

## Are Misinformation, Anti-scientific Claims, and Conspiracy Theories for Political Extremists?

Forthcoming at *Group Processes & Intergroup Relations* special issue on Misinformation

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**Abstract:** Extremist political groups, especially “extreme” Republicans and conservatives, are increasingly charged with believing misinformation, anti-scientific claims, and conspiracy theories to a greater extent than moderates and those on the political left by both a burgeoning scholarly literature and popular press accounts. However, previous investigations of the relationship between political orientations and alternative beliefs have been limited in their operationalization of both those beliefs and political extremity. We build on existing literature by examining the relationships between partisan and non-partisan conspiracy beliefs and symbolic and operational forms of political extremity. Using two large, nationally-representative samples of Americans, we find that ideological extremity predicts alternative beliefs only when the beliefs in question are partisan in nature and the measure of ideology is identity-based. Moreover, we find that operational ideological extremism is *negatively* related to non-partisan conspiracy beliefs. Our findings help reconcile discrepant findings regarding the relationship between political orientations and conspiracy beliefs.

**Keywords:** anti-science, alternative facts, misinformation, conspiracy theories, ideology

**Word count:** 7,289 (minus references, cover page, and tables/figures)

Since beliefs in many dubious ideas lead to negative medical, social, and political outcomes (Jolley, Douglas, Leite, & Schrader, 2019; Oliver & Wood, 2014b; van der Linden, 2015), understanding beliefs in misinformation, anti-scientific claims, and conspiracy theories has become a critical area of study for researchers (Douglas et al., 2019; Flynn, Nyhan, & Reifler, 2017; Lazer et al., 2018). Effectively curtailing the spread and impact of dubious ideas requires an understanding of who is most likely to believe such claims, for what reasons, and through what mechanisms. Thus, an expanding facet of this research involves investigating which political groups – especially liberals and conservatives, extremists and moderates – are most likely to believe in unsubstantiated claims and alternative facts (Furnham, 2013; McCright, Dunlap, & Xiao, 2014; Nisbet, Cooper, & Garrett, 2015; Pasek, Stark, Krosnick, & Tompson, 2014; Rutjens, Sutton, & Lee, 2018; Sutton & Douglas, 2020; van der Linden, Panagopoulos, Azevedo, & Jost, 2020). Yet, despite the recent attention scholars have paid to these questions, it remains a point of contention whether “political extremists” are more prone to misinformation, anti-scientific claims, and conspiracy theories than political moderates.

In this article, we address inconsistencies in the literature by examining, categorizing, and expanding how researchers operationalize key constructs. Most importantly, we consider what “political extremism” theoretically entails and how it might be operationalized. We then reassess how beliefs in conspiracy theories and other dubious ideas are operationalized and, in so doing, argue for a distinction between partisan/ideological and non-partisan/ideological beliefs. By comparing results involving the various measures of key constructs, we empirically demonstrate how decisions about operationalization affect findings regarding the relationship between alternative beliefs and political orientations, as well as the theoretical implications of such findings. Our analyses offer a more complete understanding of which of several key theoretical

elements of public opinion best account for dubious beliefs, and through what potential mechanisms.

### **Political Orientations and Beliefs in Dubious Ideas**

While the question of which political groups are more prone to believe misinformation, anti-scientific claims, and conspiracy theories is generally important across political and cultural contexts, there is a particular disjunction in the literature pertaining to United States. Indeed, a long-standing assumption dating back to at least the 1960s holds that conservatives, and “far-right” groups in particular, are more likely to believe dubious claims than liberals and moderates (Hofstadter, 1964). More recent studies find support for this notion (e.g., van der Linden et al., 2020). For example, Republicans and conservatives are more likely than Democrats, liberals, or independents to believe that Barack Obama was foreign-born (Enders, Smallpage, & Lupton, 2018) or Muslim (Hartman & Newmark, 2012), and that climate change is a hoax (Uscinski, Douglas, & Lewandowsky, 2017).

Additionally, many scholars have been troubled by the potential for political extremists, particularly extremists on the right, to serve as engines for unsupported beliefs (Bartlett & Miller, 2010; Lipset & Raab, 1978; Wood & Gray, 2019). Analyzing survey data collected in the late-1950s, McCloskey and Chong (1985) find that the extremes of both sides of the ideological divide harbor more unsubstantiated beliefs than moderates, usually in the form of accusations about the misdeeds of salient out-groups. This pattern has since been replicated numerous times with respect to a wide variety of politically-motivated beliefs (e.g., Claassen & Ensley, 2016). More germane to the immediate investigation, recent work finds that political extremists in the United States are more likely than moderates, and extreme conservatives are more likely than

extreme liberals, to believe conspiracy theories (van Prooijen, Krouwel, & Pollet, 2015); this results in a curvilinear, U-shaped relationship between conspiracy beliefs and political identities that oftentimes proves slightly stronger among conservatives (see also Krouwel, Kutiyski, van Prooijen, Martinsson, & Markstedt, 2017). This idea – that political extremists, especially conservative ones, are more likely to believe conspiracy theories – finds support in numerous studies and is, therefore, generally accepted (Douglas et al., 2019; Imhoff, Dieterle, & Lamberty, 2020; Sutton & Douglas, 2020; van Prooijen & Krouwel, 2019).

Of course, these patterns are far from universal – others fail to find evidence that conservatives, extremists, or conservative extremists are more likely to believe misinformation, anti-scientific claims, and conspiracy theories. For example, some studies find that those on the political left and right are equally likely to believe in conspiracy theories (Oliver & Wood, 2014a), with polls revealing equal levels of beliefs among these groups when it comes to conspiracy theories about fluoridated water (Jenson, 2013), Freemasons (Smallpage, Enders, & Uscinski, 2017), faked moon landings (Jenson, 2013), voter fraud (Edelson, Alduncin, Krewson, Sieja, & Uscinski, 2017), and the Zika virus (Klofstad, Uscinski, Connolly, & West, 2019), to name a few. Others have identified conspiracy theories and other anti-science claims that find more support on the political left than the right, including theories that malign corporations and the rich (Furnham, 2013; Uscinski & Parent, 2014) and claims about the power of fortune telling and astrology (Ingraham, 2014). Importantly, several studies report that conspiracy thinking – the predisposition to interpret major events and salient circumstances as the product of conspiracies – equally afflicts those on the political left and right and is not concentrated among

partisan or ideological extremists (Enders et al., 2018; Uscinski, Klofstad, & Atkinson, 2016; Uscinski & Parent, 2014).<sup>1</sup>

### **Operationalizing Beliefs in Dubious Ideas**

Our contention is that discrepancies in the aforementioned body of work may stem from researcher choices about the operationalization of beliefs in conspiracy theories and other dubious claims. If the dubious beliefs employed in studies speak to partisan/ideological issues or objects (i.e., theories that malign salient out-groups or champion in-groups), then those beliefs will naturally find stronger support among some groups relative to others because of motivated reasoning, for example (Kunda, 1990; Lodge & Taber, 2013). Motivated reasoning can drive people to condemn the (real or imagined) behavior of outgroups, while at the same time leading them to excuse similar behaviors within their own ingroups (Arieli, Amit, & Mentser, 2019; Claassen & Ensley, 2016). This type of reasoning can subsequently lead to beliefs in conspiracy theories that accuse political outgroups of wrongdoing (Hartman & Newmark, 2012; Miller, Saunders, & Farhart, 2016). Motivated reasoning can also prompt people to reject factual information (i.e. scientific findings) or to accept misinformation when that information contradicts ideological beliefs or core values (Kahan, Jenkins-Smith, & Braman, 2011; Lewandowsky & Oberauer, 2016; Pasek, 2017).<sup>2</sup>

Biases, such as motivated reasoning, that can promote group-based asymmetries in beliefs appear to afflict people on the left and right to roughly equal degrees (Clark, Liu,

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<sup>1</sup> We note that some studies find that conspiracy thinking is more prevalent on the right (van der Linden et al., 2020), while others find that it is more prevalent on the left (Marietta & Barker, 2018).

<sup>2</sup> Beyond motivated reasoning, numerous other psychological biases relate to beliefs in conspiracy theories and misinformation, such as intentionality bias (Brotherton & French, 2015), biases in information assimilation (McHoskey, 1995), and racial biases (Pasek et al., 2014). See Douglas et al. (2019) and Douglas, Sutton, & Cichocka (2017) for a succinct listing of the cognitive, personality, and other biases that affect beliefs in conspiracy theories and misinformation.

Winegard, & Ditto, 2019; Ditto et al., 2017; Frimer, Skitka, & Motyl, 2017; Lodge & Taber, 2013; Nisbet et al., 2015). This means that, theoretically, conspiracy theories or misinformed beliefs that address partisan/ideological objects should appeal more to some groups than others, and therefore provide biased window into who believes in conspiracy theories and misinformation more generally.

That said, Krouwel et al. (2017) theorize that the connection between ideological extremism and beliefs in misinformation, anti-scientific claims, and conspiracy theories is likely due to the propensity of extremists to reduce psychological distress by simplifying the world in stark, black and white terms. Van Prooijen and Krouwel (2019) further discuss out-group intolerance as a hallmark of extreme ideologies. These ideas imply that extremists should be more susceptible to dubious claims that malign despised out-groups and champion the in-group. In other words, the presence of some relevant group-based component to the dubious ideas in question is central to the attractiveness of such ideas in the eyes of political extremists. Partisan elites, such as those in government (i.e., Congresspeople, the President) and in the media (i.e., radio and television talk show hosts such as Rush Limbaugh) can foster this connection between dubious claims and political in- and out-groups via “cues” embedded in communications to likeminded members of the mass public (Guber, 2013; Merkley & Stecula, 2018; Saunders, 2017; Zaller, 1992). Elite cues include position-taking, official statements, and other claims made publicly (e.g., Jones & Brewer, 2020); a robust literature demonstrates that elite cues influence the opinions of attentive co-partisans in the public (e.g., Berinsky, 2009; Zaller, 1992). This “top down” communication strategy effectively politicizes dubious ideas, thereby making them more attractive to some political groups (e.g., those groups aligned with the elites sharing the cues) than others (Uscinski et al., 2020).

Regardless of the precise mechanism – “bottom up” psychological biases or “top down” elite cueing – more politically “extreme” individuals in any partisan or ideological group should be more willing to adopt beliefs in specific dubious claims because such individuals are likely to intentionally expose themselves to elite cues (i.e., listen to the speeches of co-partisan leaders, watch political news programs) and possess highly constrained worldviews in need of preservation (van Prooijen & Krouwel, 2019). However, it remains unclear how extremist ideologies would relate to beliefs that are devoid of partisan/ideological content or that are not endorsed by partisan/ideological elites in government and society. Take, for example, the belief that the vapor trails produced by aircraft are actually mind control chemicals designed to keep the masses docile. This claim has no obvious partisan or ideological content, does not clearly target a defined political group, and is not endorsed by partisan leaders. Hence, independents and moderates – rather than left-right extremists – are most likely to believe in this conspiracy theory (Tingley & Wagner, 2017). Simply put: work that distinguishes between partisan/ideological and non-partisan/ideological conspiracy theories and dubious beliefs finds no relationship between political orientations and the latter (Enders et al., 2018; Smallpage et al., 2017).

