The Firehose of Falsehood:

How Does Power and Group Membership Impact Perceived Legitimacy

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During the 2014 Russian takeover of Crimea in the Ukraine, Russian President Vladimir Putin long denied that the soldiers occupying the peninsula were Russian (Gessen, 2018). This was an unprecedented move, as it was public knowledge that the soldiers were, in fact, from Russia. Why would Putin deny something so obvious? And why, after standing his ground for so long, did he suddenly change his rhetoric after a few months and confirm that the soldiers were, in fact, Russian after all (Gessen, 2018)? This lack of commitment to objective reality and a lack of commitment to consistency are the hallmarks of the Firehose of Falsehood – a propaganda technique that has fascinated researchers and political experts alike.

The Firehose of Falsehood propaganda technique has recently been covered in the media, as both the Russian and the US government employ it (Zappone, 2016; Gessen, 2018). When this propaganda strategy is used, the audience is flooded with disinformation with the intent to overwhelm and confuse various fact checkers and reporters (Maza, 2018). This Firehose is defined by four factors. First, disinformation is high in volume and spread over multiple channels, meaning it is repeated often and by many sources. Second, the dissemination of disinformation is rapid and continuous, meaning the disinformation is rarely dropped from public discourse and is brought up over and over again. These two factors, referred to as intensity factors in this paper, are considered to be fairly common persuasion tactics (Maza, 2018; Paul & Matthews, 2016), and have substantial literature supporting their effectiveness in persuading an audience (among others, Fazio, Rand & Pennycook, 2018; Paul & Matthews, 2016; Koch, 2019; Law, 1998).

The other two factors that define the Firehose are that its sources lack commitments to objective reality and to consistency. In other words, the disinformation being spread does not necessarily appear valid or true, and may change from day to day. These latter two factors, referred to as credibility factors in this paper, defy conventional wisdom on effective persuasion, which emphasizes the importance of truth, credibility, and the avoidance of contradiction in establishing a convincing argument or position (Paul & Matthews, 2016). Nonetheless, these credibility factors have proven to be effective propaganda tools, as demonstrated by both President Donald Trump and President Vladimir Putin using the Firehose to their advantage (Zappone, 2016; Gessen, 2018). For example, Vladimir Putin's denial and later confirmation of Russia's annexation of Crimea was a clear demonstration of the employment of the credibility factors. Not only did he deny something that was obviously true, he also changed his rhetoric a few months later (Maza, 2018). Little to no research has been done to determine how the credibility factors influence the effectiveness of propaganda, and only a few theories exist that explain their potential utility. This research will investigate the factors that shape how credibility factors influence one's perception of real and fake news.

Intensity factors

A large body of research has investigated how the two intensity factors – the disinformation being high volume with multiple channels and being rapid, continuous, and repetitive – shape one's tendency to believe fake news. The illusory truth effect is a main driver of the intensity factors' persuasive powers.

The illusory truth effect is the tendency for repeated information to be perceived as more accurate and true compared to information encountered for the first time (Fazio, Rand & Pennycook, 2019; Pennycook, Cannon, & Rand, 2018; Bacon, 1979; Foster, 2012; Henkel, 2011;

Koch, 2019; Law, 1998). In fact, repeated statements increase in credibility even if subjects are aware that they are repeated (Bacon, 1979). Furthermore, people use the familiarity of a statement as a way to gauge whether or not a source is reliable, especially if there are no other clues available (Henkel, 2011). When analyzing multiple-channel propaganda, it has been established that participants exposed to repetitive ads across multiple forms of media (television, the internet, and mobile TV) perceive messages, ads, and brands as more credible compared to participants who were exposed to repetitive ads from only a single medium (Lim, 2015).

Different variations of the illusory truth effect have been examined. In a study on eye-witness testimony, participants were more misled by—and more confident about—interpretations of a video they saw if those interpretations were repeated. This tendency is believed to have been caused by the subject's interpretation of the familiarity of repeated claims as a marker of accuracy (Foster, 2012). In terms of the audience, it appears that the elderly are more susceptible to the illusory truth effect, as the effect seems to be mediated by their poor memory. However, if participants use an imagery task while learning new information, the elderly are no longer especially vulnerable to the illusory truth effect as compared to the younger population (Law, 1998).

Although the illusory truth effect is robust, it is undermined when people perceive a message as a persuasive attempt. In such cases, people's trust in the source is reduced, and a significant decrease in the overall credibility of the message is observed (Koch, 2019). In another study, it was determined that when plausible but unfamiliar facts were presented along with comments that either supported or contradicted them, participants were more likely to remember the facts with supporting comments as opposed to facts with contradicting comments. Later, when new statements were encountered that opposed previously supported facts, those new

statements were considered more false as compared to statements that opposed previously

contradicted facts (Begg, 1991).

The question remains, however, whether the illusory truth effect works with completely

false statements as well, such as those often spread via the Firehose, as some have suggested that

plausibility is a limit on the illusory truth effect. On one hand, Fazio, Rand & Pennycook (2019)

concluded that although the illusory truth effect is strongest for ambiguous statements, even

extremely implausible statements will become more plausible with repetition. On the other hand,

Pennycook, Cannon & Rand (2018) determined that extreme implausibility is actually a

boundary condition for the illusory truth effect, suggesting that it only works for partially

implausible and plausible statements.

Taken together, the research reviewed above supports the notion that the first two factors

of the Firehose – spreading the information in high volume over multiple channels, and

continuously repeating it – can be incredibly effective at spreading propaganda and fake news.

Credibility factors

The lack of commitment to objective reality and the lack of commitment to consistency

are the two credibility factors that form the second part of the Firehose. A source who exhibits a

lack of commitment to objective reality can be described as claiming something that is obviously

false or denying something that is obviously true. For example, some have suggested that when

President Trump vehemently denied mocking a disabled reporter during a rally, he was denying

objective reality. His behavior was witnessed by everyone present at the rally, it was filmed, and

is still available online (Maza, 2018).

