

Motive attribution asymmetry for love vs. hate drives intractable conflict

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Edited by Susan T. Fiske, Princeton University, Princeton, NJ, and approved September 22, 2014 (received for review July 25, 2014)

Five studies across cultures involving 661 American Democrats and Republicans, 995 Israelis, and 1,266 Palestinians provide previously unidentified evidence of a fundamental bias, what we term the “motive attribution asymmetry,” driving seemingly intractable human conflict. These studies show that in political and ethnoreligious intergroup conflict, adversaries tend to attribute their own group’s aggression to ingroup love more than outgroup hate and to attribute their outgroup’s aggression to outgroup hate more than ingroup love. Study 1 demonstrates that American Democrats and Republicans attribute their own party’s involvement in conflict to ingroup love more than outgroup hate but attribute the opposing party’s involvement to outgroup hate more than ingroup love. Studies 2 and 3 demonstrate this biased attributional pattern for Israelis and Palestinians evaluating their own group and the opposing group’s involvement in the current regional conflict. Study 4 demonstrates in an Israeli population that this bias increases beliefs and intentions associated with conflict intractability toward Palestinians. Finally, study 5 demonstrates, in the context of American political conflict, that offering Democrats and Republicans financial incentives for accuracy in evaluating the opposing party can mitigate this bias and its consequences. Although people find it difficult to explain their adversaries’ actions in terms of love and affiliation, we suggest that recognizing this attributional bias and how to reduce it can contribute to reducing human conflict on a global scale.

intergroup conflict | ingroup love | outgroup hate | attribution | cognitive bias

Many human conflicts appear extraordinarily difficult to resolve even when outsiders can see the contours of a rational resolution. Ideological opponents risk the health of their economies and their planet because they are unable to make political compromises. Ethnic and religious groups across the world engage in mass acts of violence, rejecting solutions of mutual benefit that involve sharing power, land, or religious sites. Why are so many conflicts so intractable when people on both sides could gain from a compromise?

Approaches to this question typically center on the complexity and profundity of the issues involved and each side’s construal of the conflict (1, 2). An additional, deeper barrier to conflict resolution may be simple pessimism toward compromise. If adversaries believe inflexibility on the other side renders mutual compromise impossible, they will be unlikely to adopt seemingly rational strategies for conciliation (3). In other words, the perception of conflict intractability may be an independent cause of a stalemate. Here, we identify a fundamental cognitive bias that contributes to the belief in conflict intractability, and may therefore contribute to conflict spirals (4–6).

We predict and observe that people often attribute their outgroup’s actions during conflict to hatred. This attribution occurs despite evidence that intergroup aggression stems at least as much, if not more, from ingroup love (7–13). We hypothesized that whereas people can clearly identify ingroup love as the source of their own group’s engagement in conflict (14), when attempting to explain their outgroup’s actions, people focus on dislike (15) and “why they hate us” (16). Expanding on prior research, we propose a previously untested hypothesis: People will attribute ingroup

engagement in conflict to love more than hate, but they will attribute outgroup engagement in conflict to hate more than love. We term this pattern the “motive attribution asymmetry” and document this bias across five studies among American Democrats and Republicans as well as Palestinians and Israelis, demonstrating consequences of this bias that further fuel intergroup conflict. We use the term “bias” to mean response tendency (rather than error); in this case, a tendency to attribute love vs. hate to one’s ingroup to a greater degree than to one’s outgroup and to attribute hate vs. love to one’s outgroup to a greater degree than to one’s ingroup.

These studies provide a number of contributions:

- i) This research offers an account of why people fail to recognize or implement the solutions that research on conflict resolution has established to be effective.
- ii) This research examines specific attributions of love vs. hate rather than dispositional vs. situational attributions more broadly.
- iii) This research compares these attributions toward one’s outgroup with the outgroup’s attributions toward itself.
- iv) The studies themselves contain numerous previously unexamined features, investigating this phenomenon in diverse linguistic and political contexts, examining different types of real intergroup conflicts (one intensely ideological yet predominantly nonviolent and the other ethnoreligious and chronically violent), characterizing previously unexamined consequences of this attributional bias, and establishing a manipulation aimed at mitigating this bias and its effects.
- v) This research reveals the disconnect between the motives pertaining to love and hate that actually appear to drive intergroup conflict (7–13) and people’s own intuitive assessment of these motives.

Significance

Political conflict between American Democrats and Republicans and ethnoreligious conflict between Israelis and Palestinians seem intractable, despite the availability of reasonable compromise solutions in both cases. This research demonstrates a fundamental cognitive bias driving such conflict intractability: Adversaries attribute their ingroup’s actions to ingroup love more than outgroup hate and attribute their outgroup’s actions to outgroup hate more than ingroup love. This biased attributional pattern increases beliefs and intentions associated with conflict intractability, including unwillingness to negotiate and unwillingness to vote for compromise solutions. In addition, offering financial incentives for accuracy in evaluating one’s outgroup mitigates this biased attributional pattern and its consequences. Understanding this bias and how to alleviate it can contribute to conflict resolution on a global scale.

Author contributions: A.W., L.L.Y., and J.G. designed research, performed research, analyzed data, and wrote the paper.

The authors declare no conflict of interest.

This article is a PNAS Direct Submission.

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This article contains supporting information online at www.pnas.org/lookup/suppl/doi:10.1073/pnas.1414146111/-DCSupplemental.

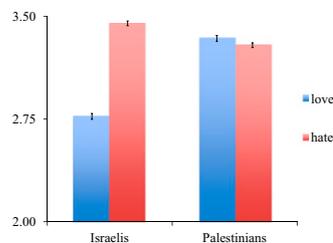


Fig. 2. Palestinians' attributions to Israelis and Palestinians in study 3. Means and SEs are taken from the total sample rather than from specific tests that exclude subjects who responded "don't know/not applicable." Error bars represent SEs.

