

**An inflated view of the facts?
How preferences and predispositions shape conspiracy beliefs
about the Deflategate scandal**

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Abstract:

Beliefs in conspiracy theories about controversial issues are often strongly influenced by people's existing beliefs and attitudes. We leverage a prominent football-related controversy – the NFL's “Deflategate” scandal – to investigate how factual perceptions and conspiracy beliefs vary by fan loyalties to sports teams. Using an original survey sample, we explore two key drivers of conspiratorial beliefs about the scandal. First, we analyze how beliefs about Deflategate vary by respondents' loyalties towards the New England Patriots. We find that beliefs are not only highly polarized by team loyalty but that the gaps are largest among more interested and knowledgeable fans, suggesting that individuals are processing the information they receive in a highly motivated fashion. Second, we find that individuals who endorse unrelated political conspiracy theories are also more likely to endorse conspiratorial claims about Deflategate. However, priming group solidarity and elite resentment – two possible motivations for the prevalence of conspiracy theories around controversial issues like Deflategate – does not have a significant effect.

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Introduction

Conspiracy theories are pervasive not only in politics but in debates over food, health, and even sports (e.g., Goertzel 2011, Bowman and Rugg 2013, Gaines 2014, Shiva 2014). However, relatively little is known about why so many individuals endorse these often unverifiable claims - an important question for understanding public opinion about contentious issues and determining how to most effectively correct unsupported or false beliefs.

Previous research indicates that conspiratorial beliefs about controversial issues are strongly influenced by people's existing beliefs and attitudes. Although individuals differ in how susceptible they are to conspiracy theories for many reasons, one important factor is whether the claims in question are (in)consistent with the preferences of group members such as adherents of political parties or ideologies (e.g., Oliver and Wood 2014, Pasek et al. 2014). As theories of motivated reasoning suggest (e.g., Lord, Ross, and Lepper 1979; Edwards and Smith 1996; Taber and Lodge 2006), people tend to accept conspiracy claims that are consistent with their predispositions and reject those that are counter-attitudinal. These biases are often tribal in nature - people often seek to maintain beliefs that are consistent with ingroup views (see, e.g., Harden and Higgins 1996, Suhay 2015). Research also shows that people are often highly susceptible to false or unsupported beliefs about outgroups (see, e.g., Kosloff et al. 2010, Pyszczynski 2010), especially when the target is a powerful elite of the sort who are frequently named in conspiracy theories (Uscinski and Parent 2014).

Surprisingly, the tendency to endorse belief-consistent conspiracy theories may in some cases be *more* prevalent among the most knowledgeable members of motivated subgroups. These individuals are sometimes the most motivated to challenge belief-inconsistent information or the most likely to possess the cognitive and informational resources necessary to do so (Zaller 1992). As a result, though more knowledgeable or educated people are often least likely to believe in certain fringe conspiracy theories, the expected relationship is often reversed for conspiracy theories that are widely endorsed within a given group such as a political party. For instance, Nyhan (2012) and Nyhan, Reifler, and Ubel (2013) find that more knowledgeable Republicans were more likely to endorse prominent conspiracy theories and to resist corrective information than less knowledgeable partisan counterparts.

However, previous research on political conspiracy beliefs has been unable to fully separate the effects of group loyalties from other demographic characteristics that might be correlated with group membership. For instance, people who self-identify as Republicans are more likely to believe in the so-called birther conspiracy theory than Democrats (Pasek et al. 2014), but they also differ in a number of other observable and unobservable characteristics that might contribute to observed differences in conspiracy

belief. By contrast, loyalties to sports teams also generate strong directional preferences but are largely determined by geography and are thus likely to be orthogonal to many characteristics such as party, race, and government trust that are associated with conspiracy beliefs (Tainsky and Stodolska 2010).

In this study, we leverage a prominent football-related controversy – the NFL's “Deflategate” scandal (described further below) – to investigate how factual perceptions and conspiracy beliefs vary by fans’ arbitrary but deep loyalties to sports teams. Using a unique survey distributed by Survey Monkey, an online survey platform company, we polled a large number of respondents both inside and outside “Patriots Nation” about the scandal. This research design allows us to explore two key aspects of the alleged conspiracy.

We report two sets of findings below. First, we analyze how beliefs about Deflategate vary in our sample. Unsurprisingly, factual perceptions vary widely according to team loyalty, but we show that those perceptions are actually *more* polarized among more knowledgeable fans, suggesting that individuals are processing the information they receive in a highly motivated fashion. Consistent with previous research (e.g., Goertzel 1994, Swami et al. 2011), individuals who endorse unrelated political conspiracy theories are also more likely to endorse conspiratorial claims about Deflategate.

Second, we provide the results of an experiment embedded in the survey that primes two possible motivations for the prevalence of conspiracy theories around controversial issues like Deflategate – resentment toward the elites who are the supposed conspirators and pressure to remain loyal to an in-group. In politics, these factors are often confounded because supporting the partisan or ideological views of your group often corresponds with disdain for distinct elites that each group dislikes (e.g., the media and Hollywood celebrities for Republicans, the wealthy and big corporations for Democrats). The non-political context of Deflategate reduces this confound because the elites in question are similar (wealthy athletes, sports team owners, and/or league officials). However, when we prime these motivations individually, neither has a substantial effect on conspiracy beliefs or factual perceptions.

THEORY AND CONTEXT

The “Deflategate” controversy

The central allegation in the scandal known as “Deflategate” is that the New England Patriots' star quarterback, Tom Brady, conspired with team staff members to reduce the air pressure in footballs that the team used in a playoff game against the Indianapolis Colts on January 18, 2015. Specifically, it was alleged that the footballs used by the Patriots on offense were deflated to levels below those permitted by the NFL's rules so

that Brady could get a better grip on the balls. The reduced air pressure was discovered by NFL officials at halftime when the Patriots led the Colts 17-7 and the balls were reinflated (the Patriots ultimately won the game, 45-7, and went on to win the Super Bowl).

When the story broke, fans of other teams seized on news of the violation by the Patriots, who have become a regular target for vitriol as the NFL's most successful – and controversial – team over the last 15 years. Brady in particular is a multi-millionaire with movie-star looks, a supermodel wife, and a cool precision on the field that has produced six Super Bowl appearances, four NFL championships, and a clear path to the Hall of Fame. Patriots head coach Bill Belichick, who is known for being brusque, secretive, and determined to seek any advantage, has also attracted numerous vocal detractors among fans of other teams, especially after Patriots were sanctioned by the NFL in the “Spygate” scandal for filming their opponent's hand signals from an unauthorized location during a game in 2007.