Taken together, the literature suggests (at least) three different operationalizations of misinformation, anti-scientific claims, and conspiracy theories that may be important to understanding the relationship between such ideas and political extremity: (1) ideas that have partisan/ideological content and/or have been visibly endorsed by partisan/ideological elites, (2) ideas that lack partisan/ideological content and/or have not been visibly endorsed by partisan/ideological elites, and (3) the latent predisposition to adopt conspiracy theories and other dubious ideas, conspiracy thinking.

## **Operationalizing Political Ideology**

The theoretical definition and operationalization of “political extremity” may also account for inconsistencies in the literature. Previous work employs only one of several possible operationalizations of political orientations and the extremity of those orientations: an identity-based measure in which respondents are asked to place themselves on a scale ranging from “far” or “extreme” left to “far” or “extreme” right (Krouwel et al., 2017; van Prooijen et al., 2015). This operationalization of political orientations has a number of benefits. It captures an important social identity component of political orientations, and the item itself can generally be successfully employed across many political contexts. That said, “left” and “right” are somewhat ambiguous terms. Moreover, these types of survey items fail to distinguish between partisanship and ideology, and between ideological identity (Mason, 2018), or “symbolic” ideology, and ideology as a constrained belief system (Converse, 2006), or “operational” ideology. We take these two distinctions in turn.

Partisanship is most frequently conceived of as a group attachment or identity and is typically the strongest predictor of vote choice in the U.S. elections (Campbell, Converse, Miller, & Stokes, 1960). Likewise, partisanship is highly correlated with beliefs in many conspiracy theories and other dubious beliefs; indeed, prior research shows that partisanship strongly predicts which conspiracy theories people will express support for (Miller et al., 2016; Smallpage et al., 2017). Importantly, however, partisanship oftentimes has different effects on subsequent political attitudes than do ideological identities (Huddy, Mason, & Aarøe, 2015); thus, we should not expect that the relationship between beliefs in dubious ideas and ideological identities is necessarily the same as the relationship between beliefs in dubious ideas and partisan

identities.<sup>3</sup> As the common strategy for measuring partisanship – a seven-point scale ranging from “strong Democrat” to “strong Republican” – captures variation in the extremity of partisan identities, it should be considered integral to a more complete test of the political extremity thesis.

While partisan and ideological identities are an important dimension of peoples’ political orientations, and political extremity more specifically, identity-based measures are oftentimes only weakly related to measures of ideology that are based on the substantive nature and consistency of one’s political beliefs (Kalmoe, 2020; Kinder & Kalmoe, 2017). For instance, many more individuals identify as conservatives than actually hold conservative issue positions, partially explaining why operational and symbolic ideology are predictive of different political attitudes and behaviors (Ellis & Stimson, 2012). Moreover, belief-based conceptualizations of ideology are probably more congruent with previous work on political extremity and beliefs in dubious ideas, which oftentimes discusses the implications of discrete extreme ideologies, such as communism and fascism (e.g., van Prooijen & Krouwel, 2019). Of course, communism and fascism are a far cry from mere self-identification as an “extreme” liberal/conservative; rather, they signify a particular set of beliefs guided by a smaller set of higher-order, abstract values and principles (Converse, 2006). Operational and symbolic ideology are also predictive of different political attitudes and behaviors to different degrees (Ellis & Stimson, 2012), suggesting that extremity along those dimensions might have different consequences (see also Hanel, Zarzeczna,

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<sup>3</sup> For example, ideological identities are more likely to be relevant in response to cues that involve issue areas or ideological principles while partisan identities are more likely to be relevant in response to cues addressing party fortunes. Huddy, Mason, & Aarøe (2015) find that partisan identities better account “for campaign activity than a strong stance on subjectively important policy issues, the strength of ideological self-placement, or a measure of ideological identity.” In addition, “partisans feel angrier...when threatened with electoral loss and more positive when reassured of victory,” while in contrast, “those who hold a strong and ideologically consistent position on issues are no more aroused emotionally than others by party threats or reassurances....” (Huddy et al., 2015, pg. 1).

& Haddock, 2019; Van Hiel, 2012). Thus, a consideration of operational ideology is also necessary for a more complete test of the political extremity thesis.

## **Expectations**

Below, we employ three operationalizations of beliefs in misinformation, anti-scientific claims, and conspiracy theories – partisan/ideological beliefs, non-partisan/ideological beliefs, and conspiracy thinking – as well as three operationalizations of political orientations – symbolic ideology, operational ideology, and partisanship. Whereas some scholars find that dubious beliefs are more prevalent on the right (Jost, van der Linden, Panagopoulos, & Hardin, 2018; van der Linden et al., 2020), and among political extremists (Krouwel et al., 2017; van Prooijen et al., 2015; van Prooijen & Krouwel, 2019), we expect to observe these patterns – across all operationalizations of political orientations – only when beliefs in partisan/ideological conspiracy theories and alternative facts are in question (Smallpage et al., 2017).

H<sub>1</sub>: Political extremists – on the left and right – are more likely than moderates to believe misinformation, anti-scientific claims, and conspiracy theories *when said beliefs are imbued with partisan/ideological content.*

H<sub>2</sub>: People on the political right – conservatives and Republicans – are more likely than moderates and people on the left to believe misinformation, anti-scientific claims, and conspiracy theories *when said beliefs are imbued with partisan/ideological content that is congruent with conservatism/Republicanism, or that maligns liberals/Democrats.*

Following other work, when beliefs in non-partisan/ideological alternative facts and conspiracy theories (Enders et al., 2018; Klofstad et al., 2019), or conspiracy thinking itself (Uscinski et al.,

2016), is in question, we do not expect to observe a relationship between political orientations or political extremity and dubious beliefs.

H<sub>3</sub>: Neither political extremists, nor those who hold particular partisan/ideological orientations, should believe misinformation, anti-scientific claims, and conspiracy theories to a greater extent than moderates or those of any particular political orientation *when said beliefs are non-partisan/ideological in nature.*

We do not have specific expectations about variation in the extremism-belief connection across operationalizations of political orientations and extremity. That said, including these operationalizations remains an important component of our analysis, as this provides a more complete accounting of the relationship between political orientations and dubious beliefs.

## Study 1

### Participants and Procedure

To test these hypotheses, we employ data from a unique module of the 2018 Cooperative Congressional Election Studies (CCES),<sup>4</sup> a nationally-representative sample of U.S. adults conducted in two waves before and after the 2018 U.S. midterm elections ( $n=1,000$ ). The survey was administered by YouGov, who selected individuals from online panels they maintain using their matched sample methodology. This method follows two steps. First, YouGov creates a representative target sampling frame of U.S. citizens using demographic data from a variety of sources, including the American Community Survey, the Current Population Survey, and the Pew U.S. Religious Landscape Survey. Then, for each member of the target sample, YouGov

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<sup>4</sup> CCES “common content” – data that is publicly available – is available at the following address: <https://cces.gov.harvard.edu/>. Following publication of this manuscript, all data and other materials necessary to replicate the analyses below will be posted to the Center for Open Science.

selects at least one member from the pool of opt-in participants for inclusion in the study. This matching process is based on the following variables: sex, age, race, years of education, interest in politics, employment status, Evangelical or born-again Christian status, marital status, partisanship, and ideology. Ultimately, the process creates a set of respondents who have the same measured characteristics as the target sample. Details about the demographic composition of the sample appear in Table 1.

## **Materials**

### *Non-partisan/ideological Conspiracy Beliefs (Likert).*

We employ four central dependent variables in the analyses presented below, although two are slightly different measurement strategies for capturing the same construct. The first is an additive index of beliefs – gauged via five-point response options ranging from “strongly disagree” (1) to “strongly agree” (5) – in non-partisan/ideological alternative facts and conspiracy theories. This index includes beliefs about: 1) the danger of GMOs, 2) ghosts making contact with humans,<sup>5</sup> 3) the assassination of JFK, and 4) the 9/11 terror attacks<sup>6</sup> (Range=1–5,  $M=2.78$ ,  $SD=0.84$ ). The items are coded such that larger numerical values denote more conspiratorial beliefs. Responses to these items are squarely unidimensional (first factor of an exploratory factor analysis accounts for 89% of shared variance) and statistically reliable ( $\alpha=0.65$ ). That said, we replicate all analyses below using each individual item from this scale and the partisan/ideological belief

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<sup>5</sup> Belief in human contact with ghosts is somewhat different than the other beliefs in this scale, being focused on the paranormal (though it is anti-scientific). To ensure that this item was not having an undue effect on our results, we replicated all analyses that involve the non-partisan/ideological belief scale with a scale that excludes it. No substantive results are altered by removing it. This comports with literature showing a strong connection between conspiracy and paranormal beliefs (Darwin, Neave, & Holmes, 2011; Drinkwater, Dagnall, & Parker, 2012).

<sup>6</sup> For several years after the attacks, 9/11-related conspiracy theories took a partisan tone (accusing the Bush Administration of orchestrating or knowingly allowing the attacks) and were believed mostly by those on the political left (Nyhan, 2009). As time passed, more Republicans came to believe these theories, likely because George W. Bush left politics and became less salient (Enders & Smallpage, 2018b).

scale in the Supplemental Appendix. The patterns we observe below hold when individual scale items are analyzed.

#### *Non-partisan/ideological Conspiracy Beliefs (Dichotomous)*

We also operationalized beliefs in non-partisan/ideological alternative facts and conspiracy theories using an index of responses to dichotomous belief questions. Respondents were asked: “Which, if any, of the following statements would you say are true?” Respondents were confronted with 5 statements about topics such as Holocaust denial, the government-sponsored spread of AIDS, and human contact with aliens. The responses to these items were summed to generate a count of beliefs ranging from 0 to 5 ( $M=0.1$ ,  $SD=0.18$ ). For the most part, respondents were reticent to express belief in the dubious statements in this way.

#### *Partisan/ideology Conspiracy Beliefs*

The third dependent variable is an additive index of anti-scientific and conspiracy beliefs that are partisan/ideological in nature. This includes beliefs – gauged via five-point response options ranging from “strongly disagree” (1) to “strongly agree” (5) – about: 1) the veracity of anthropogenic climate change and 2) Russian interference in the 2016 U.S. presidential election (Range=1–5,  $M=2.46$ ,  $SD=1.21$ ). The items are coded such that larger numerical values denote more conspiratorial beliefs. Both of these topics have been fairly widely publicly adopted by Republicans and conservatives in the U.S., who tend to deny both that climate change is caused by humans (McCright et al., 2014) and that Russia interfered in the 2016 presidential election on behalf of then-candidate Donald Trump (Frankovic, 2017). The Pearson product-moment correlation between the two items is 0.63 ( $p<0.001$ ,  $\alpha=0.77$ ).