"don't know/not applicable." Analyses excluding these people reveal comparable relationships between bias and the various implications measures. Higher bias scores mean a greater perception that Palestinians are motivated by hate vs. love (separate analyses of love attributions, hate attributions, and forced-choice attributions are provided in *SI Materials and Methods*). This measure of bias was correlated with reduced willingness to negotiate [$r(453) = -0.23, P < 0.0001$], reduced perceptions of a win-win [$r(409) = -0.21, P < 0.0001$], reduced optimism [$r(463) = -0.10, P = 0.038$], reduced personal willingness to vote for a peace deal [$r(471) = -0.15, P = 0.001$], reduced expectation that Palestinians will vote for a peace deal [$r(471) = -0.11, P = 0.016$], reduced positive compromise outcome beliefs [$r(471) = -0.26, P < 0.0001$], and increased essentialist beliefs about Palestinians [$r(471) = 0.27, P < 0.0001$]. Unsurprisingly, bias was not correlated with beliefs about Israelis (expected Israeli voting for a peace deal and essentialist beliefs about Israelis: $P > 0.10$). From these findings, it is clear that this biased perception of one's outgroup as driven by hate vs. love, a critical component of the motive attribution asymmetry, has significant consequences for beliefs and behavioral intentions.

Study 5 introduced an experimental manipulation designed to reduce the motive attribution asymmetry and consequent perceived conflict intractability. American Democrats and Republicans ($n = 331$) evaluated how much their own party is motivated by ingroup love (compassion and empathy toward their own party) and outgroup hate (dislike and animosity toward the opposing party). Then, participants were randomly assigned to an incentives condition that offered financial incentives for accurate evaluations of the outgroup or to a control condition that offered no incentives. All participants then evaluated how much the opposing party is motivated by ingroup love and outgroup hate on the same measures as for their own party. Then, all participants answered questions about their willingness to negotiate with the opposing party, optimism that a successful resolution could be reached, expectations for a win-win compromise, and essentialist beliefs toward the other party.

A 2 (condition: control vs. incentives) \times 2 (target: own party vs. other party) \times 2 (motive: love vs. hate) mixed ANOVA revealed a significant effect of target [$F(1, 329) = 9.50, P = 0.002, \eta^2_P = 0.03$]; a significant motive \times condition interaction [$F(1, 329) = 12.33, P = 0.001, \eta^2_P = 0.04$]; a significant target \times motive interaction [$F(1, 329) = 54.34, P < 0.0001, \eta^2_P = 0.14$]; and, most importantly, a significant condition \times target \times motive interaction [$F(1, 329) = 42.05, P = 0.001, \eta^2_P = 0.11$] (all other effects, $P > 0.39$). Replicating previous studies, overall participants attributed more love ($M = 4.66, SD = 1.49$) than hate ($M = 4.09, SD = 1.54$) to their own party [$t(330) = 4.62, P < 0.0001, d = 0.84$] and more hate ($M = 4.81, SD = 1.70$) than love ($M = 4.29, SD = 1.71$) to the opposing party [$t(330) = 3.59, P < 0.0005, d = 0.68$] (attributions of love to ingroup vs. love to outgroup and hate to ingroup vs. hate to outgroup differ significantly as well: $P \leq 0.0001$). More importantly, examining attributions to the outgroup by experimental condition reveals that whereas participants in the control condition indeed attribute more hate ($M = 5.27, SD = 1.62$) than love ($M = 3.89, SD = 1.65$) to the opposing party [$t(166) = 7.56, P < 0.0001, d = 1.89$], in the incentives

condition, attribution of hate diminishes significantly compared with the control condition ($M = 4.35, SD = 1.67$) [$t(329) = 4.40, P < 0.0001, d = 0.49$] and attribution of love increases significantly compared with the control condition ($M = 4.70, SD = 1.69$) [$t(329) = 5.05, P < 0.0001, d = 0.56$] such that the attributional pattern is reversed (Fig. 3).

To assess the impact of the motive attribution asymmetry on consequence measures, we computed a composite bias score by subtracting attributions of love to the outgroup from attributions of hate to the outgroup (separate analyses of love and hate attributions are provided in *SI Materials and Methods*). Significant correlations emerged such that bias reduced optimism [$r(329) = -0.30, P < 0.0001$], bias reduced perceptions of a win-win [$r(329) = -0.16, P = 0.004$], and bias increased essentialism [$r(328) = 0.14, P = 0.014$]. These findings largely replicate those findings of study 4, although willingness to negotiate was only slightly negatively related to bias ($r = -0.05, P = 0.38$). In addition, we computed a similar composite bias score for the ingroup by subtracting attributions of love to the ingroup from attributions of hate to the ingroup, and found this bias similarly correlated negatively with optimism [$r(329) = -0.16, P = 0.003$] and perceptions of a win-win [$r(329) = -0.10, P = 0.065$] and did not significantly affect willingness to negotiate ($r = -0.04, P = 0.53$) or essentialist beliefs ($r = -0.01, P = 0.85$). Although we did not have explicit predictions about the effect of ingroup attributions on consequence measures, these findings suggest that ingroup attributions have implications for conflict resolution as well.