A source who lacks commitment to consistency is one who significantly changes their

interpretation or statement about an event. For example, Putin's denial and later confirmation of

Russian soldiers invading Ukraine is a clear demonstration of a lack of commitment to consistency (Gessen, 2018). Instead of continuing with a single lie, he changed his rhetoric significantly, thereby lacking consistency.

Other notable examples of the credibility factors include Czech Republic's prime minister Andrej Babiš denying ownership of the Farm Čapí Hnízdo [Stork's Nest], which was granted a €2 million EU subsidy meant for small businesses (Muller, 2019). In the United States, President Donald Trump has denied the existence of climate change (Stahl, 2018), denied that his tweets aimed specifically at congresswomen of color were racist (Kahn, 2019), and shared a plethora of other falsehoods ranging from who pays for tariffs, Obama wiretapping his home, and misrepresenting the process of abortion (Poynter Institute, 2019). Russian President Vladimir Putin's frequent use of the firehose continued when he misrepresented the Russian Nuclear Doctrine (Gessen, 2018) and when he denied Russia's meddling in the 2016 US elections (Brown, 2018).

The traditional view of credibility in persuasion

Both the lack of commitment to objective reality and the lack of commitment to consistency go against the traditional understanding of how credibility influences persuasion, thus puzzling journalists and researchers alike. It is generally accepted that having high credibility makes one's arguments more persuasive, as it suggests that one has some sort of authority and expertise on a topic (Maza, 2018). Therefore, the traditional approach when trying to persuade an audience is to establish one's credibility.

There are many frameworks we can use to understand this traditional perspective. One of the classical explanations is provided by Latané (1981). He explains that three key factors influence a message's impact and effect: the strength, immediacy, and number of sources that

convey the message. The factor of interest for this paper is strength, which refers to the sources' credibility, authority, or even socio-economic status compared to the target. If a source is seen as credible, it is persuasive.

Trustworthiness is another significant factor that influences one's credibility. In general, it has been established that if the audience trusts the information source, they are more likely to listen and follow what they are being told. For example, when a group of nuns was presented with identical information from either a priest, an expert, or a neutral source, they believed the communicator they perceived as trustworthy – the priest – significantly more than the expert (Lui, 1989). In another experiment, the researchers investigated the best way to correct disinformation. They found that participants were able to reduce their use of the original disinformation if they received a correction from a person who they considered to be highly trustworthy (Guillory, 2013). Additionally, an obesity public service announcement featuring a real person as opposed to an actor was rated as significantly higher on source credibility (trustworthiness, competence, and goodwill), and overweight viewers who saw the PSA featuring the real person had the highest diet intention, exercise intention, information seeking, and electronic word-of-mouth intention of all groups in the study (Phua, 2016).

In short, when a source is high in power and trustworthiness, people are more likely to believe the source's message is true. One possibility is that sources who are ingroup members and sources who are high in power lead to greater perceptions of legitimacy. I turn to these topics next.

Group Membership

As noted above, people tend to believe information conveyed to them by someone they trust as opposed to someone who they have no relation to (Lui, 1989; Guillory, 2013; Phua,

2016). One factor that shapes trust is group membership; when we feel like we belong in the same group as the person who is relaying the information, we are more likely to trust them (Crepaz, Polk, Bakker, & Sing, 2014). We tend to favor others who are seen as similar to ourselves – our ingroup – over people seen as different – an outgroup (among others, Campbell, 2011; Crepaz, Polk, Bakker, & Sing, 2014; Guillory, 2013; Lui, 1989; Phua, 2016).

In terms of the Firehose, ingroup trust may feed into one's tendency to believe propaganda – people may be more likely to believe information originating from an ingroup member than an outgroup member. If someone considers themselves to be a Trump supporter, for example, they likely see Trump as part of their ingroup and are therefore more likely to trust what he says compared to those who are not Trump supporters. In a study that was carried out with a sample of Czech Republic's youth, it was determined that this ingroup trust is associated with political behaviors that benefit that ingroup, like election turnout and general interest in politics. In other words, if someone trusts in their ingroup, they are more likely to support it through active voting and staying informed about the current political situation (Umemura, 2017). Another factor that may be influenced by one's ingroup-outgroup membership is trust in fact checkers. Fact checkers may be perceived as an outgroup when they are in conflict with one's ingroup. Regardless of fact checkers' legitimacy or objectivity, fact checkers may be seen as a threat to one's ingroup, and so may lose face and be considered an untrustworthy source.

Power

Power has long been regarded as an important component in persuasion. Previous research determined that power has a significant role in persuasion and evaluative judgments – one's attitudes about concepts, objects, persons, places, or ideas (Briñol, Petty, Durso & Rucker, 2017). A framework provided by Kelman (1958), as reviewed by Briñol et al. (2017), explains

how influence is produced by sources that are seen as powerful, have expertise, or are attractive. Kelman theorizes that powerful sources produce influence because of their ability to monitor others' actions. For example, high power sources such as a boss or an authoritarian politician has the ability to check on the behavior of the subject. In contrast, Kelman suggests that expert sources produce influence because of internalization—the source's message is accepted by the subject because the source is thought to be credible. This explains the influence of people considered experts in their fields, like the director of NOAA explaining how a hurricane will proceed towards the US coast. Attractive sources, additionally, seemed to work via identification—believing someone because they are sympathetic. This most closely describes modern-day social media influencers – people believe their message because the source is attractive and people want to identify with them.

In more general terms, a source's power tends to increase compliance and trust. This goes hand in hand with Latané's (1981) social impact theory, as a sources' strength determines the impact of their message. Power is one of the factors in source strength, so the higher a sources' perceived power, the more likely they are to be persuasive. It has also been determined that language power has a significant effect on persuasion as well – that is, the more powerful the language, the higher the persuasion effect (Gadzhiyeva & Sager, 2017) For example, a person that uses linguistic markers that include the use of hedges (e.g., "somewhat") or verbal fillers (e.g., "like") is seen as less powerful—and therefore less persuasive—than a person who does not use those markers.