#### *Conspiracy Thinking*

Our final dependent variable is an additive index designed to capture conspiracy thinking, which operates as a general indicator of the predisposition to endorse dubious claims. The scale is composed of four items, gauged via five-point response options ranging from “strongly disagree” (1) to “strongly agree” (5), such as “much of our lives are being controlled by plots hatched in secret places” (Range=1–5,  $M=3.10$ ,  $SD=0.84$ ). The items are coded such that larger numerical values denote more conspiratorial beliefs. The scale has previously been validated (Uscinski et al., 2016), and is both unidimensional (first factor of an exploratory factor analysis accounts for 90% of shared variance) and statistically reliable ( $\alpha=0.77$ ).

### *Symbolic Ideology*

Symbolic ideology is operationalized via the common measure of ideological self-identification that asks respondents to place themselves on a seven-point scale ranging from (1) “extremely liberal” to (7) “extremely conservative,” with “moderate” in the center (Range=1–7,  $M=4.07$ ,  $SD=1.88$ ). This measure of symbolic ideology, which is most similar to that employed in previous work in this vein (e.g., van Prooijen et al., 2015), captures a conscious, identity-based element of ideology (Malka & Lelkes, 2010).

### *Partisanship*

Breaking from previous literature, we also include a measure of partisanship. This measure is the composite of two branching items that first ask which party (if any) individuals align with, and then how strongly they identify with that party. The resultant measure is a seven-point scale ranging from (1) “strong Democrat” to (7) “strong Republican,” with “pure Independents” (i.e., those who do not even lean toward either of the two major parties) in the center position

(Range=1–7,  $M=3.66$ ,  $SD=2.15$ ). This measure is similar in spirit to the symbolic ideology measure, except it focuses specifically on partisan attachments.

### *Operational Ideology*

The final measure of political extremity we employ is, following previous work (Chen & Goren, 2016; Enders, 2019), a scale of attitudes about political issues designed to capture operational ideology. We employ responses to 20 dichotomous “oppose” or “support” items that ask respondents their policy preferences about 5 issue domains central to American politics: abortion, healthcare, immigration, gun control, and taxes. For instance, respondents were asked whether they supported or opposed the idea to “provide Medicare for all Americans” and “cut the Corporate Income Tax rate from 39 percent to 21 percent.” Because of the dichotomous nature of the items, we used a factor analysis to generate the scale, though we note that there is no substantive difference in the results presented below using an additive index (Range=0–1,  $M=0.39$ ,  $SD=0.29$ ). This scale is coded such that larger numerical values reflect more conservative attitudes. As expected, the operational ideology scale is highly correlated with, but hardly synonymous with, symbolic ideology ( $r=0.75$ ,  $p<0.001$ ) and partisanship ( $r=0.68$ ,  $p<0.001$ ).

### *Controls*

Finally, we employ a host of control variables in the multivariate models discussed below. These include: educational attainment, age, household income, gender, race, and residence in the political South. Exact question wording appears in the Supplemental Appendix.

## **Results**

Bivariate relationships between each of the operationalizations of dubious beliefs and each of the three operationalizations of political extremity appear in Figures 1–4. Generally speaking, we find support for Hypotheses 1–3 across these 12 relationships. We formally test each of the patterns observed in Figures 1–4 in a regression framework. If political orientations are, per Hypothesis 2, linearly related to partisan/ideological conspiracy beliefs, we should observe a statistically significant additive effect of political orientations on such beliefs, controlling for other factors. If political extremists are more likely than moderates to believe in partisan/ideological conspiracy theories, per Hypothesis 1, we should also observe an improvement in model fit by adding a squared version of political extremity to the model. Incorporation of a squared term constitutes a quadratic model – the specification capable of testing for a parabolic relationship between political orientations and conspiracy beliefs. Finally, support for Hypothesis 3 would entail observing neither significant additive nor quadratic relationships between political orientations and non-partisan/ideological conspiracy beliefs and conspiracy thinking.

Results of these models – each of which control for educational attainment, age, household income, gender, race, and residence in the political South – are presented in Table 2, which closely mimics that produced by van Prooijen et al. (2015). For each dependent variable, there are seven models: a model with controls only, one with controls plus political orientations,

and one with controls plus additive and quadratic versions of political orientations for each operationalization of political orientations (i.e., partisan identities, ideological identities, and operational ideology). To analytically gauge whether addition of the measure of political orientations, or an additional squared version of the same variable, improves model fit, we also include the  $F$  statistics from nested model tests and changes ( $\Delta$ ) in  $R^2$ . Where the  $F$  statistic is statistically significant, addition of the linear and/or quadratic term significantly improves model fit. We also include the regression coefficient and associated 95% confidence interval for the measure of political orientations (from the linear model) and the squared version of the measure (from the quadratic model).

Congruent with the visual observations made above, each operationalization of political orientations – incorporated linearly – improves model fit when partisan/ideological alternative beliefs are in question (Hypothesis 2). The same can be said of the quadratic models including symbolic and operational ideology (Hypothesis 1), though the quadratic partisanship model does not significantly improve upon the linear partisanship model. When non-partisan/ideological beliefs are considered, only operational ideology exhibits a statistically significant improvement of the quadratic model over the linear model (Hypothesis 3). The sign of the quadratic term is, however, *opposite* of what previous research finds (van Prooijen et al., 2015). In substantive terms, both liberal and conservative extremists tend to reject dubious beliefs that do not involve, or are not mobilized by, partisan political groups or figures. Finally, none of the quadratic conspiracy thinking models improve over the linear models (Hypothesis 3), though the linear models very slightly improve on the model with only controls when it comes to both measures of ideology.

These results generally provide support for our hypotheses, with two exceptions. First, there is a very minor improvement in linear model fit with the addition of symbolic and operational ideology to models of non-partisan/ideological beliefs and conspiracy thinking. These additions never improve  $R^2$  by more than 0.01 and are, thus, exceedingly minor in substantive terms (see also the bivariate scatterplots in Figures 1–4). Second, we did not formally expect to observe an inverted “U” shape when it comes to operational ideology and non-partisan/ideological beliefs. While this pattern is unresponsive of Hypothesis 3, it is also inconsistent previous findings regarding the positive relationship between political extremity and conspiracy beliefs (van Prooijen et al., 2015).

#### *Sophistication and Political Extremity*

Our findings suggest that ideologues – rather than those who merely fancy themselves strong partisan or ideological identifiers – may be less susceptible to dubious ideas than their ideologically moderate and politically independent counterparts. We suspect that this is at least partially a function of political sophistication – an amalgamation of interest in, knowledge about, and participation in politics that encourages ideological thinking, but that is only weakly related to symbolic ideological self-identifications (Luskin, 1987). Politically sophisticated individuals – who also tend to be more highly educated (Carpini & Keeter, 1996) – should be less likely to endorse conspiracy theories, per previous research (Miller et al., 2016; van Prooijen, 2017). Moreover, we expect that the negative impact of sophistication also works indirectly through the operational ideological extremity it promotes.

A complete test of this proposition would require data amenable to causal interpretation (either experimental or panel), which we do not possess. Instead, we estimate a series of

mediation models whereby we examine whether political extremity mediates the effect of political sophistication on beliefs in non-partisan/ideological alternative facts and conspiracy theories. If we observe a significant effect of sophistication on both partisan/ideological beliefs and political extremity, and especially if the indirect effect of sophistication through political extremity is significant, we will have suggestive evidence for our expectation about the role of sophistication.

In order to estimate the models, we first construct a political sophistication scale that combines each of the three aforementioned constructs – interest, knowledge, and participation – via an exploratory factor analysis of the items associated with them (Lupton, Myers, & Thornton, 2015).<sup>7</sup> We also construct “folded” versions of our three operationalizations of political orientations. Each of these variables has a neutral midpoint: moderate (symbolic ideology), independent (partisanship), or an equal balance of liberal and conservative issue attitudes (operational ideology). By removing the substantive left-right directionality from the variables (i.e., “folding” the scales), we are left with measures of extremity that range from neutrality on the low end, to extreme identifications/attitudes on the high end.

These political extremity measures are all significantly ( $p < 0.001$ ) correlated with political sophistication ( $r = 0.41$  for operational ideological extremity,  $r = 0.20$  for symbolic ideological extremity,  $r = 0.19$  for partisan extremity). Importantly, sophistication is correlated twice as strongly with operational ideology than symbolic ideology or partisanship – this underscores the importance of considering several operationalizations of political extremity. Indeed, some of

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<sup>7</sup> Because knowledge and participation in politics are themselves scales, it did not make sense to simply sum interest, knowledge, and participation. Moreover, these three constructs differentially contribute to political sophistication, which is both attitudinal and behavioral in nature. The first factor accounts for 93% of shared variance. See the Supplemental Appendix for details about the questions used to assess interest, knowledge, and participation.

these measures (operational ideology) capture more ideological content, in the traditional sense of belief system structure, than others (symbolic ideology and partisanship).

In Figure 5, we present a visual depiction of the mediation model<sup>8</sup> involving operational ideological extremity. All three relationships of interest are statistically significant, providing suggestive support for a partial mediation effect. The strongest relationship is between political sophistication and operational ideological extremity. We observe a negative, statistically significant direct effect of sophistication on non-partisan/ideological conspiracy beliefs ( $\beta=-0.08$ ,  $p<0.01$ ), as well as a significant indirect effect of sophistication through operational ideological extremity ( $\beta=-0.04$ ,  $p<0.001$ ). Note that this is the only instance where we observe a statistically significant relationship between the political extremity mediator and beliefs in non-partisan/ideological alternative facts and conspiracy theories, consistent with the results presented in Table 2. In models involving symbolic ideological and partisan extremity (see Supplemental Appendix), the direct effects of sophistication on political extremity (positive) and non-partisan/ideological beliefs (negative) are the only significant relationships.

We reiterate that these results are not causal and that this analysis is designed to provide suggestive evidence of why operational ideological extremity, in particular, might be negatively related to non-partisan/ideological conspiracy beliefs. This activity is important because the finding is incongruent with previous work (Krouwel et al., 2017; van Prooijen et al., 2015). Of course, it could be that the effect of ideological extremity is mediated by sophistication, an alternative we explore in the Supplemental Appendix. Briefly, we observe similar results, although the indirect effect of partisan ( $\beta=-0.005$ ; 95% CI=[-0.009, -0.002];  $p=0.001$ ) and symbolic ideological extremity ( $\beta=-0.005$ ; 95% CI=[-0.008, -0.002];  $p=0.001$ ) through

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<sup>8</sup> All sociodemographic controls discussed above are similarly controlled for here.

sophistication are both statistically significant, albeit quite small. That said, our central point – that the positive relationship between political sophistication and operational ideology, specifically, might account for the negative relationship between conspiracy beliefs and operational ideological extremity – finds correlational support regardless of specification.

## **Study 2**

Because Study 1 included only two partisan/ideological conspiracy beliefs, we replicate the analyses presented in Table 2 using a different dataset that includes two different partisan/ideological alternative beliefs. We also examine two non-partisan/ideological beliefs, one of which is different from those employed in Study 1.