It was also important to determine whether our manipulation affected these consequence measures so as to demonstrate that incentives for accuracy did not simply increase people's willingness to infer the other side's motivations momentarily (with no meaningful consequences for conflict intractability beliefs). Condition significantly influenced optimism such that incentives ($M = 3.52, SD = 1.50$) increased optimism compared with the control condition ($M = 3.14, SD = 1.64$) [$t(329) = 2.17, P = 0.031, d = 0.24$] and incentives ($M = 2.86, SD = 0.84$) reduced essentialist beliefs compared with the control condition ($M = 3.08, SD = 0.93$) [$t(328) = 2.20, P = 0.028, d = 0.24$]. Furthermore, bootstrapping mediation analysis (21) with condition coded as incentives = 1 and control = 0 (bias-corrected, 20,000 resamples) suggested that decreased biased attribution toward the outgroup (attributions of hate to the outgroup minus attributions of love to the outgroup) mediates the relationship between condition and optimism [95% confidence interval (CI) = 0.17–0.45; the path coefficients are illustrated in Fig. S2] and that attribution of hate to the outgroup and attribution of love to the outgroup separately appear to mediate this effect as well (95% CI = 0.13–0.40 and 95% CI = 0.02–0.21, respectively). An equivalent mediation analysis suggested that biased attribution toward the outgroup mediates the effect of condition on essentialist beliefs (95% CI = -0.13 to -0.0002; the path coefficients are illustrated in Fig. S2) and that attribution of hate to the outgroup separately appears to mediate this effect as well (95% CI = -0.20 to -0.06). In other words, incentives for accuracy increase optimism toward a mutual political agreement through simultaneously increasing attributions of love and decreasing attributions of hate toward the opposing political party. Incentives for accuracy also

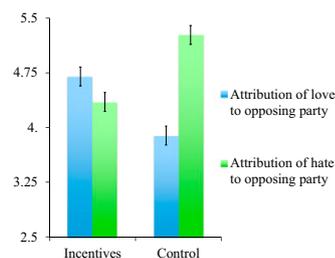


Fig. 3. Comparison by condition of Democrats' and Republicans' attributions of love and hate to the opposing party in study 5. Error bars represent SEs.

increase perceptions that the opposing political party is malleable through reducing this biased attribution pattern as well, primarily through reducing attributions of hate toward the opposing political party. Condition did not significantly affect willingness to negotiate ($P = 0.30$) or perceptions of a win-win ($P = 0.17$), although participants in the incentives condition did indicate increased willingness to negotiate and increased expectations for a win-win solution.

Although the effect of monetary incentives is robust in this context, in that incentives not only mitigate but actually reverse the motive attribution asymmetry, we acknowledge that the strength of this particular intervention might vary for conflicts of a more violent and volatile nature, and we welcome future research to test its effects.

Five studies document the first evidence, to our knowledge, of a motive attributional asymmetry whereby adversaries attribute their own support for aggression more to love than to hate but attribute the other group's aggression more to hate than to love. By comparing attributions toward one's outgroup with the outgroup's attributions toward itself, we demonstrate for the first time, to our knowledge, that outgroup attributions of love vs. hate are biased, if not erroneous. Furthermore, this research illustrates important consequences of this attributional bias (e.g., willingness to negotiate, voting intentions, beliefs about compromise) and provides a manipulation of incentivizing accuracy to mitigate this attributional asymmetry, suggesting two mechanisms driving this asymmetry.

One potential mechanism concerns the cognitive availability of love vs. hate. Affiliative motives like love may be less observable in outgroup members than in ingroup members, especially during intergroup conflict. Expressions of love are more likely to occur in affiliative and familial settings than in the presence of ostensible competitors, whereas expressions of anger or aggression are more likely to emerge and capture attention in the presence of competitors (22, 23). Therefore, expressions of animosity (vs. expressions of love) may be more observable to people outside the group. This pattern of relative visibility between love and hate resembles the lack of awareness that drives other biases, such as the bias blind spot (24) and naive realism (1). Related to this misperception is the tendency for people to interpret others' actions as approach-motivated even when recognizing their own actions to be avoidance-motivated (because approach motives seem more salient) (25). When people evaluate their enemies, they apparently link enemy actions to approach motives (toward the ingroup) rather than avoidance motives to protect their own.

A second potential mechanism underlying this asymmetry concerns motivation: People may engage in motivated reasoning to see their ingroups as loving and their outgroups as hateful. This attributional pattern bears conceptual similarity to the ultimate attribution error, whereby people attribute positive (negative) ingroup behaviors to internal (external) factors and to attribute outgroup positive (negative) behaviors to external (internal) factors (26). Importantly, the present work differs from this prior research because it examines evaluations of the same behavior (involvement in conflict) in terms of solely internal factors (i.e. motivations for love vs. hate) rather than examining evaluations of different behaviors (i.e. positive behaviors and negative behaviors) in terms of internal vs. external factors, yet a similar motivational component of this bias might be present in this bias and in the motive attribution asymmetry. The present bias also bears similarity to people's motivational tendency to deny prosocial values (e.g., love) to outgroup members to dehumanize them and justify harm toward them (27).

We believe our results, including those results of study 5, are consistent with both of these mechanisms. Monetary incentives can reduce egocentrism through increasing effortful perspective-taking (28), as well as motivating people to detect others' emotions more accurately (29). Monetary incentives can thus increase effortful attention to the other side's true underlying mental states and can increase motivation to assess others accurately (30). Future research can examine the separate contributions of these two mechanisms.

Overall, these results suggest that the motive attribution asymmetry is a significant barrier to resolution of intergroup conflict. Independent of factors such as divergent ideologies, clashing religious beliefs, or external economic crises, the biased attribution

of an outgroup's actions to hate makes disputants perceive conflict to be more intractable. Just as the overestimation of group differences leads to conflict escalation (31), failing to recognize love as a shared motive between one's ingroup and outgroup likely exacerbates conflict as well. Furthermore, we speculate that this specific intergroup misperception is one that is particularly difficult to detect. Because constructs like love and loyalty hold such positive connotations, it is difficult to notice others' affiliative motives as sources of conflict, similar to the difficulty of noticing others' ingroup favoritism (rather than outgroup derogation) as a primary contributor to intergroup discrimination (32). Identifying this motive attribution asymmetry as a consequential source of conflict and identifying how to mitigate this attributional bias can contribute to reducing long-standing conflict.

