The Prevalence of Hate-Based Conspiracy Theory in the United States

Rr. Nefriana and Yu-Ru Lin

University of Pittsburgh
{rr.nefriana,yurulin}@pitt.edu

Abstract. As streams of hatred and violence targeted at specific groups have been motivated by conspiratorial beliefs, understanding the prevalence of exposure to and belief in hate-based conspiracy theories becomes crucial. To address this challenge, we conducted a novel study on the exposure and belief of hate-based conspiracy theories. Specifically, we conducted an online survey from December 2022 to January 2023 to gather respondents' experiences in seeing four representative hate-based conspiracy theories and their belief in them, simultaneously. From 652 respondents' data, we found that 82% had been exposed to at least one of the hate-based conspiracy theories in social media, and two-thirds believed in at least one. The knowledge on the pervasiveness of the exposure to hate-based conspiracy theories on social media and the corresponding belief in them should serve as a compelling catalyst for policy makers and social media platforms to actively combat their dissemination. Furthermore, the understanding of the association between the exposure to and belief in hate-based conspiracy theories provides valuable insights into how these factors might interdependent, opening avenues for further investigation in the future.

Keywords: Conspiracy Theory · Misinformation · Social Media Exposure.

1 Introduction

In 2022, an eighteen-year-old white man perpetrated a fatal shooting in Buffalo, claiming the lives of ten black individuals and inflicting injuries upon three others [1, 2]. Before the attack, the shooter published an online manifesto [3], describing himself as a believer in the Great Replacement theory, a theory that accuses Jews of replacing White ethnicity with non-whites through demographic controls and massive immigration [4]. Prior to this ghastly incident, a belief in conspiracy theories also motivated other mass shootings: in Pittsburgh [1, 2], Poway [5], and El Paso [1, 2, 5]. Given current streams of hate crimes and harmful acts toward specific groups, studying beliefs in hate-based conspiracy theory becomes imperative.

Wood and Douglas [6] defined a conspiracy theory as "an allegation regarding the existence of a secret plot between powerful people or organizations to achieve

some goal (usually sinister) through systematic deception of the public." Some famous examples of recent conspiracy theories beyond the Great Replacement include the assassination of J.F.K. by the C.I.A. and the fake moon landing. This research focuses on "hate-based conspiracy theories" or "hate-based CTs" in short. These conspiracies are limited to only those conspiracy theories subsisting based on hate. Referring to the Department of Justice's definition of hate [7], "hate" means "bias against people or groups with specific characteristics that are defined by the law." These characteristics are usually inherent, including race, color, religion, national origin, sexual orientation, gender, gender identity, and disability. Thus, hate-based conspiracy theories do not include the J.F.K. assassination, fake moon landing, aliens, and U.F.O. This research is centered on this particular category due to the alarming frequency of hate crimes and other harmful actions directed towards specific groups [8].

Recent studies have presented cogent figures regarding the prevalence of belief in the Great Replacement conspiracy theory [1, 9]. For example, a survey by The Associated Press-NORC Center for Public Affairs Research (AP-NORC) in 2021 revealed that Republicans were more likely to believe that a group of people was trying to replace native-born Americans with immigrants than Democrats and Independents (47% Republican, 22% Democrats, and 22% Independents) [9]. However, these surveys primarily focused on the Great Replacement theory, neglecting other dangerous hate-based conspiracy theories. Besides, these studies solely assessed belief, failing to account for individuals' concurrent exposure to hate-based CT on social media. In the meantime, employing these simultaneous measurements would serve as a valuable instrument for comprehending the correlation between social media usage and belief in hate-based conspiracy theories, as well as unfolding the dynamics between exposure and belief. Here, "exposure" refers to a measure at the individual level about whether or not they have been exposed to hate-based CTs on social media. Meanwhile, we defined "belief" as a measure of whether an individual believes in hate-based CTs.

Concerning this gap, this study aims to answer the following research question:

RQ: *To what extent are the prevalence of a) exposure and b) belief of hate-based CTs in the United States?*

In answering this question, one challenge that other studies had not addressed was measuring the likelihood of belief given exposure in the context of online social networks. In our survey, we selected four representative hate-based CT messages from popular social media sites, i.e. Reddit and Twitter, and designed a survey instrument to measure respondents' experiences with exposure to similar hate-based CT messages on social media and their beliefs in them.

