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#### Recommended Citation

Hermanson, Jeremy V.. (2021). Elephants Never Forget: Partisan Schemas and the Continued Influence of Misinformation. In *BSU Honors Program Theses and Projects*. Item 478. Available at:

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Elephants Never Forget: Partisan Schemas and the Continued Influence of Misinformation

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Submitted in Partial Completion of the  
Requirements for Departmental Honors in Psychology

Bridgewater State University

May 3, 2021

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### **Author Note**

This manuscript is submitted in partial completion of the requirements of Departmental Honors in Psychology. This research would not have been possible without Dr. Elizabeth Spievak's psychology lab, and the dedication of many undergraduate research assistants, notably Drew Robertson and Noah Wasserman.

## **Abstract**

In an age where information is plentiful and access to it is practically unlimited, the veracity of information is frequently an afterthought. Previous research has demonstrated that individuals may often be reluctant to alter their beliefs and attitudes even after false information is corrected. This phenomenon is known as the continued-influence effect or the continued influence of misinformation (CIM). Misinformation and “fake news” have grown more common, and their effectiveness may be explained by CIM. Research also shows that schemas can have significant effects on how information is processed, and preexisting beliefs, values and attitudes can affect what information is readily absorbed, ignored, forgotten or invented. Individuals with more extreme partisan schemas, particularly conservatives, may be more vulnerable to misinformation. The current study was an examination of CIM in college students and the general population who were exposed to fake news, corrections of fake news, or both. The hypotheses that attitudes about initial misinformation and degree of belief change upon correction would vary by partisan schema strength were partially supported.

*Keywords:* fake news, misinformation, schemas, political beliefs, continued influence of misinformation

## **Elephants Never Forget: Partisan Schemas and the Continued Influence of Misinformation**

People must process an overwhelming amount of information on a daily basis, and verifying the credibility or relevance of information is often an afterthought. Mitchell et al. (2018) found that only about a third of U.S. adults were able to correctly identify a set of news headlines as facts or opinions, and were less accurate if the headlines were aligned with their own political ideology; for many, judgments of the accuracy and truthfulness of news depended on how much they agreed with it. Despite this, there is a growing awareness of the prevalence of misinformation, more commonly known as “fake news.”

Approximately half of Americans currently consider misinformation a “very big problem” today, and 68% agree that it has eroded trust in the U.S. political system (Mitchell et al., 2019). For example, in a 2020 survey, most Americans (71%) reported that they were familiar with a conspiracy theory that claims that the COVID-19 pandemic was planned or intentional (Mitchell et al., 2020). However, partisanship was predictive of whether or not an individual actually believed in the COVID-19 conspiracy theory: 34% of Republicans stated that the theory was “probably or definitely” true compared to only 18% of Democrats, and this occurred despite little difference in how likely both groups were to be familiar with the claim. Republicans (63%) were also more likely than Democrats (18%) to say that the pandemic has been exaggerated (Mitchell et al., 2020). In another study, Americans reported that they still believe in a conspiracy theory stating that former U.S. president Barack Obama was born outside the U.S., and those beliefs also fell along partisan lines: 38% of self-described “very strong” Republicans believed the conspiracy theory compared to only 11% of “very strong” Democrats (Jardina & Traugott, 2019). Regardless of efforts to debunk and correct it, misinformation (such as conspiracy theories) has been shown to influence beliefs and reasoning, and research suggests

that prior experience and knowledge, or schemas, may play a role in the effectiveness of both the initial misinformation and the corrections.

The perseverance of false beliefs as a result of fake news demonstrates a phenomenon known as the continued-influence effect, or the continued influence of misinformation (CIM), which describes how the reconstructive processes of memory can decrease the likelihood that beliefs will be updated after correction or retraction of the original misinformation (Anderson et al., 1980; H. M. Johnson & Seifert, 1994; McFarland et al., 2007; Ross et al., 1975). Perception and memory are generally understood to be constructions, not copies, of experiences. Research suggests these constructions are influenced by situational and dispositional factors that impact both the ability to process information (e.g. capacity limits) and the motivation to do so (e.g. interest or involvement). As a result, human memory is rife with errors of various consequence, colored by assumptions and inferences, mingled with traces of the original events or details (Roediger & DeSoto, 2015). Bartlett (1932) argued that perceiving, comprehending and remembering are a function of an individual's schemas for understanding of the world. Schemas include stereotypes, and those related to strong political and social beliefs have been shown to exert considerable influence over processing of misinformation (Bodenhausen & Wyer, 1985; Bronstein et al., 2019; Greenstein & Franklin, 2020; Nyhan & Reifler, 2010; Walter et al., 2020). Therefore, in a polarized political environment awash with misinformation, schematic processing may directly impact the perceiver's ability to determine the veracity of information and subsequent correction, particularly for individuals with extreme partisan schemas.

### **Schemas**

Schemas are generally considered functional, adaptive and efficient (Bargh, 1982); they are representations of past experience that become theories about reality and new experiences

(Bartlett, 1932; Markus & Zajonc, 1985). As organizations of preexisting knowledge and memories, schemas include concrete matters (e.g. places, objects, people) and the abstract (e.g. beliefs, relationships, attitudes) (Baldwin, 1992; Brewer & Nakamura, 1984; Brewer & Treyens, 1981; Judd & Kulik, 1980). A schema helps to reduce cognitive load by fitting new information into existing concepts rather than having to start from scratch to understand new things, such as how to navigate a social situation or the purpose of a novel object. For example, if one were dressing for work, the jeans and motorcycle jacket would be ignored; attention would be directed toward the schema-appropriate selection of collared shirts. Similarly, a new pair of jeans would not be mistaken as office appropriate, and with little complex thought a rental car can be driven the familiar route to the office. Schemas work quite well for routine tasks and everyday information processing, and they allow perceivers to preserve precious cognitive resources for more complex problems. Therefore, information that is schema-consistent would generally be easier to process than information that is schema-inconsistent. Given that most of our information processing is fairly trivial, schematic thinking tends to be the rule rather than the exception (see Fiske & Neberg, 1990) and the costs are quite modest in comparison to the energy-saving benefits. In essence, a schema is both a framework for organizing existing information one already has and for how to interpret new information. As Bartlett himself put it, “The influence of 'schemata' is influence by the past” and he argued that memory is not divorced from context (1932).

A long history of research suggests that preexisting beliefs, attitudes and values in the form of schemas influence the likelihood of scrutinizing incoming information, which is selectively encoded and organized according to thematic structures. This is often referred to as the consistency bias; attitude-relevant information is more easily processed and recalled, new

information and experiences tend to be assimilated into existing schemas, and conflicting, ambiguous or confusing information is later remembered as having been more in line with the individual's preexisting schema (Bergman & Roediger, 1999; Gawronski, 2012). Judd and Kulik (1980) asked participants to rate how much they agreed or disagreed with varying statements about contentious social issues (e.g. capital punishment, women's rights, and majority rule in South Africa), to rate how pro/anti each statement was for the social issue, and they were asked to recall the statements the next day. Participants responded more quickly, and recalled statements more accurately, when they had previously agreed/disagreed more strongly; statements that participants responded to more moderately were more difficult to remember later. The authors argued that attitudes, as social schemas, drive expectations about the type of information that is likely to be encountered and that, particularly for bipolar issues, people expect to encounter very agreeable or quite disagreeable information, which facilitates the encoding and retention of information that is either highly schema-consistent or highly contradictory. In another example, study participants in a graduate student's office recalled the presence of objects consistent with existing schemas for a university office (e.g. books) even if those objects were not present (Brewer & Treyens, 1981). Information that is inconsistent with an individual's existing schemas is more likely to be forgotten or ignored, while information that is consistent is recalled with relative ease and becomes salient in decision-making (Bodenhausen & Wyer, 1985; Tuckey & Brewer, 2003). Schemas are vital in what individuals pay attention to, how the information is processed, what is ultimately learned, and the constructive nature of recall. Of particular interest for the current study is how schemas likely contribute to the processing and retention of misinformation after correction.

## **Schema Theory and the Continued Influence of Misinformation**

The continued influence of misinformation (CIM) tends to be explained as an artifact of the way memory and memory organization (schemas) are broadly understood to work.

Information in the form of an “engram,” or memory trace, is processed and encoded into semantic long-term memory, where it is stored for later inclusion in a reconstructive process (Baddeley, 1966; Bartlett, 1932; Dudai, 2004; Goldstein, 2014; Hemmer & Steyvers, 2009).

Details may be recalled correctly but misattributed to another familiar or commonly referenced source, or schema-related knowledge may be used to fill knowledge gaps, resulting in flawed but stable memories rich with plausible elements that contribute to the recaller’s confidence (Kleider et al., 2008). In a similar way, corrections and new learning become associated and intertwined with the initial misinformation. Misinformation is not simply unlearned or removed from memory; it continues to contribute and interfere in a variety of ways (Ayers & Reder, 1998).

Alternatively, corrections of previous information may become an addendum that “tags” the initial misinformation with a negation, which may be lost over time or overlooked under stress or time constraints (H. M. Johnson & Seifert, 1998).

Factors related to the information itself also appear to influence CIM. For example, much past research suggests that misinformation that is causal (i.e. explains events, such as “the building caught on fire because of improperly stored gasoline”) results in greater CIM, and that effective corrections must be both plausible and causal in nature (H. M. Johnson & Seifert, 1994; Rapp & Kendeou, 2007; Schul & Mazursky, 1990; Seifert, 2002). In other words, corrective messages should have as much explanatory power as the misinformation in order to be effective. Ecker et al. (2011) applied varying strengths of encoding for misinformation and then tested the effectiveness of retractions; both strong and weak memory encoding resulted in CIM. While a

strong retraction reduced memory strength for misinformation, no amount of retraction eliminated CIM completely. The results supported previous findings that even weakly encoded misinformation was resistant to retraction (Schul & Mazursky, 1990).

Evidence suggests that schema-consistent information is perceived and recalled easily and quickly, a process referred to as fluency, which likely contributes to CIM. As experience or information becomes routine, it becomes schematic. Thus, information that has been encountered frequently becomes schematic and is more likely to be considered factual or accurate later, even if the individual was made aware that it was false (Pennycook et al., 2018). In one study of this “illusory truth effect,” DiFonzo et al. (2016) found that repetitive exposure to rumors impacted the validity judgements of the rumors. Processing fluency, or the relative ease with which participants could process statements due to familiarity, mediated the validity judgements, suggesting that familiarity played a role in susceptibility to rumor acceptance. Pennycook et al. (2018) found that even relatively implausible headlines from (actual) fake news articles shared online were judged as more accurate after only a single previous exposure (although extremely implausible statements such as “Smoking cigarettes is good for your lungs” were unconvincing). The familiarity effect occurred despite warnings that the headline was disputed or contested by fact-checkers. The authors suggest that such disclaimers are likely ineffective weapons against misinformation because relatively little exposure to plausible statements is necessary to increase perceived accuracy of information. Fazio et al. (2015) also found that prior knowledge was not particularly effective at preventing illusory truth effects, which demonstrated a “knowledge neglect” in favor of processing fluency. In short, many factors influence memory encoding, recall and ultimately CIM, particularly prior experience and familiarity, suggesting that schemas may be a significant factor in misinformation and correction.

