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# The Relationship Between Language Use and Conspiracy Beliefs

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## EXECUTIVE SUMMARY

We know little about the individuals who share conspiracy beliefs online. By examining their language use, we can gain more insight into this population. We find that several language markers are associated with higher levels of conspiracy mentality, that is, a generic tendency to engage in conspiracy thinking. This has important implications for countering the impact of conspiracy theories and preventing support for election violence, a pathway we examine in a separate report.

**Based on a recent [Government Accountability Office recommendation](#) that encourages greater information sharing between the U.S. Department of Homeland Security's Office of Intelligence and Analysis (DHS I&A) and practitioners, this project will inform policymakers about the possibility of estimating levels of conspiracy mentality based on language use in places such as social media and gaming-adjacent platforms.**

## KEY TAKEAWAYS

This project has identified some linguistic markers correlated with a conspiracy mentality. When participants write about (possible) conspiracies they believe in:

1. Those who have a stronger conspiracy mentality write in a more confident way, though their language use shows lower levels of complexity.
2. Those who have a stronger conspiracy mentality use more third-person pronouns, whereas those who have a weaker conspiracy mentality use more first-person pronouns.

In addition, by combining psychological measures of conspiracy mentality with linguistic markers:

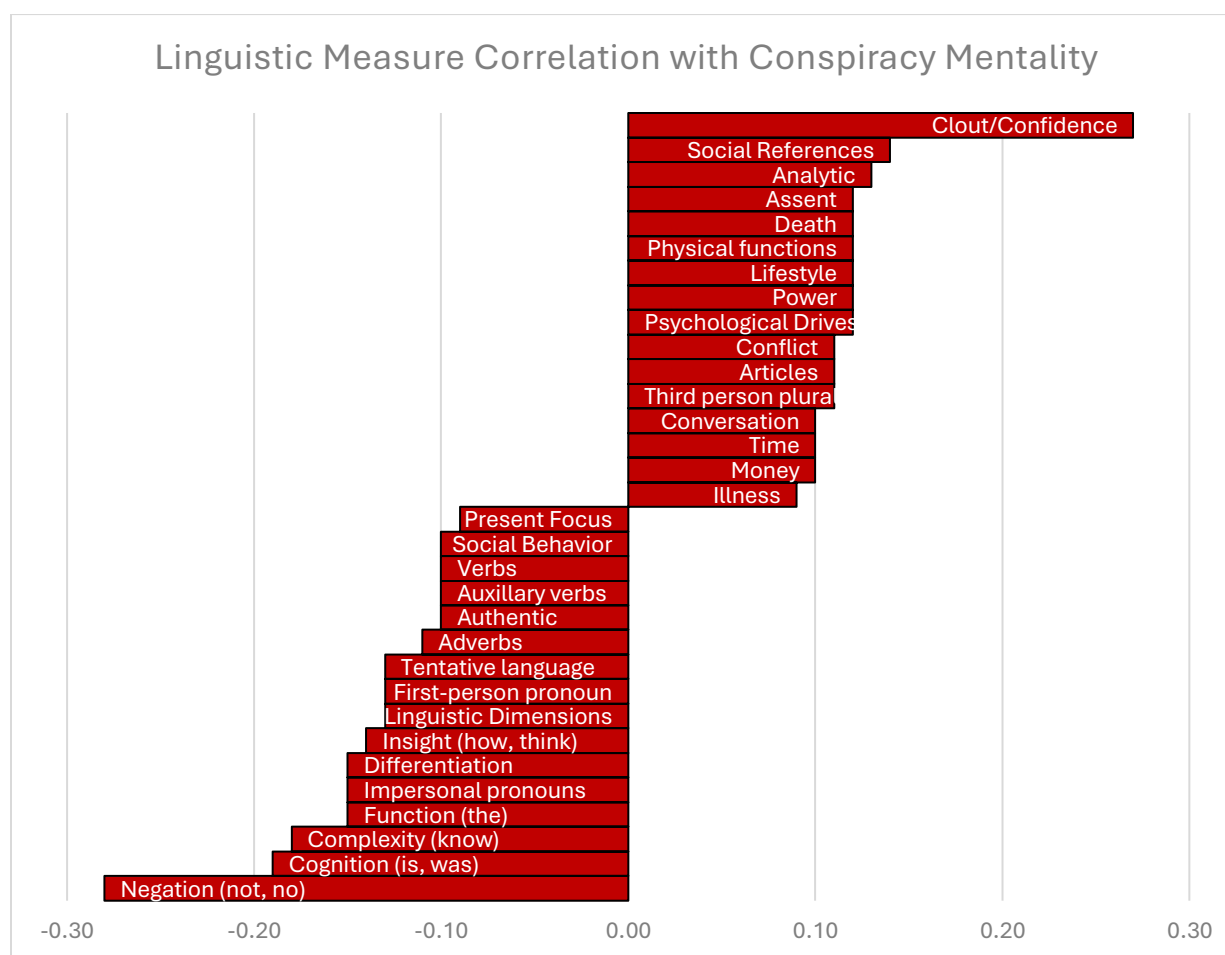
3. We demonstrate applicability to prevention practitioners by using a short piece of text to derive someone's generic tendency to engage in conspiracy thinking.

