Toward Conflict or Compromise?¹
How Aggressive Cues Polarize (and Moderate) Partisan Attitudes

Nathan P. Kalmoe*, Joshua R. Gubler, & David A. Wood

Abstract
Republican and Democratic citizens are taking increasingly divergent issue positions, partly reflecting shifts among elites. But what micro factors beyond opinion leadership drive partisan polarization? This study shows how everyday political speech polarizes or moderates partisan issue attitudes depending on audience personality traits. Prior research suggests aggressive words signal conflict, and we predict partisans will react to the language by hewing closer to party positions, or by seeking conciliatory middle ground. We expect these distinct responses to depend on each citizen’s orientation toward aggression in everyday life. We find support for our predictions in two large survey experiments: (1) exposure to mild violent metaphors increases partisan issue polarization among aggressive citizens, but (2) exposure reduces polarization among low-aggression partisans. These results demonstrate the subtle power of aggression in public opinion, highlight the conditional nature of partisan polarization, and point to normative challenges posed by common language in political conflict.

Key words: policy attitudes, partisan polarization, conflict, metaphors, aggression

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¹ Nathan Kalmoe is an Assistant Professor of Political Science at Monmouth College. Joshua Gubler is an Assistant Professor of Political Science at Brigham Young University. David Wood is an Assistant Professor in the School of Accountancy at Brigham Young University's Marriott School of Management. Both studies were funded by the Political Science department and School of Accountancy at Brigham Young University.

* Corresponding author. Department of Political Science, Monmouth College, 700 E. Broadway, Monmouth, IL, 61462. Email: nkalmoe@monmouthcollege.edu. Phone: 309-457-2422.
In recent decades, political observers have expressed growing concern over partisan polarization among leaders and citizens as Democrats and Republicans adopt increasingly distant positions across a range of policy issues (Abramowitz 2010; Fiorina & Abrams 2009; Mann & Ornstein 2012; Pew 2014; Poole 2015).\(^2\) For politicians and ordinary citizens, these attitudinal shifts have critical consequences for democratic governance: partisan polarization in government increases the likelihood of political gridlock (Mann & Ornstein 2012), and while many citizens pay lip service to compromise in principle, nearly half say policy outcomes should favor their own party in practice, reducing public pressure on government to find political agreement through compromise (Pew 2014).

Much of the public’s partisan movement is attributable to opinion leadership (Berinsky 2009; Carmines & Stimson 1986; Converse 1962; Druckman, Peterson, & Slothuus 2013; Gerber & Jackson 1993; Levendusky 2009; Zaller 1992), with citizens weakly mirroring the more extensive polarization found among partisan elites (Poole 2015). But what micro factors beyond opinion leadership drive partisan polarization? Here we seek the conditions under which partisans are motivated to take more party-consistent stances toward conflict versus taking more moderate positions away from their party and toward compromise. Consistent with the “deliberative” versus “partisan” typology of democratic citizenship (MacKuen, Wolak, Keele, & Marcus 2010), we recognize that people alternately engage in both kinds of behavior depending on interactions between their individual traits and strategic evaluations of political circumstances.

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\(^2\) Fiorina and Abrams (2009) argue that despite ideological sorting within partisan camps, the public as a whole has not moved to more extreme, polarized positions. Partisan issue polarization is distinct from but also related to social identity-based polarization involving social distance, partisan bias, hostility, and anger (Iyengar, Sood, & Lelkes 2012; Mason 2014).
In this article, we experimentally investigate the effects of violent political metaphors on partisan issue polarization among citizens for the first time. Although the analogical rhetoric of fighting, battles, and war appears daily in communications from politicians, pundits, and journalists, we know little about its impact on public opinion.

We predict the effects of violent language on policy attitudes depend on each partisan’s orientation toward aggression in everyday life, a stable personality trait known as trait aggression (Anderson & Bushman 2002a). Like other scholars (Pitney 2000), we view violent metaphors as signals of conflict. Some partisans embrace the prospect of a clash by aligning their views more fully with their party while others seek cooperative resolution of differences by taking more deliberative, less partisan positions (MacKuen et al. 2010).

We find support for these predictions in two large online survey experiments (Ns = 866 and 787) with nationally-diverse U.S. participants: exposure to mild violent metaphors increases partisan issue polarization across a range of contentious issues among aggressive citizens, but it reduces partisan differences among low-aggression citizens. These results reveal the hidden power of aggression in public opinion, they highlight the conditional nature of partisan polarization, and they speak to the normative challenge that common rhetoric poses for political conflict among leaders and citizens.

**Metaphors in Politics**

Metaphors actively shape social judgments (see Landau et al. 2010 for a review). They help people “understand and communicate abstract and elusive ideas” by reference to more concrete objects and processes (p. 1046, Landau et al. 2010), they increase attention and interest in persuasive arguments, and they motivate systematic information processing, especially among people interested in the metaphorical domain (Johnson and Taylor 1981; Ottati et al. 1999).
Scholarly attention to political metaphor effects has grown recently, testing the ability of metaphors to frame issues and change opinions among political elites and the public (Bougher 2012; Hartman 2012; Lau and Schlesinger 2005; Landau 1961; Schlesinger and Lau 2000; Shimko 1994; Zashin and Chapman 1974). For example, Lau and Schlesinger (2005) show that policy metaphors cognitively reframe policies, thereby persuading citizens and adding constraint to the preferences of less politically sophisticated citizens. Hartman (2012) also finds persuasive metaphor effects among low-knowledge citizens when issues are complicated. In contrast, Johnson and Taylor (1981) find metaphor-based persuasion based on the metaphor’s positive or negative valence, but these effects are found primarily among more knowledgeable citizens, not less. They attribute this difference to citizens having a better understanding of the issue. Thus, although political metaphor effects on issue attitudes have received attention, the findings are mixed regarding who is affected and why.