The contribution of this paper is two-fold. First, while others have studied the prevalence of the Great Replacement belief [9], ours investigated the prevalence of exposure and belief of four diverse hate-based CTs in the United States. The diversity in hate-based CT topics was essential as many hate-based conspiracy theories indicated hate towards different groups (we showed the details later in Sub-section 3.1). Moreover, our study yields significant insights by examining the

contemporaneous prevalence of exposure to and belief in hate-based conspiracy theories, shedding light on the association between social media use and belief in hate-based CT, as well as potential interplay between the exposure and belief, paving the way for future research.

2   Related Works

Several surveys have examined the Great Replacement conspiracy belief level in the United States in association with political leaning. For instance, a survey by AP-NORC [9] revealed that in 2021 around one-third of adults (32%) agreed that "a group of people is trying to replace native-born Americans with immigrants for electoral gains." Most of those who believed in this notion were Republican-affiliated (47% Republican, 22% Democrats, 22% Independents). In line with that result, a survey by Southern Poverty Law Center (SPLC) [1] found that in 2021 almost half of their respondents (48%) agreed that "the recent change in our national demographic makeup is not a natural change but has been motivated by progressive and liberal leaders actively trying to leverage political power by replacing more conservative white voters." Most of those who believed were 68% Republican, 35% Democrats, and 42% Independents. While these studies provided insights into the belief level regarding the Great Replacement conspiracy theory, there is still a need for extensive research to explore the prevalence of both exposure and belief in parallel and in a broader range of conspiracy theories.

3   Methodology

3.1   Measuring the Exposure and Belief

Not yet being addressed by the previous works, one of the challenges in this study was measuring the likelihood of exposure and belief for each individual at the same time. Our strategy was to select representative hate-based CT messages from popular social media to increase the likelihood that individuals would have a chance to see such messages. We then collected responses from the survey participants about their experiences with exposure to the messages or messages with similar content on social media and their beliefs in them.

Figure 1 shows the steps we took in selecting the hate-based CT messages. First, we listed hate-based CT names by examining extremist ideologies' descriptions on the SPLC's website. Then, manually, we searched for hate-based CTs with keywords "conspiracy," "claim," "alleging/alleged/alleges, "believe/belief" and evaluated sentences before and after these keywords. In total, 25 hate-based CTs were found via these heuristics.

After that, we created crawling keywords based on the names of the hate-based CTs, descriptions of the hate-based CTs on the SPLC's website, and their Wikipedia descriptions. For example, the keywords for the Great Replacement
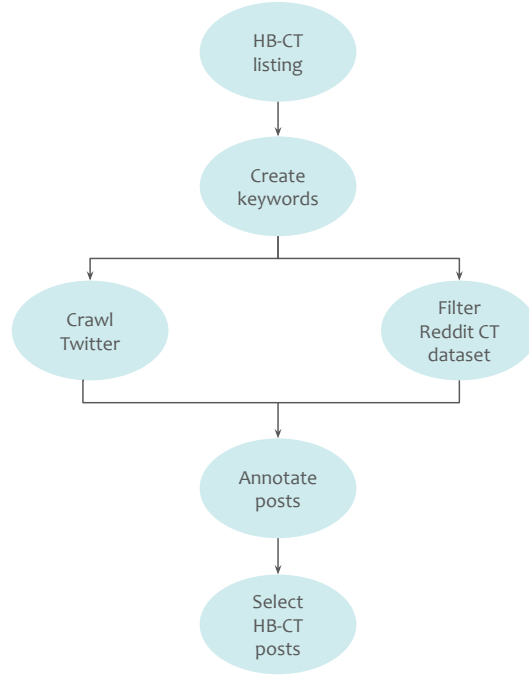
Fig. 1. Hate-based CT messages selection processes. We first listed hate-based CT names from SPLC's descriptions of extremist ideologies to determine representative hate-based CTs. After that, we created keywords for each hate-based CT by referring to their names, descriptions of the hate-based CTs on the SPLC's website, and Wikipedia descriptions for each hate-based CT. Next, we crawled Twitter using these keywords and filtered the Reddit dataset from conspiracy subreddits. These posts were then annotated to see which messages reflected the author's belief in hate-based CTs. Lastly, we picked four diverse hate-based CT topics, names, and their representative messages based on popularity and clarity criteria.

conspiracy theory were "great replacement," "grand replacement," and "to re-place white people."