## **Personal Schemas and Misinformation**

Schemas and their components may be particularly influential in the memory for, and resilience to, misinformation, under conditions that reduce the likelihood of analytical thinking. In one study, Pennycook and Rand (2019), found that those with higher scores on the Cognitive Reflection Test, a measure of likelihood to engage in analytical thinking, were better able to discern fake news and real news, even if the headlines did not match the participants' own political ideology. Those with lower scores were less likely to pick the false or true headlines apart. Other studies found similar effects (De keersmaecker & Roets, 2017; Zhu et al., 2010). In one study of misinformation during political campaigns, Murphy et al. (2019) demonstrated that false memories relevant to issue-based voting could be experimentally manipulated, particularly among those who scored lower in analytical thinking. The study used either real or fake news about scandals on either side of Ireland's abortion referendum campaign, and asked participants if they remembered the events. Those in favor of the referendum to repeal an abortion ban were more likely to "remember" a fake news scandal for the opposing campaign; those opposed to the repeal were more likely to recall a fabricated scandal for those in favor. The effect was stronger for participants who scored low on a measure of cognitive ability.

The tendency to favor schematic processing over analytical thinking has also been linked to individual difference variables such as fear of negative evaluation, harm avoidance, and cooperativeness, characteristics that Zhu et al. (2010) found were predictive of a vulnerability to misinformation. Bronstein et al. (2019) found that traits such as dogmatism, delusionality, and religious fundamentalism were positively related to belief in fake (but not true) news, and the authors noted that the traits also shared a common link with reduced propensity for analytic thinking. Individual differences in sociopolitical views have been connected to schema-based

processing. A long history of research suggests that value-relevant attitudes, especially political or social ones, are among the strongest (Johnson & Eagly, 1989), and strongly held and value-laden attitudes serve to maximize processing of information that matches attitudes and to exaggerate the dissimilarity of information that is in contrast, as in schemas (Sherif & Hovland, 1961). Schemas impact how a person responds to information, and partisan schemas representing strong political and social beliefs may be particularly salient in processing information relevant to these schemas, often the subject of both real and fake news.

### **The Influence of Partisan Schemas**

Schemas encompass an individual's worldview, including their political and social beliefs, values and attitudes, and political bias has been linked to differences in information processing (Dodd et al., 2012, 2016; Jost et al., 2003). Research suggests that partisan political attitudes are among the strongest of convictions and they predict intolerance of opposing beliefs (van Prooijen & Krouwel, 2017). In addition, those with stronger partisan schemas more readily learn and accept information that supports those beliefs, and are more likely to ignore corrections that contradict their political views; partisanship affects both learning and memory (Johnson & Eagly, 1989; Khanna & Sood, 2018; Taber & Lodge, 2006). For example, in three studies, Nyhan and Reifler (2010) found that the effect of corrections was conditional on the strength of preexisting attitudes; corrective information was most successful when it aligned with strongly held partisan beliefs, and was the least successful when the correction was counter-attitudinal. These effects were particularly robust among U.S. conservatives. Researchers have offered several explanations for such partisan differences in information processing. Some have found a connection between conservative schemas and disinterest in novel stimuli (Carraro et al., 2011; Dodd et al., 2012; Shook & Fazio, 2009), low tolerance for uncertainty, and a high need for

closure (Jost et al., 2003). In short, many of the traits associated with misinformation vulnerability (e.g. dogmatism, religious fundamentalism, etc.; Bronstein et al., 2019) may be more common to those with strong conservative political bias (Jost et al., 2003).

Axt et al. (2020) found that simply calling information “fake news” often appeals to conservative political schemas. The researchers conducted several experiments in order to better understand what draws people to make fake news attributions. Participants read about errors made in reporting the news that either matched their political beliefs or were schema-inconsistent, and then indicated how much they believed the error was due to intentional deception or incompetence. Results suggested that the fake news label appealed to the conservative participants; it satisfied a need for structure and certainty, and a tendency to attribute mistakes in the news to a more purposeful reason (i.e. intentional deception) rather than simple errors in reporting. In other words, it may be easier to imagine news organizations conspiring to release fake news for malicious ends that are predictable and concrete, rather than complex reasons that are difficult to pin down or solve. Both increased tendency to make fake news attributions, and vulnerability to fake news itself, are related to partisanship.

Because schemas exert influence over what individuals learn and remember, those with strong schemas likely seek out and more readily learn information (e.g. real or fake news) that is consistent with their schemas, while ignoring or rejecting information that is not. Due to the strength of political beliefs and associated values, misinformation that appeals to preexisting schemas about the nature of political figures may be particularly effective on strong partisan schemas. In particular, CIM may have a more powerful effect on those with strong conservative schemas who are motivated to manage the threats of uncertainty and complexity (Jost et al., 2003).

## **Current Studies**

The above literature review suggests that message content and delivery, as well as individual differences in the form of political beliefs and schemas, may make people differentially vulnerable to misinformation by promoting the use of mental shortcuts, decrease the likelihood of analytical thinking, impair memory, and thus increase CIM, particularly for conservative political schemas. The current studies were designed to respond to calls for further research on the relationship between CIM and preexisting attitudes and beliefs (Ecker et al., 2014), particularly in relationship to political orientation (Nyhan & Reifler, 2010). Our hypotheses were that participants who identified as strongly partisan would 1) be less critical of misinformation that was schema-consistent, 2) be less resistant to a correction that was schema-consistent, 3) be more critical of misinformation that was schema-inconsistent, and 4) be more resistant to a correction that was schema-inconsistent. The effects were expected to be stronger among conservatives.

### **Study 1**

#### **Method**

##### ***Participants***

Participants were recruited from the Bridgewater State University SONA subject pool, which is comprised primarily of students enrolled in the Introduction to Psychology course in order to earn course credit. There were 287 participants (94 males, 181 females, and 12 who indicated other or did not specify;  $M_{age} = 18.62$ ). In terms of ethnicity, participants primarily identified as Caucasian/White (72.8%), followed by African American/Black (10.5%), Latino/Hispanic (7%), Asian/Pacific Islander (1.4%), and other (3.8%), and some did not

respond (4.5%). There were 103 participants that identified as Democrat, 42 that identified as Republican, and 110 that identified with no party.

### ***Measures***

The dependent variable, the continued influence of misinformation, was measured by the Likert scale ratings of the target on 15 different attributes (e.g. “intelligent,” “responsible;” see [Appendix A](#)). Participants also responded to several attitude measures. The variable of particular interest was political orientation. We included a single item that asked which political party the participant identified with (Republican, Democrat, or no party) and one question that asked participants to rate their self-identified political leaning on a 0-7 scale from extremely liberal to extremely conservative. We also included the Political Belief Scale (PBS; Webber et al., 2018), which was designed to study extremist beliefs. Participants rated their agreement with a series of statements that represent liberal, moderate, and conservative policies and values (liberal  $\alpha = .77$ ; moderate  $\alpha = .66$ ; conservative  $\alpha = .83$ , as reported by Webber et al., 2018a). Participants also completed the Social-Dominance Orientation Scale (Pratto et al., 2011), which is designed to capture beliefs in societal group hierarchies and generalized prejudice ( $\alpha = .83$ , as reported by Pratto et al., 1994). Scale reliability results for all studies are reported in [Table 1](#).

### ***Procedure***

The project was IRB approved and data collection was completed during the Fall of 2019. Participants entered the lab and were instructed to sit at a computer with a packet and pencil in front of them, and after signing the informed consent document, they could begin completing the packet. At certain points in the packet, they were prompted to advance a slideshow on the computer in front of them. The slide directed the participant to click on links to actual websites which varied based on condition. This way, the articles appeared in a realistic

manner, and the effect of misinformation and efficacy of corrective news reports increased the external validity of the study.

The fake news article was hosted on a “satire” news website called Taters Gonna Tate ([www.tatersgonnatate.com](http://www.tatersgonnatate.com), now defunct; article archived at <http://archive.is/W5iHx>), and claimed that Democrat House Representative Rashida Tlaib committed election fraud and was under investigation. While the article makes this claim repeatedly, it also contradicts itself several times, and the article is posted under the category of “Satire and/or Conservative Fan Fiction,” making it possible for an astute reader to determine that the article is misinformation and the source is unreliable. The correction article was posted on the reputable fact-checking website Snopes (<https://www.snopes.com/fact-check/rashida-tlaib-investigation/>). The Snopes article explicitly corrected the exact article posted to Taters Gonna Tate, accurately reporting that the original story was a “complete fabrication,” on a network of websites “infamous for generating politically inflammatory misinformation under the guise of proffering ‘satire,’” and suggesting that some misinformation is originally distributed in this manner (Mikkelson, 2019).

The study was originally designed with six conditions total (3x2). In C1, participants read the fake news article online with negative misinformation about the politician (Rashida Tlaib), and the correction. Participants completed the individual differences scales between reading the fake news article and the correction. In C2, participants read the correction only. In C3, participants read the fake news article only. Participants completed all parts of the packet and were debriefed and dismissed. The corresponding experimental conditions in which the target was a Republican politician (C4, C5 and C6) were unable to be completed due to the COVID-19 pandemic.

## Results

A mean target rating was calculated by aggregating the 15 attributes. There were no significant differences between the ratings of the target of fake news in C1 ( $M = 2.59$ ) and C3 ( $M = 2.44$ ) ( $p = .27$ ). Additionally, participant ratings of the target of the correction article in C1 ( $M = 3.19$ ) and C2 ( $M = 3.33$ ) were not significantly different ( $p = .35$ ).

To test the hypotheses regarding CIM, the C1 pre-correction ratings were subtracted from the post-correction ratings to create a measure of rating change. For those who identified as Democrat,  $M_{change} = 0.84$ ; for those who identified as Republican,  $M_{change} = -0.01$ ; and for those who identified with no party,  $M_{change} = 0.63$ . A one-way ANOVA revealed significant differences between the means for Republicans and Democrats ( $p = .03$ ), Republicans and no party ( $p = .03$ ), but not between Democrats and no party ( $F(2,63) = 4.16, p = .37$ ). Republican participants updated their beliefs significantly less than Democrats and no party participants.

Conservative leaning (on the single-item Likert scale) predicted more critical evaluations of the target overall: fake news  $r(136) = -.17, p = .05$ ; correction  $r(124) = -.42, p < .01$ . However, the correlation between self-identified political leaning and rating change did not quite reach significance,  $r(64) = -.22, p = .08$ . Table 2 shows the results of correlations between scores on the PBS, Social Dominance Orientation, and evaluations pre-correction, post-correction, and rating change. Agreement with liberal statements on the PBS was significantly positively correlated with evaluation of target before and after correction, but not with rating change. Conservatism scores from the PBS were significantly negatively correlated with evaluation of target after correction, but not with rating change. Moderate scores from the PBS were significantly positively correlated with evaluation of target after correction and with rating change (see [Table 2](#)), but had low reliability (see [Table 1](#)).

## **Discussion**

The difference in the rating change between participants who identified as Republican versus those that identified as Democrat or with no political party supported the hypothesis that strong partisan schemas may influence CIM. Politically right-leaning participants updated their beliefs about the Democrat target much less than politically left-leaning or neutral participants, as expected.

The correlations indicated that participants' pre-existing left or right-leaning political beliefs were more strongly related to overall evaluations of the target than to rating change. While moderate political beliefs were positively correlated with rating change, it is difficult to interpret directionality. It may be that those high in moderate political beliefs updated their beliefs to a greater degree, or that those low in moderate political beliefs updated their beliefs to a lesser degree, or both.

