Article

Politically oriented bullshit detection: Attitudinally conditional bullshit receptivity and bullshit sensitivity

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Abstract

Bullshit results from communicating with little to no regard for truth, evidence, or established knowledge (Frankfurt, 1986; Petrocelli, 2018a). Such disregard for truth serves as a common source of antiscientific beliefs and endorsement of alternative facts and is thereby critical to understand. To examine how social perceptions of bullshit may be conditional upon the political orientation of a source and the extremity of one's political attitudes, two experiments manipulated the alleged political source of bullshit messages and measured the direction and strength of political orientation. In Experiment 1, participants rated the profundity of nonsense statements allegedly stated by high-profile left/liberal or right/conservative political leaders. Experiment 2 participants rated the profundity of both bullshit statements and factual quotations regarding innovation. Results of both experiments suggest that bullshit receptivity and bullshit sensitivity are dependent on the alignment of the source's bullshit content with the direction and extremity of one's political attitudes.

> If we live in a world where information drives what we do, the information we get becomes the most important thing. The person who chooses that information has power.
>
> Seth Godin (2010)

It is fair to say that we live in an increasingly connected world, and the information that is shared continues to drive attitudes, beliefs, and behavior (Alcock, 2018). Concerns that our world

has entered a post-truth state have grown, and rather than consuming evidence-based information, a great deal of information shared and consumed is vacuous and based on bullshit reasoning

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(Baggini, 2017; Ball, 2017; d'Ancona, 2017; Davis, 2017; Keyes, 2004; Levitin, 2016; McComiskey, 2017; McIntyre, 2018; Rabin-Havt & Matters, 2016; Wilber, 2017). Thus, it is critical that social perceivers can adequately differentiate between evidence-based communications and bullshit. What roles do attitudes of the social perceiver and communicator play in the social perceiver's ability to differentiate between these forms of communication? Answering this question is the focus of the current investigation.

Bullshit (i.e., that which results from communicating with little to no concern for evidence, truth, or established knowledge; Frankfurt, 1986; Petrocelli, 2018a) appears to be an inevitable social behavior and a salient feature of our culture.[1, 2] Bullshitting involves intentionally or unintentionally, consciously or unconsciously, communicating with little to no regard or concern for truth, genuine evidence, and/or established semantic, logical, systemic, or empirical knowledge. Bullshitting is often characterized by, but not limited to, using rhetorical strategies designed to disregard truth, evidence, and/or established knowledge, such as exaggerating or embellishing one's knowledge, competence, or skills in a particular area or talking about things of which one knows nothing about in order to impress, fit in with, influence, or persuade others. Bullshitting is the antithesis of evidence-based communication and it appears to be a common social activity (Spicer, 2013) with a constant struggle against it (G. A. Cohen, 2002; Crockett et al., 2014; Law, 2011; Penny, 2005).

Often confused with the lie, bullshit is not the same as a lie.[3, 4] As Frankfurt (1986) theorized, the liar knows the truth and communicates to deceive others about the truth. On the other hand, the bullshitter has little to no regard for truth or evidence in support of what he/she believes and communicates. In fact, what the bullshitter communicates may be true, but even the bullshitter wouldn't know whether or not he/she is communicating the truth. Although the bullshitter and the liar appear genuine in their delivery, unlike the liar, the bullshitter doesn't care what the truth actually is, and he/she isn't even trying to know or communicate the truth.

Unfortunately, bullshit is unavoidable whenever the social context requires someone to communicate without knowing what he or she is talking about. As Frankfurt (1986) noted, "the production of bullshit is stimulated whenever a person's obligations or opportunities to speak about some topic are more extensive than his knowledge of the facts that are relevant to that topic" (p. 99). People appear to feel an implicit responsibility or obligation to hold and/or express an informed opinion about almost everything. In fact, it is well established that people are perfectly willing to offer judgments and opinions about that which they could not possibly know anything about (e.g., Herr et al., 1983). However, people cannot possibly have an informed opinion about everything, and holding all communication to the standard of verifiable evidence is a seemingly unreasonable standard. Thus, exposure to bullshit has become a common experience of daily life.

Initial empirical evidence suggests that bullshitting can have important social consequences and utilities; particularly, bullshit is found to be evaluated less negatively than lying and can be used as a successful persuasion tactic (Petrocelli, 2018b). Empirical evidence also suggests that bullshit-based content can sometimes be misperceived as something profound, meaningful, and worthy of influencing decision making (Pennycook et al., 2015; Pfattheicher & Schindler, 2016; Sterling et al., 2016; Turpin et al., 2019).

However, bullshit can also be a dangerous social substance. Frankfurt (1986) speculated that bullshit can be even more insidious than the lie. Indeed, bullshit can be very harmful, and when it is false, it negatively affects judgments and decisions (Collins, 2012; Crockett et al., 2014; Grant, 2014; Law, 2011; Pennycook & Rand, 2020; Randi, 1980), opinions (Crockett et al., 2014; Petrocelli, 2018b), memory, and what is perceived to be true (Fazio et al., 2015; Pennycook et al., 2018; Randi, 1980).

