

DOES A NEED FOR UNIQUENESS DECREASE CONSPIRACY THEORY
ENDORSEMENT?

A Thesis

by

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BA, Texas A&M University – Corpus Christi, 2020

Submitted in Partial Fulfillment of the Requirements for the Degree of

MASTER OF ARTS

in

PSYCHOLOGY

Texas A&M University-Corpus Christi
Corpus Christi, Texas

December 2020

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This thesis meets the standards for scope and quality of
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ABSTRACT

With the recent increase of measles outbreaks, there has been a rising concern regarding anti-vaccination conspiracy theories. Conspiracy theories are belief systems endorsed by some individuals in which powerful, malevolent groups work in secret to orchestrate world events. Research on conspiracy theories has increased in the past decade. Several scholars have examined a number of epistemic, existential, and social motivations for conspiracy theory endorsement. Others, to a lesser degree, have inspected individual factors such as analytical thinking styles and education. The current study hypothesized that fulfilling individuals' need for uniqueness by providing bogus personality questionnaire feedback would result in decreased endorsement of conspiracy theories. Furthermore, those who receive bogus feedback indicating they lack uniqueness will be more likely to endorse conspiracy theories. Two hundred and seventeen students were recruited from Texas A&M University-Corpus Christi. Participants completed a bogus personality questionnaire. After receiving either positive uniqueness feedback or negative uniqueness feedback, participants completed the Need for Uniqueness Scale, the Generic Conspiracist Beliefs Scale-Short, and the Rational Experiential Inventory-short. Analyses revealed that manipulating participants' need for uniqueness did not impact conspiracy theory endorsement. This may be because the manipulation of need for uniqueness was ineffective as bogus feedback may have been too specific or participants did not perceived feedback as accurate.

ACKNOWLEDGEMENTS

I would like to thank my committee chair, Dr. Houlihan, and my committee members, Dr. Brouillard, and Dr. Seidel, for their guidance and support throughout the course of this research.

Thanks also go to my friends and colleagues and the department faculty and staff for making my time at Texas A&M University-Corpus Christi an enjoyable experience. I also want to extend my gratitude to my mother and my significant other for supporting me throughout graduate school.

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INTRODUCTION

A conspiracy theory is defined as a belief system in which events are the result of elaborate, secretive plots orchestrated by powerful and malevolent groups (Goertzel, 1994; van Prooijen & Douglas, 2018). Some examples of conspiracy theories include the beliefs that the 9/11 attacks were perpetrated by the American government, that the Holocaust did not happen, and that airplanes deliberately spray toxic chemtrails. These examples barely scratch the surface as there are hundreds of conspiracy theories which range from highly unlikely (i.e., the existence of a secret society known as the Illuminati) to more probable or even possible (i.e., Russian collusion in the 2016 presidential election; van Prooijen & Douglas, 2018). Whether realistic or farfetched, conspiracy theories have significant consequences. For example, Jolley and Douglas (2014a) found that exposure to conspiracy theories related to the government decreased individuals' intentions to engage in political processes (i.e., voting), and that exposure to climate change conspiracy theories reduced participant's intentions to reduce their carbon footprints.

Furthermore, conspiracy theories have serious implications regarding health behaviors. General mistrust in the government is associated with low rates of HIV testing among at-risk older adults receiving services at public health venues (Ford et al., 2013) and endorsement of HIV-specific conspiracy theories decreased adherence to antiretroviral treatment among African American men with HIV (Bogart et al., 2010). Researchers have also examined the impacts of conspiracy mentality on preventative health behaviors among the general population. For instance, Lamberty and Imhoff (2018) demonstrated that conspiracy mentality is associated with a preference for alternative medicines rather than biomedical, evidence-based therapies. Use of alternative medicine is also related to anti-vaccination attitudes (Atwell, 2018) among parents, and receiving treatment from an alternative medical practitioner is correlated with nonadherence

to pediatric vaccination schedules (Frawley et al., 2018). Jolley and Douglas (2014b) found that anti-vaccination conspiracy theories negatively predict participants' intentions to vaccinate their children. It is likely that anti-vaccination conspiracy beliefs contributed to the 1,282 cases of measles reported in 2019, the largest number of cases since 1992, despite it being declared eradicated in 2000 (Centers for Disease Control and Prevention, 2019).