Next, we crawled Twitter using those keywords. The criteria were that the posts should be in English and dated January 1, 2022, until October 29, 2022, to account for recentness. We counted the popularity of each tweet as the number of retweets + quotes + likes.

We also obtained Reddit hate-based CT posts by filtering a previously-collected Reddit dataset using the same keywords we used to crawl Twitter. These Reddit posts were written from January 2020 until August 2022 and collected from three subreddits, i.e., `r/conspiracy_commons`, `r/conspiracy`, and `r/conspiracyundone`. For Reddit posts, the popularity weights were the same as the number of comments they had.

The subsequent step was to annotate the Twitter and Reddit hate-based CT posts. We flagged "yes" if the posts reflected the author's belief in hate-based CTs. Two annotators went through two annotation stages with a disagreement discussion after stage 1. The Cohen's kappa scores were approximated at around .5 in the first round. After the discussion, refining the annotation, and excluding posts that were more likely to be about cases outside the United States, we reached our final Cohen's kappa scores of .82 for Twitter and .86 for Reddit.

The last step was to choose the final hate-based CT posts. The hate-based CT names were selected to represent diverse topics. Specifically, our selected topics were White Supremacy, Anti-Muslims, Anti-Jews, and Anti-LGBTQ+, whereas the selected hate-based CTs, respectively, were Great Replacement, Civilization Jihad, Jewish-controlled Media, and Gay Agenda. From the posts annotated as "yes," we decided on one post for each selected hate-based CT with a high popularity score and a clear message.

3.2 Survey Execution

We conducted the survey from December 12, 2022, until January 16, 2023, online using Qualtrics. To recruit the respondents, we used Prolific's with balanced sample setting (50% men and 50% women). Each respondent was paid USD 7.00 for completing the survey. The median completion time for each respondent was 27 minutes.

To avoid fraud of multiple submissions from the same individuals, we used Qualtrics's multiple submission prevention, IP address detection, and email address detection. These IP and email addresses were deleted after the data collection was finished.

3.3 Ethical Statement

Before the data collection, the Institutional Review Board (IRB) at the University of Pittsburgh had approved this study design. All respondents whose data we used for analysis consented before starting the survey. In addition, they had the option to stop their participation at any point during the survey. This survey was anonymous, and any personal information was kept confidential.

3.4 Data Cleaning & Preprocessing

A total of 806 participants were successfully recruited from Prolific. However, 121 responses were disqualified because of some "Prefer not to say" answers to the demographic questions. We also removed 33 responses of participants who connected using similar or consecutive IP addresses as those who had already completed the survey. In total, 652 participants' data were included in our analysis. This number was more than the required sample size (385 samples) when we used 95% Confidence Level and 5% Margin of Error to represent all US population.

In addition, to make our survey results more representative, we performed raking [10]. Our raking was conducted based on census data (education, race, age, state)[1] and Gallup data (party)[2].
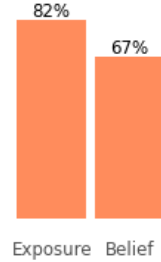
4   Results

Fig. 2. The prevalence of exposure to and belief in the four hate-based CTs. In total, 82% of respondents had been exposed to at least one of the hate-based CTs. As much as 67% of respondents believed in at least one of the hate-based CTs.
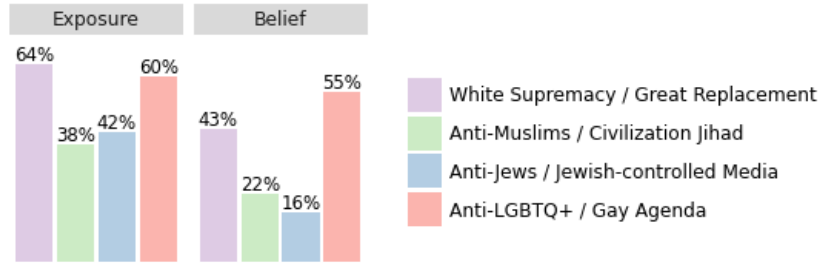

Fig. 3. The prevalences of exposure and belief in four selected hate-based CTs. Concurently, the prevalence of exposure to hate-based CTs in the United States ranged from 38% (Civilization Jihad) to 64% (Great Replacement). The prevalence of belief ranged from 16% (Jewish-controlled Media) to 55% (Gay Agenda).