For example, the great variation in judgments, decisions, opinions, and beliefs about what is true with regard to measles, mumps, and rubella (MMR) vaccinations, despite clear evidence that

the benefits of these vaccines far outweigh the risks to individuals and that to greater society, appears to be the result of bullshit exposure (Hviid et al., 2019; Jain et al., 2015). Resistance to the strong rationale favoring vaccinations is often associated with endorsements of alternative medicine. Alternative medicine tends to emphasize open-mindedness but when it does so at the expense of empirical evidence, it fits the definition of bullshit. Once people are convinced by bullshit and share their beliefs publicly, it can be nearly impossible to dissuade them to think differently (Lord et al., 1979; Nyhan & Reifler, 2010). MMR antivaccinationists do not appear to care that the infamous case study report drawing links between the MMR vaccine and autism and bowel disease has long been discredited and retracted (Korownyk et al., 2014; Rao & Andrade, 2011). Meanwhile, diseases such as measles and mumps are making a comeback of preventable deaths due to failures to vaccinate children.

Indeed, a better understanding of the conditions under which bullshit can be detected is critical to defending against it, attenuating its unwanted effects, and ultimately disposing of it properly. Fortunately for bullshit detection studies, one's bullshit receptivity (i.e., general inclination to accept bullshit as something profound) and bullshit sensitivity (i.e., ability to discern bullshit from legitimately meaningful content—bullshit detection) can be easily measured. To measure bullshit receptivity, Pennycook et al. (2015) had participants rate the profundity of bullshit statements (i.e., randomly constructed statements containing appropriate syntactic structure and generated by a computer algorithm), such as "Hidden meaning transforms unparalleled abstract beauty" and "Imagination is inside exponential space time events" (Pennycook et al., 2015, p. 552). By definition, such a statement is entirely bullshit because it is an assortment of words with absolutely no concern for, or basis in, truth. As Pennycook et al. noted, bullshit is distinct from mere nonsense as it implies, but does not contain, adequate meaning or truth. To measure bullshit sensitivity, Pennycook et al. also had participants rate the profundity of legitimately meaningful quotations, such as "Your teacher can open the door, but you must enter by yourself" and "A wet person does not fear the rain," that do contain adequate meaning and truth. The difference between perceived profundity of legitimately meaningful quotations and bullshit quotations serves as a viable measure of bullshit sensitivity.

Unfortunately, bullshit detection has received minimal research attention. Only four general conclusions can be made with substantial confidence from the empirical research on bullshit detection. First, people vary in how receptive and sensitive they are to bullshit (Pennycook et al., 2015; Pennycook & Rand, 2019). Second, detecting bullshit is not accomplished by mere indiscriminate skepticism but rather discernment of deceptive vagueness from clear and truly profound claims (Pennycook et al., 2015; Pennycook & Rand, 2020). Third, bullshit unreceptivity and relatively strong bullshit detection are associated with a reflective or analytic cognitive style (i.e., effortful, typically deliberative, requiring working memory; Epstein et al., 1996; Evans & Stanovich, 2013), as opposed to a nonreflective or intuitive cognitive style (i.e., automatic, more rapid and processing-oriented, associative; Epstein et al., 1996; Evans & Stanovich, 2013), as well as relative disbelief in supernatural things/events, fake news accuracy (Pennycook et al., 2015; Pennycook & Rand, 2020), the paranormal, alternative medicine, conspiracies, and ontological clarity (Čavojová et al., 2019). Finally, the negative relationship between analytic thinking and perceived accuracy of fake and real news reports is not moderated by the presence/absence of a headline's source (which has no effect on accuracy), or by familiarity with the headline (which correlates positively with perceived accuracy of fake and real news; Pennycook & Rand, 2020).

Political Attitudes and Bullshit Detection

What roles do political attitudes play in bullshit detection? The research addressing this question has focused almost exclusively on political attitudes in the context of general bullshit detection, yielding mixed results.

Some of the available data suggest that bullshit receptivity and detection are not uniquely connected to political extremism on either end of the political spectrum (see Skitka & Washburn, 2016; Washburn & Skitka, 2017). In two studies designed to test competing accounts of susceptibility to partisan fake news (a special case of bullshit), Pennycook and Rand (2019) examined if people use their reasoning abilities to convince themselves that statements that align with their ideologies are true, or rather use them to effectively discern between fake and real news reports. Their data suggest that susceptibility to fake news is influenced more by lack of analytical thinking than it is by partisan biases, motivations, and political ideology. Furthermore, Sterling et al. (2016) showed that bullshit receptivity (and an intuitive, nonreflective cognitive style in general) was associated with trust in a Republican-led government and preference for a free-market economic system. Sterling et al. (2016) further reported that a quadratic association between bullshit receptivity and preference for free markets emerged, suggesting that political moderates are more receptive to bullshit than extremists in either direction.

However, Simonsohn (2018) demonstrated that a test of a quadratic relationship is an invalid test of the presence of u-shaped and inverted u-shaped relationships. In fact, using a more appropriate statistical method, Simonsohn found no evidence for the inverted u-shaped function reported by Sterling et al. (2016), and instead concluded that bullshit receptivity is positively associated with free-market support. Corresponding with findings of negative relationships between conservatism and cognitive ability (Onraet et al., 2015) and need for cognition (Sargent, 2004), Kemmelmeier (2010) and Deppe et al. (2015) reported conservative attitudes to be associated with an intuitive thinking style. Likewise, Jost et al. (2003) and Hinze et al. (1997) reported conservative attitudes to be associated with an avoidance of cognitive complexity (i.e., the tendency to construct a variety of perspectives for viewing an issue).