Interestingly, scholars have yet to assess the impact of violent metaphors on policy attitudes, despite their frequent appearance in political communication. We define violent political metaphors as figures of speech that cast the non-violent politics of campaigning and governing in violent terms, that portray leaders or groups as combatants, that depict political objects (e.g. legislation, money) as weapons, or that describe sites of politics (e.g. Congress) as places of non-literal violence. Past studies have described violent metaphors as a subset of strategic news frames, which promote cynicism and depress participation (Cappella & Jamieson, 1997; Valentino et al., 2001), but to date no one has examined violent metaphor effects, as such, on policy views. Motivated by the routine use of words like “fight,” “battle,” and “attack” in political ads, speeches, and news, we seek to fill this void in theoretical and practical knowledge.

**Violent Metaphors as Aggressive Cues**
Psychologists have found that violent words function as mild aggressive cues, along with other aural, visual, physical, and behavioral stimuli evoking violence (see Anderson et al. 2003). As with other violent media, we expect individuals to react differently to violent words based on their aggressive predispositions. Past research shows that trait aggression reliably distinguishes people who seek out and enjoy violent content from those who avoid it: aggressive individuals are more attracted to violent content (Anderson & Bushman, 2002; Bushman 1995, 1996, 1998; Caprara et al., 1983; Felsten & Hill, 1999; Marshall & Brown, 2006).

Exposure to aggressive cues also makes aggressive individuals feel, think, and act more aggressively. Among people high in trait-aggression, violent content primes aggressive thoughts, feelings, and physiological responses that promote aggressive behavior (Anderson & Bushman 2001; Anderson & Bushman 2002b; Bushman 1995, 1996, 1998; Bushman & Geen 1990). In contrast, low-aggression individuals often find violent content off-putting. For them, aggressive cues can produce anxiety and repulsion (e.g. Anderson & Ford 1986; Bushman 1996; Carnagey et al. 2007; Moise-Titus 1999). These divergent reactions based on trait aggression are also found in recent work on the effect of violent political metaphors on violent political attitudes (Kalmoe 2014). Our focus is different, however, investigating support for non-violent policies at the center of partisan conflict and partisan issue polarization dynamics.

**Motivating Conflict & Compromise**

Violent metaphors imply conflict (Pitney 2000), a situation more aggressive citizens embrace and low-aggression citizens seek to avoid (Anderson & Bushman 2002). In interpersonal arguments, those who embrace conflict tend to take entrenched positions as they face antagonists. In contrast, low-aggression citizens seek to avoid and defuse conflict, often through conciliation and compromise (e.g. Kiewitz & Weaver 2001). We expect much the same
in the political domain: faced with violent metaphors, aggressive partisans will prepare for conflict by taking stronger, more distinct positions away from their political opponents, leading to partisan polarization. Low aggression citizens, in contrast, will take the opposite tack by compromising political loyalties and reducing partisan issue distinctiveness to avoid conflict.³

Beyond general orientations toward conflict, differential responses to violent metaphors may also be driven by different affective reactions to violent content. Entertainment violence tends to elicits enthusiasm while also cueing anger among high-aggression people, while lower-aggression citizens often react to violent content with anxiety and aversion (Anderson & Bushman 2001; Anderson & Ford 1986; Bushman 1995, 1996; 1998; Carnagey et al. 2007; Moise-Titus 1999). In politics, enthusiasm tends to reinforce the impact of predispositions while anxiety weakens them (Brader 2006; MacKuen et al. 2010; Marcus et al. 2000). Anger functions much like enthusiasm by reducing deliberation (Huddy et al. 2007) and increasing predisposition-based judgments on issues (Brader & Valentino 2007; MacKuen et al. 2010). In this case, amplifying the impact of partisan predispositions on issue attitudes would increase partisan polarization on those issues while weaker partisan influence would decrease partisan issue differences. Finally, anxiety and anger have differing effects on willingness to compromise, with anxiety promoting compromise and anger inhibiting it (MacKuen et al. 2010).⁴

As noted above, we focus on party identification, a stable individual-level predisposition central to public opinion formation and stability. Partisanship is perhaps the strongest and most reliable predictor of policy support across a wide range of issues. Although some sophisticated

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³ Mutz and Reeves (2005) identify individual differences in the narrower trait of conflict avoidance as a key moderator in response to televised incivility, with consequences for political trust.
⁴ Counter to our predictions, MacKuen and colleagues (2010) find more support for compromise when participant felt enthusiasm, but few participants reported the emotion. The researchers’ primary goal was to evoke anxiety and anger with stimulus materials.
citizens may use issue preferences to choose partisan affiliations (e.g. Franklin & Jackson 1983), partisanship more commonly serves to orient citizens toward opinion cues from trusted partisan leaders (e.g. Berinsky 2009; Druckman, Peterson, & Slothuus 2013; Zaller 1992).

These theoretical foundations suggest violent metaphors will polarize or moderate the issue attitudes of partisans depending on individual levels of trait aggression in audiences. Figure 1 illustrates these predictions.

**H1:** Republicans and Democrats with *more aggressive personalities* will exhibit *greater* partisan differentiation in issue attitudes when exposed to violent metaphors than those of their personality type not exposed to these metaphors.

**H2:** Republicans and Democrats with *less aggressive personalities* will exhibit *less* partisan differentiation in issue attitudes when exposed to violent metaphors than those of their personality type not exposed to these metaphors.