The impact of conspiracy theories is especially salient as the world struggles to cope with the COVID-19 pandemic. At the time of writing, 46.4 million confirmed cases and 1.21 million deaths have resulted from COVID-19 worldwide (World Health Organization, 2020). Given previous research surrounding preventative health measures, it can be assumed that conspiracy theories regarding COVID-19 can also impact behaviors intended to slow the spread of COVID-19 (i.e., social distancing, wearing masks, complying with government-mandated shutdowns) and intentions to vaccinate once a vaccination for the disease is available. A small number of studies have managed to examine the relationship between conspiracy theories and COVID-19 since its peak in March 2020 (Bertin et al., 2020; Bierwiazzonek et al., 2020; Imhoff & Lamberty, 2020; Miranthe et al., 2020; Oleksy et al., 2020;).

A six-week study carried out during the peak of outbreaks in the U.S. found that those endorsing more conspiracy beliefs at the beginning of the pandemic were least likely to engage in social distancing by the end of the study (Bierwiazzonek et al., 2020). Miranthe et al. (2020) also demonstrated that those with higher conspiracy mentality were more likely to engage in non-government driven preventive behaviors (i.e., complete social isolation rather than social distancing). However, once these preventive behaviors were recommended by the government, these individuals disengaged in said behaviors. Furthermore, perceived risk for oneself was as stronger predictor of engaging in preventive measures compared to possible harm to others.

There has been particular interest in whether specific content of COVID-19 related conspiracy theories differently impact preventive behaviors. One study found that those who believe COVID-19 is a hoax are less likely to engage in preventive measures recommended by government officials (Imhoff & Lamberty, 2020). More surprising was the finding that those who believe COVID-19 was manufactured in a laboratory were likely to engage in extreme preventive measures. In congruence with the findings of Miranthe et al. (2020), engagement in these behaviors was motivated by preventing personal harm rather than reducing infection rates. Providing more support for the idea that content of conspiracy theories results in different consequences, Oleksy et al. (2020) found that endorsement of general conspiracy theories, but not government-related conspiracy theories, were associated with xenophobic attitudes towards countries with higher rates of COVID-19. Furthermore, those who held more government-related conspiracist beliefs reported less engagement in preventive behaviors like handwashing and social distancing.

Bertin et al. (2020) found evidence supporting previous findings regarding vaccination attitudes and conspiracy beliefs. Participants were put into three groups, each presented with a different COVID-19 conspiracy theory including: 1) COVID-19 is a bioweapon created by the Chinese government; 2) Industries would use the pandemic to make profit; and 3) That the government was using the pandemic to hide major reforms. Bertin et al. (2020) found that COVID-19 conspiracy endorsement, regardless of specific content, was negatively correlated with positive vaccination attitudes. More importantly, the study demonstrated that belief in COVID-19 conspiracy theories is also negatively correlated with intentions to vaccinate for the disease. The study also found that conspiracy beliefs, regardless of content, were associated with support of the alternative treatment, chloroquine. This is a somewhat odd finding considering

that chloroquine is produced by large pharmaceutical companies, but researchers propose that support for this treatment is related to the fact that chloroquine has been widely rejected by the establishment as a treatment for COVID-19. Bertin et al.'s (2020) findings also bolster support for other studies which have found a positive correlation between alternative medicine and endorsement of conspiracy theories.

Due to the detrimental consequences of conspiracy theory endorsement, research regarding the role of psychological factors in conspiracy theory belief has grown substantially within the last decade (Douglas et al., 2017). Prior to this, research regarding the subject was rare, as it was commonly held that conspiracy theory endorsement was a pathological trait (van Prooijen & Douglas, 2018). However, more recent research suggests otherwise, indicating that nearly half of Americans endorse some form of medical conspiracy (Oliver & Wood, 2014). Another reason for the lack of research in the past is the dilemma of gaining access to those who endorse conspiracy theories as they are often distrustful of researchers and academic institutions (Franks et al., 2017). Today, most research has been conducted within the general population rather than with individuals who endorse conspiracy theories (e.g., van Prooijen, 2015; Jolley & Douglas, 2014; Orosz et al., 2016).