Relatedly, Pfattheicher and Schindler (2016) found that endorsement of pseudoprofound bullshit statements was associated with general conservatism and support for the Republican candidates for president at the time. However, their results also revealed that no such association existed for mundane statements (e.g., "A wet person does not fear the rain"). Pfattheicher and Schindler's results, therefore, speak against there being a general tendency among conservatives to see profoundness in everything. Instead, it may be that conservatives mistake pseudoprofound bullshit for profundity. Fessler et al. (2017) found that participants who were more conservative exhibited greater credulity for information about hazards. That is, conservatives were more likely to believe that kale contains thallium than liberals (although there is no good evidence that it does). However, consistent with a large body of research that has associated a negativity bias—a greater physiological response and allocation of more psychological resources to negative stimuli—with conservatism (Hibbing et al., 2014), Fessler et al. showed that the credulity–conservatism association was absent for similar statements that underscored alleged benefits (e.g., "Eating carrots results in significantly improved vision").

More recently, a study conducted by Nilsson et al. (2019) among Swedish adults also suggested that complex relationships exist between political ideology and bullshit receptivity. Their results suggest that bullshit receptivity is positively associated with social conservatism (vs. liberalism), resistance to change, and particularly binding moral intuitions (e.g., loyalty, authority, purity). However, bullshit receptivity was also associated with preference for equality and leftism on economic ideology. Further complexities were found when participants were asked what party they said they would vote for. Bullshit receptivity was lowest among right-of-center social liberal voters but highest among left-wing green voters. Thus, some data suggest that liberals and conservatives don't differ on their bullshit detection abilities and tendencies (e.g., Pennycook & Rand, 2019), whereas other data suggest otherwise (e.g., Nilsson et al., 2019).

Given their relative openness to experience (i.e., active imagination, preference for variety, and intellectual curiosity), it would be reasonable to

expect liberals to be relatively less biased than conservatives (Jost et al., 2008). Liberals might be more willing to accept contrary information when confronted with data that challenge their beliefs, whereas conservatives' propensity to defend the status quo may make them resistant to new information. However, a meta-analysis conducted by Ditto et al. (2019) suggests otherwise. Ditto et al. summarized studies in which participants were presented with information that contradicted their beliefs, finding that liberals and conservatives were equally biased in their acceptance of these discrepant data (see e.g., Kahan, 2013).

Of course, the mental processing of bullshit does not occur in a vacuum. Here, it is proposed that people use social cues, such as the political orientation of the communicator of bullshit, to either (a) comprehend or disambiguate the content (biased cognitive processing), or (b) perceive the content as proattitudinal—both of which lead to biased judgments about a message's profundity. Whether people cognitively elaborate in response to reading political statements or not, when people see something that appears consistent with their political views, even in the most superficial ways, they are expected to positively endorse it. Yet the very same content is expected to be viewed negatively and readily dismissed as spin or labeled as misleading when communication cues signal that the content may be counterattitudinal (Borel, 2018; Fritz et al., 2004; Greenberg, 2016). For instance, when liberals (conservatives) listen to liberals (conservatives), they hear cogent content, but when liberals (conservatives) listen to conservatives (liberals), they hear specious content. Indeed, politically biased processing has a very strong hold on political opinion formation. Politically biased processing has been shown to influence rational choice and heuristic information processing (Jost et al., 2013), group polarization and source-credibility effects (Bolsen et al., 2015; Taber et al., 2009), biased information search (Arceneaux & Johnson, 2013; Lodge & Taber, 2013), and the processing of factual misinformation (Flynn et al., 2017). Here, it is proposed that the very same is true for the endorsement of politically charged bullshit, whether that content is processed at either a low or high level of cognitive elaboration.

Specifically, on the basis of biased assimilation processes (Lord et al., 1979) and naïve realism (Ehrlinger et al., 2005; Ross, 2010; Ross & Ward, 1996), it is proposed that detection of any particular bullshit among liberals and conservatives depends in part on the specificities of the bullshit content they encounter. Anything that aids in disambiguating a bullshit statement, such as cues to the value, ideologies, or attitudes associated with the statement (e.g., the political position of the contributor), is likely to affect bullshit receptivity and sensitivity. When it appears that source cues, or values, ideologies, and/or attitudes are aligned (not aligned) with one's own, bullshit receptivity should be more (less) likely and bullshit sensitivity should be less (more) likely. If this is true, it should be possible to demonstrate that even with the most minimal resemblance to one's preconceived notions or biases, bullshit is endorsed. The current investigation was designed to test this possibility.

Experiment 1

In Experiment 1, a community sample of participants (i.e., MTurk) were presented with the bullshit statements and the legitimately meaningful motivational quotations of Pennycook et al. (2015), and asked to rate the profundity of each statement. Importantly, participants were randomly assigned to review statements, all of which were alleged direct quotes from either a Democratic or Republican political leader. Thus, all participants rated the profundity of *the very same statements*, but all statements were allegedly made by either Democratic leaders or Republican leaders. Participants were then assessed with respect to their political orientation. Once again, it was predicted that profundity ratings would be relatively high (low) when the statements were allegedly made by political leaders consistent (inconsistent) with one's political orientation.