**Figure 1: Predictions for Violent Metaphors, Trait Aggression, and Partisan Polarization**

On the other hand, other lines of research might suggest we will find no effects at all. For example, Edwards’ (2003) assessment of presidential rhetoric finds few net shifts in opinion after appeals by U.S. presidents, casting doubt on the ability of even prominent leaders to shape public views. But the absence of *net effects* is not evidence of *no effects*. Our approach focuses on *conditional* communication effects like those found in classic studies on news priming (e.g.
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Iyengar & Kinder 1987), media-generated emotions on political judgment (e.g. Brader 2006), and advertising-based electoral persuasion (e.g. Zaller 1992). Conditional communication effects are important not just for academic understandings of political behavior; they also inform campaigns about opportunities for micro-targeting where net communication effects can appear.

Research Design: Two Experiments

To test the effects of violent metaphors on issue attitudes and party polarization, we conducted two online survey experiments with between-subjects designs in 2012 and 2013 with U.S. adult participants recruited through Amazon Mechanical Turk (MTurk). MTurk samples better reflect the national population than in-person convenience samples commonly used in political behavior experiments (Berinsky et al. 2012; Krupnikov & Levine 2014), though they fall short of national representativeness found in well-designed probability based samples (Krupnikov & Levine 2014). Like other MTurk samples, ours include substantial diversity in age, sex, race, education, income, and partisanship. Our inferential goals are primarily causal, but we also care about whether our results reflect more general patterns of behavior. Concerns about generalization for experiments are reduced when potential moderating variables of treatment effects found in the population are present in the samples, even if not in exact proportion (Druckman & Kam 2011; Shadish, Cook, & Campbell 2002). Thus, experimental effects estimated across sample types are often more similar than we might expect, though care is needed when making broader inferences (e.g. Berinsky et al. 2012; Krupnikov & Levine 2014).

To maximize external validity, experimental treatments in both studies used mild, common forms of violent metaphors seen or heard daily in political rhetoric. Our choice of

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This approach is methodologically conservative, reducing the chances we will find any significant effects since many participants will have recently been exposed to similar language if they attend to politics (Druckman et al. 2012).
online survey administration also improved generalizability by allowing participants to complete the survey at a time and place of their choosing. Thus, our respondents were exposed to treatments in the same contexts where they receive political messages through television, Internet, email, print news, and mailings.

In Study 1, treatments were embedded in question wordings across several policy domains. In Study 2, we focused on two broad political domains—spending and debt—and embedded treatments in two vignettes preceding the policy questions. Both studies began by measuring political and social predispositions: partisanship, group attitudes, and trait aggression, among others. After filler questions to separate previous measures from experimental manipulation, participants were randomly assigned to read different versions of the treatment texts coinciding with or followed by policy preference questions.\footnote{See Online Appendix for full question wording.}

\section*{Study 1}

\textbf{Method}

\textbf{Participants} Study 1 ran in September 2012 amidst that year’s election campaign with MTurk participants. 866 U.S. adults self-selected into the survey (514 men, 352 women; 5% black, 7% Hispanic, 79% non-Hispanic White; ages: 18 to 80 years). 45% of the sample was more than 30 years old. The four U.S. regions were represented in close proportion (range: 23\% to 28\%). 44\% of participants were college graduates, 43\% attended only some college, and 12\% ended with a high school degree.

\textbf{Measures \& Procedure} We recruited participants through the MTurk website for a Qualtrics online survey about current events in exchange for $0.40, with a median duration of 9
minutes. The computer-administered design encouraged more forthcoming answers to sensitive questions, including trait aggression (Galesic et al. 2006).

**Treatments**

To simulate real-world exposure to violent metaphors, we used random assignment to embed violent metaphors in the text of some policy preference questions for some participants. Questions were grouped in six issue blocks, covering the policy domains of living standards, social welfare, medical research, social equality, crime, and government debt. We randomized the order of issue blocks: for each issue block, respondents were randomly assigned to see text with violent metaphors or text with non-violent synonyms. While the effects of violent metaphors on policy attitudes were likely to be strongest within each issue block, we note that violent metaphor effects signaling conflict might bleed into subsequent blocks. Since our interest is in overall shifts across ideological dimensions of issue attitudes, we focus our analysis on the overall impact of violent metaphors on an index of issue attitudes across issue blocks. We expect these effects will become increasingly pronounced the more violent language participants read as aggressive cues become harder to miss. Thus, we operationalize exposure to violent metaphors as the number of violently worded blocks on a scale between 0 (no violent wording) and 1 (6 issue blocks with violent metaphors). 7

The treatment text for each study is presented in Appendix A. The key segments of question wording interchange words like “fight” and “effort,” (e.g. “As part of the war on/effort to eliminate poverty, should government spend more, spend less, or spend about the same on the

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7 This coding ultimately yields more conservative causal estimates: a participant may have a high score on the violent treatment variable based on later issue blocks even if encountering non-violent wording in the early blocks. This adds noise to the measure, which diminishes observed effects toward zero. Study 2 directly addresses this issue by recording the order of issue blocks and limiting them to two, enabling more precise measurement that replicates Study 1 results. Distribution of exposure to violent metaphors in Study 1: 0 violent blocks (5%), 1 violent block (9%), 2 violent (21%), 3 violent (32%), 4 violent, (24%) 5 violent (9%), 6 violent (1%).
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following programs?”). As this example illustrates, the mild text makes the experimental design a better reflection of natural political language, improving generalizability.

Measuring Trait Aggression

Trait aggression was measured with the Buss-Perry Aggression Questionnaire (BPAQ; Buss and Perry 1992). The BPAQ is the most widely utilized self-report measure in aggression research, with proven validity as a predictor of aggression and its antecedents in the lab and real life (see Bushman & Wells 1998), and as a moderator of media violence effects (e.g. Bushman 1995). The BPAQ short form (BPAQ-SF; 12 items) used here has excellent psychometric properties surpassing the original questionnaire for internal reliability, test-retest and over-time stability, and convergent and discriminant validity (Kalmoe 2015; Bryant and Smith 2001; Harris 1997). 8

Participants responded to twelve trait aggression statements presented in random order (see Appendix B). For each item, participants were asked to indicate whether the statement was true or false for them on a 6-point scale. The summed responses created reliable indices, which were rescaled from 0 to 1, with 1 being the most aggressive (Cronbach’s $\alpha = 0.82$, $M = .32$, $SD = .19$). Trait aggression measurement properties in Studies 1 and 2 are consistent with those in nationally representative samples (Kalmoe 2015), suggesting fairly representative samples here on this key measure. Histograms of trait aggression in both study samples are presented in Figure A3 of the Online Appendix.