## ***Limitations***

Overall, there was less evidence of CIM than in previous research; participants tended to update their beliefs upon correction. This may be due to the relatively short duration between receiving the misinformation and the correction, or because there was not significant power; there were relatively few participants in C1 who identified with the Republican party or otherwise expressed conservative leanings. Moderate scores on the PBS were relatively low in reliability and were excluded from further analysis in Study 2 and Study 3.

A Republican target news article and associated survey was planned to be completed in the Spring of 2020, however, the COVID-19 outbreak disrupted data collection after fewer than 50 students participated. Instead, a follow-up study was conducted to repeat the experiment with all conditions present in a fully online format. This was to ensure that slight differences in

methods, or political beliefs shifting due to the pandemic itself, were not significant factors in any resulting differences.

Additionally, Study 1 used actual fake news articles and corrections posted online to real websites. However, finding equivalent fake news articles and corrections across all target conditions was determined to be prohibitively difficult. Instead, Study 2 used a template derived from an actual news article, and an original correction template designed by the researchers. This allowed for greater internal validity across conditions by ensuring that the article was very similar, aside from changing names and affiliations as appropriate.

## **Study 2**

### **Method**

#### ***Participants***

Participants were once more recruited from the Bridgewater State University SONA subject pool, which is comprised primarily of students enrolled in the Introduction to Psychology course. They volunteered in order to earn course credit. There were 297 participants total comprised of 76 males, 218 females, and 3 who specified non-binary or bigender ( $M_{age} = 19.54$ ). In terms of ethnicity, participants could select more than one category, and the most frequently chosen category was Caucasian/White (75.8%), followed by African American/Black (12.8%), Latino/Hispanic (7.1%), Asian/Pacific Islander (3.4%), Native American/American Indian (1.7%), and other/non-specified (4.4%), and some chose not respond (1.3%). There were 165 participants that identified as Democrat, 35 that identified as Republican, and 97 that identified as no party.

## *Measures*

The dependent variable was similar to Study 1, with a slight change to more closely align statements with Stereotype Content Model (SCM) dimensions of competence and warmth: we removed an item that asked how “favorable” the article target is because nothing similar is included in the SCM scale (see Appendix A). The Stereotype Content Model (Fiske et al., 2002) has been used to describe racial and ethnic stereotypes along dimensions of competence and warmth (competence  $\alpha = .94$ ; warmth  $\alpha = .90$  as reported by Fiske et al., 2002). Study 2 also included the Intellectual Humility Scale (IH; Alfano et al., 2018), which has four subscales supported by five confirmatory factor analyses and validity studies (convergent and divergent with self-reported and informant personality and behavior) in two languages (Alfano et al., 2017). Previous research found that intellectual humility is related to tolerance of opposing views, despite the strength of an individual’s own partisan bias (Porter & Schumann, 2018), and we sought to explore how this might be related to CIM. Scale reliability results for all studies are reported in [Table 1](#).

## *Procedure*

Participants were asked to complete a survey hosted on Qualtrics and distributed online via SONA, and were allowed to complete the survey at a time of their choosing. They were randomly assigned to one of six possible conditions: Democrat fake news and correction (C1), Republican fake news and correction (C2), neutral fake news and correction (C3), Democrat correction only (C4), Republican correction only (C5) or neutral correction only (C6). The fake news articles were fabrications designed by the researchers for the study. The material was based on a United States Department of Justice website article about a bookkeeper charged with embezzlement from their company (see: <https://www.justice.gov/usao-edpa/pr/philadelphia->

[bookkeeper-convicted-embezzling-almost-16-million-former-employer](#)). All names and references to the company in the article were changed to refer to either Democrat House Rep. Adam Schiff (C1/C4), Republican House Rep. Jim Jordan (C2/C5), or Starbucks CEO Kevin Johnson (C3/C6), and appropriate organizations for each figure (see [Appendix B](#)). Schiff and Jordan were selected as they were in equivalent positions within politics and somewhat known outside of their respective states; Johnson was selected as the neutral target due to his association with a familiar company, and neither he nor Starbucks have well-known or clear political affiliations. Participants were told that the article had appeared on social media recently and was shared from worldnewsdailyreport.com, a website which describes itself as “satire” and its articles are routinely posted online as fake news. The corrections were framed as also having been shared on social media, but from [www.snopes.com](http://www.snopes.com), and were an explicit correction of the fake news article. The corrections detailed the origin of the fake article and stated that no part of it was true, and that the website it came from is known for other fake news articles (see [Appendix C](#)). As in the previous study, between viewing the fake news and correction, or before viewing the correction, participants completed scales including the PBS, the Social Dominance Orientation Scale, and the Intellectual Humility scale. Afterwards, participants received credit for completing the study and were dismissed.

## **Results**

Warmth and competence ratings were calculated for each target. A multivariate analysis of variance of final target ratings indicated there were no main effects for target or participant political party, condition, and no significant interactions. Regardless of participant or target political party, evaluations of the target after correction were close to, but not significantly different from, those who only saw the correction article. To test the hypotheses about CIM, the

pre-correction ratings were subtracted from the post-correction ratings to measure rating change in warmth and competence. [Figure 1](#) shows pre and post ratings by participants who identified as Democrats, [Figure 2](#) shows ratings by Republicans, and [Figure 3](#) shows ratings by participants who endorsed no party. In these figures, Republicans appeared to update their competence and warmth ratings for Democrat targets the least. However, analysis of variance by target political party (Democrat, Republican or neutral) and participant political party did not reveal statistically significant main effects or interactions. Participant political party (Democrat, Republican or neutral) and target political party (Democrat, Republican or neutral) did not significantly influence change in warmth and competence ratings (all  $p > .05$ ). Low power likely impacted the ability to find significant differences between groups. Because there were so few Republican respondents, several experimental groups had fewer than 10 participants.

Correlational results suggested partial support for hypotheses 1 and 3 about partisan schemas and target evaluation overall. Social dominance orientation was significantly negatively correlated with final evaluations of competence ( $r(294) = -.15, p = .01$ ) and warmth ( $r(294) = -.12, p = .04$ ), while the open-mindedness ( $r(294) = .16, p = .01$ ) and engagement ( $r(294) = .12, p = .04$ ) from intellectual humility predicted more positive final competence evaluations.

Correlational results also suggested support for the hypotheses 2 and 4 regarding CIM and partisan beliefs. Agreement with conservative statements on the PBS was significantly negatively correlated with competence rating change ( $r(172) = -.20, p < .01$ ) and warmth rating change ( $r(172) = -.24, p < .01$ ) across all targets. Rating change was also negatively correlated with social dominance orientation ( $r(172) = -.26, p < .01$  for competence, and  $r(172) = -.25, p < .01$  for change in warmth ratings). There were also significant correlations between total Intellectual Humility scale scores and both competence rating change ( $r(172) = .17, p = .03$ ) and

warmth rating change ( $r(172) = .16, p = .04$ ). Individual Intellectual Humility subscales were correlated with rating change depending on the target's political affiliation (see [Table 3](#) for more detailed results).

## **Discussion**

ANOVA results failed to support the hypothesis that participants would update their beliefs differentially based on their own partisan schemas and the political affiliation of the target about which they received misinformation and correction, likely because of low power. Trends indicated that Democrats, Republicans and no party participants may update their beliefs upon correction to varying degrees based on the target's political affiliation. Democrats tended to update for Democrat or neutral targets, and Republicans seemed to update less overall. Figure 2 shows what appears to be a clear difference by participants who identified as Republican in how they update their competence and warmth ratings upon correction of fake news. Indeed, they indicated a similar level of warmth but much higher competence for the Republican target *before* the correction than for the Democrat target *after* correction. Republican participants also updated their ratings the most for a Republican target. While separating by target did not reveal statistically significant differences, the trends indicated that further research is warranted; partisan schemas may have affected how participants responded to targets from different parties.

Correlational analyses indicated that final evaluations of targets' competence and warmth were associated with SDO, lending partial support for hypotheses 1 and 3. IH subscales for open-mindedness and engagement were associated with evaluations of target competence. Intellectual humility has been linked to tolerance of opposing views and political views in particular, which may impact CIM. Porter and Schumann (2018) found that despite holding political beliefs of similar strength, those higher in intellectual humility were still more tolerant of opposing

political views than those lower in intellectual humility. Therefore, we suggest that those with greater intellectual humility may be more likely to update their beliefs upon correction as well. However, the correlations were fairly weak despite statistical significance. The correlation results indicated stronger support for hypotheses 2 and 4 regarding CIM: there were significant negative correlations between PBS conservatism scores and rating change for competence and warmth. In other words, the more conservative a participant was, the less they changed their ratings of targets on correction. The effect of conservative schemas appeared to be stronger for Democrat and neutral targets. Rating change was also negatively correlated with SDO, indicating that extreme partisan beliefs about social hierarchies may affect CIM as well. With regard to intellectual humility, it was the Republican and neutral targets who benefitted most. Higher intellectual humility predicted somewhat more change for those targets, and intellectual humility may be related to how likely one is to update their beliefs upon correction. While we reported these results, we consider them to be exploratory in nature and not directly related to our hypotheses.

Liberal views and intellectual humility were linked to a tendency to update beliefs upon correction. The results also suggested that the degree to which individuals updated their beliefs upon correction varied by target political party. Partisan schemas, particularly conservative ones, seemed to impact the effectiveness of correction after exposure to fake news.

### ***Limitations***

Some trends could not be interpreted because of low power; there were few participants who identified as Republican or neutral overall, which rendered very small sample sizes in some conditions. The lack of Republican participants was an issue we sought to correct with Study 3 by using a different recruitment strategy.

## Study 3

### Method

#### *Participants*

Participants were recruited from Prolific, an online subject pool. Recruitment criteria were limited to only requiring U.S. nationality. Unlike the previous studies, participants of all age groups and backgrounds were recruited. There were 223 participants total comprised of 93 males, 111 females, 7 who specified non-binary or bigender, and 1 who preferred not to answer ( $M_{age} = 31.07$ ). In terms of ethnicity, participants could select more than one category, and the most frequently chosen category was Caucasian/White (66%) followed by Asian/Pacific Islander (15.6%), African American/Black (10.8%), Latino/Hispanic (9.0%), Native American/American Indian (1.9%), and other/non-specified (1.4%), and some chose not to respond (0.9%). There were 130 participants that identified as Democrat, 27 that identified as Republican, and 55 that identified as no party.

#### *Measures*

The same fake news articles were used. Variables were manipulated and measured in the same manner as Study 2. Scale reliability results for all studies are reported in [Table 1](#).

#### *Procedure*

Participants were asked to complete a survey identical to Study 2, using the same fake news articles and corrections from Study 2 (any alterations were made to conform with Prolific standards). Afterwards, participants were thanked, received acknowledgement and compensation for completing the study (\$1.98) and were dismissed.