Method

Participants and design. A total of 368 MTurk participants (M_{age} = 34.58 years, SD = 10.81; 64.7% male) with a HIT approval rate above 95% were recruited to complete the survey in

exchange for $1.00.[5] A single-factor, between-subjects design was employed, whereby participants reported their profundity ratings for the very same bullshit quotations and motivational quotations allegedly expressed by either Democratic or Republican leaders. An a priori sample size analysis using G*Power (Faul et al., 2009) was computed on the basis of large effect sizes for bullshit receptivity ($\eta^2_{partial} \geq .17$) and medium effect sizes for bullshit sensitivity ($\eta^2_{partial} \geq .06$; Murphy & Myors, 2004) found in two prior within-subjects pilot studies that examined Political Orientation × Leader Quotations interaction (Petrocelli, 2019). This analysis revealed a required minimum sample size of $N = 119$ to detect a medium-sized effect ($f^2 = .15$) in a hierarchical multiple regression with three predictors and a high power of $1 − \beta = .95$.

Materials and procedure. All experimental materials were presented through a self-administered computer questionnaire using Qualtrics. Participants advanced by clicking appropriate response keys.

Bullshit receptivity and bullshit sensitivity. Participants read 20 randomly presented statements from Pennycook et al.'s (2015) Bullshit Receptivity Scale and Bullshit Sensitivity Scale. Ten of the statements were bullshit statements (e.g., "Hidden meaning transforms unparalleled abstract beauty. – George W. Bush"), whereas the other 10 statements consisted of motivational quotations (e.g., "A river cuts through a rock, not because of its power but its persistence. – Bill Clinton"). Participants were randomly assigned to rate all of the statement allegedly quoted by Democratic leaders (i.e., Barack Obama, Nancy Pelosi, Bill Clinton, Al Gore, Oprah Winfrey) or allegedly quoted by Republican leaders (i.e., Rush Limbaugh, Newt Gingrich, Paul Ryan, George W. Bush, John McCain), using a 5-point response scale (1 = *not at all profound*, 5 = *very profound*). Bullshit sensitivity was calculated by taking the difference of the mean of the bullshit quotations from the mean of the motivational quotations (i.e., mean profundity rating for motivational quotations − mean profundity rating for bullshit quotations), resulting in a +4 (highest sensitivity) to −4 (lowest sensitivity) range.

Political orientation. Next, participants answered two frequently employed questions designed to measure political orientation (see Kroh, 2007; Malka & Lelkes, 2010). Specifically, participants answered: "We hear a lot of talk these days about 'liberals' and 'conservatives.' Here is an 11-point scale on which people's political views are arranged from extremely liberal to extremely conservative. Where would you place yourself on this scale?" (0 = *extremely liberal*, 10 = *extremely conservative*) and "In politics people sometimes talk of 'left' and 'right.' Where would you place yourself from 0 to 10 where 0 means extreme left and 10 means extreme right?" (0 = *extreme left*, 10 = *extreme right*). Internal consistency was high for the two items, and treated as a composite average (Cronbach's α = .91). The sample reported a relatively neutral to conservative orientation on average ($M = 6.48$), with an expected level of variation ($SD = 3.10$).

Participants completed a brief demographics questionnaire, and were debriefed and thanked for their participation in the study.

Results

Bullshit receptivity. Bullshit receptivity data were subjected to hierarchical multiple regression procedures recommended by J. Cohen and Cohen (1983). Political orientation and leader quotations were centered and entered in the first step, and their interaction term was entered in the second step of the regression analysis.

A significant main effect was observed for political orientation, $\beta = .54$, $t(364) = 12.59$, $p < .001$, such that bullshit receptivity was associated with a more right/conservative orientation; but the effect of leader quotations was nonsignificant, $\beta = −.04$, $t(364) = −1.15$, $p = .248$. However, consistent with expectations, the Political Orientation × Leader Quotations interaction term qualified the significant main effect, $\beta = −.22$, $t(364) = −5.06$, $p < .001$.

Figure 1. Predicted regression means of bullshit receptivity and bullshit sensitivity regressed onto political orientation and leader quotations with standard error bars: Experiment 1.
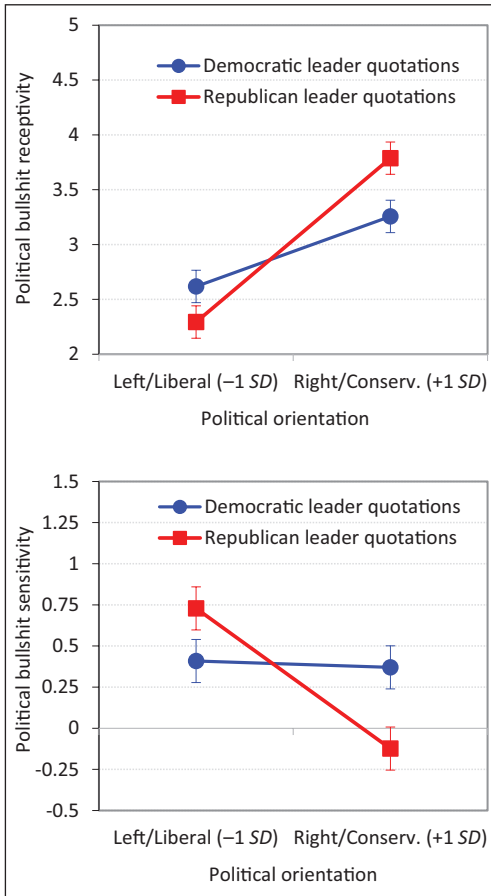
To interpret the interaction, simple slope analyses were conducted according to the procedures recommended by J. Cohen et al. (2003). Simple slopes were plotted and examined at 1 standard deviation above and below the means of political orientation and leader quotations (see top panel of Figure 1). As expected, these analyses showed that when bullshit quotations allegedly came from Republican leaders, bullshit receptivity significantly increased as political orientation became more conservative, $b = 0.71$, $t(364) = 13.68$, $p < .001$. Somewhat surprisingly, when bullshit quotations allegedly came from Democratic leaders, bullshit