Measuring Partisanship

8 Study 1 included the Ten Item Personality Index (TIPI) measuring the Big Five (see Gerber et al. 2010). Trait aggression negatively relates to all factors: agreeableness ($r=-.26$), emotional stability ($r=-.40$), extraversion ($r=-.11$), openness ($r=-.12$), and conscientiousness ($r=-.32$). Despite these moderate correlations, they covary no more than the theoretically independent factor-analyzed Big Five dimensions do with each other (range of $r$ from .23 to .49), demonstrating trait aggression’s distinctiveness.
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Partisan identification was measured with a single question with 7 choices ranging from “Strong Democrat” to “Strong Republican,” plus third party and don’t know options. The latter two were excluded from analysis. The scale was coded between -1 (Strong Democrat) and +1 (Strong Republican) \((M = -.28, SD = .53)\). The sample tilts toward Democrats (65%) but includes sufficient Republicans for our purposes (20%). For comparison, the nationally-representative 2012 American National Election Study had 48% Democrat and 41% Republican \((M = -.08, SD = .66)\).\(^9\) The correlation between trait aggression and partisanship in our sample is weak \((r = -.07)\), suggesting orthogonality.

Measuring Issue Attitudes

To measure a broad set of issue attitudes, we fielded 13 items across the domains described above, covering government job guarantees; government health insurance provision; spending items on job training, welfare, and food stamps; support for same sex marriage; racial affirmative action in jobs; Spanish language election ballots; crime spending and the death penalty; reducing government services; spending less on the military; and raising taxes.\(^10\) All questions had 5-point response scales and included “don’t know” options, which are initially treated as missing. These items were summed into a reliable index of issue conservatism, ranging from 0 (most liberal) to 1 (most conservative) \((\text{Cronbach’s } \alpha = .85, M = .43, SD = .20)\).

Results

To test the effects of violent metaphors on issue attitudes and partisan polarization, we estimate an OLS regression model predicting the index of issue conservatism with exposure to

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\(^9\) Face-to-face sample, includes partisan leaners, weights adjust for racial/ethnic oversamples.

\(^10\) Items on health research spending were excluded from analysis because, unlike the other policies, they fall mostly outside the range of partisan conflict. The violent or non-violent block wording for that issue block is included in the overall violent metaphor exposure measure because effects are expected to bleed across issue blocks as violent metaphors are used more or less frequently.
violent metaphors, the trait aggression index, partisanship, and all 2- and 3-way interactions between them. The left column in Table I presents the results.11

Table I: Violent Metaphors, Aggressive Partisanship, & Support for Issue Conservatism

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<thead>
<tr>
<th></th>
<th>Study 1</th>
<th>Study 2</th>
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<td>Issue Conservatism</td>
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* $p < .05$, ^ $p < .10$, two-sided t-tests.

Note: OLS models for issue conservatism index (0 to 1). “Violent Metaphors” in Study 1 represents the effect of randomized exposure to between 0 and 6 messages with violent language (0 to 1). In Study 2, it represents randomized effect of exposure to zero, one, or two messages with violent language (0, .5, 1). Study 2 includes a control condition with no messages, combined here with the non-violent message condition because they are indistinguishable. Results are virtually identical comparing only violent and non-violent conditions. * $p < .05$, ^ $p < .10$, two-sided t-tests.

11 A bivariate OLS test for net treatment effects was null ($b=-.01$, s.e.=.03, $p=.87$, $n=875$). Estimates for individual items appear in the Online Appendix.
The results clearly show that randomized exposure to violent metaphors and trait aggression moderate the size of the partisan gap in issue attitudes, as evidenced by significant interactions involving the treatment variable, trait aggression, and partisanship. But do these results support the hypotheses?

Given the difficulty of interpreting two- and three-way interaction models, these polarization tests are more comprehensible in graphical form. We present the marginal effects of violent metaphors from this model in the top panel of Figure 2, based on adaptations of code published by Brambor, Clark, and Golder (2006). The y-axis indicates the marginal effects of violent metaphors on issue polarization between strong partisans across levels of trait aggression (x-axis). In other words, this estimate indicates whether the average issue gap between Republicans and Democrats is growing (positive values) or shrinking (negative values) at varying levels of trait aggression as a consequence of violent metaphor exposure. The dashed lines indicate 95% confidence intervals.

Hypothesis 1 predicted increasing policy differences among high-aggression partisans exposed to violent metaphors, and Hypothesis 2 predicted decreasing partisan differences in policy attitudes among low-aggression partisans exposed to violent metaphors.

As predicted, exposure to violent metaphors significantly increased the average issue distance between Democrats and Republicans who score high on trait aggression, supporting Hypothesis 1. Simultaneously, the same language decreased partisan issue differentiation among those low in trait aggression, supporting Hypothesis 2. The effect sizes in each direction are large and regions of statistical significance are within the distribution of trait aggression in the sample.
Figure 2: Marginal Effects of Violent Metaphors on Partisan Issue Polarization

Study 1: Partisan Issue Polarization

![Graph showing marginal effects of violent metaphors on partisan issue polarization in Study 1.](image1)

Study 2: Partisan Issue Polarization

![Graph showing marginal effects of violent metaphors on partisan issue polarization in Study 2.](image2)

*Note:* Figure shows results from Table I. Y-axis indicates marginal effect of violent metaphors on the average issue index distance between strong Republicans and Strong Democrats at each level of trait aggression (x-axis). Dashed lines represent 95% confidence intervals.
The left panel of Figure A1 in the Online Appendix, calculated from Table 1, shows the marginal effects of violent metaphors on issue conservatism for strong Democrats and strong Republicans, distinguishing the two moving ends involved in polarization shifts. Republicans and Democrats show the same directional responses to violent metaphors at varying levels of trait aggression. However, Republicans may have responded more strongly, indicating a possible asymmetry in these dynamics, though the differences are not statistically significant.