Power might contribute to the persuasive power of the Firehouse of Falsehood. One theoretical framework is provided by Gessen, a Russian-American journalist and activist with expertise on Russian and American political relations (Maza, 2018). According to Gessen, a

source's lack of commitment to objective reality or consistency is about asserting power. When a high-ranking politician like Vladimir Putin or Donald Trump states obvious lies, they are creating their own version of reality, and are forcing others to engage with it. In Gessen's words, they know that what they are saying is absurd, but they assert their right to say whatever they want whenever they want to (Maza, 2018). This power-focused approach suggests that fact checkers may be perceived as non-persuasive, and fact-checking may be an ineffective tool. The mere fact that something we know to be true can be up for debate diminishes the power of objective truth. The assumption that one can know for a fact what is true and what is false is taken away, leaving one fighting for the definition of reality itself. (Maza, 2018).

Current Research

The above research suggests possible ways to explain how the credibility factors are used to persuade – group membership and power may impact people's perceptions of those who use the Firehose of Falsehood. The particular focus of this study, then, is to test the following hypotheses:

The group membership hypothesis predicts that participants will consider a politician more legitimate if the politician is in their ingroup as opposed to their outgroup. Furthermore, participants will see fact checkers as less legitimate when the politician in the vignette is in their ingroup as opposed to their outgroup.

The power hypothesis predicts that participants will consider a politician more legitimate if the politician is high in power – like a president – as opposed to low in power – like a congressperson. Furthermore, participants will see fact checkers as less legitimate when the politician in the vignette is high in power as opposed to low in power.

The group by power hypothesis predicts that there will be an interaction between the group association and power level of the politician: high power politicians who are seen as members of one's ingroup will considered most legitimate, while low power politicians who are seen as members of one's outgroup will be considered least legitimate. Furthermore, if the politician is high power and seen as a member of one's ingroup, the fact checkers will be considered least legitimate. If the politician is low power and seen as a member of one's outgroup, the fact checkers will be considered most legitimate.

Method

Participants

I recruited 427 participants through Amazon's Mechanical Turk (mturk), an online survey service which provides respondents with compensation for each survey they answer. Participants were compensated $1 for completing the survey. Nineteen people failed an attention check[1], and 31 people did not fully complete the survey. They were removed from all subsequent analyses, leaving 377 participants for the final analysis.

The sample ranged in age from 19 to 72 years (M= 36.39, SD= 11.40), and included 252 (66.8%) males, 124 (32.9%) females, and 1 (0.3%) participant who identified as non-binary. Participants included 106 Republicans (28.1%), 186 Democrats (49.3%), and 85 Independents who identified as neither Republican nor Democrat (22.5%).

Design

This study was 2 (Power: low power, high power) by 3 (Group: Ingroup, Outgroup, Neither) fully-crossed, between-participant design.

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[1] The attention check in this study was a fairly common kind of item for mturk studies. It was worded as follows: "A factory worker makes 3 dollars an hour. This question is here to make sure that you are paying attention. Please enter the number 17 in the box below. How much money does the worker make?" Participants were removed from analyses if they did not enter the number 17 in the box.

Procedure

Participants read a fabricated vignette about Guam becoming the 51st state of the United States. Participants were randomly assigned to one of four versions of the vignette (see below for how these conditions were recoded to result in a 2 X 3 design). The vignettes varied in terms of the power of the politician – two featured a high power politician (President Donald Trump or Barack Obama), and two included a low power politician (Congressperson Rick Crawford or Peter Welch). The vignettes also varied in terms of the political party of the politician – two featured a Republican (Donald Trump and Rick Crawford), and two included a Democrat (Barack Obama or Peter Welch). In total, there were four conditions: Donald Trump (high power, Republican), Barack Obama (high power, Democratic), Rick Crawford (low power, Republican), and Peter Welch (low power, Democratic). The vignette read as follows:

> At a recent speaking event, [Donald Trump/Barack Obama/Rick Crawford, a Republican congressperson from Arkansas/Peter Welch, a Democratic congressperson from Vermont] went on record to say that during his 2nd year as [president/representative], he championed a bill that would allow Guam to become the 51st state. He stated how unfortunate it is that this bill didn't go through, and claimed that opposition from [Democrats/Republicans] is the reason why Guam hasn't become a part of the USA. [Trump/Obama/Crawford/Welch] also quoted the governor of Guam as saying, "We would be proud to become the 51st state, and thank [Donald Trump/ Barack Obama/Rick Crawford/Peter Welch] for his support of this cause." According to [Trump/Obama/Crawford/Welch], the [Democrats/Republicans] opposed the rule because they didn't want him to have credit for letting the first of the 17 non-self-governing territories gain statehood. Fact checkers determined that most of [Trump/Obama/Crawford/Welch]'s statements about Guam are false: there were only a few times he has mentioned Guam (during [the 2nd year of his administration/his 2nd year as representative] or otherwise), there is little record of [Democratic/Republican] opposition to Guam becoming the 51st state, and the governor of Guam issued no such statement.

After reading the vignette, participants rated the degree to which they perceived the politician as legitimate and the fact checkers as legitimate. Participants then filled out

demographic questions, including their political orientation. Lastly, participants filled out a

cognitive reflections test that was not used in this study, and were debriefed about the true

purpose of this study. See appendix A for stimulus materials and the full questionnaire.

Measures

   Target Legitimacy. Five items measured the perceived legitimacy of the politician

described in the vignette2. Participants responded to the following items: "After reading the

vignette, how much do you believe [Trump/Obama/Crawford/Welch] is a truth teller?", "After

reading the vignette, how much do you believe that [Trump/Obama/Crawford/Welch] is honest?"