receptivity still significantly increased as political orientation became more conservative, but to a lesser extent, $b = 0.30$, $t(364) = 5.81$, $p < .001$. Importantly, from another angle, participants who reported a relatively left/liberal orientation showed greater bullshit receptivity when bullshit was allegedly communicated by Democratic leaders than when it was communicated by Republican leaders, $b = 0.15$, $t(364) = 2.52$, $p < .016$. Similarly, participants who reported a relatively right/conservative orientation showed greater bullshit receptivity when bullshit was allegedly communicated by Republican leaders than when it was communicated by Democratic leaders, $b = -0.25$, $t(364) = -4.12$, $p < .001$.

Bullshit sensitivity. Bullshit sensitivity data were also subjected to a hierarchical multiple regression. A significant main effect was observed for political orientation, $\beta = -.34$, $t(364) = -7.27$, $p < .001$, such that bullshit sensitivity was associated with a more left/liberal orientation; but the effect of leader quotations was nonsignificant, $\beta = .06$, $t(364) = 1.35$, $p = .176$. However, consistent with expectations, the Political Orientation × Leader Quotations interaction term qualified the significant main effect, $\beta = .31$, $t(364) = 6.69$, $p < .001$ (see bottom panel of Figure 1).

As expected, analyses showed that when bullshit quotations allegedly came from Republican leaders, bullshit sensitivity significantly decreased as political orientation became more conservative, $b = -0.61$, $t(364) = -7.79$, $p < .001$. Yet when bullshit quotations allegedly came from Democratic leaders, bullshit sensitivity had no relationship with political orientation, $b = -0.02$, $t(364) = -.35$, $p = .730$. Importantly, from another angle, participants who reported a relatively left/liberal orientation showed less bullshit sensitivity when bullshit was allegedly communicated by Democratic leaders than when it was communicated by Republican leaders, $b = -0.23$, $t(364) = -2.85$, $p = .007$. Similarly, participants who reported a relatively right/conservative orientation showed less bullshit sensitivity when bullshit was allegedly communicated by

Republicans than when it was communicated by Democrats, $b = 0.36$, $t(364) = 4.41$, $p < .001$.

Discussion

The findings from Experiment 1 are consistent with the assertions of politically biased endorsement suggested by earlier research (Arceneaux & Johnson, 2013; Bolsen et al., 2015; Borel, 2018; Flynn et al., 2017; Fritz et al., 2004; Greenberg, 2016; Jost et al., 2013; Lodge & Taber, 2013; Taber et al., 2009). Specifically, the results suggest that people's political orientation may bias endorsement of ambiguous statements that signal political agendas consistent or inconsistent with his/her own political orientation. The statements allegedly made by leaders of one's political affiliation that are viewed as relatively profound are the very same statements made by leaders not of one's political affiliation that are viewed as bullshit. In addition, the main effect observed for political orientation linking both bullshit receptivity and a lack of bullshit sensitivity with conservatism, is entirely consistent with prior research linking variables associated with better bullshit detection with liberalism (e.g., Deppe et al., 2015; Nilsson et al., 2019; Pfattheicher & Schindler, 2016). Whether politically driven endorsements derive from biased interpretation and meaning, or the sheer lack of mentally processing information in an analytical way (Pennycook & Rand, 2019), politically biased endorsement appears to extend to bullshit detection.

Experiment 2

Experiment 1 employed bullshit statements that political leaders may be unlikely to make. Experiment 2 was designed to serve as a conceptual replication, using content that would be normally received from political leaders. Specifically, quotation content in Experiment 2 centered on the topic of innovation.

Method

Participants and design. A total of 391 MTurk participants ($M_{age} = 34.58$ years, $SD = 10.81$; 64.7% male) with a HIT approval rate above 95% were recruited to complete the survey in exchange for $1.00. A single-factor, between-subjects design was employed, whereby participants reported their profundity ratings for the very same bullshit quotations and motivational quotations allegedly expressed by either Democratic or Republican leaders.

Materials and procedure. All experimental materials were presented through a self-administered computer questionnaire using Qualtrics. Participants advanced by clicking appropriate response keys.

Bullshit receptivity and bullshit sensitivity. Participants read 20 randomly presented statements; 10 of them were bullshit statements (e.g., "In the near future, imaginative communities will use autonomous drones to actively transform government. – George W. Bush") generated from the Social Innovation Bullshit Generator,[6] whereas the other 10 statements consisted of factual innovation quotations expressed by famous individuals (e.g., "Setting goals is the first step in turning the invisible into the visible. – Bill Clinton") taken from a technology blog (Mavenlink, 2017). Participants were randomly assigned to rate all of the statements allegedly expressed by the same Democratic or Republican leaders used in Experiment 1, using a 5-point response scale (1 = *not at all profound*, 5 = *very profound*). Bullshit sensitivity was calculated by taking the difference of the mean of the bullshit quotations from the mean of the factual quotations (i.e., mean profundity rating for factual quotations − mean profundity rating for bullshit quotations).

Political orientation. Next, participants completed the same political orientation items employed in Experiment 1. Internal consistency was high for the two items, and treated as a composite average (Cronbach's $\alpha = .97$). The sample reported a relatively neutral orientation on average ($M = 5.33$), with an expected level of variation ($SD = 2.93$).