The NFL took no immediate action against the Patriots over the deflated footballs. During the off-season, a league-commissioned investigation concluded that it was “more probable than not” that team staff intentionally deflated footballs and that it was also “more probable than not” that Brady was “at least generally aware” of those actions (Wells et al. 2015: 2). Five days later, citing “substantial and credible evidence” that Brady knew about the deflations, NFL Commissioner Roger Goodell levied a four-game suspension on Brady to be served at the start of the 2015 season (Rosenthal 2015). Goodell also sanctioned the Patriots with a \$1 million fine and losses of draft picks. Despite a subsequent appeal by Brady, Goodell later upheld the suspension. He also revealed that Brady had ordered his cell phone to be destroyed on the same day Brady met with the Wells Report investigators. The NFL believed that Brady knew its investigators would seek access to his text messages to Patriots’ employees.

After Goodell’s action, the NFL Players Association filed an injunction in U.S. federal court to prevent the NFL from enforcing Commissioner Goodell's suspension. On September 3, 2015, Judge Richard M. Berman vacated Goodell's suspension on the grounds of lack of fair due process without disputing the factual conclusions contained in the Wells Report. This judgment cleared Brady to play in the Patriots' opening game of the season one week later.

In the months following the initial accusations, Patriots fans, as well as fans of other NFL teams, offered numerous accounts of the disputed events, many of which can be characterized as conspiracy theories. Though many definitions of the term exist, we rely define a conspiracy theory as an explanation of events “which cites as a main causal

factor a small group of powerful persons (the conspirators) acting in secret for their own benefit, against the common good” (Uscinski and Parent 2014: 32).¹

We reviewed media and Internet coverage of the Deflategate affair and identified three notable conspiracy theories in discussions of the controversy:

- **Conspiracy to deflate** – The central allegation in the controversy is, of course, the claim that Brady and his equipment managers conspired to remove air from the footballs the Patriots would use on offense against the Colts.
- **Conspiracy to distract** – Some supporters of Brady and the Patriots have alleged in response that Goodell’s punishment was motivated not by evidence of Brady’s wrongdoing, but by the NFL’s desire to distract attention from other public relations problems such as domestic abuse by players and the mounting evidence of the negative health effects of concussions. As one Patriots fan wrote in the *Boston Globe*, the NFL was using the “team as a smokescreen to obscure the real problems, the concussions and domestic violence and legions of bankrupt ex-players. As a PR move, it’s genius” (Dyer 2015).
- **Conspiracy to absolve** – This conspiracy theory emerged only after the NFL’s punishment of Brady was overturned in court. Proponents of this theory allege that Judge Berman’s ruling in Brady’s favor was the result of the fame, wealth, and prestige of Deflategate’s main protagonist, Tom Brady, rather than the facts of the case. As one online reader wrote in response to a *New York Times* article announcing the ruling (Belson 2015): “I guess it’s good to be rich and handsome. You can get away with anything. And if at first you don’t succeed you just keep paying a lawyer until you do. Justice in America.”

It is important to note that the facts of the deflation controversy remain unclear and the motives of Goodell and Berman are not known. In particular, the evidence in the Wells Report has been widely questioned. For instance, an American Enterprise Institute report questioned the report’s central conclusion that the balls had been deflated in the first place, arguing that “the Patriots balls were measured at the start of halftime, whereas the Colts balls were measured at the end of halftime, after sufficient time had passed for the balls to warm up and return to their pregame pressure” (Hassett, Sullivan, and Veuger 2015: 10-11). In this paper, we therefore do not take a position on the veracity of any of the alleged conspiracies described above.

¹It is important to note that although the term “conspiracy theory” is often used to describe fringe, outlandish or unfounded beliefs, conspiracies can of course be real.

Hypotheses

Our hypotheses, which are based on the theoretical framework described above and were pre-registered with the Evidence in Governance and Politics project ([ID redacted for anonymous peer review]), are as follows:²

H1: Motivated reasoning

- Respondent favorability toward the Patriots and ties to the New England region will be positively associated with disbelief that Brady violated NFL rules and belief that he was punished by the league to distract from its other problems and negatively associated with belief that the judge in Brady's appeal was unduly influenced.

H2: Motivated and conspiratorial subgroups

- H2a: The relationship between Patriot favorability/New England ties and belief in attitude-consistent conspiracy theories about Deflategate (either pro- or anti-Brady) will be stronger among respondents with more interest in/knowledge of football in general and the Deflategate controversy specifically.
- H2b: The relationship between Patriot favorability/New England ties and belief in pro- or anti-Brady conspiracies will be stronger among respondents predisposed toward conspiracy belief (as measured by their average belief in two political conspiracy theories conditional on party).

H3: Group solidarity and elite resentment primes

- H3a: The relationship between Patriot favorability/New England ties and belief in attitude-consistent conspiracy theories about Deflategate (either pro- or anti-Brady) will be stronger among respondents primed to feel a greater sense of group solidarity.
- H3b: The relationship between Patriot favorability/New England ties and belief in attitude-consistent conspiracy theories about Deflategate (either pro- or anti-Brady) will be stronger among respondents primed to feel a greater sense of resentment toward elites.

H1 is the simplest test of motivated reasoning. We expect team loyalty to be strongly associated with respondents' beliefs about whether Brady and Patriots personnel broke the rules, whether Commissioner Goodell and the NFL sought to scapegoat Brady as a

² Due to an error by the authors, the wording of the original hypotheses filed in the preregistration includes only anti-Brady conspiracy theories and does not indicate that the dependent variable includes both pro- and anti-Brady conspiracy theories. However, we specified in our preregistered analysis plan that the outcome variable includes both types of theories (reverse-coded as appropriate) and have thus reworded the hypotheses above for clarity and to match our intended meaning.

distraction, and whether Judge Berman's decision was influenced by Brady's power and celebrity status. In short, we expect Patriots fans to absolve Brady, distrust Goodell, and regard Berman's decision as objective and just. We expect the converse from fans of other teams, who should distrust Brady, support Goodell, and question the objectivity and justness of Berman's decision.

H2a predicts that evidence of motivated reasoning should be stronger among respondents who are more invested in football and thus have stronger directional preferences.³ By contrast, H2b suggests that a predisposition to believe in conspiracies should amplify the effects of motivated reasoning stemming from team loyalty.⁴

Finally, H3a and H3b describe the expected effects of our experimental treatments in priming group solidarity and elite resentment (described further below). If the group solidarity hypothesis is correct, the prime should prompt fans to rally to the cause of their side, amplifying the beliefs associated with motivated reasoning (perhaps especially among Patriots fans who feel embattled). The rationale behind the elite resentment prime is analogous. Our expectation was that priming elite resentment would rally Patriots fans against Goodell and the NFL (the elites who are seen as the villains within Patriots Nation) and perhaps especially drive Patriots opponents toward stronger anti-Brady beliefs (by reminding them of a hated dynasty).