### **Participants and Procedure**

Data for this study comes from the 2012 American National Election Study (ANES).<sup>9</sup> The ANES is a nationally-representative probability sample of U.S. adults that is fielded directly before and after U.S. national elections. Some respondents were interviewed face-to-face ( $n=2,054$ ), whereas others completed the survey online ( $n= 3,860$ ). Internet respondents were members of GfK's KnowledgePanel, which was recruited participants using a combination of address-based sampling and random-digit dialing sampling methodologies. Face-to-face respondents were identified using an address-based, stratified, multi-stage cluster sample in 125 U.S. census tracts. Details about the demographic composition of the sample appear in Table 3.

### **Materials**

#### *Conspiracy Beliefs*

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<sup>9</sup> The data is publicly accessible here: <https://electionstudies.org/data-center/2012-time-series-study/>.

We employ four dubious beliefs about: the birthplace of Barack Obama (“birther,”  $M=1.77$ ,  $SD=0.93$ ), death panels in the Affordable Care Act (“death panels,”  $M=2.18$ ,  $SD=0.99$ ), government involvement in the 9/11 terror attacks (“9/11 truther,”  $M=2.27$ ,  $SD=0.92$ ), and government involvement in the levee breaches during Hurricane Katrina (“levee breach,”  $M=1.76$ ,  $SD=0.81$ ). Each of these beliefs are gauged via four-point response options ranging from a belief that the conspiracy in question “definitely” did not occur (1) to one that it “definitely” did (4). Per previous studies using the same data (Enders et al., 2018), the “birther” and “death panel” conspiracy theories are highly partisan/ideological, while the “9/11 truther” and “levee breach” conspiracy theories tend to find support among both Democrats and Republicans, liberals and conservatives.

### *Political Orientations*

Partisanship and symbolic ideology are measured as they were in Study 1, via seven-point measures ranging from (1) “strong Democrat” to (7) “strong Republican” (Range=1–7,  $M=3.52$ ,  $SD=2.11$ ) and (1) “extremely liberal” to (7) “extremely conservative” (Range=1–7,  $M=4.17$ ,  $SD=1.47$ ), respectively. Our measure of operational ideology is a summated index of responses to five questions about one’s preferences regarding general governmental spending and services, a government-guaranteed job and standard of living, governmental health insurance, governmental aid to racial minority groups, and defense spending (Range=1–7,  $M=4.20$ ,  $SD=1.30$ ,  $\alpha=0.76$ ). For each item, respondents are asked to place themselves on seven-point continua that range from a very liberal position on the issue (1) to a very conservative one (7). This measure is correlated with both symbolic ideology ( $r=0.56$ ,  $p<0.001$ ) and partisanship ( $r=0.61$ ,  $p<0.001$ ), as we would expect.

### *Controls*

In addition, we employ a host of control variables in the multivariate models discussed below. These include educational attainment, age, household income, gender, race, and residence in the political South. Exact question wording appears in the Supplemental Appendix.

### **Results**

Our analyses, the results of which are presented in Table 4, are identical in structure to those presented in Table 2 of Study 1.<sup>10</sup> The patterns revealed in Table 4 are consistent with those revealed in Study 1. When it comes to the two partisan/ideological conspiracy theories (“birther” and “death panels”), we observe positive and statistically significant linear and quadratic effects across operationalizations of political orientations (Hypotheses 1 and 2). When it comes to non-partisan/ideological conspiracy theories (“9/11 truther” and “levee breach”), we observe negative and statistically significant quadratic effects of political orientations in five of six instances. The partisanship quadratic model of “levee breach” beliefs does not significantly improve upon the linear model (Hypothesis 3).

## **General Discussion**

Our findings extend previous work on the relationship between political extremity and beliefs in alternative facts and conspiracy theories by demonstrating that the strength and functional form of the relationship is contingent on our operationalizations of both dubious beliefs and political extremity. While we were able to replicate the results produced by van Prooijen et al. (2015) and

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<sup>10</sup> We also present bivariate scatterplots of all relevant relationships in the Supplemental Appendix.

Krouwel et al. (2017) using the identity-based measure of ideology and beliefs in partisan/ideological alternative facts and conspiracy theories, we observed either the opposite pattern or no relationship when non-partisan/ideological beliefs were employed, similar to Uscinski et al.'s (2016) findings. The opposite pattern – a pronounced, inverted “U” shape – was especially prevalent in cases involving belief-based, operational ideology and both non-partisan/ideological beliefs and conspiracy thinking.

We also produced suggestive evidence that political sophistication may be a culprit behind such a finding – the more knowledgeable about and engaged people are in politics, the less stock they put in misinformation, anti-scientific claims, and conspiracy theories that challenge the established political order, but not any particular political out-group. It could be that people with organized, well-defined ideologies are simply more invested and enmeshed in the political system and are, therefore, less attracted to ideas that challenge or undermine the establishment. This would not preclude some people in the U.S. from having tightly structured ideologies that are indeed anti-establishment or conspiratorial in their basic nature (e.g., Hofstadter, 1964; McClosky & Chong, 1985), but such extremists should nevertheless be exceedingly rare given the constraints and incentives of the American two-party system.

Finally, we observed no, or only very weak, relationships of any sort (i.e., linear or quadratic) between most operationalizations of political orientations and the various dependent variables we considered. This is somewhat normatively encouraging. That belief in non-partisan/ideological alternative facts and conspiracy thinking, more generally, are not differentially the function of left or right political orientations makes the job of combating such beliefs slightly less complicated. In other words, our findings suggest that the task society faces in impeding the pernicious effects of beliefs in conspiracy theories and misinformation may need

only involve developing strategies for reducing the levels of dubious beliefs, rather than both reducing those levels *and* addressing a web of extremist partisan and ideological motivations.

Our findings should encourage scholars to be circumspect in making inferences about the partisan and ideological nature of general conspiratorial and anti-scientific orientations from a small set of specific dubious beliefs. Simply put: operationalization matters. There are infinite misinformed, anti-scientific, and conspiratorial claims to interrogate when studying such phenomena (Uscinski, 2020), and scholars' choices have the strong potential to influence the substantive inferences that make (Enders & Smallpage, 2018a). Conspiracy beliefs, for instance, appear to be related to conservatism and Republicanism mostly when the conspiracy theories at the heart of those beliefs malign Democrats and liberals or have otherwise been strategically mobilized by Republican Party and conservative elites.

Relatedly, we note that the majority of empirical research on beliefs in conspiracy theories and alternative facts focuses on “bottom-up” processes (Douglas et al., 2017; Sutton & Douglas, 2020), paying much less attention to the political and information environments constructed by political elites. Studies comparing dubious beliefs to political ideologies need to better consider “top-down” processes (Uscinski et al., 2020), as well as the socio-political environment (Miller, 2020), both of which could foster a connection – indeed, one that is not inherent – between ideology and dubious ideas. In some scenarios, observed relationships between ideology and beliefs in dubious ideas may be a product of elite manufacturing, rather than a causal impact of the substantive values and principles at the center of a given ideology on downstream beliefs in dubious ideas. This is to say that our results should prompt deeper consideration of observed connections between ideologies and dubious beliefs, with a focus on

alternative explanations and potential confounders (e.g., the information environment, personality traits).

Our findings also speak to the study of political extremism. The varying strength and functional form of relationships involving various operationalizations of political orientations showcase the extent to which decisions about conceptualization and measurement of extremism are capable of fundamentally impacting the inferences researchers make. Ultimately, however, the connection between theory and measurement remains quite under-developed when it comes to political extremity. Both Van Hiel (2012) and Hanel et al. (2019) argue that ideological groupings, and extremists in particular, may not be as homogeneous as oftentimes thought, or at least as they are oftentimes implicitly treated in our measurement strategies. For example, self-identification as a “1” or “10” on a ten-point scale ranging from “left” to “right” hardly logically implies extremism in the absolute.<sup>11</sup> Should we infer that a respondent selecting “1” is a communist? An anarchist? What about one who chooses “10”? Should such an individual be considered a populist or nationalist? A fascist? These rhetorical questions demonstrate some rather obvious costs to our dearth of knowledge about how respondents use political identity scales. While our inclusion of several types of political orientations – with a focus on the distinction between identity-based and belief-based orientations (Kalmoe, 2020) – advances the study of political extremism and beliefs in dubious ideas by expanding the conceptualization of extremism, more work needs to be done to distinguish between types of extremism, the substantive beliefs and values that underwrite that extremism, and the top-down processes that may be partially driving it (Stern & Ondish, 2018).

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<sup>11</sup> Of course, it seems reasonable to expect that a 10 is more extreme than an 8, which would be indicative of *relative* extremity. However, even this assumption is questionable. It is unlikely that basic seven- or ten-point partisanship and ideology variables are inter-individually comparable (i.e., free of differential item functioning, or possessing measurement invariance).

Of course, this study is not without limitations. While our findings provide contrast to those using samples of Swedish (Krouwel et al., 2017) and Dutch (van Prooijen et al., 2015) respondents, they still constitute but two snapshots from one country, with a limited number of dubious beliefs tested. More tests of the extremity thesis, comparing beliefs in a wider range of dubious claims, will result in a better empirical grasp of the relationship between political extremity and dubious beliefs. Given our suggestion that “top-down” processes – such as cueing from partisan elites – can affect which people believe which particular ideas, it is imperative that studies such as ours be replicated in other political contexts with different party system structures, ideological coalitions, and political cultures.