Participants completed a brief demographics questionnaire, and were debriefed and thanked for their participation in the study.

Figure 2. Predicted regression means of bullshit receptivity and bullshit sensitivity regressed onto political orientation and leader quotations with standard error bars: Experiment 2.
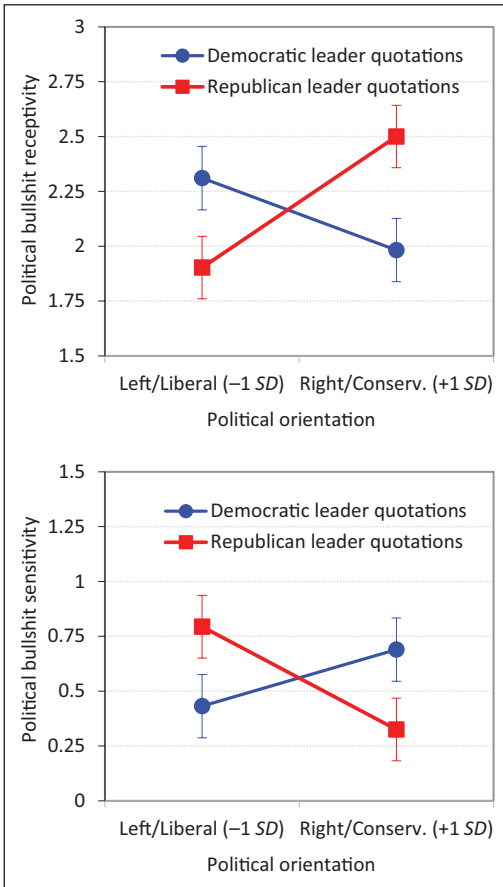
Results

Bullshit receptivity. Bullshit receptivity scores were subjected to a hierarchical multiple regression. Neither the main effect test of political orientation, $\beta = .08$, $t(387) = 1.62$, $p = .106$, nor the main effect test of leader quotations reached statistical significance, $\beta = -.03$, $t(387) = -.68$, $p = .494$. However, consistent with expectations, the Political Orientation × Leader Quotations interaction term qualified the null main effects, $\beta = -.28$, $t(387) = -5.67$, $p < .001$ (see top panel of Figure 2).

As expected, these analyses showed that when bullshit quotations allegedly came from Republican leaders, bullshit receptivity significantly increased as political orientation became more conservative, $b = 0.36$, $t(387) = 5.79$, $p < .001$. Similarly, when bullshit quotations allegedly came from Democratic leaders, bullshit receptivity significantly increased as political orientation became more liberal, $b = -0.20$, $t(387) = -2.84$, $p = .007$. Also, participants who reported a relatively left/liberal orientation showed greater bullshit receptivity when bullshit was allegedly communicated by Democratic leaders than when it was communicated by Republican leaders, $b = 0.24$, $t(387) = 3.26$, $p = .002$. Similarly, participants who reported a relatively right/conservative orientation showed greater bullshit receptivity when bullshit was allegedly communicated by Republican leaders than when it was communicated by Democratic leaders, $b = -0.31$, $t(387) = -4.15$, $p < .001$.

Bullshit sensitivity. Bullshit sensitivity data were also subjected to a hierarchical multiple regression. Once again, a significant main effect was not observed for political orientation, $\beta = -.08$, $t(387) = -1.58$, $p = .115$, nor for leader quotations, $\beta = .01$, $t(387) = .01$, $p = .992$. However, consistent with expectations, the Political Orientation × Leader Quotations interaction term qualified the significant main effect, $\beta = .27$, $t(387) = 5.51$, $p < .001$ (see bottom panel of Figure 2).

As expected, these analyses showed that when bullshit quotations allegedly came from Republican leaders, bullshit sensitivity significantly decreased as political orientation became more conservative, $b = -0.35$, $t(387) = -4.41$, $p < .001$. Yet when bullshit quotations allegedly came from Democratic leaders, bullshit sensitivity significantly decreased as political orientation became more liberal, $b = 0.19$, $t(387) = 2.29$, $p = .028$. From another angle, participants who reported a relatively left/liberal orientation showed less bullshit sensitivity when bullshit was allegedly communicated by Democratic leaders than when it was communicated by Republican leaders, $b = -0.27$, $t(387) = -2.90$, $p = .006$. Similarly, participants who reported a relatively

right/conservative orientation showed less bullshit sensitivity when bullshit was allegedly communicated by Republican leaders than when it was communicated by Democratic leaders, $b = 0.27$, $t(387) = 2.92$, $p = .005$.

Discussion

Once again, no matter one's political orientation, the data are suggestive of the tendency to be receptive to bullshit and relatively insensitive to the important difference between specious and cogent political content when it derives from people who happen to align with one's political orientation. Experiment 2 employed alleged bullshit and factual content about innovation and thereby attenuated the positive association between conservative ideology and bullshit receptivity and the negative association between conservative ideology and bullshit sensitivity reported in Experiment 1—although the associations appear to persist. Of course, the extent to which the current results bear on real-world political bullshit depends on the match between the bullshit content employed as experimental materials and that evidenced by actual, real-world bullshit. Although the bullshit quotes employed were not actual quotes, they matched the complexity and tone of most quotes regarding innovation expressed by popular political figures (e.g., "Now is not the time to gut these job-creating investments in science and innovation. Now is the time to reach a level of research and development not seen since the height of the Space Race," made by President Barack Obama in his fourth presidential State of the Union Address, delivered on February 12, 2013 in Washington, DC; White House, 2013).