## Results

Warmth and competence ratings were calculated for each target; means are reported in [Table 4](#) for clarity. A multivariate analysis of variance of final target ratings indicated there were no main effects for condition or participant political party, or their interaction. However, there was a significant main effect for target political party ( $F(4, 364) = 4.35, p < .01$ ). The univariate test indicated that the effect for target was driven by higher mean ratings for the Democrat (0.40) and Neutral (0.57) targets' competence in comparison with the Republican (-0.17),  $F(2, 184) = 6.39, p < .01$ . Warmth ratings did not differ ( $M_{Dem} = -.11, M_{Neutral} = -.09$  and  $M_{Repub} = -.33$ ;  $F(2, 184) = .99, p = .37$ ). There was also a significant interaction between target and participant political party ( $F(8, 364) = 2.17, p = .03$ ). Republican participants rated the Republican target significantly higher in competence ( $M = 0.46$ ) than either Democrats ( $M = -0.41$ ) or no party ( $M = -0.20$ ). Competence ratings for the other targets did not differ. Republican participants also rated the Republican target significantly higher in warmth ( $M = 0.33$ ) than either Democrats ( $M = -0.83$ ) or those affiliated with neither party ( $M = -0.59$ ). Warmth ratings for the other targets did not differ.

[Figure 4](#) shows pre and post ratings by participants who identified as Democrats, [Figure 5](#) shows ratings by Republicans, and [Figure 6](#) shows ratings by participants who endorsed no party. [Figure 7](#) shows mean ratings of targets post correction by participant political party and target political party.

As in Study 2, the pre-correction ratings were subtracted from the post-correction ratings to measure rating change in warmth and competence. Analysis of variance by target political party (Democrat, Republican or neutral) and participant political party did not reveal significant main effects or interactions. Participant political party (Democrat, Republican or neutral) and

target affiliation (Democrat, Republican or neutral) did not significantly influence change in warmth and competence ratings (all  $p > .05$ ). While Figure 5 suggests that Republican participants failed to update their competence and warmth ratings for Democrats, we cannot conclude that there was an effect. As in Study 2, low power likely impacted the ability to find significant differences between groups. Because there were so few Republican respondents, several experimental groups had fewer than 10 participants.

Correlational analysis indicated differences by target political party. When the target was a Democrat, there was a negative correlation between PBS conservatism and competence rating ( $r(65) = -.24, p = .048$ ), and a positive correlation between PBS liberalism and warmth rating ( $r(65) = .30, p = .013$ ). There was also a negative correlation between SDO and competence rating for the Democrat target ( $r(65) = -.27, p = .029$ ). For a Republican target, PBS conservatism was positively correlated with both competence rating ( $r(63) = .36, p = .003$ ) and warmth rating ( $r(63) = .33, p = .007$ ). Additionally, there were positive correlations between self-identified political leaning and competence rating ( $r(63) = .44, p < .000$ ) and warmth rating ( $r(63) = .32, p = .009$ ). For the neutral target, there was only a positive correlation between self-identified political leaning and warmth rating ( $r(68) = .24, p = .043$ ). Intellectual Humility subscales were differentially correlated with rating change depending on the target's political affiliation as well (see [Table 5](#) for more detailed results).

## **Discussion**

Results partially supported hypotheses 1 and 3. Participants rated targets differently on competence based on the target's political affiliation, and this effect was driven mainly by much lower ratings for the Republican target when compared to Democrat and neutral targets. This was unsurprising as there were many more Democrat or no party participants than Republican.

Indeed, Republican participants rated the Republican target much higher on competence and warmth, but rated Democrat and neutral targets similarly low on both.

As depicted in Figure 7, Democrat and no party participants rated targets similarly, while Republican ratings for the Republican target were significantly different. Similar to Study 2, Republican participants did appear to update their beliefs less than Democrat or no party (see Figures 4, 5 and 6), but the results were not statistically significant, thus hypotheses 2 and 4 were not fully supported, but the non-significant pattern from Study 2 was replicated.

Correlations between PBS scores and competence and warmth varied considerably by target political party and provided some support for all hypotheses. When the target was a liberal, attitudes predicted more positive final evaluations of warmth, while conservative attitudes were linked to negative final evaluations of the target's competence. When the target was a Republican, liberalism did not predict final scores for competence or warmth, however, conservatism predicted more positive final ratings on both dimensions. Correlations between the Intellectual Humility Scale and target ratings of competence and warmth were also differentially significant based on the target's political party. Several subscales were significantly associated with competence for a Democrat target, but other subscales were significantly associated with warmth for a Republican target. While Intellectual Humility Scale results were exploratory in nature not directly related to a hypothesis, they may be an interesting direction for future research.

### ***Limitations***

As in Study 1 and Study 2, there were few participants who expressed conservative beliefs or identified with the Republican party, resulting in low power. While we hoped to recruit more Republican participants by using a public recruitment platform, the sample was not

sufficiently politically diverse, and we were unable to recruit enough participants overall due to cost. Follow-up research will focus on greater numbers of participants for each condition, or change recruitment strategies to target specific political groups.

### **General Discussion**

Overall, participants did update their beliefs. The magnitude varied by participant and target political party and mean target ratings were often vastly different, particularly between Democrat and Republican participants, although low power limits the interpretation of the patterns. Results suggested that Republican participants updated their ratings the least for targets that were Democrat or neutral. In Study 1, Republicans were particularly critical and updated their beliefs less when the target was a Democrat, however, data collection was interrupted before comparison conditions with Republican or neutral targets could be implemented. We sought to correct this issue with Study 2 and Study 3. We also hoped to enroll a greater number of Republican or conservative participants. Study 1 took place in-person and in a lab free of distractions. Participants were directed to use the computer in front of them to access an actual fake news article and related correction posted online. Because of the shortened Spring 2020 semester, a similar procedure was not possible. Therefore, in Study 2 and Study 3, we changed the procedure to embed a fake news article and correction designed for the purpose of the study so that it could be similar across all conditions, and to not rely on articles posted online. While this decreased external validity, it increased internal validity.

In Study 2 and Study 3, the images used for the target individuals in both the fake news articles and corrections may not have been similar enough, which could have possibly impacted results (see Appendix [A](#), [B](#), and [C](#)). We felt that it was important to use real images of the targets in order to have participants believe that they were reading articles transcribed from elsewhere.

The images were selected because they were somewhat unflattering or appeared to show the targets in a negative or critical light (e.g. surrounded by reporters, expressing anger or embarrassment), and portraying subjects unfavorably in this manner is common in fake news. However, there are differences between the images that could be confounding factors. For example, the image of Adam Schiff shows another well-known politician in the background, while the others do not.

Study 2 revealed a negative correlation between conservatism scores on the PBS and rating change for competence and warmth. More conservative participants updated their beliefs less than others, and particularly so for Democrat and neutral targets. Participants who scored higher in liberalism or intellectual humility updated their beliefs more upon correction. In Study 3, significant differences were found between participant political party: Republican participants rated Democrat and neutral targets much lower than Republican targets. While this is not too surprising, Figure 7 shows that Democrat and no party participants responded similarly to all targets, while Republicans responded quite differently. In addition, the exploratory use of the Intellectual Humility Scale indicated that it may prove to be a useful measure in future research on partisan schemas.

Results may suggest that Republican or conservative participants are less willing to update their beliefs, and greater intellectual humility is more common among Democrats or liberals which may aid in receiving corrective information. However, care must be taken not to overextend these results as if they are monolithic. Indeed, some research suggests that self-identified conservatives may be more diverse in their political beliefs than are liberals (Feldman & Johnston, 2014; Klein & Stern, 2005; Stenner, 2009), and people on the left and right are

equally likely to employ schemas in judgments, relying more on situational cues to engage in acceptable behavior (Crawford, 2012).

The value of diversity of gender, race, ethnicity, sexual orientation and more is well-established, particularly in academia where differing viewpoints and perspectives are vital to critical analysis. However, the low turn-out of Republican and conservative participants across all studies may represent a different sort of diversity problem in higher education and in the field of psychology. Ferguson et al. (2018) found evidence that introductory textbooks in psychology contained error and liberal-leaning biases that reflected socio-political homogeneity of the field, and argued that the problem may be exacerbated by APA position statements written by ideologically invested scholars. When conservative undergraduates enter psychology classes, they may feel unwelcome or unwilling to contribute (Duarte et al., 2015). In the psychology major, 84% of college professors identify as liberal, and only 8% identify as conservative (Rothman et al., 2005), while in the United States as a whole, the ratio of liberals to conservatives is roughly 1 to 2 (Saad, 2010). Even if one does not agree with conservative views, the absence of conservative viewpoints in academia, and indeed some hostility towards them, makes it difficult to examine political beliefs in general or to even discuss them for a better understanding.

Overall, there was certainly a diversity problem both in the university subject pool and on Prolific that hinders the ability of the study to be extended to the general population: participants overwhelmingly identified as Caucasian/white, liberal and female. The lack of diversity in other ways, including Republican or conservative-leaning participants, was an overall limitation of the study. For this type of research, the issue could be corrected in the future by specifically recruiting Republican participants. Of course, recruiting a larger sample might bring more demographic

diversity, which can bring viewpoint diversity, but because it was viewpoint diversity that was wanted, it may be more effective to pursue it directly.

### *Implications*

Many Americans currently believe fake news and misinformation to be a serious issue, more so than other issues such as climate change or racial tension (Mitchell et al., 2019). This fear seems to be healthy, as fake news has caused a multitude of issues by exploiting how we process information, and the systems we use to do so. Falsehoods spread more readily than truth online (Vosoughi et al., 2018), people share misinformation unknowingly while acknowledging that it confuses dialogue and agreement on basic facts (Barthel et al., 2016), and simply repeatedly encountering fake news headlines makes it seem less unethical to share (Effron & Raj, 2020). More importantly, encountering the same information repeatedly increases the likelihood that an individual will later consider it true, even if they were originally made aware that it is false (DiFonzo et al., 2016).

For example, 10% of Americans still believe that the risks of vaccines outweigh the benefits (Hefferon & Funk, 2020), despite over a decade of efforts to debunk misinformation that indicated a link between vaccines and autism (Centers for Disease Control and Prevention, 2020). The prevalence of this belief, despite overwhelming evidence to the contrary, hints at a severe problem. Vaccine skepticism may be enough to cause outbreaks of diseases that would otherwise be close to eradication (Hussain et al., 2018), an issue of particular relevance given the current pandemic. An unprecedented amount of harm to the credibility of all vaccines was accomplished primarily by a single misleading study, one that most adherents to anti-vaccination beliefs likely have not read or fully understood (Hussain et al., 2018).

A growing body of evidence suggests that misinformation has become more frequent and more effective among specific audiences largely due to the rise of social media (Del Vicario et al., 2016; Guess et al., 2018; Mitchell et al., 2019; Murphy et al., 2019). For example, Luisi (2021) found that four out of every ten posts on Facebook about the vaccine for human papillomavirus (HPV) were negative, and focused on the supposed risks and threats of the vaccine, despite there being little evidence to support these claims. The author suggests that misinformation that is negative or amplifies perceived risks spreads more easily online, which may help explain the prevalence of it. Many people now receive a majority of their news and information through social media platforms and social networks (Hermida et al., 2012; Shearer, 2018). Despite low expectations regarding accuracy, most Americans obtain at least some of their news from social media sources (Shearer & Mitchell, 2021). In addition, while Bergström and Belfrage (2018) found that many people consider themselves well-informed consumers of news, their behavior indicates a more casual, “incidental” approach to news and information consumption. Pennycook et al. (2020) found that many social media users did not consider the accuracy of information before sharing it, but would do so if prompted; when asked to rate information accuracy before sharing it, participants were more likely to correctly discern whether the information was true or false.