In sum, both hypotheses find support in Study 1. Mild violent metaphors dramatically increase partisan differentiation on issues among aggressive citizens while simultaneously decreasing partisan issue differences among low-aggression citizens. Thus, the null net effect of violent metaphors on issue attitudes actually hides substantial countervailing effects that depend entirely on audience personality traits and political predispositions for their direction.

Study 2

Study 2 replicates and extends these tests with results that, when combined with Study 1, add confidence in observed violent metaphor effects. We also simplify the design with just two issue blocks, account for order in measuring violent metaphor exposure, and introduce a pure control condition for comparison to violent and non-violent treatments. Together, these design changes clarify our estimates of causal effects. Additionally, we change the nature of our treatments from question-wording differences to brief vignettes that more closely reflect the form in which citizens encounter violent metaphors in print (e.g. newspapers, campaign literature) and online (e.g. news websites, political websites), improving generalizability of inferences.

Method

Participants Study 2 was fielded online with 787 self-selected U.S. adults recruited through Amazon Mechanical Turk between mid-February and mid-March of 2013 (436 men,
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351 women; 8% black, 4% Hispanic, 72% white; ages: 18 to 80 years). Median age was 30 to 39. 51% were college grads, 38% had some college, and 11% were high school grads. U.S. regions in the West, Northeast, and Midwest were evenly represented around 23%, and the South had 32%.

Measures & Procedure Procedures were identical to Study 1. MTurk participants again completed a 9-minute Qualtrics survey online about current events in exchange for $0.40.

Treatments
In Study 2, we reduced the number of issue blocks to two—government spending and debt reduction—while retaining the same broad coverage of issues. Treatments were operationalized as issue-block relevant advocacy paragraphs using violent or non-violent language, presented before each set of policy questions. The order of issue blocks was randomized and recorded. In addition to violent metaphors and non-violent synonyms, we included a third condition with no introductory paragraphs before question blocks.

We randomized participants into the control condition (21%) or into one of two vignette conditions (79%). For those in vignette conditions, we randomized exposure to violent non-violent synonyms for each block. 40% of all participants had violent metaphors in the spending block, 45% in the debt block. Vignettes are presented in Appendix A. The two spending vignette versions emphasized how spending on government programs enhance opportunity and achievement for everyone, while the two debt vignette versions emphasized the burdens of deficits and debt on future generations. For example, the debt policy vignette read as follows, with interchanged words in bold: “We're fighting/facing a real battle/challenge with the national debt. America's budget deficit is out of control. For the sake of our children, who will inherit this debt, we need to fight/work harder than ever to balance the nation's taxes and its
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spending.” This mild language reflects real-world rhetoric by avoiding extreme statements that could distort effects. The text format also lacks the power of a passionate delivery, providing more experimental control and potentially muting effects (Chaiken & Eagly 1983).

We operationalized violent metaphor exposure in two ways. For the analysis of general issue conservatism across both blocks, we totaled the number of vignettes viewed with violent metaphors (0, 1, or 2), recoded as 0, .5, and 1. As in Study 1, this coding understates the effects of violent metaphors for respondents who viewed non-violent language in the first block and violent language in the second. To account for this, we utilized a second coding scheme: analyzing issue responses to the two blocks separately and discounting second block treatments for analysis of the first block: the absence of violent metaphors in the first block is coded 0, and the presence of violent metaphors in the first block is coded .5. For the second block, violent metaphors are coded 0, .5, or 1 depending on the language seen in the first and second blocks.

We tested whether the control condition and its interactions with trait aggression and predispositions differed from the non-violent vignette condition, and there were no notable differences. Therefore, we combine control condition participants with those who saw both non-violent vignettes. Doing so does not change estimated relationships or statistical significance.

Measuring Partisanship, Trait Aggression, & Issue Attitudes

Partisanship and trait aggression were measured with the same items and coding as Study 1 (Partisanship range: -1 to +1, \( M=-.22, SD=.56 \); Trait Aggression range: 0 to 1, Cronbach’s \( \alpha=0.89, M=.32, SD=.19 \)). As with Study 1, the sample includes more Democrats (59%) than
Republicans (26%) but exhibits sufficient variation for our purposes. The correlation between trait aggression and partisanship was once again weak ($r = -0.03$).\footnote{Study 2 also included the Ten Item Personality Index (TIPI). Trait aggression negatively relates to all factors: agreeableness ($r = -0.22$), emotional stability ($r = -0.35$), extraversion ($r = -0.08$), openness ($r = -0.05$), and conscientiousness ($r = -0.22$). As in Study 1, these correlations are smaller than those for the independent Big Five dimensions (range of $r$ from 0.21 to 0.58), demonstrating trait aggression’s distinctiveness.}

We fielded 15 policy questions broadly covering contested issues that divide partisans, including government spending enhancing opportunities through job training, food stamps, public education, college financial aid, crime, and childcare. Items in the debt block included reducing government services in general; reducing military spending; reducing aid to the elderly; reducing aid to the poor; and increasing taxes on the wealthy, on the middle class, and on working class people. All questions had 5-point response scales and included “don’t know” options, treated as missing. These items were summed in an additive 0 to 1 issue conservatism index ($\alpha = 0.86, M = 0.37, SD = 0.13$). We also created separate 0 to 1 additive indices for the spending block ($\alpha = 0.86, M = 0.37, SD = 0.13$) and the debt block ($\alpha = 0.65, M = 0.38, SD = 0.21$).