General Discussion

The concept of bullshitting first arose through an analytical philosopher's critique of a common form of communication (Frankfurt, 1986). Although it has received attention in philosophy (G. A. Cohen, 2002; Hardcastle & Reisch, 2006; Law, 2011; Penny, 2005), or used as an explanation for varying organizational behavior (Allen et al., 2012; Morgan, 2010; Spicer, 2013), it has virtually escaped empirical examination. Understanding bullshitting is not simply an attempt to understand the conditions under which bullshitting is most prevalent, but is also an attempt to understand the psychological processes that enable people to communicate with little to no concern at all for evidence and those that explain why people accept so much bullshit without questioning its validity.

The experimental studies reported here provide insight into how politically charged bullshit and politically biased endorsements play important roles in the detection of bullshit. Both experiments point to the same general conclusion: cues signaling a particular political ideology of the communicator, embedded within otherwise ambiguous or clear bullshit, can influence endorsement. In some ways, the current investigation is a microcosm of the sum of earlier research examining the relationship between political orientation and bullshit detection and/or variables found to be related to bullshit detection (e.g., cognitive reflection). Experiment 1 replicates earlier reports indicating that greater bullshit receptivity (and relatively less bullshit sensitivity) is associated with conservatism (Deppe et al., 2015; Fessler et al., 2017; Hinze et al., 1997; Jost et al., 2003; Kemmelmeier, 2010; Nilsson et al., 2019; Onraet et al., 2015; Pfattheicher & Schindler, 2016; Sargent, 2004; Simonsohn, 2018). However, Experiment 2 replicates earlier reports that bullshit receptivity and sensitivity are not differentiated by conservatism or liberalism (Pennycook & Rand, 2019; Skitka & Washburn, 2016; Sterling et al., 2016; Washburn & Skitka, 2017).

The findings are consistent with other theoretical approaches. Attitudinal positions on novel attitude objects are clearly influenced by motivations to align one's attitudes of importance (Festinger, 1957), and directed by one's underlying fears, ideologies, worldviews, and identity needs—even when they are challenged by evidence (Hornsey & Fielding, 2017). Demonstrating an allegiance bias, people will find alternatives to reality more plausible when they align with the

beliefs and ideologies they are motivated to defend (Effron, 2018; Hahl et al., 2018; Hutson, 2018; Markman & Hirt, 2002; Tetlock, 1998; Tetlock & Henik, 2005).

Common experience also suggests that individuals with a conservative (liberal) political orientation view positively, and defend, any and all content contributed by a leading conservative (liberal) politician, but reject the very same content when it is contributed by a leading liberal (conservative) politician. In fact, the current findings are consistent with Ross and Ward's (1996) notion of naïve realism—the widespread conviction that one perceives things "as they really are." Such conviction helps to maintain one's beliefs that other reasonable people see things the same way, and that if other people see the same things differently, it must be because they are biased (Ehrlinger et al., 2005; Ross, 2010; Ross & Ward, 1996). Demonstrating the effects of naïve realism, Maoz et al. (2002) took peace proposals created by Israeli negotiators, labeled them as Palestinian proposals, and asked Israeli citizens to judge them. The Israelis liked the Palestinian proposal attributed to Israel more than they liked the Israeli proposal attributed to the Palestinians. If one's own proposal isn't attractive when one believes it comes from the "other side," it is unlikely that the other side's proposal will be attractive when it does come from the other side (also see Kahn et al., 2016).

Likewise, the current investigation provides important insights as to when bullshit detection will be challenging. If statements are viewed as relatively profound if they are allegedly made by leaders of one's political affiliation but at the same time they are viewed as bullshit if they are made by leaders not of one's political affiliation, what can people do to successfully influence the beliefs and decisions of people who grossly disagree with them? Because all social influence attempts meet resistance (Brehm, 1966; Festinger & Maccoby, 1964; Knowles & Linn, 2004; Rosenberg & Siegel, 2018), and because rational arguments can be ignored or even backfire under specific conditions (Chan et al., 2017; Lord et al., 1979; Nyhan & Reifler, 2010; Washburn & Skitka, 2017; Wood & Porter, 2019), it seems that any successful approach may first involve nudging rather than logic or force (see Thaler & Sunstein, 2008) as well as careful understanding and benevolence (see e.g., Boghossian & Lindsay, 2019) before people are willing to consider anything other than what they already believe (Lord et al., 1984). Yet the extent to which these techniques can be successfully employed in conversation with bullshitters, and/or people who strongly believe bullshit, awaits empirical investigation.

The current investigation does inherit an important limitation. Specifically, both experiments employed an online, MTurk sample. Similar to the limitations of unrepresentative college student samples (see Sears, 1986), concerns with MTurk's validity, reliability, and ability to replicate well-established findings are increasing (Chmielewski & Kucker, 2020; Kennedy et al., 2020; but see Clifford et al., 2015). MTurk samples are unlikely to be nationally representative of U.S. political ideologies. That means that liberal MTurk workers are not the same as liberals in general in the US, and the same is likely true (perhaps more so) for conservative MTurk workers. This is a limitation in terms of generalizing these results beyond this sample and to the broader U.S. population. Of course, more or less extreme political ideologies, or more or less variation in political ideologies, would appear to augment or attenuate the findings reported here. However, convenient to any two-way factorial design, any single variable—its extremity or variation—would not explain the Political Orientation × Leader Quotations interactions reported (Aronson et al., 1990). In any case, future research would do well to target the most representative samples with regard to political ideology and general demographics.