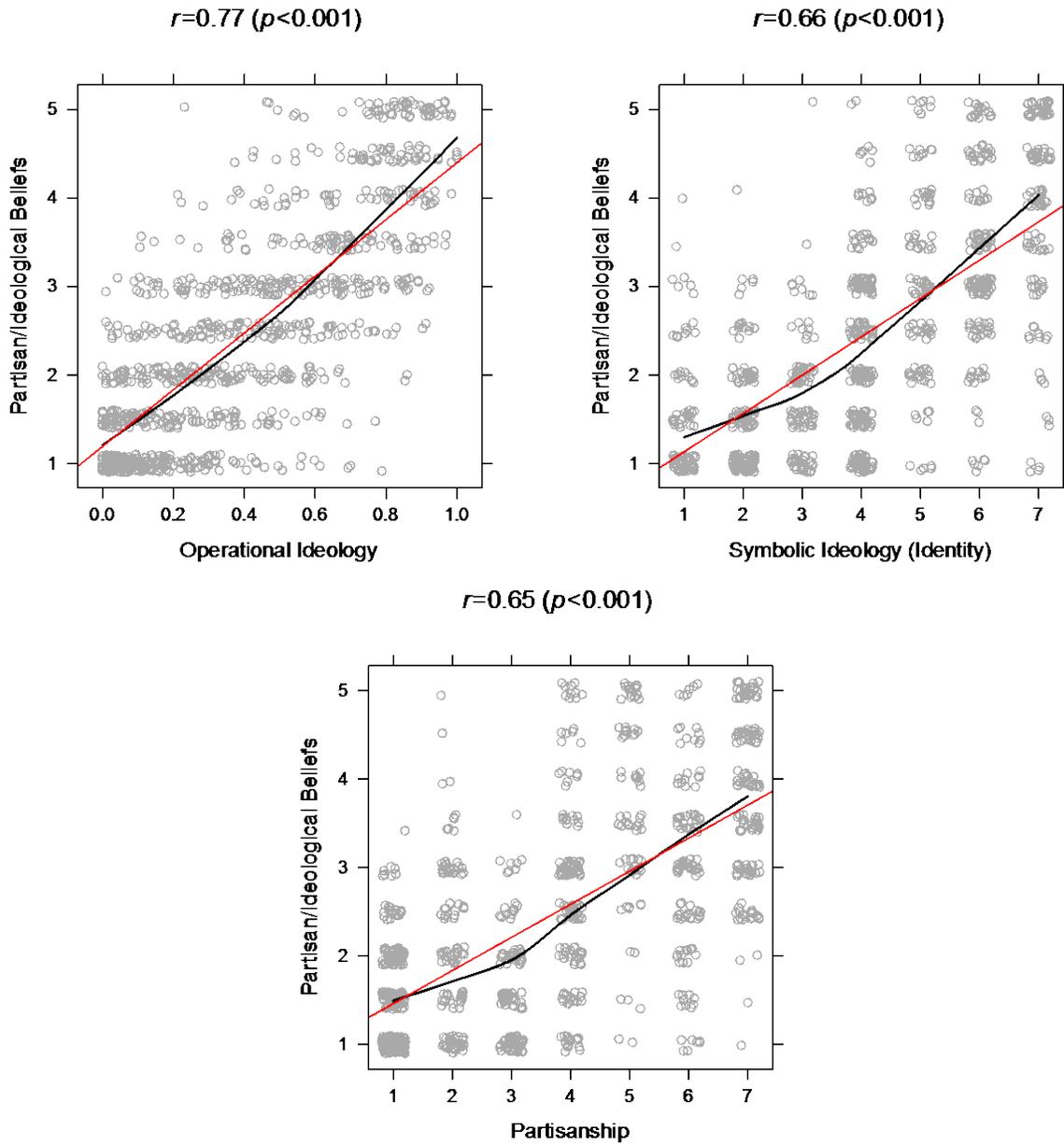
We also reiterate that all of our analyses are correlational, rather causal. While it seems reasonable to expect that rather fundamental political orientations (Campbell, Converse, Miller & Stokes, 1960) are the causal first movers in the relationships under consideration, there is likely a reinforcing, reciprocal relationship between political extremity and dubious beliefs that is worth considering in greater detail vis-à-vis longitudinal studies and experimentation. In this vein, it could be the case that identified relationships between extreme political dispositions and dubious beliefs are spurious, potentially the result of “extreme” partisans and ideologues exhibiting tendencies unrelated to their substantive political views or group memberships.

## **Conclusion**

To be engaged in politics – even if holding relatively extreme policy orientations – is not to endorse just *any* alternative fact, anti-scientific claim, or conspiracy theory. Rather, the nature of the relationship between political orientations and beliefs in alternative facts and conspiracy theories is contingent on both the characteristics of the dubious beliefs employed (e.g., partisan/ideological content, general predispositions) and the type of political orientations being

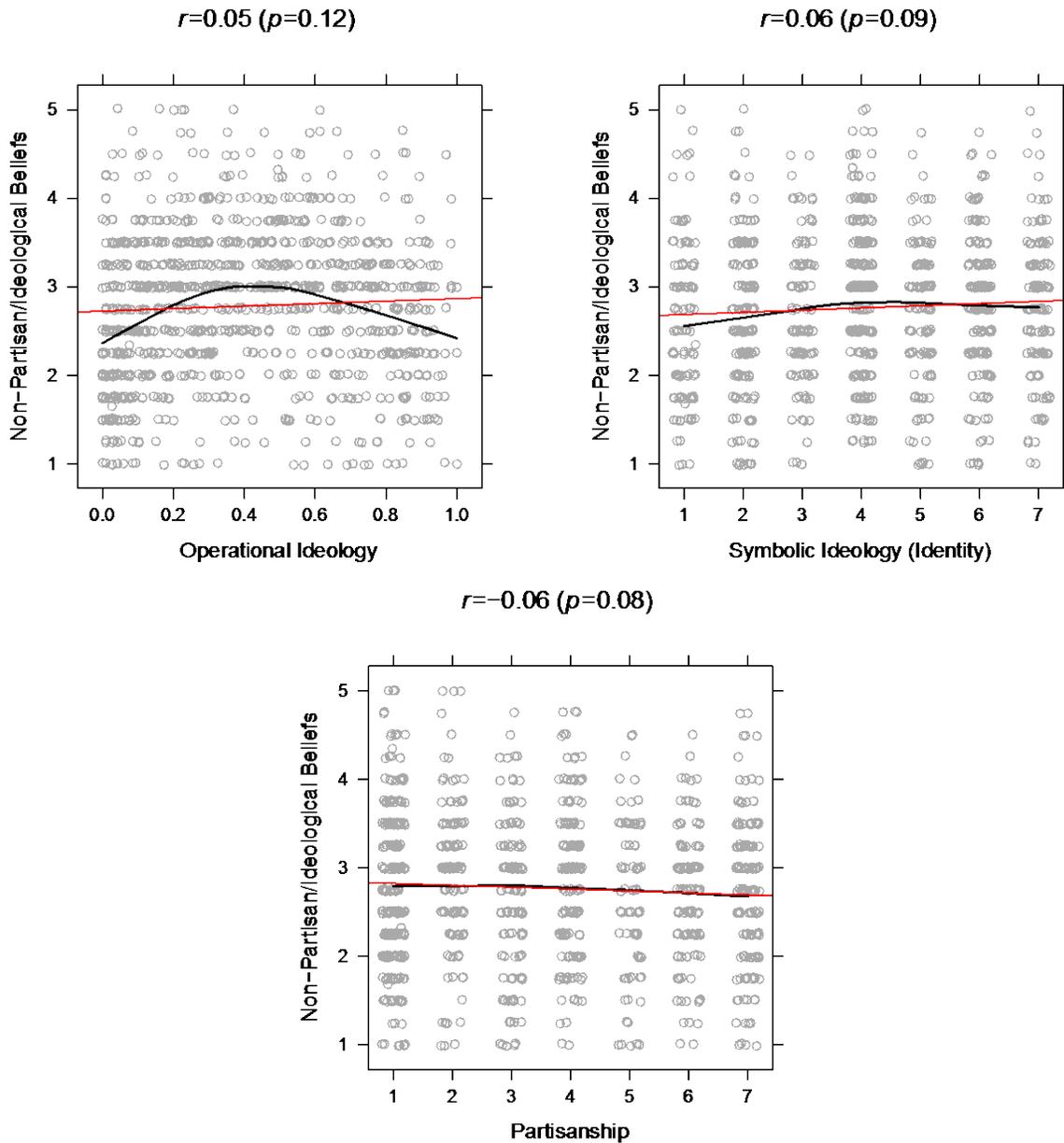
considered (e.g., partisanship vs. ideology, identity vs. beliefs). Our analyses reveal no inherent, positive relationship between various political orientations, or the strength thereof, and beliefs in dubious ideas. Only when those ideas have become associated with political parties, ideologies, and other political groups are political orientations – in the form of either identities or ideologies – related to beliefs in those ideas. When dubious ideas avoid politicization, they may be even less related to partisanship, political ideology, or an extreme version thereof.

**Figure 1:** Bivariate relationships between a scale of beliefs in **partisan/ideological** alternative facts and conspiracy theories and measures of symbolic ideology, operational ideology, and partisanship. OLS fit lines in red, loess curves in black. Pearson product-moment correlations with  $p$ -values appear above each plot. Study 1.

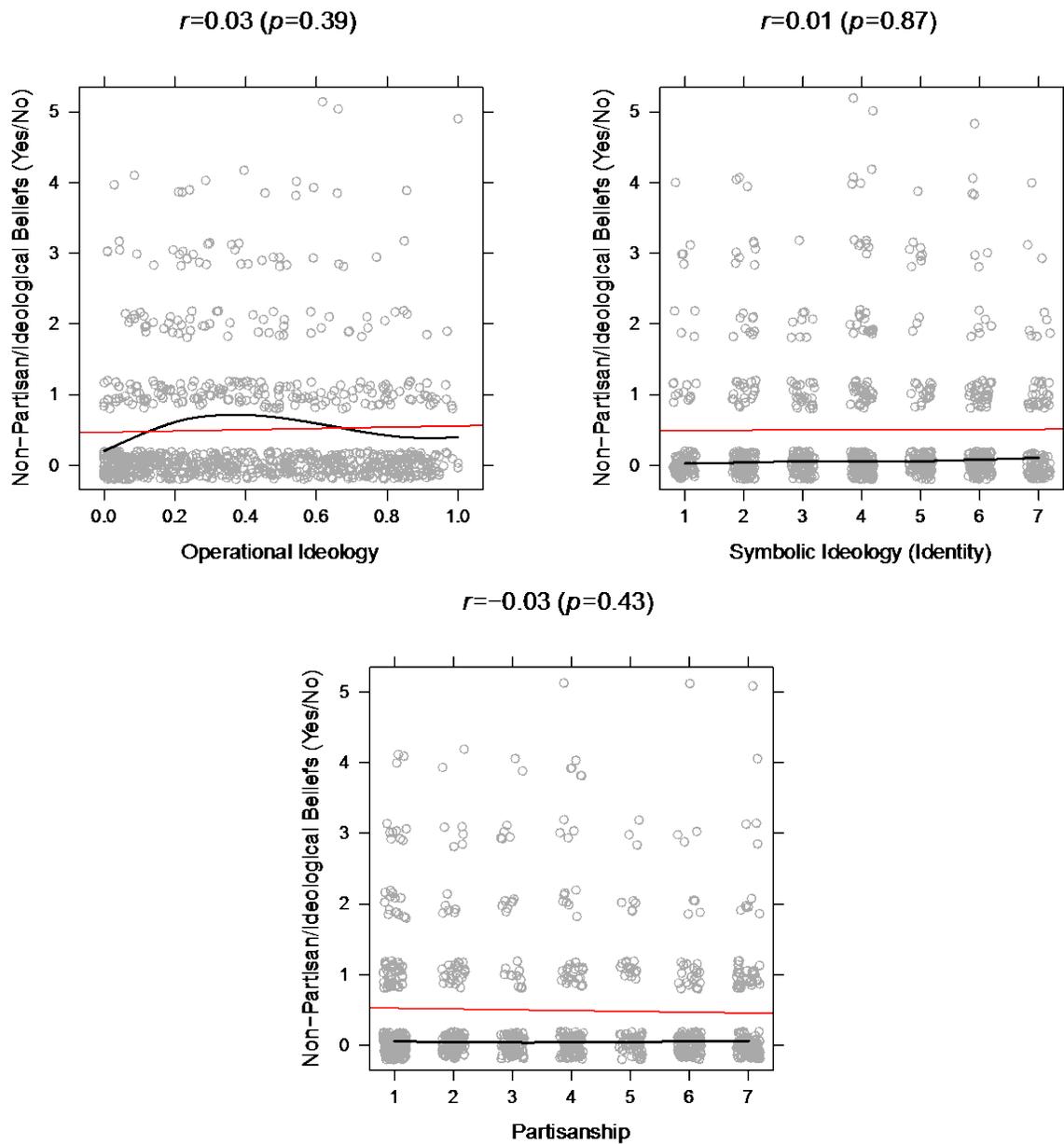


**Figure 2:** Bivariate relationships between a scale of beliefs in **non-partisan/ideological, (Likert-type)** alternative facts and conspiracy theories and measures of symbolic ideology,