METHODS

Sample

To test these hypotheses, we fielded an original online survey in collaboration with SurveyMonkey, an online survey platform company, from September 15-19, 2015. The survey was conducted using SurveyMonkey Audience, an online nonprobability Web panel. The panelists were recruited from over 30 million people who complete surveys on SurveyMonkey platform every month. In return for taking these surveys, SurveyMonkey rewards respondents with charitable donations or sweepstakes entries. Members of the panel also complete a comprehensive profile survey, which can be used to generate a target sample.

³ The pre-registered hypothesis refers to both "interest in" and "knowledge of football in general and the 'Deflategate' controversy specifically." As discussed below, however, factor analysis suggests that fan interest and knowledge are distinct traits. We therefore analyze these factors separately below.

⁴ In our empirical analysis below, we also test the proposition that a predisposition toward conspiracies can encourage seemingly contradictory beliefs in conspiracies regardless of directional preferences. As we discuss below, this possibility is consistent with prior research but was not preregistered by the authors.

Since a typical survey would only include a small percentage of Patriots fans, our design included an oversample of respondents from New England. The target sample was approximately 3,000 people, half of whom reported living in New England in their profile. We then asked respondents where they live now to account for movers. Our final data, therefore, includes 1,407 respondents who live in New England (51 percent of whom identified the Patriots as their favorite NFL team) and 1,513 living in other regions (3 percent of whom were Patriots fans). The sample, while not representative, is diverse by age (26% 18-44, 34% 45-59, and 40% 60+), income (median \$50,000-\$75,000), geography (all fifty states and Washington, D.C.), and politics (43% identify as Democrats, 21% as Republicans). Respondents skewed female (73%).

Outcome measures

The key outcome of interest are respondents' expressed beliefs in the three Deflategate conspiracies described above. We measured the perceived accuracy of four statements on a four-point ordinal scale (see Appendix A for all question wording):

Deflate

- “Tom Brady broke the NFL’s rules by directing team personnel to tamper with the footballs used in the playoffs last season.” (reverse-coded)
- “There’s no solid evidence that Tom Brady did anything wrong during the playoffs last season.”

Distract

- “The NFL is trying to punish Tom Brady in order to distract people from the league’s other problems.”

Absolve

- “The judge’s ruling overturning Brady’s suspension has more to do with money and influence than with the facts of the case.” (reverse-coded)

The first and third conspiracies are implicitly critical of Brady and the Patriots, whereas the second disparages the motives of the NFL in punishing Brady. We therefore expect people who view Brady and the Patriots favorably to embrace the distraction conspiracy and to reject the deflation allegations and the judicial influence claims, whereas the pattern should be reversed for those who view Brady and the Patriots negatively.

Independent variables

The survey also collected information on a variety of respondent characteristics that might influence respondents' likelihood to engage in motivated reasoning as well as their predispositions toward conspiracy belief. Specifically, we measured the following characteristics (again, exact question wording is provided in Appendix A):

Patriots favorability – the extent to which respondents support or oppose Brady and the Patriots

- US state of birth (New England=1, elsewhere/not born in U.S.=0)
- US state of residence (New England=1, elsewhere=0)
- Favorite NFL team (Patriots=1, another team/none/missing=0)⁵
- Feelings toward Tom Brady (0-100 feeling thermometer scale)

Football interest – respondent interest in NFL football and identification with teams

- Frequency of viewership of NFL games on television
- Extent of ownership of NFL team clothing

Deflategate knowledge – level of knowledge about the controversy

- Each respondent's number of correct responses to three multiple-choice questions about the details of the controversy (the minimum pressure allowed in NFL footballs; the number of games Brady was originally suspended; and the allegation recently made against Brady by the NFL).⁶

Conspiracy predisposition – respondents' proclivity to believe in political conspiracies unrelated to Deflategate (also evaluated on a four-point accuracy scale)

- “The U.S. government knew about the 9/11 attacks in advance and intentionally allowed them to happen.”
- “The media and government have covered up the evidence that President Obama was NOT born in this country.”

Because the birther and truther myths, like many conspiracy theories, are overtly partisan, the survey also asks about respondents' partisan identification using a standard branching question from political science.

Experimental treatments

Respondents were randomly assigned to one of three conditions – a control group, a treatment that primed respondents to think about group loyalties, or a treatment that primed respondents to think about elite resentment. Each condition offered a statement to focus the respondent's attention on a particular subject, then asked the respondent to write a statement on that subject (exact wording is again in Appendix A):

⁵ Our preregistration states that we will code the favorite team variable as “1 for Patriots; 0 otherwise.” We therefore code anyone who did not choose the Patriots as 0. However, our results are identical if we code those who chose “None” for their favorite team or left the item blank as missing (available upon request).

⁶ Per the preregistration, we tested whether football interest and knowledge scaled together. They did not (see below). We therefore describe these scales separately for clarity and analyze them separately below.

- Control (placebo essay topic): “Every day, millions of Americans begin their day with breakfast. Please tell us about what you generally eat to start the day and what you ate this morning.”
- Group solidarity: “There are times when people have to stand up for the interests of their community even when it’s not easy to do so. Please tell us about a case where you did something difficult because it was the right thing for your community.”
- Elite resentment: “Some people would say that there are two kinds of people in America — the elites and everyone else — and that those who are already on top get opportunities not available to other people. Please tell us about a time when you think someone who already had great wealth or power got special treatment.”

Compliance rates were quite high for an essay task. Among controls, 96% provided responses that were (as intended) mundane. In response to the more challenging group solidarity prime, 77% provided responses that were often more substantive (many focused on community service or politics). Finally, the elite resentment prime drew responses from 86% of respondents. These responses typically focused on political and economic elites, although entertainment celebrities also drew occasional scorn.

Statistical analysis

Below we report the results of the hypothesis tests we pre-registered with EGAP as well as the results of some additional analyses (any deviations from the analysis plan are labeled as such). We used OLS with robust standard errors to test each of our hypotheses. All treatment effects are estimated as intent-to-treat effects. We estimate marginal effects as appropriate when interaction terms are included in our models.