Future Directions

Social cognitive evidence suggests that the acceptance of an idea is part of the automatic comprehension of that idea, and that the more effortful rejection of an idea, or the corrections made in mentally representing that idea in memory, occur subsequently to its acceptance (Gilbert, 1991). It

seems that politically biased endorsement can impact political bullshit detection at both stages of belief formation and in at least three ways. One's political biases may impact the blind acceptance/endorsement of a notion by (a) interpreting the notion at the outset in such a way as to make any subsequent correction less potent; (b) decreasing the likelihood of correction; and (c) biasing the process of correction. Future research would do well to shed light on the multiple levels of cognitive processing by which political biases have their effects on bullshit detection.

Future research would also do well to determine how thoughts and beliefs influenced by undetected and undisposed bullshit can be corrected. Although early research on belief perseverance suggests that social perceivers often persist in believing discredited information (e.g., Ross et al., 1975), subsequent research suggested that explicit beliefs are modified when it becomes clear that previously learned information is unambiguously false (Golding et al., 1990; Wyer & Unverzagt, 1985). Undoubtedly, bullshit content is particularly problematic because bullshit is not unambiguously false; sometimes bullshit is correct, making it more difficult to detect. In fact, common experience suggests that bullshit often sounds reasonable and feasible.

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Supplemental material

All supplemental material can be found at https://osf. io/p4bkt/?view_only=21da94d36c0a44929eb9111ffd 654f1b

Notes

1. Bullshitting may also refer to a lack of concern for "truth." However, truth is pluralistic (i.e., a system of thought that recognizes more than one ultimate principle and/or a diversity of ideas; Horwich, 2010; Künne, 2003; Lynch, 2009; Pedersen & Wright, 2013). In fact, philosophers (Bernal, 2006; Preti, 2006; Reisch, 2006) speculate that bullshitters often believe their own bullshit; that is, the bullshitter believes what he/she says is true (Bernal, 2006; Preti, 2006; Reisch, 2006). The problem with bullshitting then lies in the fact that bullshit represents a distorted view of the truth, lacking in concern or consideration for evidence or established knowledge (also see Allen et al., 2012; Morgan, 2010; Spicer, 2013).

2. Determining whether or not any particular content is bullshit has more to do with how it is communicated (i.e., the underlying concern for evidence/ established knowledge, and the manner in which they promote and defend claims) than with what is communicated (Law, 2011). Communicating any claim, such as "Pluto is a planet in our solar system," can be done without any concern for evidence or knowledge, or it can be done with such concern. The former is considered bullshit, but the latter is not. In essence, the bullshitter is a relatively careless thinker/communicator and plays fast and loose with ideas and/or information as he bypasses consideration of, or concern for, evidence and established knowledge. The notion of *how* one communicates with respect, or lack thereof, for evidence and/or truth is consistent with Frankfurt's (1986) definition of bullshit, whereas the notion of *what* is communicated is consistent with G. A. Cohen's (2002) unique definition. G. A. Cohen defined bullshit as an obscure output or semantic content that cannot be clarified or unobscured. That is, any particular claim could be deemed bullshit, in and of itself. However, that which is considered nonsense or truth is pluralistic. According to the definition employed in the current research, bullshitting is an activity with an indifference to an important element of sound judgment and reasoning (e.g., evidence, established knowledge, truth), not necessarily de facto claims about whether particular communicative content is or is not bullshit. Treating the behavior of bullshitting as a way of communicating escapes the epistemological quandaries that G. A. Cohen's definition of bullshit is subject to.

3. Bullshitting is also distinct from propaganda. Propaganda is a form of communication often used by political campaigners, sales agents, advertisers, and others aiming to influence the attitude of a population toward some cause or position. Used to

further an agenda, propaganda is often characterized by playing on emotions by appealing to fears, popular desires, prejudices, and irrational hopes, rather than by using rational argument, thus creating a rather distorted vision of the world (Jowett, 1987; Petty et al., 1976; Pratkanis & Aronson, 2001; Sussman, 2011). Similar to the liar, the propagator is aware of the truth, and frames or distorts it to further his/her agenda by influencing the attitudes of others. The bullshitter, on the other hand, is not concerned with the truth and is not using it as a tool of mass persuasion. In fact, as Frankfurt (1986) surmised, sometimes one is compelled to bullshit in order to test out the reactions of those around them or to feel what it is like to say such bullshit. Although propaganda could conceivably involve bullshit, not all bullshit is propaganda.

4. The disregard for evidence, characteristic of the bullshitter, should not be confused with sociopathic behavior. The sociopath behaves without regard for society in general or its rules and laws, and the rights of others. They also fail to feel remorse or guilt and have a tendency to display violent behavior (Mealey, 1995; Pemment, 2013). It is quite likely that sociopathic behavior will involve some degree of bullshitting, but bullshitting in and of itself is not sociopathic.

5. All measures, manipulations, and exclusions in Experiments 1–2 have been disclosed, as well as the method of determining the final sample size. In each experiment, data were first collected and then analyzed; no data were collected after data analysis. All data and procedures are available online (https://osf.io/p4bkt/?view_only=21da9 4d36c0a44929eb9111ffd654f1b).

6. Social Innovation Bullshit Generator: http://www.janavirgin.com/IFAPA/SOCIAL_INNOVATION/

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