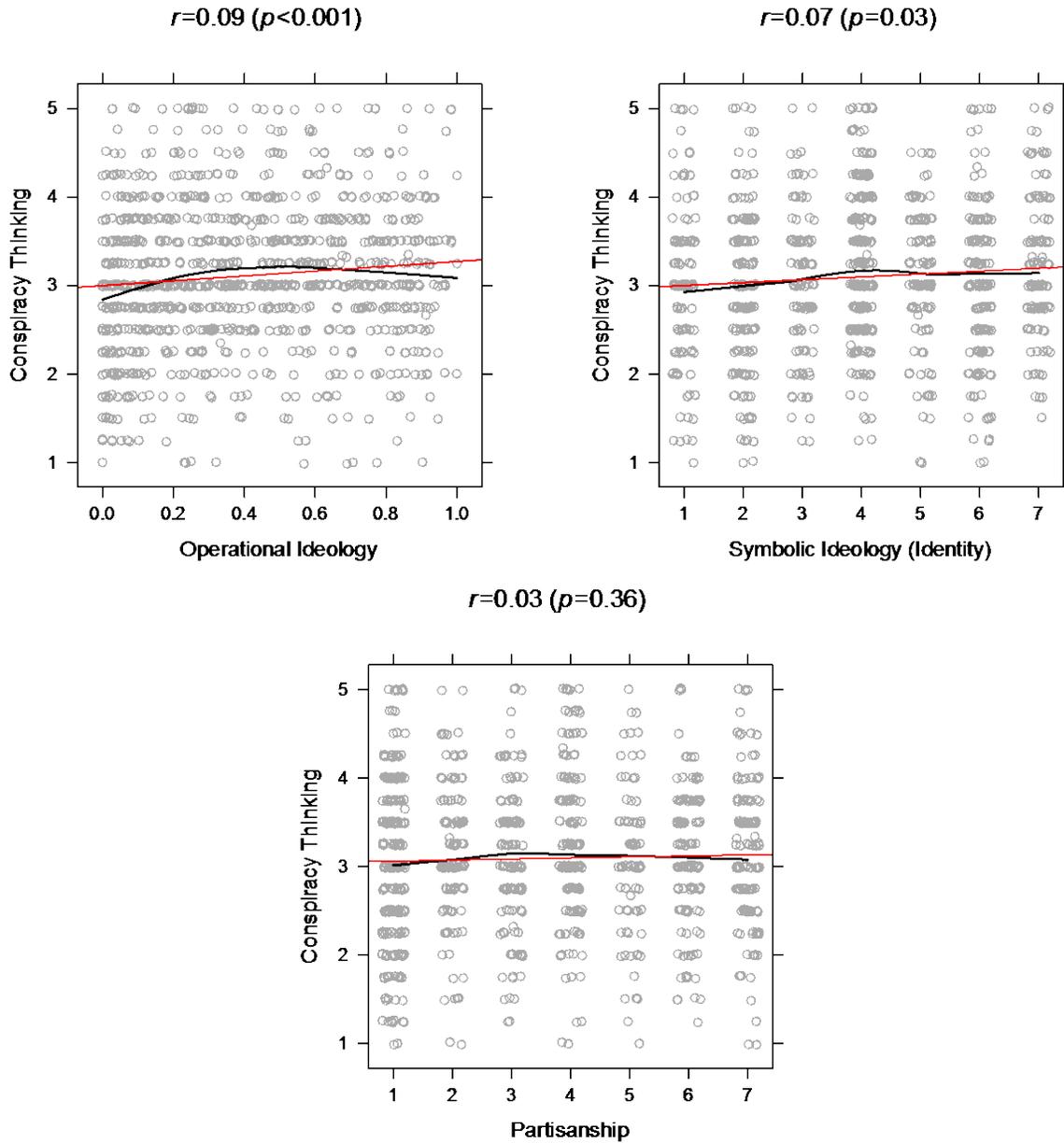
operational ideology, and partisanship. OLS fit lines in red, loess curves in black. Pearson product-moment correlations with  $p$ -values appear above each plot. Study 1.



**Figure 3:** Bivariate relationships between a scale of beliefs in **non-partisan/ideological (dichotomous)** alternative facts and conspiracy theories and measures of symbolic ideology, operational ideology, and partisanship. OLS fit lines in red, loess curves in black. Pearson product-moment correlations with  $p$ -values appear above each plot. Study 1.

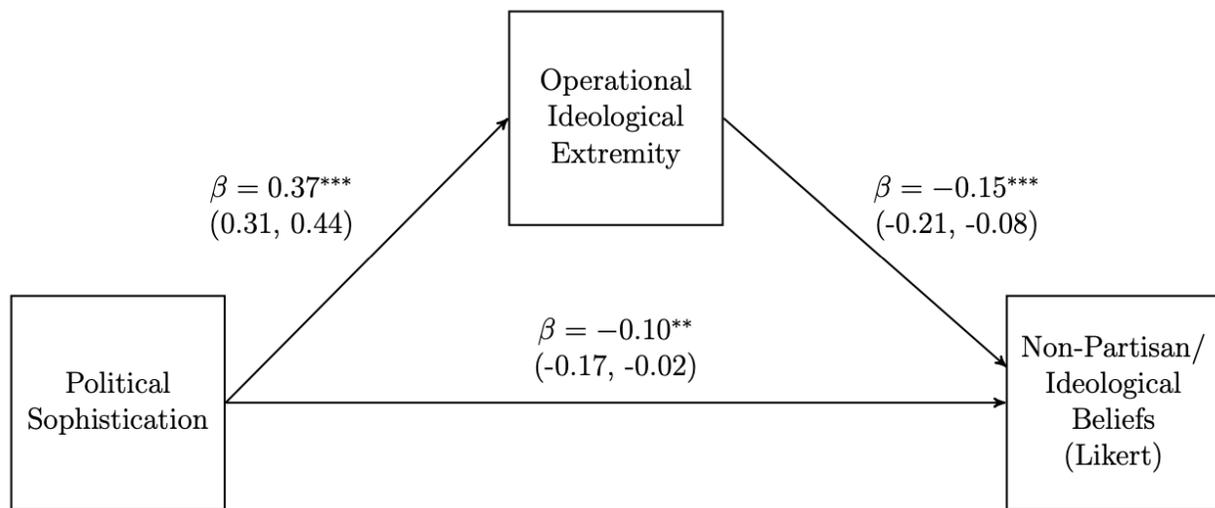


**Figure 4:** Bivariate relationships between **conspiracy thinking** and measures of symbolic ideology, operational ideology, and partisanship. OLS fit lines in red, loess curves in black. Pearson product-moment correlations with  $p$ -values appear above each plot. Study 1.



**Figure 5:** Mediation model whereby the effect of political sophistication on beliefs in non-partisan/ideological alternative facts and conspiracy theories is mediated by operational ideological extremity. Includes controls for sociodemographic characteristics. Path coefficients are standardized and estimated with full information maximum likelihood. Bootstrapped (500

replications) 95% confidence intervals appear in parentheses. \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ . Study 1.



**Table 1:** Sociodemographic information about 2016 CCES sample. Study 1.

	Range	Mean/ Proportion	Standard Deviation
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Age	18–90	48.02	17.74
Education	1 (no high school)–6 (post-grad)	3.66 (2-year college)	1.50
Female	0, 1	0.58	0.49
White	0, 1	0.74	0.43
Black	0, 1	0.10	0.31
Hispanic	0, 1	0.08	0.27
Income	1 (<\$10,000)–16 (>\$500,000)	6.36 (\$50–60K)	3.34
Partisanship	1 (strong Dem.)–7 (strong Rep.)	3.66 (independent)	2.15
Ideology	1 (extreme liberal)–7 (extreme conserv.)	4.07 (moderate)	1.88

Note:  $n=1,000$ .

**Table 2:** Coefficients and fit statistics for OLS regression models. Study 1.

Model	$\beta$ (95% CI)	$F$	$\Delta R^2$
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**Partisan/Ideological Beliefs**

	Control		10.66*	0.09
Symbolic Ideology	Linear	0.62 (0.57, 0.68)	553.57*	0.38
	Quadratic	0.32 (0.16, 0.49)	14.73*	0.01
Operational ideology	Linear	0.81 (0.76, 0.85)	1164.50*	0.54
	Quadratic	0.27 (0.08, 0.46)	7.50*	<0.01
Partisanship	Linear	0.54 (0.49, 0.58)	517.11*	0.36
	Quadratic	0.07 (-0.09, 0.22)	0.65	<0.01

**Non-Partisan/Ideological Beliefs**

**(Likert)**

	Control		15.23*	0.12
Symbolic Ideology	Linear	0.06 (0.01, 0.10)	5.96*	<0.01
	Quadratic	-0.11 (-0.25, 0.04)	2.01	<0.01
Operational ideology	Linear	0.08 (0.03, 0.12)	8.85*	0.01
	Quadratic	-0.48 (-0.69, -0.29)	22.38*	0.024
Partisanship	Linear	0.00 (-0.04, 0.05)	0.06	<0.01
	Quadratic	0.05 (-0.09, 0.19)	0.42	<0.01

**Non-Partisan/Ideological Beliefs**

**(Yes/No)**

	Control		9.35*	0.08
Symbolic Ideology	Linear	0.02 (-0.02, 0.06)	0.88	<0.01
	Quadratic	-0.07 (-0.21, 0.07)	1.01	<0.01
Operational Ideology	Linear	0.05 (0.00, 0.09)	4.00*	0.01
	Quadratic	-0.26 (-0.45, -0.07)	7.22*	0.01
Partisanship	Linear	0.02 (-0.02, 0.05)	0.64	<0.01
	Quadratic	-0.04 (-0.17, 0.09)	0.31	<0.01

**Conspiracy Thinking**

	Control		8.23*	0.07
Symbolic Ideology	Linear	0.06 (0.01, 0.11)	6.32*	<0.01
	Quadratic	-0.04 (-0.19, 0.11)	0.33	<0.01
Operational ideology	Linear	0.09 (0.04, 0.14)	11.93*	0.01
	Quadratic	-0.10 (-0.31, 0.11)	0.83	<0.01
Partisanship	Linear	0.03 (-0.01, 0.08)	2.70	<0.01
	Quadratic	-0.05 (-0.20, 0.09)	0.57	<0.01

Note: OLS regression estimates. Linear model is compared to control, quadratic to linear. \* $p < 0.05$ .