RESULTS

H1: Motivated reasoning

Our principal outcome measure in the analysis below is a composite index of Deflategate conspiracy beliefs created from a factor analysis of our four outcome measures. The component questions were reverse-coded as described above so that high values on the variable indicate belief in an anti-Patriots conspiracy and disbelief in the Deflategate and judicial influence allegations (low values indicate the converse). We refer to this composite index as our measure of anti-Brady conspiracy belief below.

To test the expected relationship between respondents’ views of the Patriots and Brady and their beliefs about Deflategate (H1), we regressed our index of anti-Brady

conspiracy beliefs on our estimates of Patriots favorability, interest in NFL football, inclination toward conspiracy belief, and a set of basic demographic indicators.⁷ The results, which are reported in Table 1, indicate that the relationship between viewing the Patriots favorably and belief in an anti-Brady conspiracy is very strong.⁸ Figure 1 illustrates the effect with respect to beliefs in the conspiracy to distract. Non-Patriots fans are nearly twice as likely as Patriots fans to regard that pro-Brady theory as not at all or not very accurate, and about half as likely as Patriots fans to regard it as somewhat or very accurate.

⁷ Per our preregistration, each of the scales was constructed from a principal components factor analysis after verifying that items loaded on a single dimension. The NFL interest and Deflategate knowledge scales were originally constructed as a single scale but loaded on separate dimensions (available upon request) and thus we only include the interestinterest scale here. The knowledge scale is tested separately below.

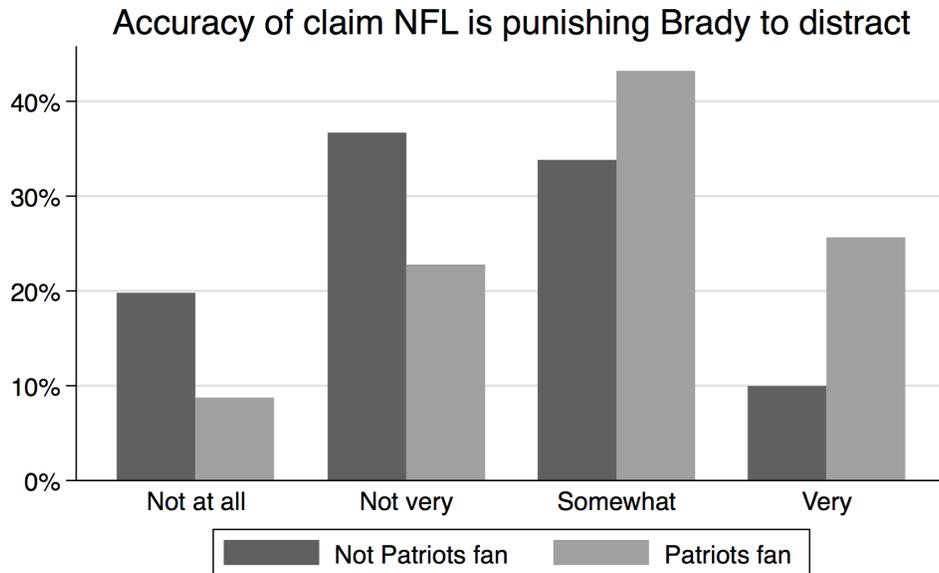
⁸ These results are consistent in post hoc analyses of individual outcome items ($p < .01$ for the Patriots favorability item in each case; results available upon request).

Table 1: Motivated reasoning in anti-Brady conspiracy beliefs

	Coefficient (SE)
Patriots favorability	0.47***
	(0.01)
NFL interest	0.00
	(0.01)
Conspiracy predisposition	0.00
	(0.01)
Male	0.06**
	(0.03)
Age 30-44	-0.05
	(0.04)
Age 45-59	-0.09**
	(0.04)
Age 60+	0.06
	(0.04)
Constant	2.58
	(0.03)
R ²	0.40
N	2594

Coefficients from OLS model with robust standard errors in parentheses. * p<0.10, ** p<0.05, *** p<0.01

Figure 1: Belief in NFL distraction conspiracy by Patriots fandom



Survey respondents' evaluations of the accuracy of the statement that "The NFL is trying to punish Tom Brady in order to distract people from the league's other problems" by whether they identified the New England Patriots as their favorite NFL team.

H2: Motivated and conspiratorial subgroups

We predicted that the association between views of the Patriots and anti-Brady conspiracy beliefs would be stronger among respondents who were more interested in the NFL and knowledgeable about Deflategate. Because these characteristics loaded on separate dimensions in a principal components factor analysis, we estimate two models to test H2a, estimating separately how whether the relationship between Patriots fandom and conspiracy beliefs varies significantly by NFL interest and Deflategate knowledge, respectively.