**Results**

With the enhanced design, we begin with violent metaphor effects for the spending and debt blocks individually before presenting the results for the two blocks combined. We estimate OLS models predicting issue conservatism in the spending and debt blocks as a function of total exposure to violent metaphors before the block, trait aggression, partisanship, and all interactions between them. The columns of Table II present the results.\footnote{OLS tests for net treatment effects were null (Spending: $b = 0.02$, s.e. = 0.02, $p = 0.28$; Debt: $b = 0.02$, s.e. = 0.02, $p = 0.34$).}

As in Study 1, we find significant interactions and turn to marginal effects plots to clearly see the key hypothesis tests. Figure 3 displays marginal treatment effects for the issue blocks
estimated in Table II. The top panel shows the estimates for the spending block, and the bottom panel shows results for the debt block.

**Table II: Study 2 Violent Metaphors, Aggression, Partisanship, & Issue Blocks**

<table>
<thead>
<tr>
<th></th>
<th>Study 2</th>
<th>Study 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Spending Block:</td>
<td>Debt Block:</td>
</tr>
<tr>
<td></td>
<td>Issue Conservatism</td>
<td>Issue Conservatism</td>
</tr>
<tr>
<td>Violent Metaphors</td>
<td>.01</td>
<td>-.09*</td>
</tr>
<tr>
<td></td>
<td>(.04)</td>
<td>(.04)</td>
</tr>
<tr>
<td>Trait Aggression</td>
<td>-.03</td>
<td>-.03</td>
</tr>
<tr>
<td></td>
<td>(.05)</td>
<td>(.05)</td>
</tr>
<tr>
<td>Partisanship</td>
<td>.19*</td>
<td>.23*</td>
</tr>
<tr>
<td></td>
<td>(.03)</td>
<td>(.03)</td>
</tr>
<tr>
<td>Trait Aggression*</td>
<td>-.08</td>
<td>-.08</td>
</tr>
<tr>
<td>Partisanship</td>
<td>(.08)</td>
<td>(.08)</td>
</tr>
<tr>
<td>Violent Metaphors*</td>
<td>.02</td>
<td>.20*</td>
</tr>
<tr>
<td>Trait Aggression*</td>
<td>(.11)</td>
<td>(.10)</td>
</tr>
<tr>
<td>Partisanship</td>
<td>-.19*</td>
<td>-.13*</td>
</tr>
<tr>
<td></td>
<td>(.07)</td>
<td>(.06)</td>
</tr>
<tr>
<td>Violent Metaphors*</td>
<td>.46*</td>
<td>.28^</td>
</tr>
<tr>
<td>Trait Aggression*</td>
<td>(.18)</td>
<td>(.17)</td>
</tr>
<tr>
<td>Partisanship</td>
<td>.45*</td>
<td>.44*</td>
</tr>
<tr>
<td></td>
<td>(.02)</td>
<td>(.02)</td>
</tr>
<tr>
<td>Constant</td>
<td>.45*</td>
<td>.44*</td>
</tr>
<tr>
<td></td>
<td>(.02)</td>
<td>(.02)</td>
</tr>
</tbody>
</table>

\[ R^2 \]

|        | 758 | 757 |

**Note:** OLS models for issue conservatism index (0 to 1). “Violent Metaphors” represents the effect of randomized exposure to zero, one, or two messages with violent language (0, .5, 1). Study 2 includes a control condition with no messages, combined here with the non-violent message condition because they are indistinguishable. Results are virtually identical comparing only violent and non-violent conditions. *p < .05, ^p < .10, two-sided t-tests.
Figure 3: Marginal Effects of Violent Metaphors on Partisan Issue Polarization

Study 2: Spending Block Issues & Treatments

Study 2: Debt Block Issues & Treatments

Note: Figure shows results from Table II. For each issue block, y-axis indicates marginal effect of violent metaphors on the average issue index distance between strong Republicans and Strong Democrats at each level of trait aggression (x-axis). Dashed lines represent 95% confidence intervals.
Violent metaphors in Study 2 substantially increased average issue distances between aggressive partisans but reduced those differences among low-aggression partisans. These countervailing patterns are clear in both blocks, with especially strong results for spending. Estimates for the debt block are smaller and, while significant at conventional levels for low trait aggression levels ($p<.05$, two-sided), do not yield $p$-values accepted as evidence by this journal at high levels of aggression ($p<.10$). Figure A2 in the Online Appendix presents marginal treatment effects on issue conservatism separately for strong partisans, providing additional evidence of asymmetry in responsiveness between Democrats and Republicans that falls short of statistical significance. Republicans respond to violent metaphors with equally strong point-estimates in the debt and spending blocks. Democrats, in contrast, respond strongly to violent metaphors in the spending block but not at all in the debt block.

In short, results for both issue blocks reveal the same patterns observed in Study 1: violent metaphors increased partisan polarization among aggressive citizens, but the language significantly reduced the issue gap for low-aggression partisans. Study 2 provides a strong conceptual replication of patterns found in Study 1 utilizing different treatment forms (i.e. vignettes vs. question wording) and streamlining the design (i.e. 2 blocks vs. 6 blocks) with more reliable measures of violent metaphor exposure accounting for block order.