**Table 3:** Sociodemographic information about 2012 ANES sample. Study 2.

	Range	Mean/ Proportion	Standard Deviation
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Age	17–90	49.44	16.82
Education	1 (no high school)–5 (graduate)	2.97 (some post HS)	1.16
Female	0, 1	0.52	0.50
White	0, 1	0.59	0.49
Black	0, 1	0.17	0.38
Hispanic	0, 1	0.17	0.38
Income	1 (<\$5,000)–28 (>\$250,000)	13.64 (\$45–50K)	8.16
Partisanship	1 (strong Dem.)–7 (strong Rep.)	3.52 (independent)	2.11
Ideology	1 (extreme liberal)–7 (extreme conserv.)	4.17 (moderate)	1.47

Note:  $n=5,300$ .

**Table 4:** Coefficients and fit statistics for OLS regression models. Study 2.

Model	$\beta$ (95% CI)	$F$	$\Delta R^2$
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**“Birther” beliefs**

	Control		61.68*	0.08
Symbolic Ideology	Linear	0.45 (0.41, 0.48)	656.56*	0.12
	Quadratic	0.50 (0.34, 0.65)	39.80*	0.01
Operational ideology	Linear	0.57 (0.53, 0.61)	788.25*	0.13
	Quadratic	0.17 (0.13, 0.20)	92.74*	0.02
Partisanship	Linear	0.39 (0.37, 0.42)	1083.05*	0.17
	Quadratic	0.13 (0.03, 0.24)	6.13*	<0.01

**“Death panel” beliefs**

	Control		20.52*	0.03
Symbolic Ideology	Linear	0.44 (0.40, 0.48)	501.84*	0.11
	Quadratic	0.49 (0.31, 0.66)	30.09*	<0.01
Operational ideology	Linear	0.58 (0.53, 0.62)	636.08*	0.12
	Quadratic	0.19 (0.15, 0.23)	88.31*	0.02
Partisanship	Linear	0.33 (0.30, 0.36)	565.83*	0.11
	Quadratic	0.25 (0.13, 0.37)	16.69*	<0.01

**“9/11 Truther” beliefs**

	Control		33.44*	0.05
Symbolic Ideology	Linear	-0.07 (-0.10, -0.03)	13.35*	0.01
	Quadratic	-0.34 (-0.50, -0.17)	16.38*	<0.01
Operational Ideology	Linear	-0.02 (-0.06, 0.03)	0.53	<0.01
	Quadratic	-0.06 (-0.10, -0.02)	9.16*	<0.01
Partisanship	Linear	-0.02 (-0.04, 0.01)	1.33	<0.01
	Quadratic	-0.18 (-0.30, -0.07)	9.53*	<0.01

**“Levee breach” beliefs**

	Control		68.42*	0.09
Symbolic Ideology	Linear	-0.09 (-0.12, -0.06)	31.68*	0.01
	Quadratic	-0.14 (-0.28, -0.00)	4.11*	<0.01
Operational ideology	Linear	-0.13 (-0.17, -0.09)	48.74*	<0.01
	Quadratic	-0.04 (-0.08, -0.01)	7.62*	<0.01
Partisanship	Linear	-0.05 (-0.07, -0.03)	18.37*	<0.01
	Quadratic	-0.08 (-0.18, 0.01)	2.79	<0.01

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Note: OLS regression estimates. Linear model is compared to control, quadratic to linear. \* $p < 0.05$ .

**Conflict of Interest Statement:** The Authors declare that there is no conflict of interest.

## References

- Arieli, S., Amit, A., & Mentser, S. (2019). Identity-motivated reasoning: Biased judgments regarding political leaders and their actions. *Cognition*, 188, 64-73. doi:<https://doi.org/10.1016/j.cognition.2018.12.009>
- Bartlett, J., & Miller, C. (2010). *The power of unreason: conspiracy theories, extremism and counter-terrorism*. Retrieved from <http://westernvoice.net/Power%20of%20Unreason.pdf>: <http://westernvoice.net/Power%20of%20Unreason.pdf>
- Berinsky, A. (2009). *In time of war: Understanding American public opinion from World War II to Iraq*: University of Chicago Press.
- Brotherton, R., & French, C. C. (2015). Intention seekers: Conspiracist ideation and biased attributions of intentionality. *PLoS ONE*, 10(5), e0124125.
- Campbell, A., Converse, P., Miller, W., & Stokes, D. (1960). *The American Voter: Unabridged Edition*. Chicago: University of Chicago Press.
- Carpini, M. X. D., & Keeter, S. (1996). *What Americans know about politics and why it matters*: Yale University Press.
- Chen, P. G., & Goren, P. N. (2016). Operational Ideology and Party Identification: A Dynamic Model of Individual-Level Change in Partisan and Ideological Predispositions. *Political Research Quarterly*, 69(4), 703-715. doi:10.1177/1065912916658551
- Claassen, R. L., & Ensley, M. J. (2016). Motivated Reasoning and Yard-Sign-Stealing Partisans: Mine is a Likable Rogue, Yours is a Degenerate Criminal. *Political Behavior*, 38(2), 317-335. doi:10.1007/s11109-015-9313-9
- Clark, C., Liu, B., Winegard, B., & Ditto, P. (2019). Tribalism is Human Nature. *Current Directions in Psychological Science*, 28(3), 587-592. doi:<https://doi.org/10.1177/0963721419862289>
- Converse, P. E. (2006). The Nature of Belief Systems in Mass Publics (1964). *Critical Review*, 18(1-3), 1-74. doi: <https://doi.org/10.1080/08913810608443650>
- Darwin, H., Neave, N., & Holmes, J. (2011). Belief in Conspiracy Theories. The Role of Paranormal Belief, Paranoid Ideation and Schizotypy. *Personality and Individual Differences*, 50(8), 1289-1293. doi:<https://doi.org/10.1016/j.paid.2011.02.027>
- Ditto, P. H., Liu, B., Clark, C. J., Wojcik, S. P., Chen, E. E., Grady, R. H., & Zinger, J. F. (2017). At Least Bias Is Bipartisan: A Meta-Analytic Comparison of Partisan Bias in Liberals and Conservatives. Available at SSRN: <https://ssrn.com/abstract=2952510>((April 13, 2017)).

- Douglas, K., Sutton, R. M., & Cichocka, A. (2017). The Psychology of Conspiracy Theories. *Current Directions in Psychological Science*, 26(6), 538-542. doi:10.1177/0963721417718261
- Douglas, K., Uscinski, J., Sutton, R., Cichocka, A., Nefes, T., Ang, J., & Deravi, F. (2019). Understanding Conspiracy Theories. *Advances in Political Psychology*, 40(1), 3-35.
- Drinkwater, K., Dagnall, N., & Parker, A. (2012). Reality testing, conspiracy theories, and paranormal beliefs. *The Journal of Parapsychology*, 76(1), 57. doi:<https://e-space.mmu.ac.uk/619337/>
- Edelson, J., Alduncin, A., Krewson, C., Sieja, J. A., & Uscinski, J. E. (2017). The Effect of Conspiratorial Thinking and Motivated Reasoning on Belief in Election Fraud. *Political Research Quarterly*, 70(4), 933-946.
- Ellis, C., & Stimson, J. A. (2012). *Ideology in America*. New York: Cambridge University Press.
- Enders, A. (2019). Conspiratorial Thinking and Political Constraint. *Public Opinion Quarterly*, 83(3), 510-533. doi:10.1093/poq/nfz032
- Enders, A., & Smallpage, S. M. (2018a). On the measurement of conspiracy beliefs. *Research & Politics*, 5(1), 2053168018763596.
- Enders, A., & Smallpage, S. M. (2018b). Polls, Plots, and Party Politics: Conspiracy Theories in Contemporary America. In J. E. Uscinski (Ed.), *Conspiracy Theories and the People Who Believe Them* (pp. 298-318). New York: Oxford University Press.
- Enders, A., Smallpage, S. M., & Lupton, R. N. (2018). Are All 'Birthers' Conspiracy Theorists? On the Relationship Between Conspiratorial Thinking and Political Orientations. *British Journal of Political Science*, 1-18. doi:10.1017/S0007123417000837
- Flynn, D. J., Nyhan, B., & Reifler, J. (2017). The Nature and Origins of Misperceptions: Understanding False and Unsupported Beliefs About Politics. *Political Psychology*, 38, 127-150. doi:10.1111/pops.12394
- Frankovic, K. (2017). Republicans see little need for the Russia investigation. *YouGov*. Retrieved from today.yougov.com website: <https://today.yougov.com/topics/politics/articles-reports/2017/12/08/republicans-see-little-need-russia-investigation>
- Frimer, J. A., Skitka, L. J., & Motyl, M. (2017). Liberals and conservatives are similarly motivated to avoid exposure to one another's opinions. *Journal of Experimental Social Psychology*, 72, 1-12. doi:<https://doi.org/10.1016/j.jesp.2017.04.003>
- Furnham, A. (2013). Commercial conspiracy theories: a pilot study. *Frontiers in Psychology*, 4, 1-5. doi:<https://doi.org/10.3389/fpsyg.2013.00379>

- Guber, D. L. (2013). A Cooling Climate for Change? Party Polarization and the Politics of Global Warming. *American Behavioral Scientist*, 57(1), 93-115. doi:doi:10.1177/0002764212463361
- Hanel, P. H. P., Zarzeczna, N., & Haddock, G. (2019). Sharing the Same Political Ideology Yet Endorsing Different Values: Left- and Right-Wing Political Supporters Are More Heterogeneous Than Moderates. *Social Psychological and Personality Science*, 10(7), 874-882. doi:10.1177/1948550618803348
- Hartman, T. K., & Newmark, A. J. (2012). Motivated Reasoning, Political Sophistication, and Associations between President Obama and Islam. *PS: Political Science and Politics*, 45(3), 449-455. doi:<https://dx.doi.org/10.1017/S1049096512000327>
- Hofstadter, R. (1964). *The Paranoid Style in American Politics, and Other Essays*. Cambridge: Harvard University Press.
- Huddy, L., Mason, L., & Aarøe, L. (2015). Expressive Partisanship: Campaign Involvement, Political Emotion, and Partisan Identity. *American Political Science Review*, 109(1), 1-17. doi:10.1017/S0003055414000604
- Imhoff, R., Dieterle, L., & Lamberty, P. (2020). Resolving the Puzzle of Conspiracy Worldview and Political Activism: Belief in Secret Plots Decreases Normative but Increases Nonnormative Political Engagement. *Social Psychological and Personality Science*, 0(0). doi:10.1177/1948550619896491
- Ingraham, C. (2014). Study: Americans are as likely to believe in Bigfoot as in the big bang theory. *The Washington Post*. Retrieved from [www.washingtonpost.com](http://www.washingtonpost.com) website: <https://www.washingtonpost.com/news/wonk/wp/2014/10/24/study-democrats-are-more-likely-than-republicans-to-believe-in-fortune-telling-astrology-and-ghosts/>
- Jenson, T. (2013). Democrats and Republicans differ on conspiracy theory beliefs. *Public Policy Polling*. Retrieved from [publicpolicypolling.com](http://publicpolicypolling.com) website:
- Jolley, D., Douglas, K. M., Leite, A. C., & Schrader, T. (2019). Belief in conspiracy theories and intentions to engage in everyday crime. *British Journal of Social Psychology*, 58(3), 534-549. doi:doi:10.1111/bjso.12311
- Jones, P. E., & Brewer, P. R. (2020). Elite cues and public polarization on transgender rights. *Politics, Groups, and Identities*, 8(1), 71-85. doi:10.1080/21565503.2018.1441722
- Jost, J. T., van der Linden, S., Panagopoulos, C., & Hardin, C. D. (2018). Ideological asymmetries in conformity, desire for shared reality, and the spread of misinformation. *Current Opinion in Psychology*, 23, 77-83. doi:<https://doi.org/10.1016/j.copsyc.2018.01.003>
- Kahan, D., Jenkins-Smith, H., & Braman, D. (2011). Cultural cognition of scientific consensus. *Journal of Risk Research*, 14(2), 147-174. doi:<https://doi.org/10.1080/13669877.2010.511246>