When information is shared via social media, those affiliated with groups often receive clusters of messages and belief-supporting material, both verifiable information (e.g. scientific) and unverifiable (e.g. conspiracy) (Del Vicario et al., 2016). In this way, groups of individuals may be more likely to continue believing in schema-supporting misinformation, which can result in homogeneity of information or “echo chambers” that decrease the likelihood of encountering opposing views or evidence, and amplify the perceived trustworthiness of misinformation

(Allcott & Gentzkow, 2017; Del Vicario et al., 2016). These factors have made misinformation very difficult to correct; prior beliefs and schemas may make fact-checking unlikely while reducing the effectiveness of corrections.

We argue here that the strength of misinformation and weakness of corrections or fact-checking may be traced to the influence of schemas, as suggested by Johnson and Seifert's (1994) original work on the continued influence effect and research on the bipolar schemas related to political orientation. Guess et al. (2018) found that, among the over 2500 Americans who granted the researchers access to their individual web history, 1 in 4 visited fake news websites during the 2016 election cycle. Those who supported Donald Trump for U.S. president were particularly likely to visit fake news websites; 58.9% of all visits to fake news websites were by 10% of those with the most conservative news diets. Similar to anti-vaccination beliefs, negative beliefs about other subjects that have widespread acceptance within the scientific community such as anthropogenic climate change, are frequently associated with conservative political schemas (Pew Research Center, 2015). In even more recent events, conservatism predicted reduced concerns about the threat posed by COVID-19, belief in media exaggeration of the threat, and inability to discern real and fake news related to COVID-19 (Calvillo et al., 2020). The authors also found that knowledge about and approval of U.S. president Donald Trump mediated these effects, suggesting that authority figures that an individual trusts could be helpful in communicating corrective information and reducing the impact of misinformation.

Fake news is often negative or critical and designed to cause strong emotions, which have been linked to reliance on schemas in judgments. For example, anger may make individuals rely on the perceived credibility of the source rather than the quality of the message (Bodenhausen et al., 1994). In a recent experiment by Greenstein and Franklin (2020), participants were more

vulnerable to schema-consistent misinformation when they were angry, but anger was not related to memory errors for true information. Angry participants also made decisions more quickly and with increased confidence. Innocuous or mood-neutral misinformation may be less effective overall, but it is also possible that anger-inducing misinformation would be more effective in prompting reliance on partisan schemas, and we suggest examining this as a potential direction for future research.

### ***Conclusion***

In another study completed at Bridgewater State University (Spievak et al., 2020), researchers asked participants to rate the quality and partisan bias of real news sources. Participants indicated that news sources congruent with their political beliefs were less biased and higher quality, and incongruent sources were more biased and lower quality. Another trend emerged, as well: overall, participants considered very few sources to be “news,” instead rating them at best, “fair interpretations of the news.” Those who identified as Democrats were more likely to rate sources as high quality news, (e.g. NPR and The New York Times, both considered by media bias experts to be reliable news sources; see: [www.mediabiasfactcheck.com](http://www.mediabiasfactcheck.com)), and they rated Fox News as extremely low quality. By contrast, Republicans indicated that almost all news sources were low quality and “unfair interpretations of the news,” including Fox News, which is typically considered to be largely in agreement with Republican and conservative schemas. This trend poses a problem: if those with right-leaning partisan schemas do not consider any sources to be news, or even fair interpretations of it, even when it is in agreement with their opinions, then perhaps they do not consider any source to be trustworthy. If that is the case, then they may regard the truth as a matter of opinion instead. Those who seek out

information that is schema-consistent and have little interest in the quality of reporting, analysis, or evidence, would be similarly uninterested in correction.

CIM may be more serious than a quirk of human cognition. As attitudes, values and beliefs with regard to politics become ever more polarized in the U.S. (Wilson et al., 2020), made worse by social media (Bail et al., 2018), and these beliefs may have a substantial impact on how misinformation is received and corrected, there is potential for a further breakdown of reasonable discourse.

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**Table 1***Reliability of Measures for All Studies*

Measures	Study 1	Study 2	Study 3
Social Dominance Orientation (SDO)	.88	.88	.94
Political Belief Scale (PBS)			
Liberal	.67	.62	.71
Moderate	.60	.26	.19
Conservative	.68	.65	.86
15 aggregate ratings in Study 1	.94		
Stereotype Content Model (SCM)			
Competence		.82	.89
Warmth		.86	.93
Intellectual Humility (IH)		.85	.73
Open-Mindedness		.72	.82
Modesty		.69	.79
Corrigibility		.78	.77
Engagement		.67	.78

*Note.* Values that are not in the table (e.g. Study 1 Competence) are due to not being used in that particular study, or a combined reliability would be inappropriate (e.g. PBS).

**Table 2***Study 1 Correlations of Political Beliefs and Evaluations of Target*

Measures	Pre-correction	Post-correction	Rating change
Liberalism	.299**	.481**	.151
Moderate	-.085	.181*	.341**
Conservatism	-.120	-.360**	-.222
Social Dominance Orientation	-.114	-.020	.053
Self-identified political leaning	-.168*	-.423	-.218

\* $p < .05$ . \*\* $p < .01$ .

**Table 3***Study 2 Correlations Between Intellectual Humility Subscales and Rating Change*

Measures	Competence	Warmth
All targets		
IH Total	.167*	.159*
IH Open-Mindedness	.157*	.169*
IH Modesty	.130	.137
IH Corrigibility	.045	.063
IH Engagement	.172*	.116
Democrat target		
IH Total	.217	.171
IH Open-Mindedness	.088	.087
IH Modesty	.168	.098
IH Corrigibility	.175	.127
IH Engagement	.229	.202
Republican target		
IH Total	.146	.211
IH Open-Mindedness	.061	.119
IH Modesty	.328*	.362**
IH Corrigibility	-.026	.083
IH Engagement	-.006	-.014
Neutral target		
IH Total	.158	.125
IH Open-Mindedness	.319*	.274*
IH Modesty	-.078	.045
IH Corrigibility	.017	.038
IH Engagement	.278*	.166

\* $p < .05$ . \*\* $p < .01$ .

**Table 4**

*Study 3 Means for Competence and Warmth Rating by Participant Political Party and Target Political Party*

Targets	Pre competence	Pre warmth	Post competence	Post warmth
All participants				
All targets	-.462	-1.303	.236	-.265
Democrat participant				
Democrat	-.430	-1.110	.417	-.020
Republican	-.970	-1.571	-.405	-.834
Neutral	-.563	-1.601	.503	-.107
Republican participant				
Democrat	.050	-.694	.091	-.571
Republican	.167	-.200	.463	.333
Neutral	.083	-1.214	.738	.184
No party participant				
Democrat	.017	-1.043	.681	.226
Republican	-.600	-1.622	-.202	-.594
Neutral	-.320	-1.186	.395	.338

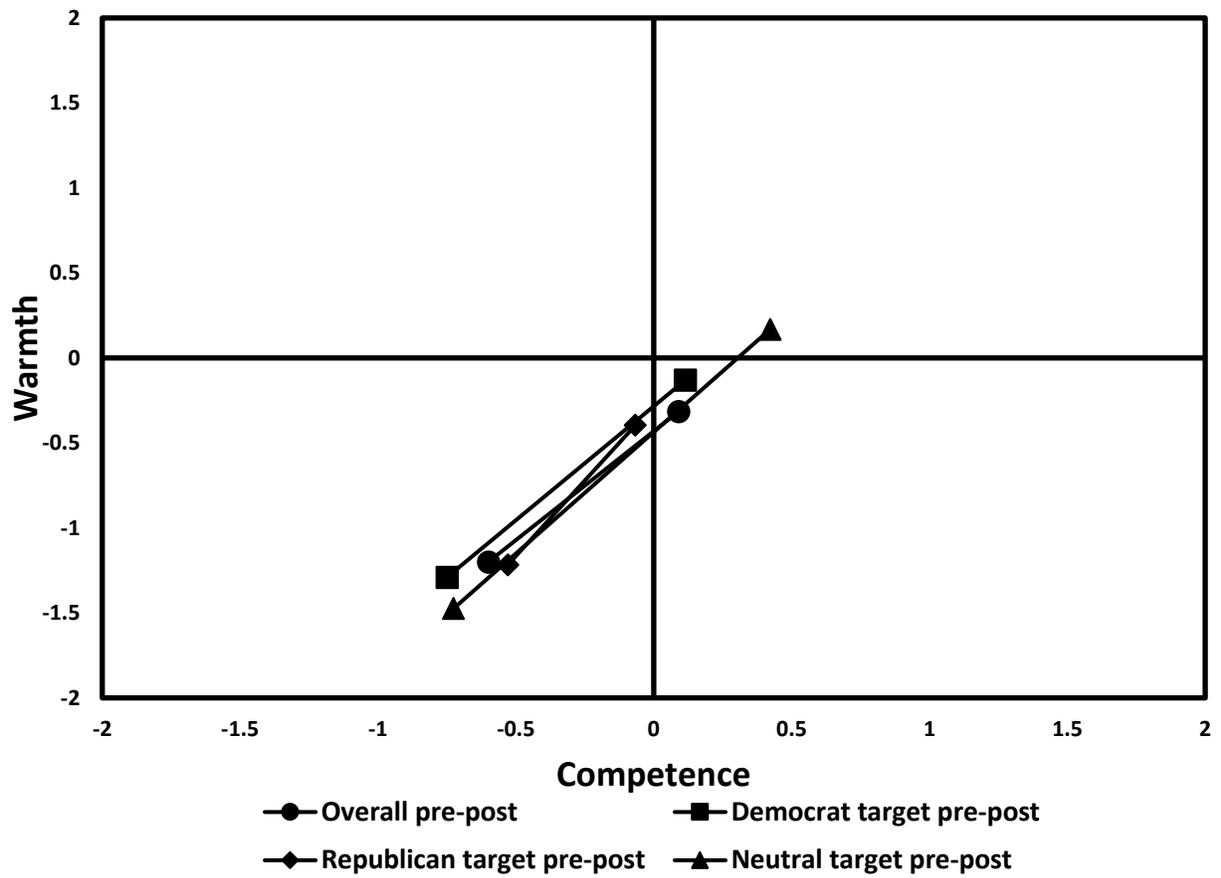
**Table 5***Study 3 Correlations Between Intellectual Humility Subscales and Rating Change*

	Competence	Warmth
All targets		
IH Total	.113	.157
IH Open-Mindedness	.188*	.203*
IH Modesty	.100	.201*
IH Corrigibility	.061	.090
IH Engagement	.010	.004
Democrat target		
IH Total	.331*	.156
IH Open-Mindedness	.165	-.019
IH Modesty	.386**	.239
IH Corrigibility	.265*	.187
IH Engagement	.187	.064
Republican target		
IH Total	-.173	-.254*
IH Open-Mindedness	-.155	-.286*
IH Modesty	-.043	-.055
IH Corrigibility	-.083	-.139
IH Engagement	-.242	-.295*
Neutral target		
IH Total	-.079	-.056
IH Open-Mindedness	-.096	-.068
IH Modesty	-.059	-.141
IH Corrigibility	-.028	.000
IH Engagement	-.064	.043

\* $p < .05$ . \*\* $p < .01$ .