Exposure Figure 2 shows the prevalence of exposure. Overall, 82% of respondents had been exposed to at least one of these four messages. A very high

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[1] https://data.census.gov/

[2] https://news.gallup.com/poll/15370/party-affiliation.aspx

number of people had been exposed to the Great Replacement theory (64%) (Figure 3). The second highest exposure was to Gay Agenda (60%) (Figure 3). Of all respondents, 42% and 38% had been exposed to Jewish-controlled Media and Civilization Jihad, respectively (Figure 3).

A breakdown of the exposure by belief indicated a strong association between exposure and belief, as well as the possibility of selective exposure, which is a phenomenon where people are inclined to seek information that aligns with their existing beliefs [11], in hate-based CTs. From Figure 4, we can see that those exposed to hate-based CTs were likely to be believers. On the contrary, those who had never been exposed to hate-based CTs were more likely to be non-believers. This difference was significant (p-value: 1.36×10^{-7}). Fisher's exact test showed the odd ratio of 3.02, meaning that the odds of the exposure occurring in believers were three times more likely than those in non-believers.
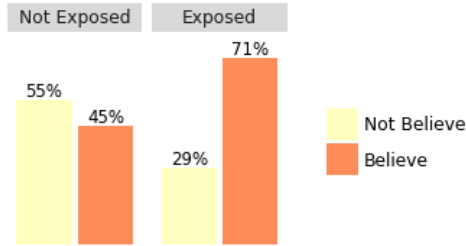

Fig. 4. Exposure broken down by belief. Those who were exposed to hate-based CTs on social media were more likely to believe them. On the contrary, those who were not exposed to hate-based CTs in social media were more likely to not believe in them.

Belief An alarming number (67%) of the respondents believed in at least one of the four messages (Figure 2). Referring to Figure 3, the percentage of believers from the highest to lowest was 55% for Gay Agenda, 43% for the Great Replacement, 22% for Civilization Jihad, and 16% for Jewish-controlled Media. We noticed here that the prevalence of the Great Replacement believers was slightly lower than SPLC's 2021 survey finding [1], saying that 48% of their respondents agreed that "the recent change in our national demographic makeup is not a natural change but has been motivated by progressive and liberal leaders actively trying to leverage political power by replacing more conservative white voters."

Some breakdowns of the exposure also revealed some interesting patterns (Figure 5 and Figure 6). First, we found that the odds of belief in hate-based CTs in conservatives were 10.75 times more likely than the odds of belief in hate-based CTs in non-conservatives (p-value: 6.90×10^{-28}). Aligned with that, the odds of belief in hate-based CTs in Republicans were 7.69 times more likely than
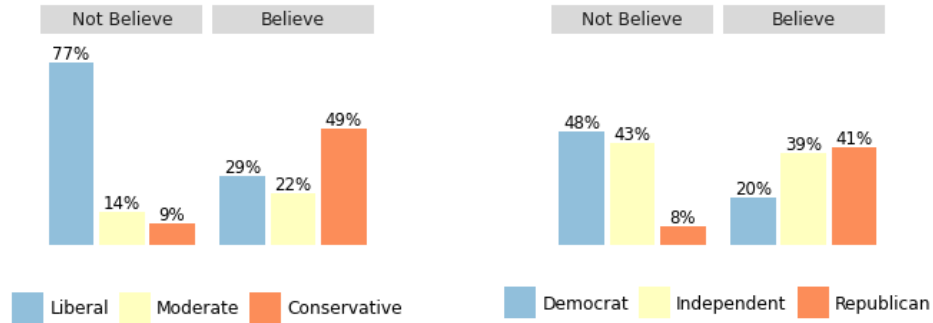
Fig. 5. Belief given political leanings. Those who believed in hate-based CTs were more likely to be Conservatives and Republicans.

the odds of belief in hate-based CTs in non-republicans (p-value: 7.78×10^{-20}). This finding supports the AP-NORC and SPLC surveys, saying that belief in the Great Replacement was associated with political leanings.