**Additional Comparison to Study 1**

The issue block tests provide the most precise estimates of violent metaphor effects. However, for greater comparability to Study 1, we estimate a model of issue conservatism combining items across blocks, though this approach replicates Study 1 inefficiencies by not accounting for block order. The results are presented in the right column of Table I, aligning with previous estimates: large, directionally-consistent, and statistically significant coefficients.
Aggressive Cues & Partisan Views

The right-side panel in Figure 2 displays the marginal effects of violent metaphors on the polarization measure across both blocks in Study 2. The results are consistent with those from Study 1. Violent metaphors significantly increase average issue differences between Republicans and Democrats with high trait aggression while decreasing partisan issue polarization among low-aggression individuals. The right-side panel of Figure A1 in the Online Appendix shows marginal treatment effects on issue conservatism separately for Democrats and Republicans. Both partisan types respond in directionally the same ways to violent metaphors, consistent with hypotheses, but Republicans are non-significantly more responsive than Democrats.

Discussion

Our empirical tests confirm that violent metaphors shape partisan issue polarization by shifting the political context in which policy preferences are expressed, and that these diverging patterns of polarization and moderation are directed by trait aggression. Both experiments provide clear evidence that when aggressive citizens express more polarized policy views when they encounter violent policy metaphors. In contrast, low-aggression people take more moderate positions that decrease the distance between partisans when exposed to violent language. These distinctive responses suggest a strategic approach to interpersonal and political conflict in which extreme views fuel hostilities while conciliatory moderation facilitates compromise.

These results raise new questions, and more work is needed to answer them. In these studies, we could not directly identify the whether metaphor effects reflect real attitude change or strategic expression. People express moderate positions to defuse conflict or state more extreme views to encourage conflict for its own sake. We see expressive change as less plausible in our studies, for although survey interviews are governed by conversational norms (Converse & Schuman 1974), this applies least to computer-based surveys with no human interaction.
Aggressive Cues & Partisan Views

Participants have been anticipating future interpersonal conflict over the issue, or felt themselves engaged in a kind of conversation despite the anonymity and lack of direct communication, but opinion change provides a simpler explanation. Even so, a direct test of the alternative seems warranted in subsequent studies.

The mechanisms behind these effects are also worthy of further study. Neither study included a direct measure of whether violent metaphors work through cognitive or emotional processes, or a combination of both. Although our assumptions regarding psychological mechanisms are well supported in the previous scholarship, and while our results are consistent with those predicted dynamics, direct tests may still be helpful to confirm the precise causal processes at work. Regardless, the studies do provide clear, replicated causal evidence of violent metaphor effects on partisan polarization, conditioned by trait aggression.

Additional tests could also confirm or refute the suggestive patterns indicating greater polarization effects from violent metaphors among Republicans. The broader discussion about polarization often focuses on which party is more to blame for the increasing distance between them. DW-NOMINATE scores and anecdotal accounts indicate Republicans in Congress have become more extreme more rapidly in recent decades than Democrats (Mann & Ornstein 2012; Poole 2015), but not all ideology measures agree on this point.

Real-World Effects

Mild violent metaphors of this kind are common (but not constant) in political communication, increasing the real-world implications of these effects. Violent metaphors are read and heard in political ads and speeches, in news coverage about politics, and in the everyday language of ordinary citizens. They appear during election campaigns and in routine governance, and they are applied to almost every issue in politics. Here we framed the rhetoric around the
issues of government spending and debt that are fundamental to political debates everywhere, and we tested the effects of that language across more than a dozen important policy issues.

The present studies cannot clarify whether observed polarization effects are limited to violent metaphors framed around specific policy areas, or if the effects also arise in non-policy contexts. Basic aggression priming mechanisms might suggest a broader set of stimuli, but we suspect the processes here could be more focused than that. On the other hand, we found similar effects across two different types of treatment texts (i.e. vignettes & question-wording), suggesting effects that generalize to political texts in more natural argumentative forms.

The sizable, significant violent metaphor effects are especially striking given the mild treatments, but also because trait aggression is measured shortly before exposure. If aggression is inadvertently primed by asking trait aggression questions before the non-violent conditions, the estimates here *understate* the power of violent metaphors. On the other hand, policy attitudes were measured a few minutes after treatment when effects would presumably be strongest. Although these studies do not test the duration of effects, most research on communication effects suggests short-term influence (Chong and Druckman 2010; Gerber et al. 2011). In any case, the regular use of violent metaphors in politics makes recurring effects likely.

One takeaway from these studies is the important distinction between null net effects and strong countervailing effects conditioned by personality differences. By limiting the audience that receives a message to those who are known to respond favorably, political strategists can manufacture net shifts in opinion that would otherwise be canceled by heterogeneous effects in broader audiences. Some leaders may already intuit these dynamics. Since representative surveys show trait aggression tends to be greater among young adults, men, and people low in socioeconomic status (Kalmoe 2015), violent metaphors would be more useful among fellow
partisans in a steelworker’s union hall than at a retirement home in Boca Raton. Our findings also show that even conventional political message styles can be counter-productive when used with the wrong audience.

Future research on the use of violent metaphors in politics might usefully explore whether leaders and citizens who use the language have more aggressive personalities. And, given the polarizing effects of the language, we might expect people using violent metaphors to have more extreme policy positions, less willingness to compromise, and perhaps greater hostility toward political opponents. In this vein, Suhay and colleagues (2014) find greater levels of issue polarization among blog commentators who use uncivil language, and growing partisan issue polarization has been accompanied by growing hostility toward the other party (Iyengar, Sood, & Lelkes 2012; Pew 2014). Conceivably, exposure to violent metaphors could even influence the behavior of political elites as they engage in conflict and compromise within government. These questions remain unanswered for now.