"After reading the vignette, how much do you believe [Trump/ Obama/ Crawford/ Welch] is a

competent politician?", "After reading the vignette, how much do you trust

[Trump/Obama/Crawford/Welch]?", and "After reading the vignette, how much do you like

[Trump/Obama/Crawford/Welch]?". For each item, participants responded on a scale ranging

from 0 to 100, where 0 is *Not at all* and 100 is *Extremely*. A principal axis factor analysis

indicated that all five items loaded on to one factor (*eigenvalue* = 4.62). Scores for all five items

were averaged to create a single score reflecting perceptions of target legitimacy (Cronbach's

alpha = .98).

   Fact Checker Legitimacy. Five similar items measured the perceived legitimacy of the

fact checkers described in the vignette. Participants responded to the following items: "After

reading the vignette, how much do you believe the fact checkers are truth tellers?", "After

reading the vignette, how much do you believe that the fact checkers are honest?", "After

reading the vignette, how much do you believe the fact checkers are competent at their job?",

"After reading the vignette, how much do you trust the fact checkers?", and "After reading the

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2 An additional measure of voting tendency was collected, but was not used in the final analysis. The participants indicated how likely they would be to vote for the politician on a scale ranging from 0 to 100, where 0 is Not at all and 100 is Extremely.

vignette, how much do you like the fact checkers?" For each item, participants responded on a

scale ranging from 0 to 100, where 0 is *Not at all* and 100 is *Extremely*. A principal axis factor

analysis was conducted, and indicated that all five items loaded on to one factor (*eigenvalue* =

4.39). Scores for all five items were averaged to create a single score reflecting perceptions of

target legitimacy (*Cronbach's alpha* = .97).

     Participant's Ideology / Group Membership. To measure political orientation[3],

participants responded to the following items: "How would you describe your political party

orientation?" Participants responded with Republican, Democratic, or Neither Republican nor

Democratic. If the participant selected either Republican or Democratic, they were asked the

following question: "You indicated you were [Republican/Democratic]. How [Republican/

Democratic] are you?" Participants responded with Slightly, Moderately, or Very. If the

participant selected neither Republican nor Democratic, they were asked the following question:

"If you had to choose between identifying as either Republican or Democratic, which one would

you align yourself with?" They responded with Republican, Democratic, or Neither.

     An additional variable was then coded to indicate whether participants read a vignette

about an ingroup politician, an outgroup politician, or neither. Participants who read a vignette

about an ingroup politician (Republicans who read about Trump or Crawford, Democrats who

read about Obama or Welch) were coded as 1. Participants who read about an outgroup politician

(Democrats who read about Trump or Crawford, and Republicans reading about Obama or

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[3] Another item that measured participant's political ideology was as follows: "How would you describe your political orientation?" Participants responded Conservative, Liberal, or Neither conservative nor liberal. If the participant selected either Conservative or Liberal, they were asked the following question: "You indicated you were [conservative/liberal]. How [conservative/liberal] are you?" Participants responded Slightly, Moderately, or Very. If the participant selected neither Conservative nor Liberal, they were asked the following question: "If you had to choose between identifying as either conservative or liberal, which one would you align yourself with? They responded with Conservative, Liberal, or Neither.

Welch) were coded as -1. Participants who did not identify as either Republican or Democratic did not read about either an ingroup or outgroup member, and were coded as 0.

Results

This study explored the effects of a politician's power and ingroup/outgroup status on one's likelihood to trust them – even when they were telling a lie – as well as on one's likelihood to trust fact checkers who were invalidating the politician's claim. The group membership hypothesis predicted that participants would see a politician as more legitimate if the politician was in their ingroup as opposed to their outgroup. The power hypothesis predicted that participants would see a politician as more legitimate if the politician was high in power (e.g., a president) as opposed to relatively low in power (e.g., a congressperson). Finally, the group by power hypothesis predicted that there would be an interaction between group status and power: for those low in power, participants would trust an ingroup member somewhat more than an outgroup member. But for those high in power, there would be a substantial difference in trust— participants would trust an ingroup member substantially more than an outgroup member.

Additionally, the group membership hypothesis predicted that participants would be less likely to see fact checkers as legitimate when the politician in the vignette was in their ingroup as opposed to their outgroup. The power hypothesis predicted that the fact checkers would be seen as more legitimate when the politician in the vignette was low in power as opposed to high in power. Finally, the group by power hypothesis predicted an interaction between the politician's group status and power: for politicians low in power, participants would trust the fact checkers somewhat more if the politician was an outgroup member than an ingroup member. However, for politicians high in power, there would be a substantial difference in trust—participants would

trust the fact checkers significantly more if the politician was an outgroup member than an ingroup member.

As can be seen below, hypotheses about the perceived legitimacy of target politicians received strong support, whereas hypotheses about the perceived legitimacy of fact checkers received some support.

Descriptive Statistics

Altogether, 189 participants read a vignette with a low-power politician, and 188 read a vignette with a high-power politician. In terms of group affiliation, 151 participants read a vignette about a member of their outgroup, 141 read a vignette about a member of their ingroup, and 85 participants were neutral toward the politicians in terms of group membership. See table 1 for a breakdown of how many participants were in each of the six conditions present in this experiment. Additionally, there were significant correlations between the variables of power, group, and the perceived legitimacy of both the target and the fact checkers. See table 2 for a summary of correlations.

Perceived Target Legitimacy

To test the hypotheses concerning the perceived legitimacy of targets, I conducted a two-way analysis of variance comparing perceived target legitimacy as a function of group membership (ingroup, outgroup, neutral) and power (high power, low power).

There was a main effect of power, $F(1, 371)=30.37, p < .001, \eta_p^2 = .08$. Consistent with hypotheses, participants who read a vignette about a target low in power – a congressperson – saw the targets significantly less legitimate ($M = 29.71, SD = 2.10$) than did participants who read a vignette about a target high in power – a president ($M = 46.29, SD = 2.16$), $p < .000$.