Table 2: Motivated subgroups by interest/knowledge

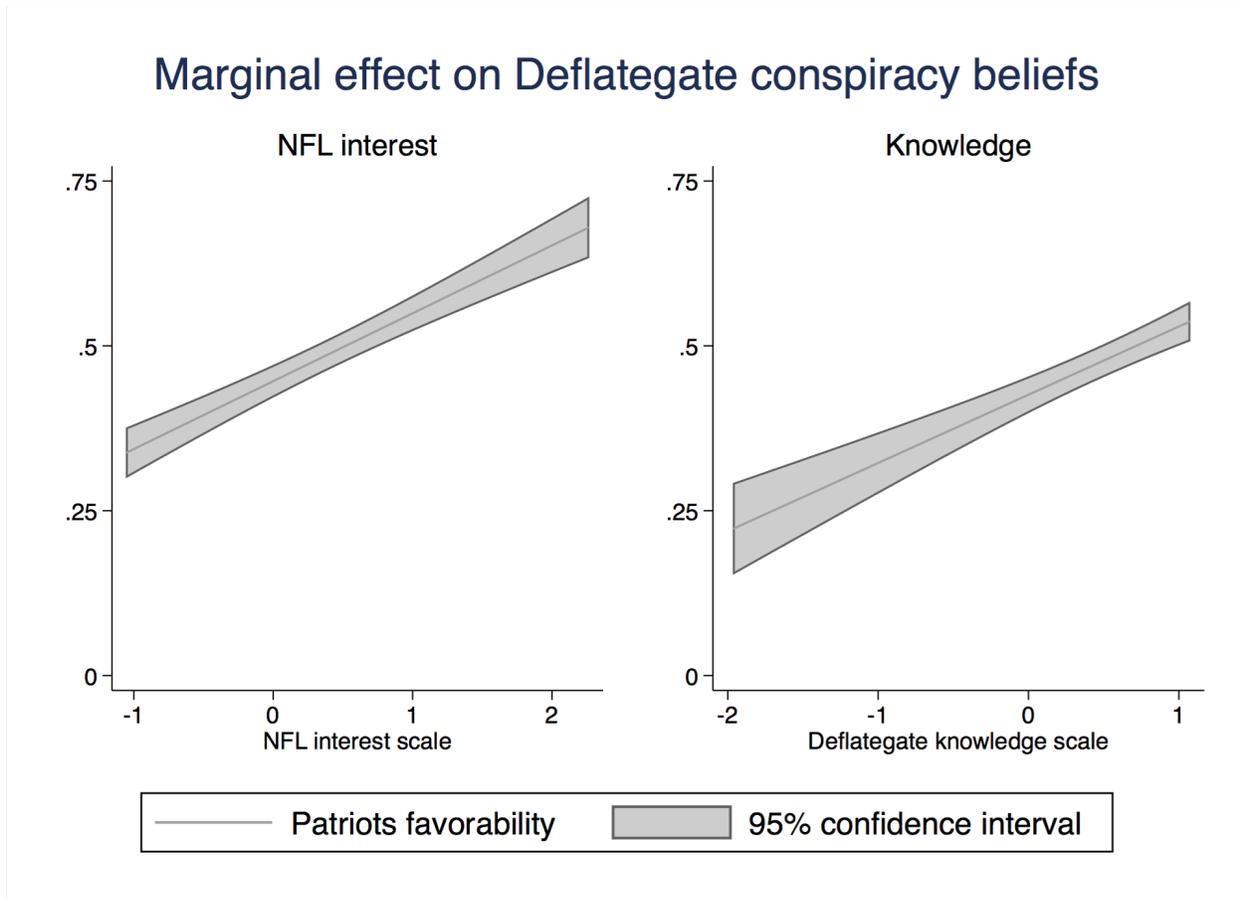
	(1)	(2)
Patriots favorability	0.45***	0.43***
	(0.01)	(0.01)
NFL interest	0.01	
	(0.01)	
Patriots favorability x NFL interest	0.10***	
	(0.01)	
Deflategate knowledge		0.06***
		(0.01)
Patriots favorability x Deflategate knowledge		0.10***
		(0.01)
Conspiratorial mind	0.00	0.01
	(0.01)	(0.01)
Male	0.05*	0.04
	(0.03)	(0.03)
Age 30-44	-0.05	-0.06
	(0.04)	(0.04)
Age 45-59	-0.10**	-0.10**
	(0.04)	(0.04)
Age 60+	0.06	0.05
	(0.04)	(0.04)
Constant	2.57	2.55
	(0.03)	(0.03)
R ²	0.41	0.41
N	2594	2602

Coefficients from OLS model with robust standard errors in parentheses. * p<0.10, ** p<0.05, *** p<0.01

Interactions between continuous variables can be difficult to interpret. Figure 2 below therefore illustrates how the marginal effects of Patriots favorability vary by NFL interest and Deflategate knowledge, respectively, using the approach recommended by Brambor, Clark, and Golder (2006) to interpret the results in Table 2. Specifically, we

find that the relationship between Patriots favorability and attitude-consistent beliefs is much stronger among the most devoted and knowledgeable fans.

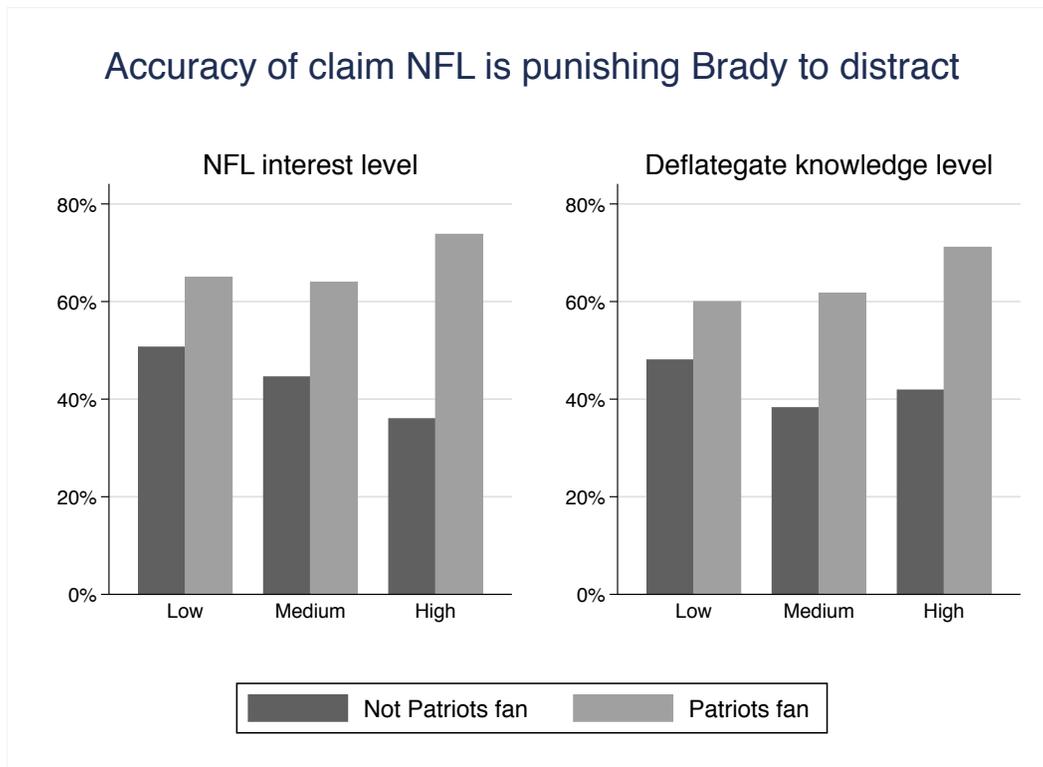
Figure 2: Marginal effects of Patriots favorability among motivated subgroups



Estimated from the models in Table 2 using the approach described in Brambor, Clark, and Wood (2006).

To illustrate this point more simply, Figure 3 shows how responses to the statement that the NFL sought to punish Brady in order to distract from the league's other public relations problems become more polarized between Patriots fans (light grey) and non-Patriots fans (dark grey) as they devote more interest to the NFL and are more knowledgeable about the Deflategate controversy. As the figure indicates, belief polarization is greater among respondents with higher levels of interest and knowledge. (Each graph classifies respondents into low, medium, or high categories reflecting a tercile split on the variable in question.)