The odds of belief were more likely in Whites than in non-whites for three of the hate-based CTs (1.79 times more likely for the Great Replacement with a p-value of 0.0004, 4.24 times more likely for Civilization Jihad with a p-value of 4.45×10^{-11}, and 2.01 times more likely for Gay Agenda with a p-value of 1.51×10^{-05}). While The Great Replacement theory is indeed a white supremacy conspiracy theory [4], it was interesting that 33% of those who believed were not from White ethnicity. Another intriguing point was that, for Jewish-controlled media, we found the pattern worked the other way: the odds of belief were 1.56 times less likely in Whites rather than in non-whites (p-value of 0.04).

5   Discussion and Conclusion

Our study revealed the high exposure to and belief in four hate-based CTs in the United States. We found that 82% of our respondents had been exposed to at least one of the four presented hate-based CTs (Great Replacement, Civilization Jihad, Jewish-controlled Media, and Gay Agenda). We also discovered an unnerving percentage of respondents (67%) who believed in at least one of the four hate-based CTs.

The relationships between ideology and belief in hate-based CTs supported previous findings stating that political leanings, in their case party, were associated with Great Replacement belief [1, 9]. Meanwhile, the break down of belief by ethnicity demonstrated that Whites were more likely to believe in three (Great Replacement, Civilization Jihad, and Gay Agenda) out of four hate-based CTs. In contrast, non-whites were more likely to believe in the Jewish-controlled media message. Indeed, regarding this phenomenon, Weissbrod found several non-white celebrities who promoted anti-Semitism [12]. Hersh and Royden's research also revealed that in the United States, Black and Latino respondents
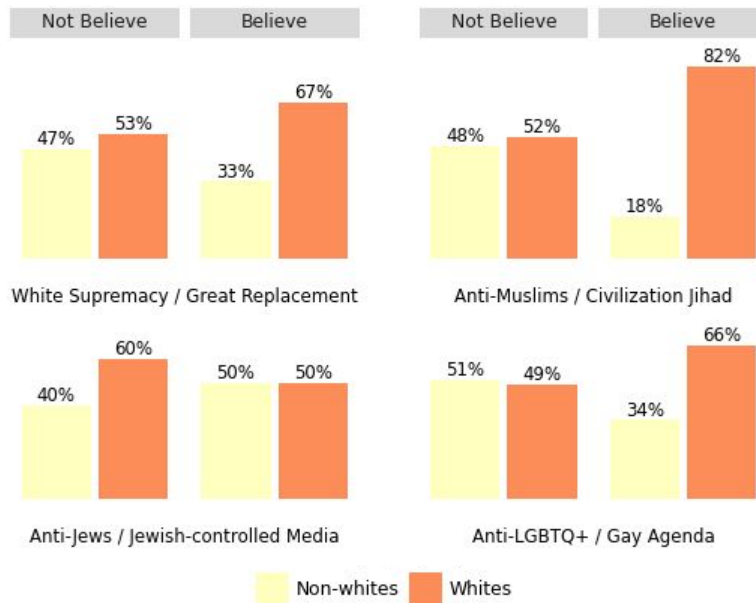
Fig. 6. Belief by ethnicity. Believers in Great Replacement, Civilization Jihad, and Gay Agenda were more likely to be Whites. In contrast, the likelihood of belief in Jewish-controlled media was lower among Whites compared to non-Whites.

exhibited higher rates of antisemitism compared to Whites, particularly among the younger population [13].

Concerning the high level of exposure to hate-based CT in social media, policy makers and social media platforms should take strong actions to curb the spread of such messages. Furthermore, our finding of a strong correlation between exposure to and belief in hate-based CTs should inspire future research to investigate the interdependence between these variables. This exploration can shed light on intriguing phenomena such as selective exposure [11] and its contribution to the belief in hate-based CTs.

Acknowledgement

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