Materials and Methods

Study 1: Democrat-Republican Conflict in American Politics. Two hundred eighty-five United States residents (205 male, 68 female, and 12 unreported; $M_{age} = 27.93$, $SD = 9.17$) completed the study online through mTurk (Amazon Mechanical Turk) using Qualtrics software, in exchange for a small monetary reward. For this and all subsequent studies, participants were included in analyses if they completed all measures assessing attributions of love and hate (even if they did not complete all demographic measures). Institutional review board approval for all studies was obtained from Northwestern University, Boston College, and the New School of Social Research, and informed consent was obtained from participants across all studies.

Participants were randomly assigned to one of two conditions, the own-party or other-party condition. In both conditions, participants read, "Think about the political party that you belong to. Now, think about members of the opposing political party."

In the own-party condition, participants read, "When your party engages in conflict with the opposing party, how much is YOUR PARTY motivated by each of the following:" and then evaluated six items on a seven-point scale (1 = not at all, 7 = very much). Three items pertained to love ("empathy/compassion/kindness for people in your political party"), and three items pertained to hate ("dislike/indifference/hatred toward people in the opposing political party").

In the other-party condition, participants read, "When the opposing party engages in conflict with your party, how much is THE OPPOSING PARTY motivated by each of the following:" and evaluated six equivalent items. Three pertained to love (empathy/compassion/kindness toward the people in their political party), and three pertained to hate (dislike/indifference/hatred toward the people in your political party). We averaged the empathy, compassion, and kindness items across conditions to generate a love composite score ($\alpha = 0.84$), and we averaged the dislike, indifference, and hatred items to generate a hate composite ($\alpha = 0.59$). This slightly lower reliability for hate results from the distinction between the indifference item as a passive form of opposition and the dislike and hatred items as more active forms of opposition. Nonetheless, all significant results reported remain when the hate composite consists only of the dislike and hatred items or when the items are considered separately.

Participants then completed demographic measures, including two items of interest: one assessing political party ("What political party do you feel more closely aligned with?" with response options: Democratic and Republican; 19% of our sample indicated Republican affiliation) and one assessing political ideology (1 = extremely liberal, 7 = extremely conservative). Results did not differ meaningfully by political party (*SI Materials and Methods*).

Study 2: Israelis' View of the Israeli-Palestinian Conflict. Four hundred ninety-seven Israeli residents were recruited using computer-assisted telephone interviews, and reported personal and demographic information. This sample consisted of 229 males and 268 females, with the following age distribution (age was assessed categorically): 18–21 y (5.0%), 22–24 y (4.2%), 25–29 y (5.0%), 30–34 y (6.8%), 35–39 y (9.5%), 40–44 y (11.5%), 45–49 y (8.9%), 50–54 y (9.7%), 55–59 y (10.9%), 60–64 y (9.7%), 65+ y (17.5%), and 1.4% who did not respond. Our sample was primarily Jewish, with the following religion distribution: Secular Jewish (46.5%), Traditional Jewish (25.2%), National Orthodox (11.1%), Ultra Orthodox (9.7%), Muslim (2.6%), Druze (1.4%), Christian (1.2%), 0.8% who reported "other," and 1.6% who refused to answer.

All participants were given materials translated into Hebrew, stating: "As you know, there is often conflict between Israel and Palestinians living in Gaza. Palestinians have fired rockets into Israel, and Israelis have launched bombing attacks against Gaza. Many Palestinians and Israelis supported these respective attacks." Then, participants answered three questions about the motives of Israelis and three questions about the motives of Palestinians (order of Israel/Palestine counterbalanced). The first two questions pertaining to Israel were

scale items that read, "Why do you think many Israelis support bombing of Gaza during this conflict?" (response options: certainly yes, yes, no, certainly no, don't know/not applicable): (i) "Is it because of their love of Israel?" or (ii) "Is it because they hate Palestinians?" The third question pertaining to Israelis asked was presented in a forced-choice format, "What do you think is more important in causing Israelis to support bombing of Gaza: their love of Israel or their hatred of Palestinians?" (response options: their love of Israel, their hatred of Palestinians, don't know/not applicable).

The first two questions pertaining to Palestinians were scale items that read, "Why do you think many Palestinians support firing rockets from Gaza into Israel during this conflict?" (response options: certainly yes, yes, no, certainly no, don't know/not applicable): (i) "Is it because of their love of Palestine?" or (ii) "Is it because they hate Israelis?" The third question pertaining to Palestinians was presented in a forced-choice format, "What do you think is more important in causing Palestinians to support firing rockets from Gaza into Israel: their love of Palestinians or their hatred of Israel?" (response options: their love of Palestine, their hatred of Israelis, don't know/not applicable).

Don't know/not applicable responses represented 13.3% or less of responses for each question and were excluded from analysis. For the remaining analyses, we coded responses on the scale items as certainly yes = 4, yes = 3, no = 2, and certainly no = 1.

Study 3: Palestinians' View of the Israeli-Palestinian Conflict. One thousand two hundred sixty-six Palestinians (628 male, 638 female, and 5 unreported; $M_{age} = 37.85$, $SD = 13.43$; 98.7% Muslim) living in the West Bank and Gaza were recruited to participate in face-to-face interviews. This sample was 98.7% Muslim (1.3% Christian) (data collection procedures are described in *SI Materials and Methods*).

Participants were asked the same questions, in the same format as with the Israeli sample, as well as additional questions on personal and demographic information. Responses to the target measures of attribution were coded accordingly, with don't know/not applicable responses representing 4.3% or less of responses for each question.