There was also a main effect of group membership, F (2, 371) = 22.44, $p < .000$, $\eta_p^2 =$

.11. Consistent with hypotheses, participants who read a vignette about a target in their ingroup

saw that target as significantly more legitimate ($M = 51.62$, $SD = 2.38$) than did participants who

read a vignette about a target in their outgroup ($M = 32.64$, $SD = 2.31$), $p < .000$. Additionally,

participants who read a vignette about a target in their ingroup saw the target as more legitimate

compared to participants who were neutral towards the target ($M = 29.73$, $SD = 3.07$), $p < .000$.

However, participants who read a vignette about a target in their outgroup ($M = 32.64$, $SD =$

2.31) did not significantly differ from the participants who read a vignette about a target they

were neutral towards ($M = 29.73$, $SD = 3.07$), $p = .449$.

Finally, there was a significant interaction of power and group F (2, 371) = 5.80, $p =$

.003, $\eta_p^2 = .03$. See Figure 1. In the low power condition, participants did not differ in their

perceived legitimacy of an outgroup member ($M = 29.14$, $SD = 3.42$) and a neutral target ($M =$

22.97, $SD = 4.16$), $p = .252$. Participants marginally perceived ingroup members as more

legitimate ($M = 37.02$, $SD = 3.26$) than outgroup members ($M = 29.14$, $SD = 3.42$), $p = .096$.

Participants perceived ingroup members as significantly more legitimate (M = 37.02, SD = 3.26)

compared to a neutral target ($M = 22.97$, $SD = 4.16$), $p = .008$.

In the high power condition, participants did not differ in their perceived legitimacy of an

outgroup member ($M = 36.15$, $SD = 3.09$) and a neutral target (M=, SD=), $p = .949$. Participants

did, however, perceive an ingroup member as significantly more legitimate ($M = 66.23$, $SD =$

3.47) as compared to an outgroup member ($M = 36.15$, $SD = 3.09$), $p < .000$. Participants also

perceived ingroup members as significantly more legitimate ($M = 66.23$, $SD = 3.47$) compared to

a neutral target ($M = 36.50$, $SD = 4.51$), $p < .000$.

The results above demonstrate that high power, ingroup members are the most likely to get away with lying, as their position grants them a very high level of perceived legitimacy from the audience. On the flip side, a low power, outgroup member has the lowest chance of getting away with lying, as they have very low levels of perceived legitimacy from the audience.

Perceived Fact checker Legitimacy

To test the hypotheses concerning the fact checkers, I conducted a two-way analysis of variance comparing perceived fact checker legitimacy as a function of group affiliation (ingroup, outgroup, neutral) and power (high power, low power).

There was no main effect of power, $F(1, 371) = 0.85$, $p = .356$, $\eta_p^2 = .002$. Participants who read a vignette about a target low in power ($M = 70.51$, $SD = 1.57$) did not significantly differ in their trust of fact checkers compared to participants who read a vignette about a target high in power ($M = 67.43$, $SD = 1.62$), $p = .356$.

A main effect of group, however, was observed, $F(2, 371) = 13.39$, $p < .000$, $\eta_p^2 = .067$. Participants who read a vignette about a target in their ingroup saw the fact checkers as significantly less legitimate ($M = 64.25$, $SD = 1.78$) than did participants who read a vignette about a target in their outgroup ($M = 76.72$, $SD = 1.73$), $p < .000$. Furthermore, participants who read a vignette about a target in their outgroup saw the fact checkers as significantly more legitimate ($M = 76.72$, $SD = 1.73$) than did participants who read a vignette about a target they were neutral towards ($M = 67.44$, $SD = 2.30$), $p = .001$. Participants did not differ in their perceived legitimacy of fact checkers when they read a vignette about a neutral target ($M = 67.44$, $SD = 2.30$) as compared to an ingroup member ($M = 64.25$, $SD = 1.78$), $p = .273$.

Finally, an interaction effect was observed between power and group, F (2, 371) = 3.07, p = .047, η^2_p = .016. See Figure 2. In the low power condition, participants perceived the fact checkers as significantly more legitimate when reading about an outgroup member (M = 75.86, SD = 2.56) as compared to a neutral target (M = 66.66, SD = 3.11), p = .023. Similarly, participants perceived the fact checkers as significantly more when reading about an outgroup member (M = 75.86, SD = 2.56) as compared to an ingroup member (M = 69.01, SD = 2.44), p = .053. Lastly, participants did not significantly differ in their perceived legitimacy of fact checkers when reading about a neutral target (M = 66.66, SD = 3.11) as compared to an ingroup member (M = 69.01, SD = 2.44), p = .553.

In the high power condition, participants perceived the fact checkers as significantly more legitimate when reading about an outgroup member (M = 77.57, SD = 2.32) as compared to a neutral target (M = 68.23, SD = 3.38), p = .023. Participants perceived the fact checkers as significantly more legitimate when reading about an outgroup member (M = 77.57, SD = 2.32) as compared to an ingroup member (M = 59.49, SD = 2.60), p > .000. Lastly, participants also perceived the fact checkers as significantly more legitimate when reading about a neutral target (M = 68.23, SD = 3.38) as compared to an ingroup member (M = 59.49, SD = 2.60), p = .041.

The results above demonstrate that fact checkers are most effective when correcting an outgroup member, as that's when they are seen as the most legitimate by the audience. On the flip side, when the fact checkers are correcting a ingroup member – especially a high level one – they have very low levels of perceived legitimacy from the audience.

Discussion

The current research represents a step forward in our understanding of the Firehose of Falsehoods. The degree to which participants identified with the perpetrator informed not only

the perceived legitimacy of the target, but also the perceived legitimacy of the fact checkers who were discrediting said target. Furthermore, this effect was amplified for targets who were high rather than low in power.