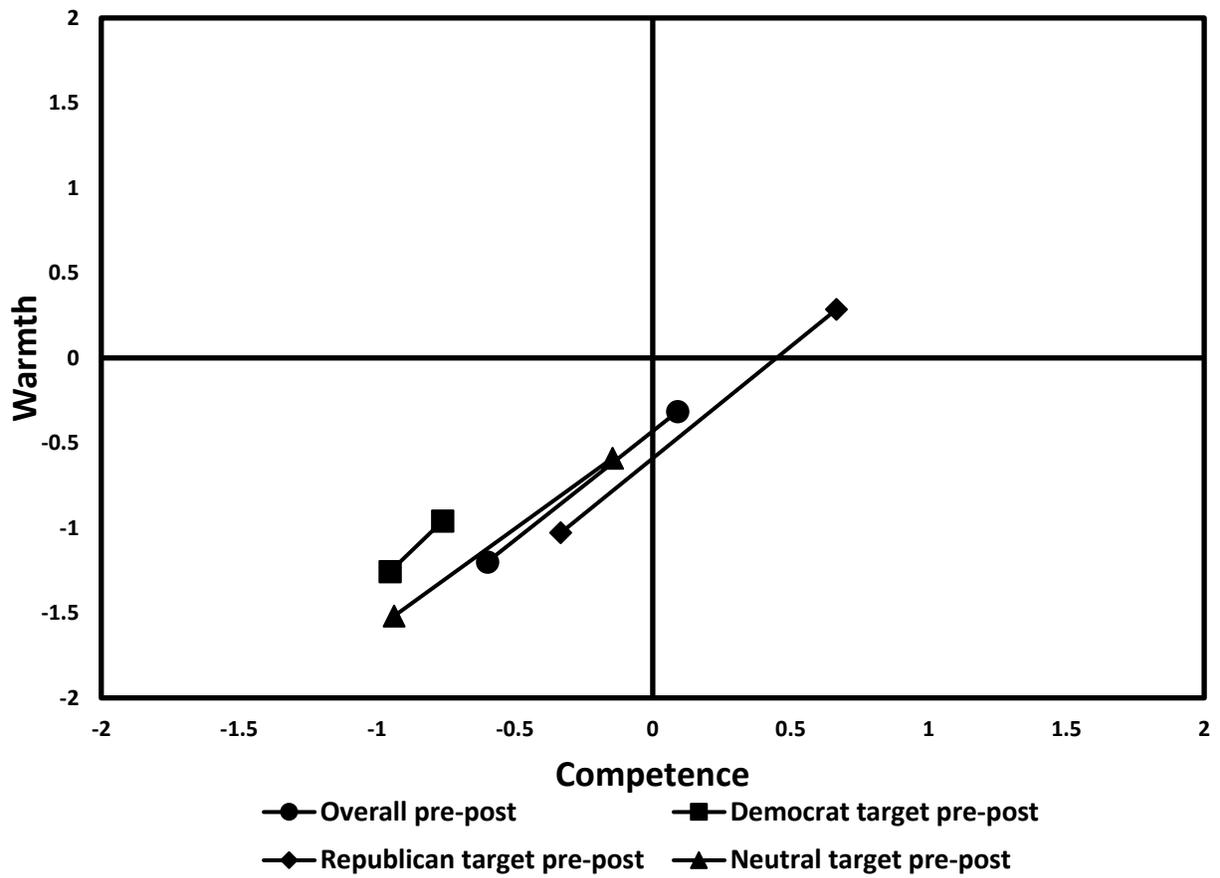
**Figure 1**

*Study 2 Competence and Warmth Ratings for Democrat, Republican or Neutral Targets by Democrat Participants*



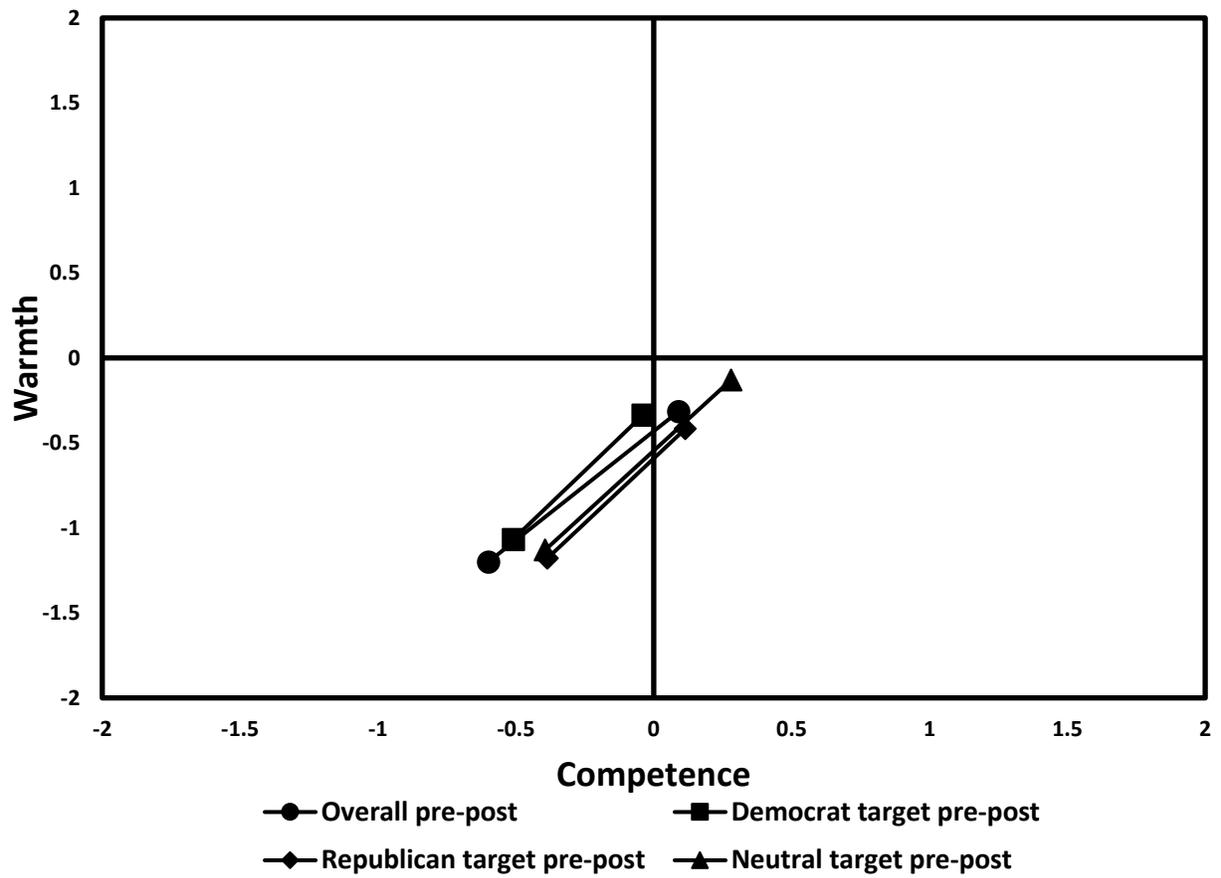
**Figure 2**

*Study 2 Competence and Warmth Ratings for Democrat, Republican or Neutral Targets by Republican Participants*



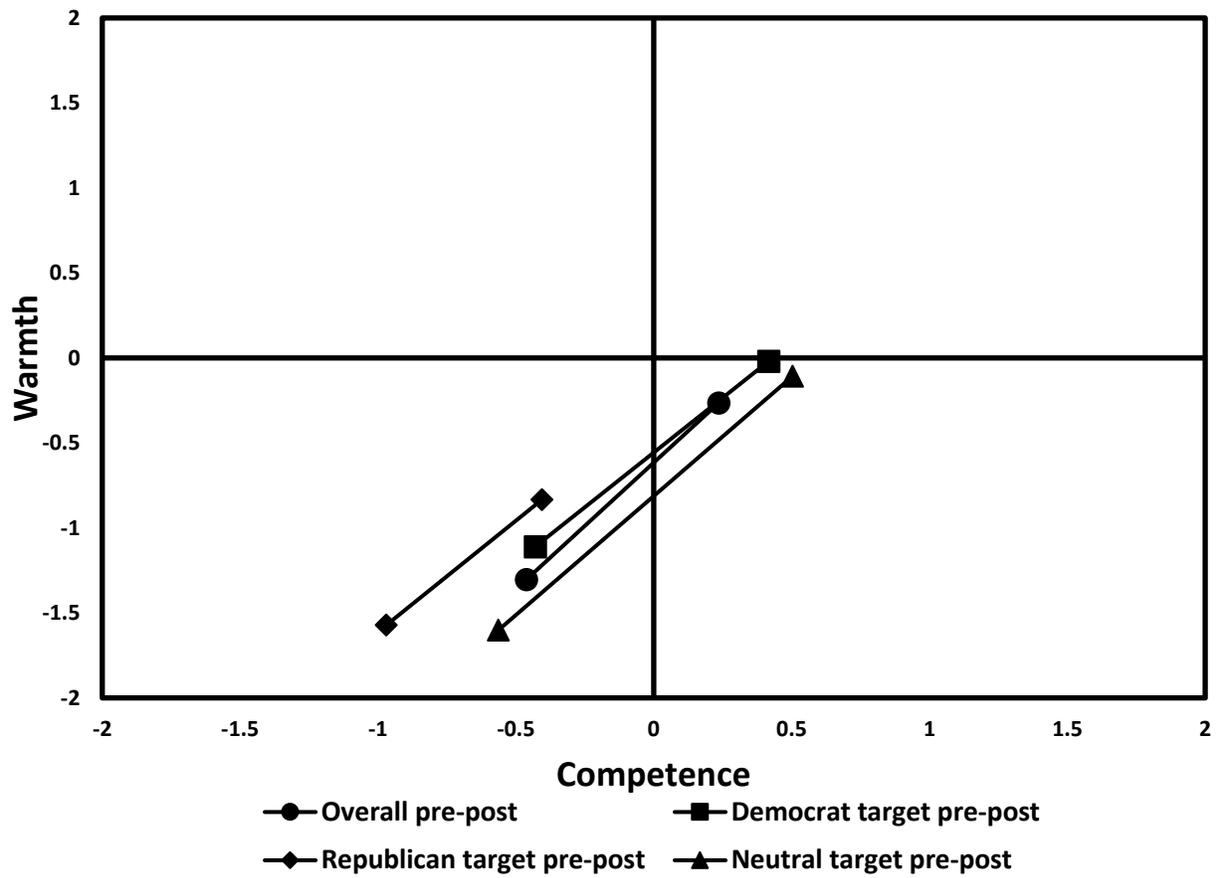
**Figure 3**

*Study 2 Competence and Warmth Ratings for Democrat, Republican or Neutral Targets by No Party Participants*