Figure 3: Motivated beliefs in distraction conspiracy by interest/knowledge



H2b: Predispositions toward conspiratorial belief and motivated reasoning

We find no evidence to support hypothesis H2b - respondents' conspiratorial predispositions (as measured by their belief in the 9/11 inside job and Obama birther myths) do not significantly moderate the relationship between Patriots favorability and anti-Brady conspiracy belief (see table in Appendix B). As Table 1 above, shows, conspiracy predispositions are also not significantly associated with anti-Brady conspiracy beliefs conditional on other covariates.

However, the construction of the outcome variable may obscure the relationship between conspiracy predispositions and beliefs about Deflategate. Because we are interested in motivated reasoning, our outcome variable is a composite index that takes higher values for beliefs in an anti-Brady conspiracy and lower values for beliefs in a pro-Brady conspiracy. However, previous research indicates that people who are predisposed to conspiracy beliefs will frequently endorse other conspiracy theories even when the different theories are seemingly contradictory (e.g., Goertzel 1994, Swami et al. 2011, Wood, Douglas, and Sutton 2012). Table 3 therefore reports the results of a non-preregistered specification identical to Table 1 for each outcome measure where higher values indicate greater perceived accuracy (i.e., no reverse-coding).

Table 3: Conspiracy predispositions and Deflategate conspiracy beliefs

	Broke rules	No evidence	NFL distracting	Judge influence
Patriots favorability	-0.58***	0.52***	0.30***	-0.50***
	(0.02)	(0.02)	(0.02)	(0.02)
NFL interest	0.00	0.02	-0.06***	-0.04*
	(0.02)	(0.02)	(0.02)	(0.02)
Conspiracy predisp.	0.01	0.02	0.13***	0.14***
	(0.02)	(0.02)	(0.02)	(0.02)
Male	0.00	-0.01	0.03	-0.21***
	(0.04)	(0.04)	(0.04)	(0.04)
Age 30-44	0.01	-0.08	-0.23***	-0.09
	(0.07)	(0.06)	(0.07)	(0.07)
Age 45-59	-0.01	-0.09	-0.37***	-0.08
	(0.06)	(0.06)	(0.06)	(0.06)
Age 60+	-0.18***	0.08	-0.25***	-0.22***
	(0.06)	(0.06)	(0.06)	(0.06)
Constant	2.56***	2.82	2.73	2.67***
	(0.05)	(0.05)	(0.05)	(0.06)
R ²	0.34	0.30	0.12	0.27
N	2579	2583	2571	2575

Coefficients from OLS model with robust standard errors in parentheses. * p<0.10, ** p<0.05, *** p<0.01

As the table indicates, conspiracy predispositions are not significantly associated with beliefs in the specific allegations about deflating the footballs. However, there is a positive relationship between endorsing conspiracy beliefs about politics and believing in broader conspiracy theories about the motives and intentions of the NFL and the judge who heard Brady’s appeal ($p<.01$ in both cases). For instance, the proportion of respondents who said the claim that the NFL is punishing Brady is somewhat or very accurate increased from 44% among those who endorsed neither political conspiracy theory to 54% for those who endorsed one and 59% among those who endorsed two. Belief in the accuracy of the conspiracy theory about the judge was similarly related to political conspiracy belief, increasing from 44% to 55% to 65% across the same groups.

H3: Group solidarity and elite resentment primes

Finally, Table 4 reports the results of our experimental treatments priming group solidarity (H3a) and elite resentment (H3b), which did not have the expected effects on the relationship between Patriots favorability and anti-Brady conspiracy belief.

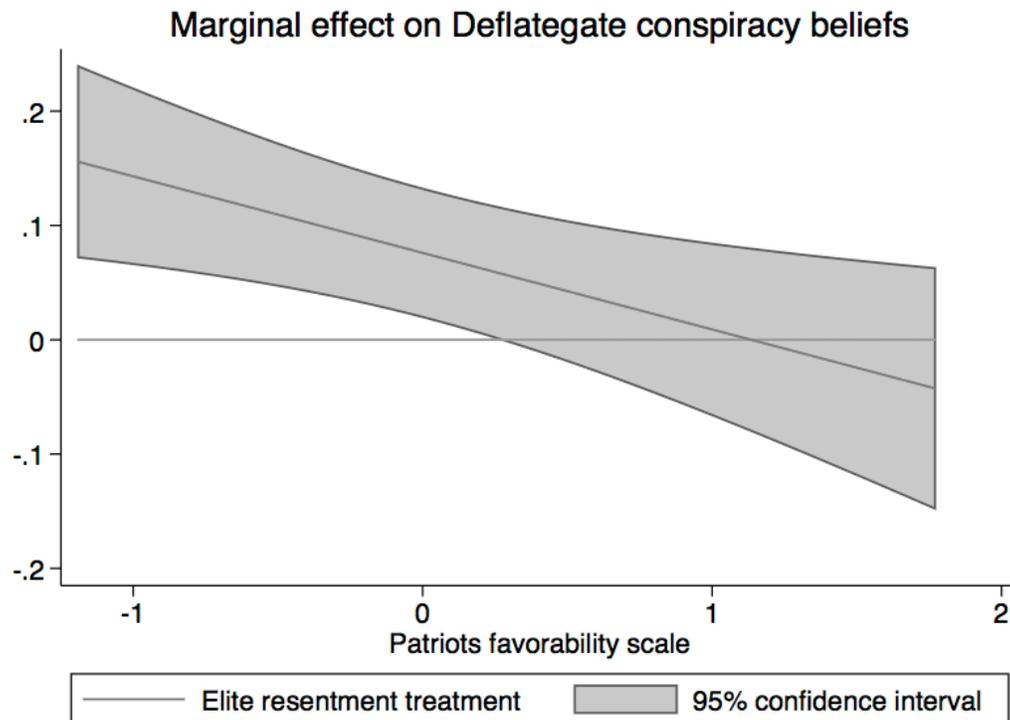
Table 4: Experimental effects on anti-Brady conspiracy beliefs

	Coefficient (SE)
Patriots favorability	0.51***
	(0.02)
Group solidarity	0.04
	(0.03)
Elite resentment	0.08***
	(0.03)
Patriots favorability x group solidarity	-0.03
	(0.03)
Patriots favorability x elite resentment	-0.07**
	(0.03)
Constant	2.54
	(0.02)
R ²	0.39
N	2621

Specifically, the group solidarity prime, which asked respondents to describe an instance where they took action on behalf of their community, did not moderate the effects of Patriots favorability. The marginal effect of the treatment, which is plotted in Appendix B, was not statistically significant for any subgroup.