There were main effects of power and group on target legitimacy. High power targets were seen as more legitimate than low power targets, and ingroup targets were seen as more legitimate than outgroup or neutral targets. There was no significant difference between outgroup and neutral targets. As for the interaction of power and group in terms of the target, there was no significant difference between the outgroup and neutral target, the ingroup was seen as slightly more legitimate than the outgroup, and the ingroup was seen as significantly more legitimate than the neutral target in the low power condition. Similarly, there was no significant difference between the outgroup and neutral target, the ingroup was seen as significantly more legitimate than the outgroup, and the ingroup was seen as significantly more legitimate than the neutral target in the high power condition. High power, ingroup members have the highest chance of getting away with lying, as opposed to low level, outgroup members.

When it came to the perceptions of the fact checkers, there was no main effect of power, but there was a main effect of group membership. There was no significant difference in fact checker legitimacy between high power and low power targets. Fact checkers were seen as more legitimate with outgroup targets as compared to ingroup or neutral targets, but there was no significant difference in fact checker legitimacy between ingroup and neutral targets. As for the interaction of power and group in terms of fact checker legitimacy, fact checkers were seen as more legitimate with outgroup targets as compared to ingroup or neutral targets, and there was no significant difference in fact checker legitimacy between ingroup and neutral targets in the low power condition. Similarly, fact checkers were seen as significantly more legitimate with

outgroup targets as compared to ingroup or neutral targets, and there was a significant difference in fact checker legitimacy between ingroup and neutral targets in the high power condition. Fact checkers are most effective against outgroup members as opposed to ingroup members, especially if they are also high in power.

What does this mean? High-power politicians are seen as more legitimate compared to low-power politicians when they lie. When the politician is part of one's political party, they are seen as more legitimate when they lie as compared to a politician from a different political party. Most importantly, when the politician is high in power and a member of one's political party, they are seen as highly legitimate even when they explicitly lie. These results suggest that high-power politicians, like presidents, get away with lying significantly more easily as compared to relatively low power politicians, like congresspersons. This is especially true when they are talking to their supporters as compared to their opposition or neutral citizens.

Fact checkers should – optimally – be seen as trustworthy regardless of a politician's status and one's political affiliation, because their job is to be objective and impartial in their assessment. The data suggests this is partially true – there was no significant difference in fact checker legitimacy based on the power level of the politician. However, fact checkers were seen as more legitimate when a contradicted politician was in the participant's outgroup as compared to their ingroup or being neutral. In the high power interaction, the differences were more pronounced, with outgroup members seeing the fact checkers as significantly more legitimate compared to ingroup members or neutrals targets. Additionally, participants who were neutral toward the target saw the fact checkers as significantly more legitimate than did participants who read about ingroup members.

The results suggest that high-power politicians are seen as more legitimate across the board, implying their power rather than their actual truth-telling influence the tendency of voters and citizens to trust them. We also have reason to believe that fact-checking is not very efficient against high-power politicians in one's ingroup. However, the legitimacy of the fact checkers who were correcting a high power, ingroup politician was rated at 60 points out of 100 on average, which is a fairly good rating. This means that fact checkers are trusted by the population at a fairly good rate even when they are speaking out against one's ingroup member.

Limitations

The US political system is very clearly divided into two parties, so there is less space for nuance in how different political parties are assessed. However, many countries have multi-party political systems, so we do not know if the results would replicate so cleanly if there were 6 or 7 outgroups to consider. Another potential issue is that the vignette was artificially created, so its ecological validity could be low. It was also a single short story, as opposed to the natural long-term exposure to information and opinions that we see in the news cycle. We also used high power politicians who are incredibly well known, and most of the participants probably had pre-existing opinions of both Trump and Obama as opposed to shaping that opinion based on the vignette they read. Additionally, although we concluded that fact-checking is not incredibly effective for high power, ingroup politicians, we do not know of an alternative solution that would work more effectively.

Future directions

For further research, it would be appropriate to replicate this study in a country with more political parties (like the Czech Republic, for example). It could also be interesting to track the development of political opinions over time, as that would more naturally reflect how and why

various voters trust and support which politician. Another possible direction could be changing

the vignette to discuss a made-up president who is only identified by his or her political stance,

so that the previous knowledge one has about Trump and Obama doesn't influence their opinion

that is measured in the study. It would also be prudent to look into what kind of techniques could

serve as a more effective replacement of fact-checking when it comes to high power politicians

who are a part of one's ingroup.

Conclusion

Christopher Paul's research as well as Masha Gessen's theory were supported by this

study. Power is a huge determiner of trust and legitimacy on the political scene, especially when

the audience considers the politician a member of their ingroup. This study provides evidence

that truthfulness and credibility aren't as important for gaining voter support as they used to be.

Being a high power politician and a member of the audience's ingroup produces a very strong

trust effect without the need for honesty or actual truth. This explains why politicians like Trump

or Putin can get away with obvious lies, and provides more clarity about why fact checkers

aren't as effective against high power ingroup targets. This study also sheds some light on how

propaganda has developed over time, and presents new issues that need to be grappled with in

today's political climate. This study also demonstrates how the Firehose of Falsehood functions,

and why it is so difficult to fight against it.

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Table 1

Frequencies of participants in each condition.

Condition	Outgroup	Neutral	Ingroup	Total
Low Power	68	46	75	189
High Power	83	39	66	188
Total	151	85	141	377

Table 2

Means, Standard deviations, and/or intercorrelations for study variables.