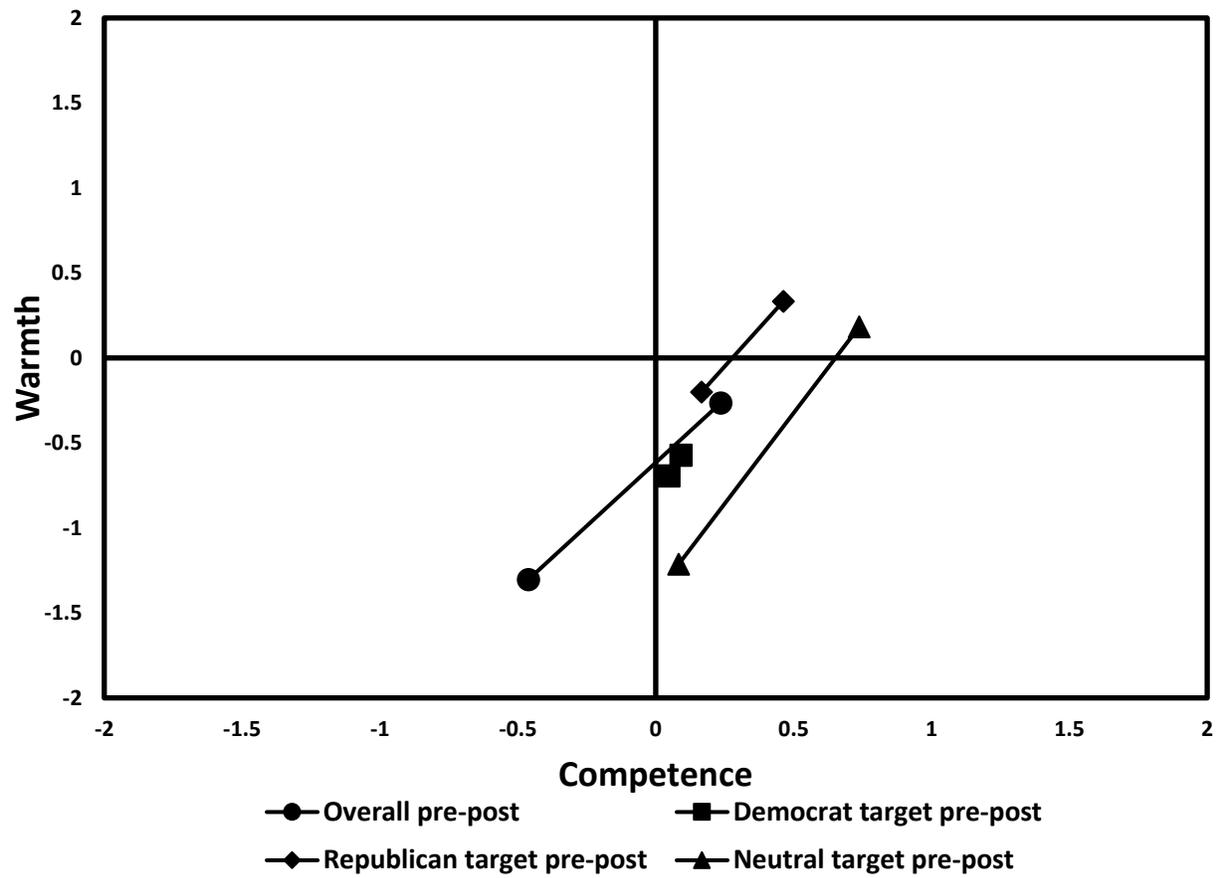
**Figure 4**

*Study 3 Competence and Warmth Ratings for Democrat, Republican or Neutral Targets by Democrat Participants*



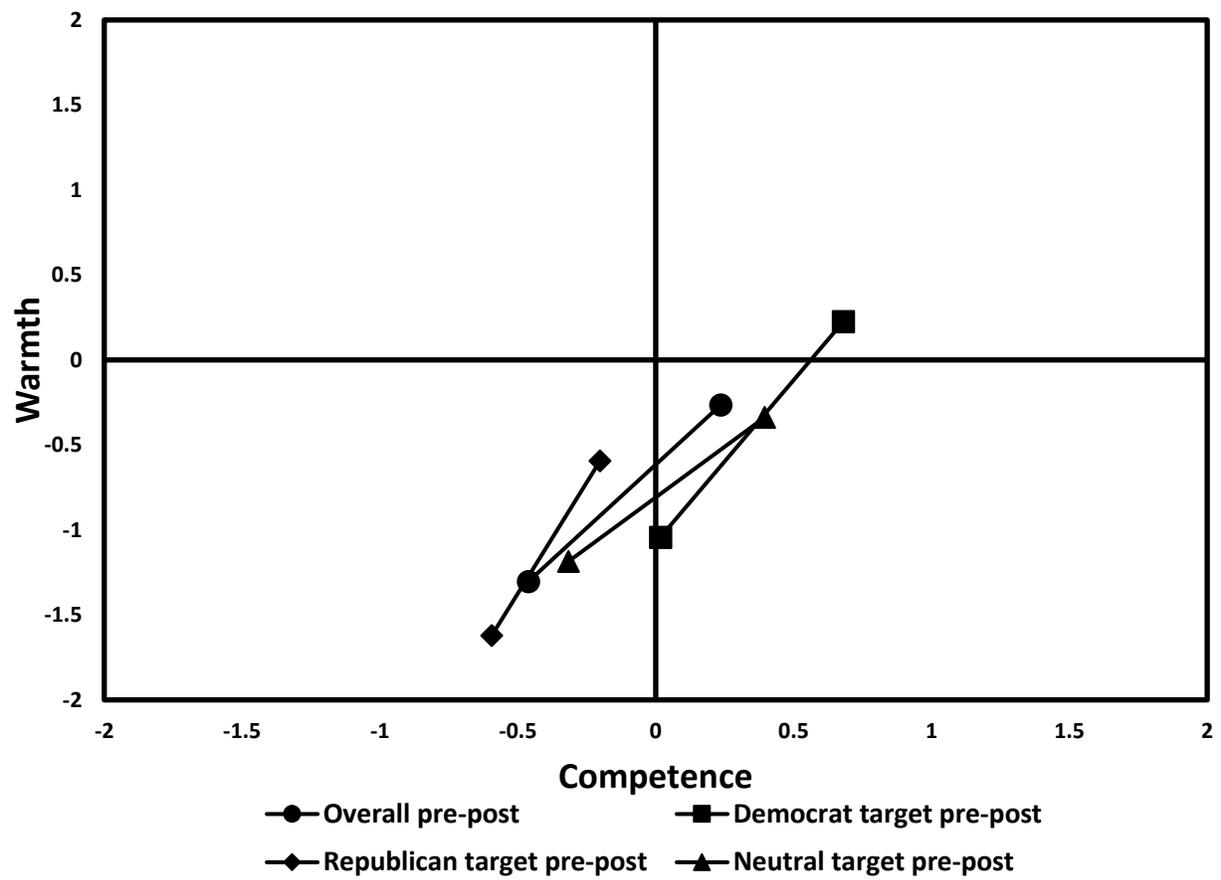
**Figure 5**

*Study 3 Competence and Warmth Ratings for Democrat, Republican or Neutral Targets by Republican Participants*



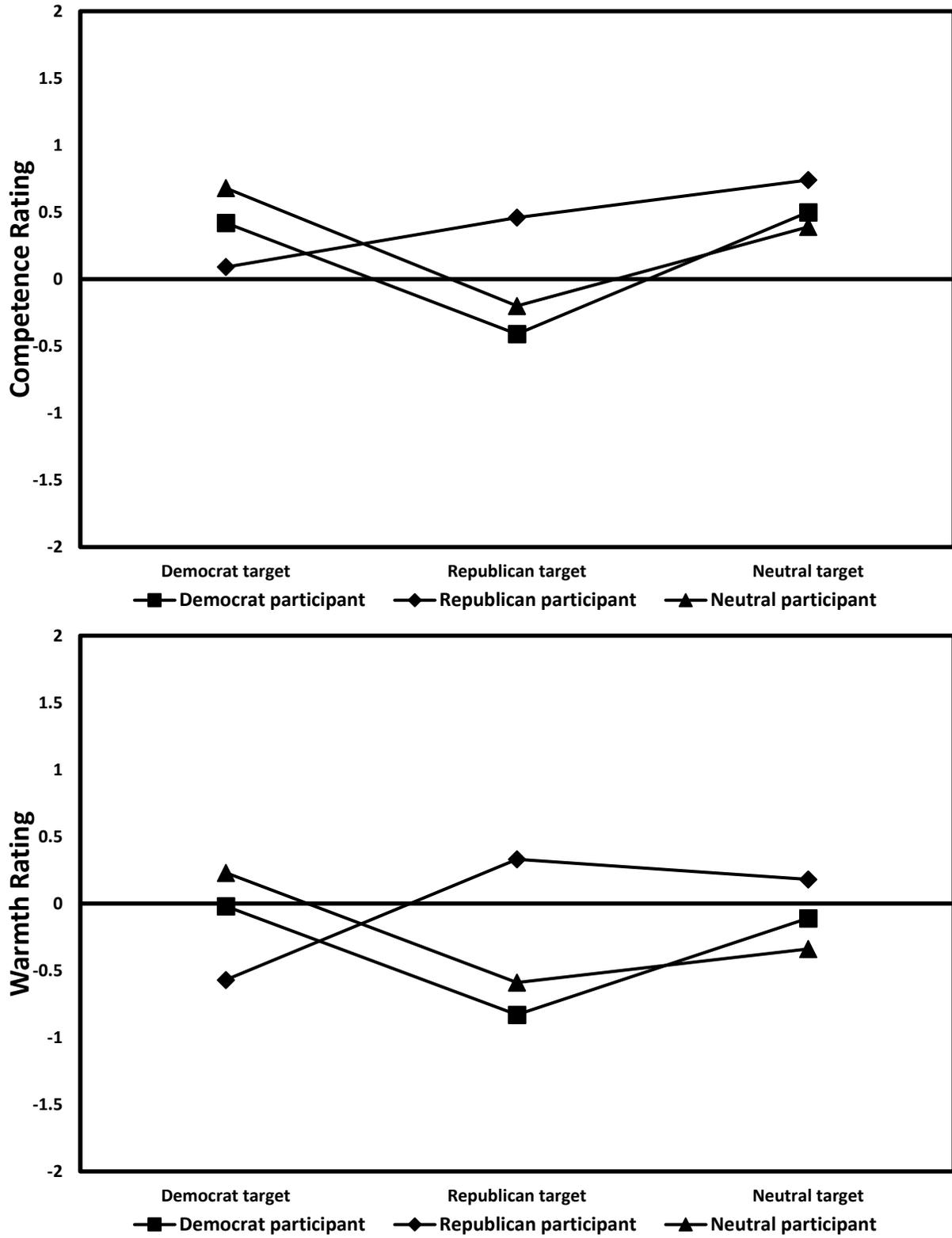
**Figure 6**

*Study 3 Competence and Warmth Ratings for Democrat, Republican or Neutral Targets by No Party Participants*



**Figure 7**

*Study 3 Competence and Warmth Post Correction by Target Political Party*



## Appendix A

How **intelligent** do you think this individual is?

How **efficient** do you think this individual is?

How **skillful** do you think this individual is?

How **friendly** do you think this individual is?

How **responsible** do you think this individual is?

How **competent** do you think this individual is?

How **likable** do you think this individual is?

How **trustworthy** do you think this individual is?

How **professional** do you think this individual is?

How **sincere** do you think this individual is?

How **warm** do you think this individual is?

How **positive** do you think this individual is?

How **favorable** do you think this individual is?

How **good-natured** do you think this individual is?

How **well-intentioned** do you think this individual is?

# Democrat House Representative Suspected of Embezzling \$1.6 Million From Federal Government

Fri, 21 Aug 2020



## Officials intend to pursue charges 'very soon'

U.S. Treasury officials announced today that they plan to pursue charges against Democrat House Representative Adam Schiff, 60, of California, for embezzling almost \$1.6 million from taxpayers over a ten-year period beginning in 2010 and ending in 2020 through a wire fraud scheme. Schiff may also be charged with money laundering, aggravated identity theft, and filing false income tax returns during this period.