Study 4: Implications of Bias. Four hundred ninety-eight Israeli residents were recruited for a telephone interview as in study 2 and reported demographic information. This sample consisted of 241 males and 257 females, with the following age distribution (age was again assessed categorically): 18–21 y (4.0%), 22–24 y (3.8%), 25–29 y (2.8%), 30–34 y (6.8%), 35–39 y (9.2%), 40–44 y (10.8%), 45–49 y (7.8%), 50–54 y (9.6%), 55–59 y (11.4%), 60–64 y (10.6%), 65+ y (21.7%), and 1.2% who refused to say. Our sample was primarily Jewish, with the following religion distribution: Secular Jewish (46.2%), Traditional Jewish (27.3%), National Orthodox (11.6%), Ultra Orthodox (8.6%), Muslim (3.2%), Christian (1.4%), 0.8% who reported other, and 0.8% who refused to answer.

Participants were randomly assigned to one of three conditions to assess the robustness of bias to different experimental inductions. These inductions and their effects are described in *SI Materials and Methods*; because they did not affect the phenomenon of interest (the attribution of love vs. hate to the outgroup), we collapsed over conditions for analyses. Similar to studies 2 and 3, all participants were told, "We would now like to ask you about how a typical Palestinian thinks" and answered three questions about attributions of Palestinian love vs. hate worded similar to study 2. The first two questions pertaining to Palestine were scale items that read, "Why do you think the typical Palestinian supports firing rockets from Gaza into Israel during this conflict?" (response options: certainly yes = 4, yes = 3, no = 2, certainly no = 1, don't know/not applicable): (i) "Is it because of love of Palestine?" or (ii) "Is it because of hate for Israelis?" The third question pertaining to Palestine was presented in a forced-choice format, "What is a more likely motivation behind the average Palestinian's support of firing rockets from Gaza into Israel: their love of Palestinians or their hatred of Israel?" (response options: their love of Palestine = 1, their hatred of Israelis = 2, don't know/not applicable). The don't know/not applicable responses represented 12.4% or less of responses for each question, did not differ significantly across conditions, and were excluded from analysis.

After these initial questions, participants answered a series of additional questions (listed in order below) about the relationship between bias in attribution of hate vs. love to Palestinians to other consequential beliefs and intentions.

A first question assessed willingness to negotiate and read, "Israelis and Palestinians are hoping to begin negotiations on issues such as the Palestinian right of return, the status of Jerusalem, final borders, as well as the makeup of a future Palestinian state. Would you be willing/unwilling to negotiate these issues?" (response options: not willing at all = 1, somewhat not willing = 2, somewhat willing = 3, very willing = 4, don't know/not applicable = excluded from analysis) (adapted from ref. 17).

A second question assessed perceptions of a win-win (33) and read, "As you know, delegations of both Israel and Palestine have been working to negotiate a peace agreement between the two sides. What is the likely outcome of such an agreement?" (response options: the agreement will be good for Israel only = 0, the agreement will be good for Palestine only = 0, the agreement will be bad for both Israel and Palestine = 0, the agreement will be good for both Israel and Palestine = 1, don't know/not applicable = excluded from analysis). This question assessed the belief that a compromise would constitute a mutually beneficial outcome for Palestine and Israel vs. any other outcome.

A third question assessed optimism, asking, "Are you optimistic or pessimistic that a successful peace agreement between Israel and Palestine can be implemented?" (response options: optimistic = 2, pessimistic = 1, don't know/not applicable = excluded from analysis).

Next, participants responded to three questions assessing response to negotiation. They read:

Suppose Israeli and Palestinian negotiators reached a peace deal. Under this deal, there would be two states living side by side: a Palestinian state in the West Bank and Gaza alongside the Jewish State of Israel. Both the government of Israel and the government of Palestine would apologize for the wrongs they have done, and recognize the legitimacy of the other state. Before this deal is signed, both Israel and the Palestinians decide to hold a referendum to let their people decide. If majorities of both populations vote for the deal, it will be signed and implemented. If either Israelis or Palestinians reject the deal, it will not be signed.

Then, they were asked, "Do you think you would vote for this deal or against the deal if the referendum was held tomorrow?" (response options: for = 2, against = 1), "What percentage of Israelis do you think would vote for the deal?" (response options: between 0% and 20% = 1, between 21% and 40% = 2, between 41% and 60% = 3, between 61% and 80% = 4, between 81% and 100% = 5), and "What percentage of Palestinians do you think would vote for the deal?" (response options: between 0% and 20% = 1, between 21% and 40% = 2, between 41% and 60% = 3, between 61% and 80% = 4, between 81% and 100% = 5).

Next, participants answered four questions regarding compromise outcome beliefs. They read, "This next question explores how you think Palestinians may respond to things done by Israel. Imagine that Israel unilaterally declared and implemented a freeze on settlement building and dismantled illegal settlement outposts. How do you think Palestinians would respond?" Then, they were asked two questions regarding potentially positive outcome beliefs: "Do you think that Palestinians would see that Israel was serious about taking steps towards peace and would end their support for the violent factions such as Hamas?" and "Do you think that Palestinians would see that Israel was serious about taking steps towards peace and would push their political leaders to make concessions—perhaps even recognition of Israel?" (yes = 2, no = 1). They then answered two questions regarding negative outcome beliefs: "Do you think these actions by Israel would be in vain because the settlements are not core to the conflict?" and "Do you think that Palestinians would see these [actions] as a triumph and use the victory to gather momentum for more attacks against Israel?" (yes = 2, no = 1).

Finally, participants answered questions about beliefs regarding essentialism of each group "As much as I hate to admit it, you can't teach an old dog new tricks—Palestinians/Israelis can't really change their basic characteristics"; "Palestinians/Israelis can at times seem to behave differently, but the important parts of who they are can't really be changed"; "Palestinians/Israelis who are characterized by extreme and violent behavior will never change because these characteristics are deeply rooted within them"; and "Palestinians/Israelis have basic moral values and beliefs that can't be changed significantly." All statements were then followed by, "Do you strongly agree (4), somewhat agree (3), somewhat disagree (2), or strongly disagree (1)? These questions were adapted from previous work (3) and reflect beliefs regarding the fixed vs. malleable nature of both groups.