## OVERVIEW

Online propagation of conspiracy theories is typically studied by means of social media data such as the content and prevalence of conspiracy-related messages on different platforms. A major limitation to these studies is that we know little about the individuals behind such messages. As such, we do not use social media data in this project.

This project addresses this problem by combining survey measures of conspiracy mentality with a writing task in which participants provide a short text on conspiracies they believe in. We derive linguistic markers from these texts and examine 1) to what extent they are related to conspiracy mentality and 2) whether conspiracy mentality scores can be predicted based on these markers. This may be used by practitioners to counter the impact of conspiracy theories.

**Figure 1.** Correlations between Conspiracy Mentality and linguistic measures



In total, 32 out of 118 linguistic measures significantly correlated with conspiracy mentality scores. For example, higher conspiracy mentality was associated with less use of complex language related to cognitive processes (e.g., 'think,' 'cause,' 'consider'), as well as less frequent use of first-person pronouns. In contrast, a high score on conspiracy mentality was related to a greater use of linguistic markers of confidence that express leadership and higher status, language referring to power and conflict (e.g.,

‘allow,’ ‘order,’ and ‘attack,’ ‘kill’), and third-person pronouns (e.g., ‘they,’ ‘him,’ ‘her’). All correlations are depicted in Figure 1.

Finally, we were able to predict participants’ actual conspiracy mentality scores within a low margin of error using linguistic markers, demonstrating that machine learning is a useful tool to understand more about someone’s conspiracy mentality by analyzing language use in short texts.

While knowing someone’s conspiracy mentality does not necessarily indicate their ability or likelihood to mobilize to violence, we examine this possibility and related risk and protective factors that can inform prevention efforts in related outputs of this project. The relationship between conspiracy mentality and outcomes such as support for violence and engagement in election violence is further explored in forthcoming outputs of this project.

## IMPACT

With recent recommendations that DHS I&A share information with practitioners, this research allows prevention practitioners to identify specific points to intervene.

This study shows that a conspiracy mentality is significantly related to specific forms of language use, both in terms of content and style. Importantly, we were able to predict conspiracy mentality scores within a reasonable margin of error.

Given that we were able to do so from a short piece of text, the results may hold implications for targeted online intervention measures, such as counter-narratives or digital literacy interventions for prevention practitioners who are engaged in off-ramping from extremist behaviors.

## METHODOLOGY

This study makes use of data from the first wave of a U.S. nationally representative survey measuring conspiracy theory beliefs, violent extremist attitudes, intentions, and behaviors as well as associated risk and protective factors. At the end of the survey, participants were given the option to complete an additional writing task. They were prompted to write about whether and how they believed “powerful people in society or within the government or its institutions secretly control or do things for their own purpose,” for at least three minutes and providing a minimum of 100 words.

In total, 1,389 participants completed the writing task. From their responses, we derived linguistic measures using a psycholinguistic dictionary. The dictionary uses word frequencies to be able to measure linguistic content (e.g., anger, certainty) and style (e.g., pronouns, function words). Using these measures, we tested for associations between participants’ conspiracy mentality and all linguistic measures. Conspiracy mentality was measured with five items from the Conspiracy Mentality Questionnaire (scale 1-7), for example: “I think there are secret organizations that greatly influence political decisions.”

Thereafter, we used a machine learning algorithm to statistically predict conspiracy mentality scores with linguistic measures. We used 10 iterations of 80% of the data to train the model, and 20% to test the accuracy of the model. Across the 10 iterations of model training and testing, we see that using all linguistic measures to predict conspiracy mentality results in a mean absolute error of 1.14, on a scale of

1-7. This means we can predict participants' conspiracy mentality within +/- 1.14 points of their actual score.

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**About NCITE.** The National Counterterrorism Innovation, Technology, and Education Center, or NCITE, is a research consortium focused on counterterrorism and targeted violence prevention. It is funded by the U.S. Department of Homeland Security as a Center of Excellence. Based at the University of Nebraska at Omaha, NCITE includes 50+ researchers at partner institutions across the U.S. and Europe.

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