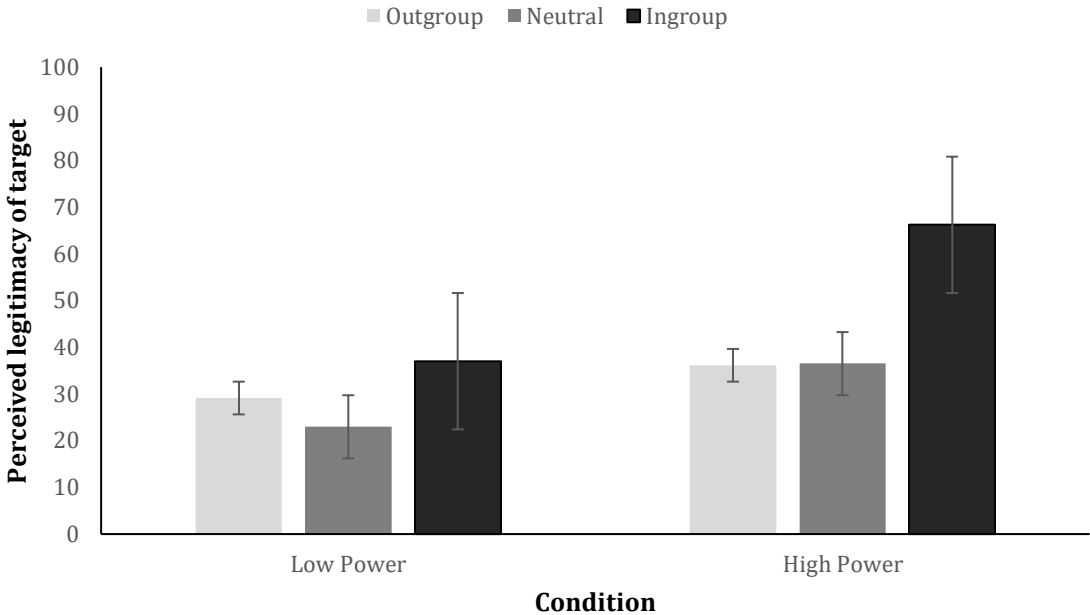| Variable	*M*	*SD*	1.	2.	3.
1. Power	--	---	1.00		
2. Group	--	---	-.072	1.00	
3. Perceived Target Legit	38.75	31.09	.258***	.248***	1.00
4. Perceived FC Legit	70.10	21.90	-.037	-.247***	-.301***

Figure 1. Interaction of the power and group conditions for target legitimacy.
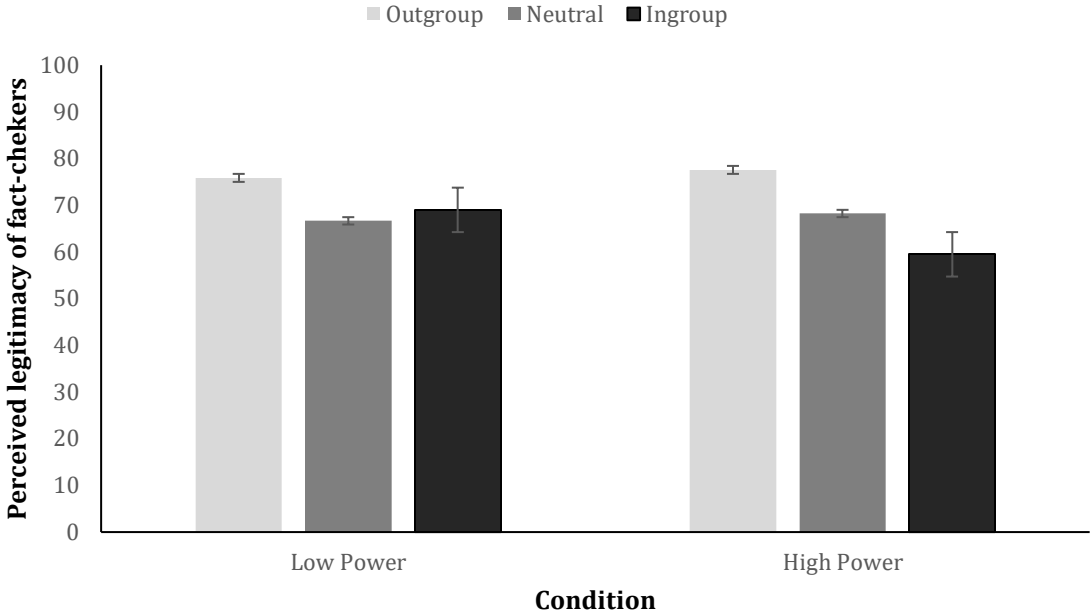
Figure 2. Interaction of the power and group conditions for fact checker legitimacy.

Appendix

The Questionnaire Used to Collect Data for This Experiment

Welcome! Thank you for your interest in our research.

We are conducting our research on people's attitudes and beliefs about current events. Please read the following news story closely, and answer the questions honestly and to the best of your ability. Thank you again for participating in our study.

VIGNETTE
[One of the four vignettes will be shown, along with appropriate follow-up questions, through random assignment]

[Donald Trump]
At a recent speaking event, Donald Trump went on record to say that during his 2nd year as president, he championed a bill that would allow Guam to become the 51st state. He stated how unfortunate it is that this bill didn't go through, and claimed that opposition from Democrats is the reason why Guam hasn't become a part of the USA. Trump also quoted the governor of Guam as saying, "We would be proud to become the 51st state, and thank Donald Trump for his support of this cause." According to Trump, the Democrats opposed the rule because they didn't want him to have credit for letting the first of the 17 non-self-governing territories gain statehood.

Fact checkers determined that most of Trump' statements about Guam are false: there were only a few times he has mentioned Guam (during the 2nd year of his administration or otherwise), there is little record of Democratic opposition to Guam becoming the 51st state, and the governor of Guam issued no such statement.

[Barack Obama]
At a recent speaking event, Barack Obama went on record to say that during his 2nd year as president, he championed a bill that would allow Guam to become the 51st state. He stated how unfortunate it is that this bill didn't go through, and claimed that opposition from Republicans is the reason why Guam hasn't become a part of the USA. Obama also quoted the governor of Guam as saying, "We would be proud to become the 51st state, and thank Barack Obama for his support of this cause." According to Obama, the Republicans opposed the rule because they didn't want him to have credit for letting the first of the 17 non-self-governing territories gain statehood.