**Conclusion**

Utilizing two large survey experiments with diverse participants and realistic language, we tested whether violent metaphors shape partisan position-taking. We predicted these cues would increase partisan polarization among aggressive citizens while decreasing partisan differences among low-aggression citizens. As expected, violent metaphors increased partisan issue differences among aggressive partisans, leading to greater partisan polarization. In contrast, violent metaphors reduced issue gaps between low-aggression partisans, pulling views away from their political camps. These dynamics show the situational contingency of partisan polarization and identify individual-level factors shaping polarization beyond opinion leadership.
This work builds on recent scholarship exploring conditions under which partisans gravitate toward conflict or compromise (e.g. MacKuen et al. 2010), conditional responses to conflict (Mutz & Reeves 2005), and metaphor effects on policy attitudes (Bougher 2012; Hartman 2012; Johnson and Taylor 1981; Lau and Schlesinger 2005; Schlesinger and Lau, 2000; Shimko 1994). The contingent, countervailing effects of violent metaphors here show the value of considering interactions between situational factors and individual traits to find dynamics that are invisible in studies of either factor in isolation. In the real world, citizens approach politics as flexible actors sensitive to changes in the political environment, including signs of conflict, and they respond to contextual changes in ways befitting their personality traits.

These findings also speak to the normative challenges violent metaphors and aggression pose for the politics of conflict and compromise among leaders and citizens. But whether or not compromise is reasonable or insensible is probably a matter of perspective. After all, one partisan’s intransigence is another’s principled stand, and pragmatic compromise can easily resemble spineless concession. The same might be said for violent language itself and the influence of aggression on political behavior since even combative politics can sometimes serve democratic goals (MacKuen et al. 2007).

Aggression’s role in politics may not be especially surprising given the political vitriol we often witness. Aggression is a fundamental component of human behavior (Wilson 2002), so it makes sense that individual-level aggression processes would also guide some forms of political judgment. Anger, the affective component of aggression, influences policy attitudes related to violence (e.g. Huddy et al. 2007), and past studies have found aggression dynamics in undemocratic violent political attitudes (Kalmoe 2013, 2014).
But other recent research reveals aggression as a force behind non-violent political attitudes, including the reinforcing role of anger in political judgment (Brader & Valentino 2007; Huddy et al. 2007; MacKuen et al. 2010) and how the physical body needed to forcibly assert self-interest in pre-modern society shapes today’s political attitudes (Petersen et al. 2013). Like those studies, the relationships found here between violent metaphors, aggressive traits, and partisan issue polarization reveal aggression’s hidden power in non-violent public opinion. In so doing, this work extends our view of how deeply aggression is interwoven into human behavior and its expressions through politics.

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Aggressive Cues & Partisan Views


Aggressive Cues & Partisan Views


Aggressive Cues & Partisan Views


Appendix A: Experimental Treatments & Policy Items

Key violent/non-violent wording is bolded to indicate differences across the treatments.

<table>
<thead>
<tr>
<th>Study 1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Disease block:</strong></td>
</tr>
<tr>
<td>As part of the battle/effort to prevent deadly diseases, should government spending on the following programs be increased, decreased, or kept about the same?</td>
</tr>
<tr>
<td>Cancer research</td>
</tr>
<tr>
<td>HIV/AIDS research</td>
</tr>
<tr>
<td>Heart disease research</td>
</tr>
</tbody>
</table>

| **Living Standards block:** |
| As part of the fight/effort to ensure all Americans have a decent standard of living, should government see to it that every person has a job, or should government just let each person get ahead on their own? |
| As part of this fight/effort, should government provide an insurance plan to cover medical expenses for everyone, or should medical expenses be paid by individuals on their own through private insurance or out of pocket? |

| **Social Welfare block:** |
| As part of the war on/effort to eliminate poverty, should government spend more, spend less, or spend about the same on the following programs? |
| Job training programs |
| Welfare |
| Food stamps |

| **Equality block:** |
| As part of the fight for/effort to achieve equality, do you favor or oppose the following policies? |
| Same sex marriage |
| Affirmative action; Preferences for blacks in jobs |
| Print elect ballots in Spanish and other languages where needed |

| **Crime block:** |
| As part of the war on/effort to prevent crime, do you favor the death penalty for persons convicted of murder, or do you favor life imprisonment without parole? |
| As part of the war on crime, should government spend more to fight/prevent crime, spend less, or spend about the same? |

| **Debt block:** |
| In the battle against/effort to reduce government deficits and debt, would you favor or oppose lowering the budget deficit with each of these policies? |
| Spending less on government services like health and education |
| Spending less on the military |
| Raising taxes |
Study 2

Spending block:
Read the following excerpt from a recent political speech, then answer the questions that follow.

“The American people are really fighting/struggling to stay afloat, and not all can do it on their own. We need to invest in a wide range of programs to ensure that everyone has a fair shot/chance at the American Dream. We need to fight/owe it to them, our friends, our neighbors. We need to fight/work side-by-side so that all Americans can join in the pursuit of happiness.”

Debt block:
“We're fighting/facing a real battle/challenge with the national debt. America's budget deficit is out of control. For the sake of our children, who will inherit this debt, we need to fight/work harder than ever to balance the nation's taxes and its spending.”

Appendix B: Trait Aggression Question Wording (BPAQ-SF; Bryant & Smith 2001)

For each of the following statements, indicate whether the statement is true or false for you.

[Statement order randomized]

1. There are people who have pushed me so far that we have come to blows. [Physical]
2. Given enough provocation, I may hit a person. [Physical]
3. I have threatened people I know. [Physical]
4. I often find myself disagreeing with people. [Verbal]
5. I can’t help getting into arguments when people disagree with me. [Verbal]
6. My friends say I’m somewhat argumentative. [Verbal]
7. I have trouble controlling my temper. [Anger]
8. Sometimes I fly off the handle for no good reason. [Anger]
9. I flare up quickly but get over it quickly. [Anger]
10. At times I feel I have gotten a raw deal out of life. [Hostility]
11. Other people always seem to get the breaks. [Hostility]
12. I wonder why sometimes I feel so bitter about things. [Hostility]

Response scale: Completely true for me, Mostly true for me, Slightly true for me, Slightly false for me, Mostly false for me, Completely false for me