By contrast, we find that the elite resentment prime significantly moderated the effect of Patriots favorability but the sign on the interaction term is negative - the opposite of our expectations. As Figure 4 illustrates, the marginal effect of the treatment was *positive* for people with a neutral or negative views of the Patriots and null otherwise.

Figure 4: Elite resentment effects on conspiracy beliefs by Patriots favorability



Estimated from the model in Table 4 using the approach described in Brambor, Clark, and Wood (2006).

Though the reason for this result is uncertain, one possible explanation is that the respondents who do not view the Patriots favorably still did not see the team or its quarterback as powerful elites. Respondents who are otherwise unsympathetic to the Patriots may have been more likely to view the NFL and its lawyers as powerful elites who were picking on Brady as a result of the experimental treatment.

Discussion

Using a unique survey sample and the novel context of the NFL's Deflategate controversy, we examine the prevalence of motivated belief in conspiracy theories on highly controversial issues. Our results show that beliefs about what took place and the intentions and actions of the elites are closely associated with respondents' views of the New England Patriots. Moreover, belief polarization is greatest and most attitude-consistent among individuals with high levels of interest in the topic and those who are most knowledgeable about the controversy. These results are strikingly consistent with previous research about belief in political conspiracy theories. However, we do not find that motivated reasoning is stronger among individuals with higher levels of conspiracy predispositions or those primed with feelings of group loyalty or resentment toward powerful elites. Instead, we found that individuals who believed in political conspiracy theories were more likely to endorse seemingly contradictory conspiracy theories about

Deflategate, suggesting the strength of conspiracy predispositions regardless of individuals' directional preferences.

Of course, this research has important limitations that should be noted. The sample design allows us to make more confident inferences about Patriots fans due to our oversample from the region but it is not nationally representative. In addition, the study was conducted months after the peak of the Deflategate controversy (though this delay should only make it more difficult for us to find the effects we observe). Finally, we cannot experimentally manipulate fan loyalty and do not observe or manipulate exposure to information about the controversy.

Still, these results have several important implications for research on motivated reasoning and conspiracy belief. First, we confirm previous research that suggests conspiratorial beliefs are powerfully shaped by unconscious motivated biases. Second, our findings suggest that partisans with more factual knowledge about a contentious issue are not necessarily more likely to agree on the issue. On the contrary, our results are consistent with previous research suggesting that highly motivated individuals are often best able to defend their existing beliefs against inconsistent information. Third, our results show that some individuals have a conspiratorial mindset that extends across domains ranging from politics to sports. These respondents appear to be inclined to accept conspiratorial explanations for many phenomena even when those explanations might appear to contradict one another. Finally, we help rule out the possibility that group membership and conspiratorial beliefs might be determined by a common unobserved factor. By studying sports loyalties, which are determined primarily based on arbitrary geographical factors, our research helps isolate the causal effects of motivated biases.

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Appendix A: Survey instrument

[feeling thermometers]

We would like to get your feelings toward some people who are in the news these days using something we call the feeling thermometer. Ratings between 50 degrees and 100 degrees mean that you feel favorable and warm toward the person. Ratings between 0 degrees and 50 degrees mean that you don't feel favorable toward the person and that you don't care too much for that person. You would rate the person at the 50 degree mark if you don't feel particularly warm or cold toward the person. If we come to a person whose name you don't recognize, you don't need to rate that person.

-Peyton Manning

-Tom Brady

-Taylor Swift

-Kanye West

[randomize order]

[experimental manipulation]

We would like to learn more about you. Every day, millions of Americans begin their day with breakfast. Please tell us about what you generally eat to start the day and what you ate this morning. NOTE: Your response to this question is very important. Please take your time to answer the question thoroughly. Don't worry about spelling, grammar, or how well written your answer is. Your answers will be kept confidential and not published in any form.

[control condition]

We would like to learn more about you. Every day, millions of Americans begin their day with breakfast. Please tell us about what you generally eat to start the day and what you ate this morning. NOTE: Your response to this question is very important. Please take your time to answer the question thoroughly. Don't worry about spelling, grammar, or how well written your answer is. Your answers will be kept confidential and not published in any form.

[group loyalty treatment]

We would like to learn more about you. Every day, millions of Americans are faced with situations where they have to make a choice between their own interest and the good of the community as a whole. Please tell us about a case where you put the good of the community ahead of your own self-interest. NOTE: Your response to this question is very important. Please take your time to answer the question thoroughly. Don't worry

about spelling, grammar, or how well written your answer is. Your answers will be kept confidential and not published in any form.

[elite resentment treatment]

We would like to learn more about you. Some people would say that there are two kinds of people in America — the elites and everyone else — and that those who are already on top, whether in business, politics, show business, or whatever, get opportunities not available to other people. Please tell us about a time when you think someone who already had great wealth or power got special treatment. NOTE: Your response to this question is very important. Please take your time to answer the question thoroughly. Don't worry about spelling, grammar, or how well written your answer is. Your answers will be kept confidential and not published in any form.

[state of residence and birth]

In what state do you currently reside? [response options: state list]

Were you born in the U.S.?

- Yes
- No

In what state were you born? [if born in U.S. - response options: state list]

[party identification]

Generally speaking, do you usually think of yourself as a Republican, a Democrat, an Independent, or something else?

- Republican
- Democrat
- Independent
- Something else

[if Republican]

Would you call yourself a strong Republican or a not very strong Republican?

- Strong Republican
- Not very strong Republican

[if Democrat]

Would you call yourself a strong Democrat or a not very strong Democrat?

- Strong Democrat
- Not very strong Democrat

[if independent or something else]

Do you think of yourself as closer to the Republican Party or to the Democratic Party?

- Closer to the Republican Party
- Closer to the Democratic Party
- Neither

[outcome variables]

We would now like to ask about your beliefs regarding the controversy known as “Deflategate” and the accusations by the National Football League against New England Patriots quarterback Tom Brady. For each of the statements below and on the following pages, please indicate how accurate you think the statement is.

[randomize question order]

Tom Brady broke the NFL’s rules by directing team personnel to tamper with the footballs used in the playoffs last season.

- Very accurate
- Somewhat accurate
- Not very accurate
- Not at all accurate

There’s no solid evidence that Tom Brady did anything wrong during the playoffs last season.

- Very accurate
- Somewhat accurate
- Not very accurate
- Not at all accurate

[page break]

[randomize question order]

The NFL is trying to punish Tom Brady in order to distract people from the league’s other problems.