Fact checkers determined that most of Obama's statements about Guam are false: there were

only a few times he has mentioned Guam (during the 2nd year of his administration or otherwise), there is little record of Republican opposition to Guam becoming the 51st state, and the governor of Guam issued no such statement.

[Rick Crawford (R-AR)]
At a recent speaking event, Rick Crawford, Republican congressperson from Arkansas, went on record to say that during his 2nd year as representative, he championed a bill that would allow Guam to become the 51st state. He stated how unfortunate it is that this bill didn't go through, and claimed that opposition from Democrats is the reason why Guam hasn't become a part of the USA. Crawford also quoted the governor of Guam as saying, "We would be proud to become the 51st state, and thank Rick Crawford for his support of this cause." According to Crawford, the Democrats opposed the rule because they didn't want him to have credit for letting the first of the 17 non-self-governing territories gain statehood.

Fact checkers determined that most of Crawford's statements about Guam are false: there were only a few times he has mentioned Guam (during his 2nd year as representative or otherwise), there is little record of Democratic opposition to Guam becoming the 51st state, and the governor of Guam issued no such statement.

[Peter Welch (D-VT)]
At a recent speaking event, Peter Welch, a Democratic congressperson from Vermont, went on record to say that during his 2nd year as representative, he championed a bill that would allow Guam to become the 51st state. He stated how unfortunate it is that this bill didn't go through, and claimed that opposition from Republicans is the reason why Guam hasn't become a part of the USA. Welch also quoted the governor of Guam as saying, "We would be proud to become the 51st state, and thank Peter Welch for his support of this cause." According to Welch, the Republicans opposed the rule because they didn't want him to have credit for letting the first of the 17 non-self-governing territories gain statehood.

Fact checkers determined that most of Welch's statements about Guam are false: there were only a few times he has mentioned Guam (during his 2nd year as representative or otherwise), there is little record of Republican opposition to Guam becoming the 51st state, and the governor of Guam issued no such statement.

[New page]

After reading the vignette, how much do you trust [Trump/Obama/Crawford/Welch]? Please select an option from the following scale ranging from 0 to 100, where 0 is Not at all and 100 is Extremely.

0   100
[---]

After reading the vignette, how much do you trust the fact checkers? Please select an option from the following scale ranging from 0 to 100, where 0 is Not at all and 100 is Extremely.

0   100
[---]

How much do you believe [Trump/Obama/Crawford/Welch] is a truth teller? Please select an option from the following scale ranging from 0 to 100, where 0 is Not at all and 100 is Extremely.

0   100
[---]

How much do you believe the fact checkers are truth tellers? Please select an option from the following scale ranging from 0 to 100, where 0 is Not at all and 100 is Extremely.

0   100
[---]

How much do you like [Trump/Obama/Crawford/Welch]? Please select an option from the following scale ranging from 0 to 100, where 0 is Not at all and 100 is Extremely.

0   100
[---]

How much do you like the fact checkers? Please select an option from the following scale ranging from 0 to 100, where 0 is Not at all and 100 is Extremely.

0   100
[---]

After reading the vignette, how likely would you be to vote for [Trump/Obama/Crawford/Welch] if you could? Please select an option from the following scale ranging from 0 to 100, where 0 is Not at all and 100 is Extremely.

0   100
[---]

Demographic Measures
What is your age?
[Text box]

What is your racial/ethnic identity?
[Text box]

What is your gender identity?
○ Male
○ Female
○ Other: _____

What is your country of citizenship?
[Text box]

What is your current employment status?
○ Employed full time
○ Employed part time
○ Student
○ Unemployed
○ Retired
○ Homemaker

Which of the following best describes your household situation?
○ My household has a hard time buying the things we need.
○ My household has just enough money for the things we need.
○ My household has no problem buying the things we need and sometimes we can also buy special things.
○ My household has enough money to buy pretty much anything we want.

How would you describe your political orientation?
○ Conservative
○ Liberal
○ Neither liberal nor conservative

[If a participant selected neither liberal nor conservative, then they will answer the next question]
If you had to choose between identifying as either conservative or liberal, which one would you align yourself with?
○ Conservative
○ Liberal
○ Neither

[If a participant selected either conservative or liberal, then they will answer the next question]
You indicated you were [conservative/liberal]. How [conservative/liberal] are you?
○ Slightly
○ Moderately
○ Very

How would you describe your political party orientation?
○ Republican
○ Democrat
○ Neither Republican nor Democrat

[If a participant selected neither Republican nor Democrat, then they will answer the next question] If you had to choose between identifying as either Republican or Democrat, which one would you align yourself with?
○ Republican
○ Democrat
○ Neither Republican nor Democrat

[If a participant selected either Republican or Democrat, then they will answer the next question]
You indicated you were [Republican/Democrat]. How [Republican/Democrat] are you?
○ Slightly
○ Moderately
○ Very

If Donald Trump and Barack Obama were running against each other in a presidential election, who would you vote for?
○ Donald Trump
○ Barack Obama

Cognitive reflections test

Almost done! We have a few more questions. Once you complete these, you will be done with the study!

1. If it takes 5 machines 5 minutes to make 5 widgets, how long would it take 100 machines to make 100 widgets?
[Text box]

2. In a lake, there is a patch of lily pads. Every day, the patch doubles in size. If it takes 48 days for the patch to cover the entire lake, how long would it take for the patch to cover half of the lake?
[Text box]

3. A factory worker makes 3 dollars an hour. This question is here to make sure that you are paying attention. Please enter the number 17 in the box below. How much money does the worker make?
[Text box]

4. If you're running a race and you pass the person in second place, what place are you in?
[Text box]

5. A farmer had 15 sheep and all but 8 died. How many are left?
[Text box]

6. Emily's father has three daughters. The first two are named April and May. What is the third daughter's name?
[Text box]

Have you seen any of these questions before? If so, indicate which ones by listing their number below.
[Text box]

Thank you for participating in our study! Your responses are appreciated.