AN EVOLVING THEORETICAL FRAMEWORK

Even with the recent expanse in research, a single theoretical framework regarding conspiracy theories has still not been developed. Some scholars hold that conspiracy theories are “monological in nature,” meaning that they are the result of a conspiracist worldview (Goertzel, 1994). This is supported by the repeated finding that endorsement of one conspiracy theory is positively correlated with endorsement of another. Furthermore, conspiracy theory endorsement has also been found to be negatively correlated with trust, and positively correlated with anomie

and uncertainty about the future. Opposite to these findings, one study suggests that those who endorse conspiracy theories are capable of experiencing a sense of community and hold optimistic feelings about the future (Franks et al., 2017). The study also found that those who believe in conspiracy theories lie on a spectrum. In other words, individuals may endorse certain conspiracy theories but completely reject others. For instance, one may believe that things are not as they seem, but do not accept the idea that most government officials are Alien hybrids. These findings suggest that monologicality may be an endpoint on a continuum of conspiracy-mindedness rather than the defining characteristic of all conspiracy beliefs.

Recently, a handful of scholars have attempted to create theoretical structures to help contextualize conspiracy theories. van Prooijen and Douglas (2018) have proposed that conspiracy theories are characterized by four basic principles – they are consequential, universal, emotional, and social. To elaborate, conspiracy theories, as already mentioned, have serious consequences related to health, politics, and the environment. Interestingly, conspiracy theories are not restricted to one culture or specific point in time. Furthermore, previous research has found that endorsement of conspiracy theories is an emotionally driven process. Lastly, conspiracy theories are social in that they thrive among members of groups who are in mutual conflict.

Some scholars have chosen to take a completely different approach. Instead of focusing only on social mechanisms, van Prooijen and van Vugt (2018) have chosen to focus on the possible evolutionary functions underlying conspiracy theory beliefs. They suggest that: (1) belief in conspiracy theories are a byproduct of cognitive mechanisms which evolved for other reasons and that (2) they are an adaptive feature which evolved to alert and prepare humans to the possible development of an opposing coalition.

MOTIVATIONAL FACTORS UNDERLYING CONSPIRACY THEORIES

Other scholars have examined the motivational factors underlying conspiracy theories. Hornsey et al. (2018) suggest that conspiracy theory endorsement be viewed through the lens of the attitude roots model. The attitude roots model can be explained using a tree metaphor. The leaves and branches of the tree represent the beliefs and attitudes people hold, while the roots of the tree are the motivations which underly these beliefs and attitudes. Douglas et al. (2017) suggest that conspiracy theories fulfill three psychological motives: epistemic, existential, and social. Epistemic motives include reducing curiosity when information is not available, reducing uncertainty when conflicting information is present, finding meaning in random events, and defending one's beliefs against contradicting information. An existential motive is the desire to feel safe and in control of one's environment. Lastly, social motives include maintaining a positive image of the self and/or in-group by attributing blame of negative outcomes to others.

Epistemic Motive: Illusory Pattern Perception

Van Prooijen et al. (2017) investigated the role of cognitive bias in the development of conspiracy beliefs, specifically illusory pattern perception. Pattern perception is an automatic, functional process which occurs when meaningful connections between stimuli are identified, helping individuals to make sense of the world. However, people also engage in a process known as illusory pattern perception in which they perceive causal relationships between unrelated stimuli, often resulting in the development of irrational beliefs. In an initial study, van Prooijen et al. (2017) established a positive correlation between randomly generated coin toss outcomes and belief in conspiracies. In a subsequent study, it was revealed that greater belief in conspiracy theories increases the extent to which people perceive patterns between world events, which in turn predicts unrelated irrational beliefs. Although this research demonstrates that illusory pattern

perception is related to belief in conspiracy theories, there was no indication of a direct effect of illusory pattern perception on conspiracy beliefs.

Existential Motive: System Identity Threat

Belief in conspiracy theories serves as a way to regain a sense of security and control when one feels they are being threatened (Douglas et al., 2017). Federico et al. (2018) posited that system identity threat (defined as the feeling that society's fundamental values are under attack due to social change) may encourage endorsement of conspiracy theories. In addition, they predicted that an individual's specific ideology would affect belief in ideology-specific conspiracy theories to a greater extent than system identity threat. In a survey study of two different samples, they found that system identity threat was significantly positively correlated with conspiratorial thinking and general conspiracy theory endorsement. In addition, conspiratorial thinking was positively correlated with endorsement of both conservative and liberal conspiracy theories. Although this research provides further insight into the underlying mechanisms of conspiracy theory beliefs, it is important to note that the data was correlational and cannot provide any information regarding causal relationship. It would be beneficial for future research to test whether system identity threat truly occurs before endorsement of conspiracy theories as assumed.