Schiff, a House Representative in California for the Democratic Party since 2001, allegedly opened a PayPal account using a fake name, transferred federal funds to that PayPal account, from that PayPal account to another PayPal account belonging to his

wife, and from his wife's PayPal account to one or more of his personal bank accounts. Further, Schiff allegedly concealed the embezzlement by falsifying financial entries on files he maintained for the federal government.

Treasury officials assert that Schiff failed to pay taxes on his wealth, embezzled at least \$854,800 and had unreported income of \$231,100 in 2015, \$215,100 in 2016, \$83,600 in 2017, \$125,000 in 2018, \$152,000 in 2019, and \$48,000 in 2020. If proven true, his actions created a tax loss of approximately \$240,648.

Officials say they plan to charge Schiff with 48 counts of wire fraud, 10 counts of money laundering, six counts of filing a false income tax return, and one count of aggravated identity theft. Wire fraud and money laundering are punishable by up to 20 years in prison. Filing a false tax return is punishable by up to three years. Aggravated identity theft is punishable by a mandatory two years of prison that must follow any term imposed on the other counts. Additionally, Schiff may be subject to restitution and/or forfeiture of money and substitute assets totaling \$1,589,315.

"We take offenses like embezzlement, tax fraud and money laundering very seriously," an announcement published online by the U.S. Treasury read. "Schiff stole more than a million dollars by abusing his position handling finances for the federal government. We will continue to work with our law enforcement partners to protect innocent taxpayers from being victimized by this type of fraud."

"The role of IRS Criminal Investigation becomes even more important in embezzlement and fraud cases due to the complex financial transactions that can take time to unravel," said a spokesperson for the IRS CI. "As we often see, federal tax laws are normally violated in these types of cases and IRS CI is committed to ensuring that everyone pays their fair share."

# **Republican House Representative Suspected of Embezzling \$1.6 Million From Federal Government**

Fri, 21 Aug 2020



## Officials intend to pursue charges ' very soon'

U.S. Treasury officials announced today that they plan to pursue charges against Republican House Representative Jim Jordan, 56, of Ohio, for embezzling almost \$1.6 million from taxpayers over a ten-year period beginning in 2010 and ending in 2020 through a wire fraud scheme. Jordan may also be charged with money laundering, aggravated identity theft, and filing false income tax returns during this period.

Jordan, a House Representative in Ohio for the Republican Party since 2007, allegedly opened a PayPal account using a fake name, transferred federal funds to that PayPal account, from that PayPal account to another PayPal account belonging to his wife, and from his wife's PayPal account to one or more of his personal bank accounts. Further, Jordan allegedly concealed the embezzlement by falsifying financial entries on files he maintained for the federal government.

Treasury officials assert that Jordan failed to pay taxes on his wealth, embezzled at least \$854,800 and had unreported income of \$231,100 in 2015, \$215,100 in 2016, \$83,600 in 2017, \$125,000 in 2018, \$152,000 in 2019, and \$48,000 in 2020. If proven true, his actions created a tax loss of approximately \$240,648.

Officials say they plan to charge Jordan with 48 counts of wire fraud, 10 counts of money laundering, six counts of filing a false income tax return, and one count of aggravated identity theft. Wire fraud and money laundering are punishable by up to 20 years in prison. Filing a false tax return is punishable by up to three years. Aggravated identity theft is punishable by a mandatory two years of prison that must follow any term imposed on the other counts. Additionally, Jordan may be subject to restitution and/or

forfeiture of money and substitute assets totaling \$1,589,315.

“We take offenses like embezzlement, tax fraud and money laundering very seriously,” an announcement published online by the U.S. Treasury read. “Jordan stole more than a million dollars by abusing his position handling finances for the federal government. We will continue to work with our law enforcement partners to protect innocent taxpayers from being victimized by this type of fraud.”

“The role of IRS Criminal Investigation becomes even more important in embezzlement and fraud cases due to the complex financial transactions that can take time to unravel,” said a spokesperson for the IRS CI. “As we often see, federal tax laws are normally violated in these types of cases and IRS CI is committed to ensuring that everyone pays their fair share.”

# Starbucks CEO Suspected of Embezzling \$1.6 Million From Company

Fri, 21 Aug 2020



**Officials intend to pursue charges ' very soon'**

FBI officials announced today that they plan to pursue charges against Starbucks CEO Kevin Johnson, 59, of Washington, for embezzling almost \$1.6 million from the company over a ten-year period beginning in 2010 and ending in 2020 through a wire fraud scheme. Johnson may also be charged with money laundering, aggravated identity theft, and filing false income tax returns during this period.

Johnson, president and CEO of Starbucks Coffee Company since 2017 and chief operating officer since 2015, allegedly opened a PayPal account using a fake name, transferred company funds to that PayPal account, from that PayPal account to another PayPal account belonging to his wife, and from his wife's PayPal account to one or more of his personal bank accounts. Further, Johnson allegedly concealed the embezzlement by falsifying financial entries on files he maintained for the company.

FBI and IRS officials assert that Johnson failed to pay taxes on his wealth, embezzled at least \$854,800 and had unreported income of \$231,100 in 2015, \$215,100 in 2016, \$83,600 in 2017, \$125,000 in 2018, \$152,000 in 2019, and \$48,000 in 2020. If proven true, his actions created a tax loss of approximately \$240,648.

Officials say they plan to charge Johnson with 48 counts of wire fraud, 10 counts of money laundering, six counts of filing a false income tax return, and one count of aggravated identity theft. Wire fraud and money laundering are punishable by up to 20 years in prison. Filing a false tax return is punishable by up to three years. Aggravated identity theft is punishable by a mandatory two years of prison that must follow any term imposed on the other counts. Additionally, Johnson may be subject to restitution and/or forfeiture of money and substitute assets totaling \$1,589,315.

"We take offenses like embezzlement, tax fraud and money laundering very seriously," an announcement published online by the FBI read. "Johnson stole more than a million dollars by abusing his position handling finances for the company he works for. We will continue to work with our law enforcement partners to protect innocent investors from being victimized by this type of fraud."

"The role of IRS Criminal Investigation becomes even more important in embezzlement and fraud cases due to the complex financial transactions that can take time to unravel," said a spokesperson for the IRS CI. "As we often see, federal tax laws are normally violated in these types of cases and IRS CI is committed to ensuring that everyone pays their fair share."

## Appendix C

# Did Democrat House Rep Adam Schiff embezzle money from the federal government?

Wed, 26 Aug 2020



Recently, an article appeared on social media and has subsequently been shared many times, claiming that Democrat House Representative Adam Schiff engaged in embezzlement, wire fraud, and other crimes. This article, shared from [worldnewsdailyreport.com](http://worldnewsdailyreport.com), details the allegations against Schiff. The article included quotes from U.S. Treasury and IRS officials, which made it appear genuine at first glance.

However, the article was researched by fact-checkers and determined to be a complete fabrication. The details of that article were primarily copied from an article hosted on [Justice.gov](http://Justice.gov) about a bookkeeper from Philadelphia who embezzled funds from the company he worked for. The original article is genuine and a factual reporting of events.

However, while some details, such as dollar amounts, remained untouched, most other details were changed. All references to the original defendant were changed to Adam Schiff, and other details were also changed to relate to political institutions and more specifically to Schiff. In other words, the article appears to be intentional misinformation targeting a politician.

For example, in the original and factual article, it was a U.S attorney who made the announcement, and provided a later quote. In the altered version, the announcement and quote are attributed to the U.S. Treasury generally. Additionally, when the original article was released, the defendant had already been convicted, while the altered version states that Schiff will be charged. Many other details were either changed or removed entirely.

The website that posted the article, worldnewsdailyreport.com, is a well-known purveyor of misinformation and hoaxes despite billing itself as “satire.” At the bottom of the website is the following disclaimer: “World News Daily Report assumes all responsibility for the satirical nature of its articles and for the fictional nature of their content. All characters appearing in the articles in this website – even those based on real people – are entirely fictional and any resemblance between them and any person, living, dead or undead, is purely a miracle.” While some articles simply make outrageous claims, such as “Death Row Inmate Eats An Entire Bible As Last Meal”, others are more political in nature, as demonstrated by the Adam Schiff story.

No such allegations have been made against Adam Schiff.

# **Did Republican House Rep Jim Jordan embezzle money from the federal government?**

Wed, 26 Aug 2020



Recently, an article appeared on social media and has subsequently been shared many times, claiming that Republican House Representative Jim Jordan engaged in embezzlement, wire fraud, and other crimes. This article, shared from [worldnewsdailyreport.com](http://worldnewsdailyreport.com), details the allegations against Jordan. The article included quotes from U.S. Treasury and IRS officials, which made it appear genuine at first glance.

However, the article was researched by fact-checkers and determined to be a complete fabrication. The details of that article were primarily copied from an article hosted on [Justice.gov](http://Justice.gov) about a bookkeeper from Philadelphia who embezzled funds from the company he worked for. The original article is genuine and a factual reporting of events. However, while some details, such as dollar amounts, remained untouched, most other details were changed. All references to the original defendant were changed to Jim Jordan, and other details were also changed to relate to political institutions and more specifically to Jordan. In other words, the article appears to be intentional misinformation targeting a politician.

For example, in the original and factual article, it was a U.S attorney who made the announcement, and provided a later quote. In the altered version, the announcement and quote are attributed to the U.S. Treasury generally. Additionally, when the original article was released, the defendant had already been convicted, while the altered version states that Jordan will be charged. Many other details were either changed or removed entirely.

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No such allegations have been made against Jim Jordan.

# Did Starbucks CEO Kevin Johnson embezzle money from the company?

Wed, 26 Aug 2020



Recently, an article appeared on social media and has subsequently been shared many times, claiming that Starbucks CEO and president Kevin Johnson engaged in embezzlement, wire fraud, and other crimes. This article, shared from [worldnewsdailyreport.com](http://worldnewsdailyreport.com), details the allegations against Johnson. The article included quotes from FBI and IRS officials, which made it appear genuine at first glance.

However, the article was researched by fact-checkers and determined to be a complete

fabrication. The details of that article were primarily copied from an article hosted on Justice.gov about a bookkeeper from Philadelphia who embezzled funds from the company he worked for. The original article is genuine and a factual reporting of events. However, while some details, such as dollar amounts, remained untouched, most other details were changed. All references to the original defendant were changed to Kevin Johnson, and other details were also changed to relate to Starbucks and more specifically to Johnson. In other words, the article appears to be intentional misinformation targeting a corporate executive.

For example, in the original and factual article, it was a U.S attorney who made the announcement, and provided a later quote. In the altered version, the announcement and quote are attributed to the FBI generally. Additionally, when the original article was released, the defendant had already been convicted, while the altered version states that Johnson will be charged. Many other details were either changed or removed entirely.

The website that posted the article, worldnewsdailyreport.com, is a well-known purveyor of misinformation and hoaxes despite billing itself as “satire.” At the bottom of the website is the following disclaimer: "World News Daily Report assumes all responsibility for the satirical nature of its articles and for the fictional nature of their content. All characters appearing in the articles in this website – even those based on real people – are entirely fictional and any resemblance between them and any person, living, dead or undead, is purely a miracle." While some articles simply make outrageous claims, such as “Death Row Inmate Eats An Entire Bible As Last Meal”, others are more political in nature.

No such allegations have been made against Kevin Johnson.