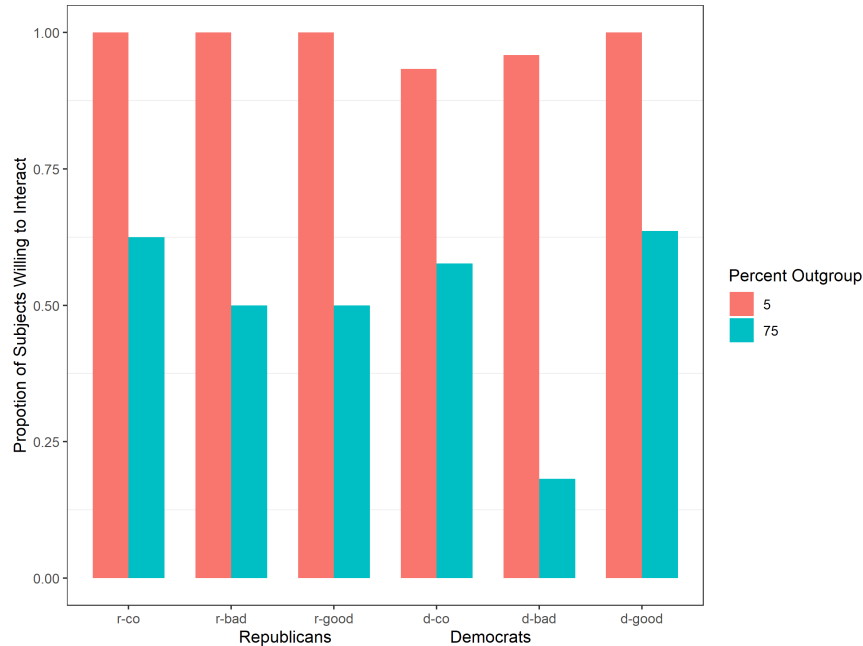


Figure 5: Willingness to join a group and live in a community dependent on the proportion of outpartisans in the group or community. Red bars represent 5% outpartisans, blue lines represent 75% outpartisans.

5.2.1 Pretreatment Context

Why are Republicans in the sample less biased than Democrats, unaffected by the good video, and possibly made more biased by the bad video? Why are Democrats in the sample more biased than Republicans, unaffected by the bad video, but made less biased by the good video? These patterns point to the importance of pretreatment context when interpreting experimental results (Druckman and Leeper 2012; Slothuus 2016). Pretreatment context refers to the environment that subjects are in before participating in the experiment. That environment may be “treating” subjects continuously, which causes a null experimental finding even when the treatment has a large effect on outcomes.

Why would pretreatment context lead to the pattern of results above, where Republicans start off less biased than Democrats but are unaffected by the contact videos? Democrats and Republicans experience very different partisan contexts before entering the lab and participating in the experiment. Being a minority opinion group in the population from which the experimental sample was drawn, Republicans’ pretreatment context likely includes interaction with Democrats where group affiliation is salient (Gross and Simmons 2014). Being the majority opinion group, Democrats do not need to hide or moderate their attitudes when discussing politics, so the partisan leanings of Democrats are likely salient to Republicans. The good video thus replicates their experiences and provides no new information; the bad video counters their experiences and provides new information.

Democrats, on the other hand, are not likely pretreated with salient cross-group interactions. Being the minority opinion group, Republicans are unlikely to volunteer their attitudes on political topics (Huge and Glynn 2013; Bassili 2003; Noelle-Neumann 1974); consequently, their party affiliation may not be known to their Democratic colleagues. Since the Republican identity of colleagues is not known or salient, the Democrats in the sample cannot use those interactions to update their attitudes about Republicans. In lieu of personal interactions, their information about Republicans is likely to come primarily from negative media portrayals, unfavorable social norms, and from exposure to more extreme Republicans (Fujioka 1999; Rahn and Cramer 1996; Rios 2012; Iyengar and Westwood 2015). Their pretreatment opinion about Republicans, therefore, may be negative and their expectations for interactions pessimistic. The bad video thus conforms to

their expectations and provides no new information; the good video counters their expectations and provides new information.

5.3 Exploratory Analysis: Views about abortion

[chris: considering removing all reference to the exploratory analysis of abortion attitudes. What do you think?]

No difference in perception of Democrats views of abortion. After any video, Republicans are viewed as more moderate, and this effect is strongest among the sample's Democrats. But sample not large enough to differentiate effects among Democrat subjects from effect among Republican subjects.

In terms of personal views, control group members of both parties express very liberal views about abortion. After viewing either of the videos, subject's personal views become more moderate on average, but not significantly different than control group. The effect is driven by Republicans becoming more moderate/more conservative to a significant degree. This move towards more conservative abortion views occurs in both the good video and bad video condition, but moreso in the good condition. Why? Possibly the videos reminded Republican subjects of the typical abortion views of their partisan ingroup. Possibly a bigger effect after the good video because of noise, or possibly because the good video causes Republicans to feel more pride in their group. The increased ingroup pride could have encouraged Republicans to adopt their ingroup's view, or given them the confidence to express their true opinions.

6 Discussion

In this paper, I consider the idea that intergroup contact improves attitudes towards outgroups conditional on the contact helping the group members achieve goals. Subjects experienced cross-group contact vicariously, by watching a video in which members of their group and an opposing group interact. Some subjects saw the interaction yield positive outcomes; others saw it yield negative outcomes. I hypothesized that subjects would only change attitudes when motivated, and that the prospect of achieving beneficial outcomes through contact would provide that motivation.

This study's results indicate that the effects of cross-group interaction are completely dependent on cross-group interaction leading to a positive outcome. Compared to a control group who saw no video, partisan bias reduced for subjects who saw the good contact video. Subjects who saw the bad contact video were not statistically different from the control group and the results suggest that observing intergroup contact yield negative outcomes may have increased group bias. This suggests that a key mechanism through which contact affects outgroup attitudes is creating the perception that working with the outgroup will lead to good outcomes.

This study's results also demonstrate how majority groups and minority groups respond differently to contact-based interventions. This paper compared the video's effects among Democrats, the majority group in the sample, and Republicans, the sample's minority group. Republicans start with less biased attitudes, but observing contact that yields positive outcomes has no effect on them. Democrats, on the other hand, entered the study with strong ingroup bias but had that bias tempered by observing contact that yielded positive outcomes. Observing contact that yielded negative outcomes had no effect on Democrats, but may have increased biased among Republicans.

[paragraph about role of motivation in attitude change, contact literature looking more seriously at other attitude change literature and the role of motivation, and group goals as motivation vs individual goals as motivation.]

[paragraph about "conditions" of contact increasing the likelihood of groups achieving goals/desirable outcomes]

(paragraph about Paluck, Green, and Green 2019 and why contact not doing much to improve ethnic/racial prejudice)

[paragraph explicitly about what this finding means for contact-based programs, need for replication]

of this result, need for testing face-to-face contact, testing with other groups, etc]
[paragraph about reducing affective political polarization, problem of homophily]

A Appendix

A.1 Measures Appendix

To fill later.

A.2 Results Appendix

To fill later.

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