Willingness to negotiate, perceptions of a win-win, optimism, personal likelihood of voting for a peace deal, expected Israeli voting for a peace deal, and expected Palestinian voting for a peace deal were treated as single items. A composite score was generated for positive compromise outcome beliefs ($\alpha = 0.69$) by averaging the two positive outcome beliefs and two negative outcome beliefs (reverse-scored). Composite scores were also generated for essentialist beliefs about Palestinians ($\alpha = 0.85$) and Israelis ($\alpha = 0.64$) by averaging the four items pertaining to each group.

Of chief importance for this study was to examine whether the biased perception of Palestinians as driven by hate vs. love correlates with any of these measures. We therefore computed a composite bias score as described above. Because condition did not significantly affect our individual measures

that constitute this bias score, we collapsed over the sample to examine correlations between bias and the other measures.

Study 5: Incentivizing Accuracy. Because studies 1–4 have demonstrated that the motive attribution asymmetry is robust across populations and has significant consequences, study 5 attempts to reduce this bias and its associated consequences. In particular, this study tests whether introducing monetary incentives for accuracy reduces the tendency of American Democrats and Republicans to attribute more hate than love to the opposing party (as was found in study 1), and whether reducing this bias can improve consequential perceptions of the other party. Given that paying people has been shown to both increase and diminish empathic accuracy (29, 34), this study also provides a test of the efficacy of monetary incentives for improving interpersonal perceptions.

Three hundred thirty-one US residents (223 male, 106 female, and 2 unreported; $M_{\text{age}} = 29.43$, $SD = 9.80$) completed the study online as in study 1. Participants were included in analyses if they completed all attributional measures as in study 1 (even if they did not complete all consequence measures described below, leading to differing degrees of freedom in some analyses).

All participants completed a series of demographic measures, including a question asking, “What political party do you feel most closely aligned with?” with the response options Democratic Party, Republican Party, and moderate/neither/somewhere in between. We excluded participants who selected this last category (they were redirected to complete a different study and did not complete the measures described below) so that we could examine participants for whom political conflict was particularly salient; similar to study 1, only 20% of our sample indicated Republican affiliation. Participants also answered a similar question assessing political ideology as in study 1 (1 = very liberal, 7 = very conservative). Overall, results did not differ meaningfully by political party (*SI Materials and Methods*).

Next, all participants were asked, “When your party engages in conflict with the opposing party, how much is YOUR PARTY motivated by each of the following?” and then evaluated four items on a seven-point scale (1 = not at all, 7 = very much). Two items pertained to love (“empathy for people in your political party” and “compassion for people in your political party”), and two items pertained to hate (“dislike toward the people in the opposing political party” and “animosity toward the people in the opposing political party”).

Then, participants were randomly assigned to one of two conditions, the control condition or the incentives condition. In both conditions, participants were told their responses would be compared with those responses of the opposing

party, but in the incentives condition we also told participants that they could earn an additional bonus of \$12 for accurately gauging the motivations of the opposing political party (*SI Materials and Methods*). All participants then evaluated four items on the same seven-point scale as for their own party. Two pertained to love (“empathy/compassion for people in their political party”), and two pertained to hate (“dislike/animosity toward the people in your political party”).

We averaged the empathy and compassion items to generate a love composite score for ingroup and outgroup [$r(329) = 0.82$, $P < 0.0001$; $r(329) = 0.80$, $P < 0.0001$], and we averaged the dislike and animosity items to generate a hate composite for ingroup and outgroup [$r(329) = 0.80$, $P < 0.0001$; $r(329) = 0.78$, $P < 0.0001$].

We also measured potential consequences of the motive attribution asymmetry, similar to study 4. As a measure of willingness to negotiate, participants responded to the following question, “This year, members from different political parties will begin negotiations on a number of issues, such as the implementation of the Affordable Care Act; how to handle the federal budget, including making cuts; and a number of social issues, such as immigration, abortion, and gay marriage. How unwilling/willing would you be to negotiate with a member of the opposing party on these issues?” (1 = completely unwilling, 7 = completely willing). To measure perceptions of a win-win, participants were asked, “Democrats and Republicans will be forced to reach resolutions on the issues mentioned above. What is the likely outcome of such resolutions?” (response options: the resolutions will be good for your party only = 0, the resolutions will be good for the other party only = 0, the resolutions will be bad for your party and the opposing party = 0, the resolutions will be good for both your party and the opposing party = 1). As a measure of optimism, participants answered, “How pessimistic/optimistic are you that successful resolutions on the issues mentioned above can be implemented?” (1 = very pessimistic, 7 = very optimistic). Finally, we asked the same four questions about essentialism as in study 4 worded toward the opposing party (and excluding the word “violent”) and averaged these items (including participants who did not answer all items) ($\alpha = 0.79$). At the study’s conclusion, we paid the \$12 bonus to one participant in the incentives condition.

ACKNOWLEDGMENTS. This study was supported by Northwestern University, Boston College, and the Dispute Resolution Research Center at Kellogg School of Management. Studies with Israelis and Palestinians were funded by the National Science Foundation (Grant SES-0962080) and the Office of Naval Research (Grant MINERVA-ONR N000141310054).

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Supporting Information

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SI Materials and Methods

Study 1: Analyses Including Political Ideology. Including political ideology as a covariate in the 2 (target: own-party vs. other-party) \times 2 (motive: love vs. hate) mixed-effects ANOVA did not alter the significance of the results. In addition, a 2 (political party: Democratic vs. Republican) \times 2 (target: own-party vs. other-party) \times 2 (motive: love vs. hate) mixed-effects ANOVA revealed the same significant target \times motive interaction but no main effect ($P = 0.16$) or interaction effect for political party ($P > 0.84$). Thus, the primary pattern was not affected by political affiliation.