- Very accurate
- Somewhat accurate
- Not very accurate
- Not at all accurate

The judge’s ruling overturning Brady’s suspension has more to do with money and influence than with the facts of the case.

- Very accurate
- Somewhat accurate
- Not very accurate
- Not at all accurate

[general beliefs about NFL rule-breaking - auxiliary question; not used]

In general, how common do you think it is for players to break the NFL's rules in how they prepare footballs for games?

- Very common
- Somewhat common
- Not very common
- Not at all common

[football interest]

Which of the following best describes your level of interest in professional football? (the NFL)

- No interest in football
- I pay attention to the NFL mainly when others around me are watching or talking about it
- I watch a game, or part of a game, most weeks during football season
- I watch more than one game each week

What is your favorite NFL team? [response options: team list or None]

Do you own any NFL team clothing such as jerseys, hats, sweatshirts, etc. with a pro football team's name or logo on them?

- No, I do not own any NFL team clothing
- Yes, I own between 1 and 3 items of NFL team clothing
- Yes, I own more than 3 items of NFL team clothing
- Don't know

[political conspiracy belief]

For each of the statements below, please indicate how accurate you think the statement is.

The U.S. government knew about the 9/11 attacks in advance and intentionally allowed them to happen.

- Very accurate

- Somewhat accurate
- Not very accurate
- Not at all accurate

The media and government have covered up the evidence that President Obama was NOT born in this country.

- Very accurate
- Somewhat accurate
- Not very accurate
- Not at all accurate

[Deflategate knowledge]

Next are some questions to help us see how much information gets out to people. Please answer these questions on your own without asking anyone or looking up the answers. Many people don't know the answers to these questions, but we'd be grateful if you would please answer every question even if you're not sure what the right answer is.

Which one of the following has Tom Brady recently been accused of?

- Destroying his cell phone
- Intimidating a witness
- Destroying footballs
- Refusing to meet with league officials

[response order randomized]

For how many games did the NFL originally suspend Tom Brady?

- 1
- 2
- 4
- 8

What is the minimum pressure allowed in NFL footballs? (PSI=Pounds per square inch)

- 6 PSI
- 12.5 PSI
- 18.5 PSI
- 25 PSI

[political knowledge - auxiliary questions; not used]

For how many years is a United States Senator elected - that is, how many years are there in one full term of office for a U.S. Senator?

- None of these
- Two years
- Four years
- Six years
- Eight years

How many times can an individual be elected President of the United States under current laws?

- Any number of terms
- Once
- Twice
- Three times

Who is the Prime Minister of the United Kingdom?

- Richard Branson
- Tony Hayward
- Nick Clegg
- David Cameron

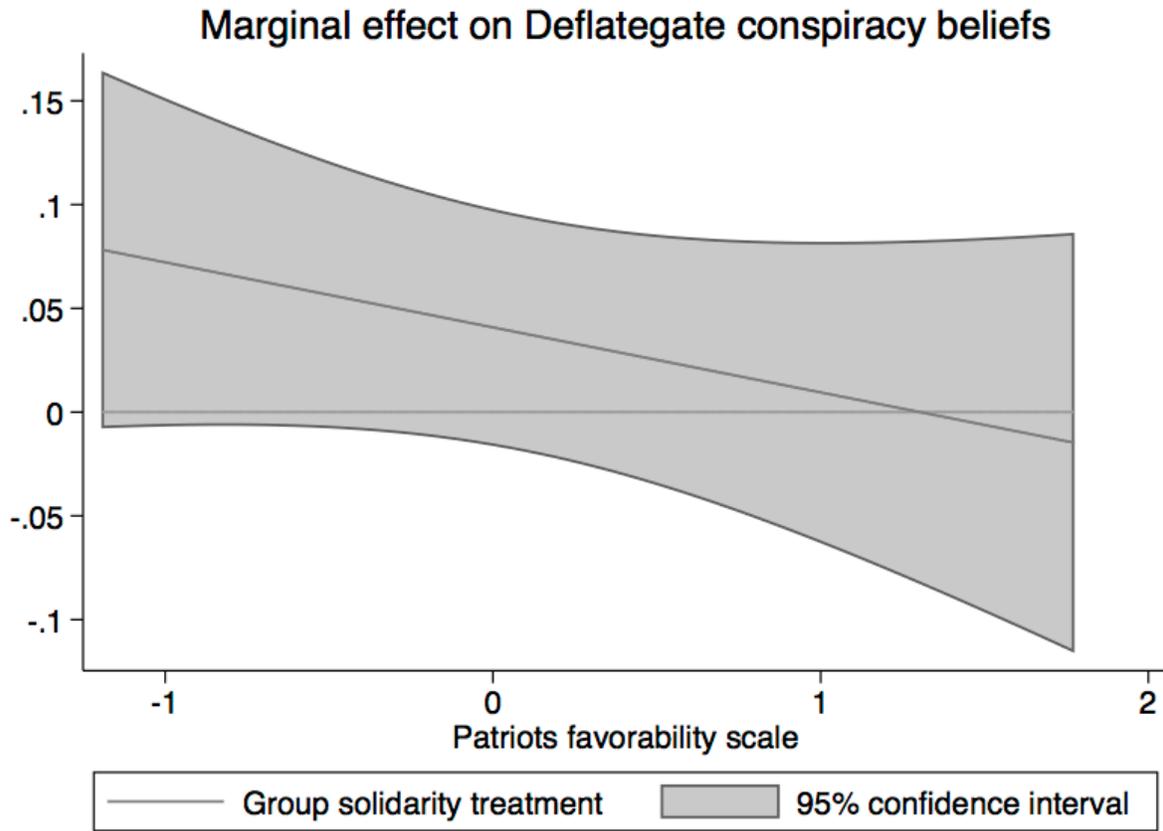
Appendix B: Additional results

Table B1: Conspiracy predispositions and motivated reasoning

	Coefficient (SE)
Patriots favorability	0.47***
	(0.01)
NFL interest	0.00
	(0.01)
Conspiracy predispositions	0.00
	(0.01)
Patriots fav. x conspiracy predispositions	-0.00
	(0.01)
Male	0.06**
	(0.03)
Age 30-44	-0.05
	(0.04)
Age 45-59	-0.09**
	(0.04)
Age 60	0.06
	(0.04)
Constant	2.58
	(0.03)
N	2594

Coefficients from OLS model with robust standard errors in parentheses. * p<0.10, ** p<0.05, *** p<0.01

Figure B1: Group solidarity effects on conspiracy beliefs by Patriots favorability



Estimated from the model in Table 4 using the approach described in Brambor, Clark, and Wood (2006).