- Kalmoe, N. P. (2020). Uses & Abuses of Ideology in Political Psychology. *Political Psychology*, 0(0). doi:<https://doi.org/10.1111/pops.12650>
- Kinder, D. R., & Kalmoe, N. P. (2017). *Neither liberal nor conservative: Ideological innocence in the American public*. Chicago: University of Chicago Press.
- Klofstad, C. A., Uscinski, J. E., Connolly, J. M., & West, J. P. (2019). What drives people to believe in Zika conspiracy theories? *Palgrave Communications*, 5(1), 36. doi:10.1057/s41599-019-0243-8
- Krouwel, A., Kutiyanski, Y., van Prooijen, J.-W., Martinsson, J., & Markstedt, E. (2017). Does Extreme Political Ideology Predict Conspiracy Beliefs, Economic Evaluations and Political Trust? Evidence From Sweden. *Journal of Social and Political Psychology*, 5(2), 435-462.
- Kunda, Z. (1990). The case for motivated reasoning. *Psychological Bulletin*, 108(3), 480. doi:<https://doi.org/10.1037/0033-2909.108.3.480>
- Lazer, D. M. J., Baum, M. A., Benkler, Y., Berinsky, A. J., Greenhill, K. M., Menczer, F., . . . Zittrain, J. L. (2018). The science of fake news. *Science*, 359(6380), 1094-1096. doi:10.1126/science.aao2998
- Lewandowsky, S., & Oberauer, K. (2016). Motivated Rejection of Science. *Current Directions in Psychological Science*, 25(4), 217-222. doi:doi:10.1177/0963721416654436
- Lipset, S. M., & Raab, E. (1978). *The Politics of Unreason: Right-Wing Extremism in America 1790-1977*. Chicago: University of Chicago Press.
- Lodge, M., & Taber, C. S. (2013). *The Rationalizing Voter*. New York: Cambridge University Press.
- Lupton, R. N., Myers, W. M., & Thornton, J. R. (2015). Political Sophistication and the Dimensionality of Elite and Mass Attitudes, 1980–2004. *The Journal of Politics*, 77(2), 368-380. doi:10.1086/679493
- Luskin, R. C. (1987). Measuring Political Sophistication. *American Journal of Political Science*, 31(4), 856-899. doi:10.2307/2111227
- Malka, A., & Lelkes, Y. (2010). More than Ideology: Conservative–Liberal Identity and Receptivity to Political Cues. *Social Justice Research*, 23(2), 156-188. doi:10.1007/s11211-010-0114-3
- Marietta, M., & Barker, D. C. (2018). Conspiratorial Thinking and Polarized Fact Perceptions. In J. E. Uscinski (Ed.), *Conspiracy Theories and the People Who Believe Them* (pp. 214-225). New York: Oxford University Press.
- Mason, L. (2018). Ideologues without Issues: The Polarizing Consequences of Ideological Identities. *Public Opinion Quarterly*, 82(S1), 280-301. doi:10.1093/poq/nfy005

- McClosky, H., & Chong, D. (1985). Similarities and Differences between Left-Wing and Right-Wing Radicals. *British Journal of Political Science*, 15(3), 329-363.  
doi:<https://doi.org/10.1017/S0007123400004221>
- McCright, A. M., Dunlap, R. E., & Xiao, C. (2014). Increasing Influence of Party Identification on Perceived Scientific Agreement and Support for Government Action on Climate Change in the United States, 2006–12. *Weather, Climate, and Society*, 6(2), 194-201.  
doi:10.1175/wcas-d-13-00058.1
- McHoskey, J. W. (1995). Case Closed? On the John F. Kennedy Assassination: Biased Assimilation of Evidence and Attitude Polarization. *Basic and Applied Social Psychology*, 17(3), 1995.
- Merkley, E., & Stecula, D. A. (2018). Party Elites or Manufactured Doubt? The Informational Context of Climate Change Polarization. *Science Communication*, 40(2), 258-274.  
doi:10.1177/1075547018760334
- Miller, J. M. (2020). Psychological, Political, and Situational Factors Combine to Boost COVID-19 Conspiracy Theory Beliefs. *Canadian Journal of Political Science*, 1-8.
- Miller, J. M., Saunders, K. L., & Farhart, C. E. (2016). Conspiracy endorsement as motivated reasoning: The moderating roles of political knowledge and trust. *American Journal of Political Science*, 60(4), 824-844. doi:<https://doi.org/10.1111/ajps.12234>
- Nisbet, E. C., Cooper, K. E., & Garrett, R. K. (2015). The Partisan Brain: How Dissonant Science Messages Lead Conservatives and Liberals to (Dis)Trust Science. *The ANNALS of the American Academy of Political and Social Science*, 658(1), 36-66.  
doi:10.1177/0002716214555474
- Nyhan, B. (2009). 9/11 and Birther Misperceptions Compared. *Brendan-nyhan.com/blog*. Retrieved from doi:<https://www.brendan-nyhan.com/blog/2009/08/911-and-birther-misperceptions-compared.html>
- Oliver, E., & Wood, T. (2014a). Conspiracy Theories and the Paranoid Style (s) of Mass Opinion. *American Journal of Political Science*, 58(4), 952-966. doi:10.1111/ajps.12084
- Oliver, E., & Wood, T. (2014b). Medical Conspiracy Theories and Health Behaviors in the United States. *JAMA Internal Medicine*, 174(5), 817-818.  
doi:10.1001/jamainternmed.2014.190
- Pasek, J. (2017). It's not my consensus: Motivated reasoning and the sources of scientific illiteracy. *Public Understanding of Science*, 27(7), 787-806.  
doi:<https://doi.org/10.1177/0963662517733681>
- Pasek, J., Stark, T. H., Krosnick, J. A., & Tompson, T. (2014). What Motivates a Conspiracy Theory? Birther Beliefs, Partisanship, Liberal-Conservative ideology, and Anti-Black Attitudes. *Electoral Studies*. doi:<http://dx.doi.org/10.1016/j.electstud.2014.09.009>

- Rutjens, B. T., Sutton, R. M., & Lee, R. v. d. (2018). Not All Skepticism Is Equal: Exploring the Ideological Antecedents of Science Acceptance and Rejection. *Personality and Social Psychology Bulletin*, 44(3), 384-405. doi:10.1177/0146167217741314
- Saunders, K. L. (2017). The impact of elite frames and motivated reasoning on beliefs in a global warming conspiracy: The promise and limits of trust. *Research & Politics*, 4(3), 1-9. doi:10.1177/2053168017717602
- Smallpage, S. M., Enders, A. M., & Uscinski, J. E. (2017). The partisan contours of conspiracy theory beliefs. *Research & Politics*, 4(4), 2053168017746554. doi:10.1177/2053168017746554
- Stern, C., & Ondish, P. (2018). Political aspects of shared reality. *Current Opinion in Psychology*, 23, 11-14. doi:<https://doi.org/10.1016/j.copsyc.2017.11.004>
- Sutton, R. M., & Douglas, K. (2020). Conspiracy theories and the conspiracy mindset: Implications for political ideology. *Current Opinion in Behavioral Sciences*.
- Tingley, D., & Wagner, G. (2017). Solar geoengineering and the chemtrails conspiracy on social media. *Palgrave Communications*, 3(1), 12. doi:<https://doi.org/10.1057/s41599-017-0014-3>
- Uscinski, J. E. (2020). *Conspiracy Theories: A Primer*. New York: Rowman & Littlefield Publishers.
- Uscinski, J. E., Douglas, K., & Lewandowsky, S. (2017). Climate Change Conspiracy Theories. *Oxford Research Encyclopedia of Climate Science*, 1-43. doi:10.1093/acrefore/9780190228620.013.328
- Uscinski, J. E., Enders, A. M., Stefan, W., Klofstad, C., Seelig, M., Funchion, J., . . . Everett, C. (2020). Why do people believe COVID-19 conspiracy theories? *The Harvard Kennedy School (HKS) Misinformation Review*, 1, 1-12. doi:<https://doi.org/10.37016/mr-2020-015>
- Uscinski, J. E., Klofstad, C., & Atkinson, M. (2016). Why Do People Believe in Conspiracy Theories? The Role of Informational Cues and Predispositions. *Political Research Quarterly*, 69(1), 57-71. doi:1065912915621621
- Uscinski, J. E., & Parent, J. M. (2014). *American Conspiracy Theories*. New York: Oxford University Press.
- van der Linden, S. (2015). The conspiracy-effect: Exposure to conspiracy theories (about global warming) decreases pro-social behavior and science acceptance. *Personality and Individual Differences*, 87, 171-173. doi:10.1016/j.paid.2015.07.045
- van der Linden, S., Panagopoulos, C., Azevedo, F., & Jost, J. T. (2020). The Paranoid Style in American Politics Revisited: An Ideological Asymmetry in Conspiratorial Thinking. *Political Psychology*, n/a(n/a). doi:10.1111/pops.12681

- Van Hiel, A. (2012). A psycho-political profile of party activists and left-wing and right-wing extremists. *European Journal of Political Research*, 51(2), 166-203. doi:10.1111/j.1475-6765.2011.01991.x
- van Prooijen, J.-W. (2017). Why Education Predicts Decreased Belief in Conspiracy Theories. *Applied Cognitive Psychology*, 31(1), 50-58. doi:10.1002/acp.3301
- van Prooijen, J.-W., Krouwel, A., & Pollet, T. (2015). Political Extremism Predicts Belief in Conspiracy Theories. *Social Psychological and Personality Science*, 6(5), 570-578
- van Prooijen, J.-W., & Krouwel, A. P. M. (2019). Psychological Features of Extreme Political Ideologies. *Current Directions in Psychological Science*, 28(2), 159-163. doi:10.1177/0963721418817755
- Wood, M. J., & Gray, D. (2019). Right-wing authoritarianism as a predictor of pro-establishment versus anti-establishment conspiracy theories. *Personality and Individual Differences*, 138, 163-166. doi:<https://doi.org/10.1016/j.paid.2018.09.036>
- Zaller, J. (1992). *The Nature and Origins of Mass Opinion* Cambridge, UK: Cambridge University Press.