Study 2: Analyses on Forced-Choice Items. Binomial tests on each item demonstrated that a majority of respondents (72%) indicated that Israeli support for conflict was driven by love ($z = 9.06, P < 0.0001$), and a majority of respondents (90%) suggested Palestinian support for conflict was driven by hate ($z = 16.47, P < 0.0001$).

Study 3: Analyses on Forced-Choice Items. Binomial tests on each item demonstrated that a majority of respondents (58%) indicated that Palestinian support for conflict was driven by love ($z = 5.72, P < 0.0001$), and a majority of respondents (83%) suggested Israeli support for conflict was driven by hate ($z = 23.12, P < 0.0001$).

Study 3: Data Collection. For this study, interviews were run by the Palestinian Center for Survey and Policy Research (PSR), which translated all materials and focus-tested them for transparency of meaning. The sampling process went through three stages: (i) randomly selecting population locations (clusters or counting areas) using probability proportionate to size, (ii) randomly selecting households from the population locations using updated maps, and (iii) selecting a person who is 18 y or older from among persons in the house using the Kish tables method. The sample is self-weighting, but the PSR also checked to verify that the age groups we obtain are similar to those age groups in the society using data from official Palestinian and Israeli government statistics. Reweighting is done if necessary. To maximize the chances to enter all homes in the sample, two fieldworkers, a male and a female, conduct every interview so as to overcome social difficulties that may prevent a male/female from entering a home that does not have males/females at the time of the interview.

Study 4: Separate Analyses for Love Attributions and Hate Attributions. Separately analyzing the relationship between these consequence measures and the single-scale items for attribution of love to Palestinians and attribution of hate to Palestinians, respectively, also yielded significant results. Attribution of love to Palestinians was associated with decreased willingness to negotiate [$r(418) = -0.11, P = 0.022$], marginally reduced perceptions of a win-win [$r(382) = -0.09, P = 0.075$], and increased essentialist beliefs toward Palestinians [$r(434) = 0.13, P = 0.005$] and Israelis [$r(434) = 0.14, P = 0.004$], and was not significantly associated with other measures ($P > 0.14$). Attribution of hate to Palestinians was associated with decreased willingness to negotiate [$r(447) = -0.32, P < 0.0001$], reduced perceptions of a win-win [$r(405) = -0.33, P < 0.0001$], reduced optimism [$r(458) = -0.17, P < 0.0005$], reduced personal willingness to vote for a peace deal [$r(465) = -0.20, P < 0.0001$], reduced expectation that Palestinians will vote for a peace deal [$r(465) = -0.13, P = 0.006$], reduced expectation that Israelis will vote for a peace deal [$r(465) = -0.11, P = 0.017$], reduced positive compromise outcome beliefs [$r(465) = -0.37, P < 0.0001$], and increased essentialist beliefs toward Palestinians [$r(465) = 0.43, P < 0.0001$] and Israelis [$r(465) = 0.19, P < 0.0001$].

Interestingly, both attributions of love and hate increased essentialist beliefs, decreased willingness to negotiate, and reduced expectations for a win-win, suggesting that both attributions contribute independently to conflict. As we note below, however, the independent effects of these attributions differ in the Republican-Democratic conflict examined in study 5.

Study 4: Analyses on Forced-Choice Items. A binomial test demonstrated a majority of respondents (91%) suggested Palestinian support for conflict was driven by hate ($z = 17.04, P < 0.0001$). Forced-choice attribution of hate vs. love was associated with decreased willingness to negotiate [$r(417) = -0.25, P < 0.0001$], reduced perceptions of a win-win [$r(376) = -0.17, P = 0.001$], reduced optimism [$r(427) = -0.09, P = 0.069$], reduced personal willingness to vote for a peace deal [$r(434) = -0.16, P = 0.001$], reduced positive compromise outcome beliefs [$r(434) = -0.23, P < 0.0001$], and increased essentialist beliefs toward Palestinians [$r(434) = 0.26, P < 0.0001$] and Israelis [$r(465) = 0.11, P = 0.025$], and was not significantly associated with other measures ($P > 0.10$).

Study 4: Description of Instructional Condition and Analysis by Condition. In study 4, participants were randomly assigned to receive different instructions in a perspective-taking, empathy, or control condition. We manipulated instructions for perspective taking and empathy because research has shown that these processes can modify intergroup bias, and are capable of either reducing bias (1–3) or exacerbating bias (4–6), depending on context.

In the perspective-taking condition, modeled after typical perspective-taking manipulations (3), participants were told, “Now, we would like you to think about a typical Palestinian. Think about that person’s life in the context of the Israeli-Palestinian conflict. Try to imagine how the person thinks about what has happened and how it has affected his or her life.” In the empathy condition, participants were told, “Now, we would like you to think about a typical Palestinian. Think about that person’s life in the context of the Israeli-Palestinian conflict. Try to imagine how that person cares for his or her family and feels pain at the death of a loved one.” We included this last sentence as a means to reduce dehumanization, drawing from work that operationalized dehumanization that others experience “care and compassion for the family” and “pain at the death of a loved one” (7). In the control condition, participants were told, “Now, we would like you to think about a typical Palestinian. Think about that person’s life in the context of the Israeli-Palestinian conflict.”

We first tested whether our experimental inductions modulate the outgroup attribution bias. A 3 (condition: perspective-taking vs. empathy vs. control) \times 2 (motive: love vs. hate) mixed ANOVA that produced only a main effect of motive [$F(1, 428) = 161.03, P < 0.0001, \eta^2_P = 0.27$] and no interaction or main effect for condition ($P > 0.59$) was used. Replicating studies 1–3, participants judged their outgroup (Palestinians) to be driven by hate ($M = 3.29, SD = 0.95$) more than love ($M = 2.52, SD = 1.14$). Interestingly, condition also did not significantly alter responses to the forced-choice item regarding love vs. hate ($P = 0.38$), because a clear majority (91%) perceived hate to be a stronger motive than love across conditions ($z = 17.04, P < 0.0001$).

We also tested the influence of condition on all other measures, and the only significant result that emerged was for expected Israeli voting for a peace deal [$F(2, 495) = 3.97, P = 0.019, \eta^2_P = 0.02$], whereby planned contrasts revealed empathy ($M = 2.64, SD = 0.88$) and perspective-taking ($M = 2.57, SD = 0.90$) boosted expected support for a deal compared with the control

condition ($M = 2.37$, $SD = 0.89$) [$t(495) = 2.71$, $P = 0.007$, $d = 0.24$ and $t(495) = 2.03$, $P = 0.043$, $d = 0.18$, respectively].

Study 5: Experimental Manipulation. All participants received the following instructions, with the incentives condition participants receiving the additional instructions in italics:

Think about the political party that you belong to and think about members of the opposing political party. When the opposing party engages in conflict with your party, how much is THE OPPOSING PARTY motivated by each of the following? We will compare your responses with what people in the opposing party indicated as their motives, and the participant who is most accurate in indicating the correct responses of the OPPOSING PARTY will be given a \$12 bonus through MTurk [Amazon Mechanical Turk] (you will enter your MTurk ID at the end of the study). Again, how much is the OPPOSING PARTY motivated by each of the following.

Study 5: Separate Analyses for Love Attributions and Hate Attributions. As in study 3, we also examined the independent effects of attributions of love and hate to the ingroup and outgroup on our consequence measures. Attributions of hate to the ingroup and attributions of hate to the outgroup were associated with reduced optimism [$r(329) = -0.17$, $P = 0.003$ and $r(329) = -0.30$, $P < 0.0001$, respectively], whereas attributions of love to the outgroup were associated with increased optimism, [$r(329) = 0.16$, $P = 0.003$]. Attributions of hate to the ingroup and attributions of hate to the outgroup were associated with reduced perceptions of a win-win [$r(329) = -0.13$, $P = 0.021$ and $r(329) = -0.19$, $P = 0.001$, respectively]. Attributions of love to the ingroup and attributions of hate to the outgroup were associated with increased essentialism [$r(328) = 0.11$, $P = 0.043$ and $r(328) = 0.27$, $P < 0.0001$, respectively], and attributions of hate to the ingroup were marginally associated with increased essentialism [$r(328) = 0.09$, $P = 0.093$]. No other correlations were significant ($P > 0.17$). As in study 4, these findings provide evidence of independent contributions for love and hate attributions. In addition, they suggest that the effect of love attributions to the outgroup might be more variable, given

their positive association with optimism here despite no significant relationship in study 4.

Study 5: Analyses Including Political Ideology. To assess whether political affiliation affected our primary results, we included political ideology as a covariate in the 2 (condition: control vs. accuracy) \times 2 (target: own party vs. other party) \times 2 (motive: love vs. hate) mixed ANOVA, which did not alter the significance of the results. We also separately conducted a 2 (political affiliation: Democratic vs. Republican) \times 2 (condition: control vs. accuracy) \times 2 (target: own-party vs. other-party) \times 2 (motive: love vs. hate) mixed ANOVA. Of greatest importance, a condition \times target \times motive interaction emerged [$F(1, 327) = 22.40$, $P < 0.0001$, $\eta^2_P = 0.06$] and was not qualified by political affiliation ($P = 0.67$). This finding suggests that the effect of condition on attributions of love vs. hate across one's own party and the opposing party did not differ by political affiliation. Political affiliation interacted only with target and motive to produce a significant affiliation \times target \times motive interaction [$F(1, 327) = 10.23$, $P = 0.002$, $\eta^2_P = 0.03$]. Interestingly, unlike study 1, Republicans differed from Democrats in attributions of love and hate to their own party ($M = 4.02$, $SD = 1.39$ vs. $M = 4.23$, $SD = 1.63$; $P = 0.36$), a pattern reflective more of Palestinians in study 3, who indicated their own love and hate to a more equivalent degree. We hesitate to speculate too much on this finding, however, because (i) Republicans in this study do not express significantly more hate than love and (ii) combining these scores with the Republicans' attribution of love to the ingroup and attribution of hate to the ingroup scores in study 1, overall, Republicans report more love than hate ($M = 4.10$, $SD = 1.39$ vs. $M = 4.04$, $SD = 1.56$). Most important, and central to our predictions, Republicans and Democrats both perceive significantly more hate than love in the other party and are affected similarly by our manipulation of accuracy. In addition, political party did not interact with condition in its effect on any of the consequence measures ($P > 0.14$), suggesting that incentives for accuracy similarly affected downstream consequences of this attributional asymmetry for members of both political parties.

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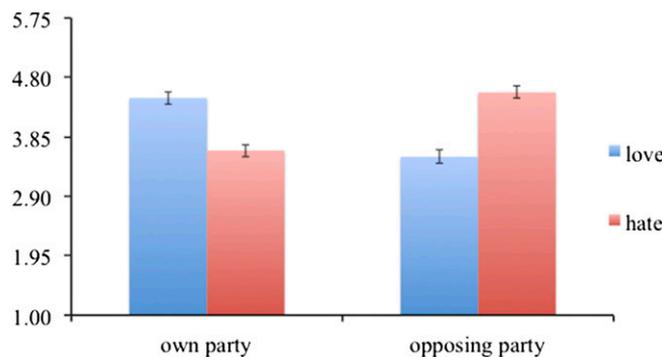


Fig. S1. Attributions of Democrats and Republicans to their own party and the opposing party in study 1. Error bars represent SEs.