Social Motives

Ingroup Positivity

Cichocka et al. (2016) examined the role of ingroup positivity in the formation of conspiracy beliefs. They were particularly interested in a form of ingroup positivity known as collective narcissism. Collective narcissism is defined as a form of ingroup positivity in which the individuals of the ingroup believe that others have failed to recognize their greatness, and

thus do not appreciate them enough. Collective narcissism is also associated with hostility and heightened sensitivity to possible outgroup threats to the ingroup. Therefore, those high in collective narcissism may misperceive ambiguous interactions as threatening. Cichocka et al. (2016) proposed that the ingroup may explain their shortcomings and lack of deserved recognition by the belief that an outgroup is conspiring against them. Other forms of ingroup positivity differ from collective narcissism in that perceptions of the ingroup are secure and are not dependent on external recognition.

Cichoka et al. (2016) found that conspiracy beliefs were significantly positively correlated with collective narcissism in situations that were potentially threatening. Although collective narcissism and collective self-esteem were positively correlated, collective self-esteem was negatively correlated with conspiracy beliefs. In other words, endorsement of conspiracy theories is not associated with non-narcissistic ingroup positivity. It was also found that collective narcissism is significantly positively correlated with belief in conspiracy theories involving the outgroup, and negatively associated with belief in conspiracy theories attributing blame to the ingroup. Furthermore, non-narcissistic ingroup positivity was significantly negatively correlated with belief in both outgroup and ingroup conspiracy theories. These findings support the assumption that adopting conspiracy beliefs serves to bolster positive ingroup image.

Self-uncertainty

Graeupner and Coman (2016) examined the role of self-uncertainty in the development of conspiratorial beliefs. They hypothesized that social exclusion would elicit feelings of self-uncertainty, which motivates individuals to search for meaning in an effort to reestablish control. Correlational and experimental studies demonstrated that those who are excluded endorse more

conspiracy theories. However, it is still unclear if conspiracy theory endorsement is actually mediated by the motivation to make sense of one's social world and reestablish control. Based on these findings, it is clear that the mediating factors between conspiratorial beliefs and social exclusion requires further examination.

van Prooijen (2015) also examined the causal effects of self-uncertainty on conspiratorial beliefs. However, van Prooijen hypothesized that social exclusion would have a greater effect on conspiracy theory endorsement particularly among individuals who experience high levels of self-uncertainty. Self-uncertainty was operationalized as self-esteem instability, which can be defined as how frequently one's self-esteem changes over a period of time (Zeigler-Hill & Showers, 2007). Compared to individuals with stable self-esteem, those who experience greater self-esteem instability are more sensitive to others' evaluations. van Prooijen (2015) found that experimental manipulation of self-uncertainty affected the extent to which one endorsed conspiracy theories. Individuals who experienced greater levels of self-uncertainty endorsed significantly more conspiracy beliefs than those who felt self-assured. As predicted, social exclusion had a significant effect on those high in self-uncertainty. These findings confirm the previous findings that believing in conspiracy theories fulfill social motives.

Need for Uniqueness

Snyder and Fromkin (1980) define the need for uniqueness as the desire to feel distinct and special from others (as cited in Schumpe & Erb, 2015). Imhoff and Lamberty (2017) examined the relationship between the need for uniqueness and conspiratorial beliefs. They asserted that belief in conspiracy theories gives an individual the feeling that they are able to see the 'real truth,' and thus fulfills their need to feel special and unique. It was hypothesized that those with a high need for uniqueness will endorse conspiracy beliefs, with a preference for

conspiracy theories endorsed by only a few. An initial correlational study revealed that self-attributed need for uniqueness was strongly positively correlated with endorsement of conspiracy theories. However, contrary to the hypothesis, unpopular conspiracy theories were not related to need for uniqueness. In a second study, Imhoff and Lamberty (2017) established that conspiracy theories endorsed by only a few were more attractive to those with high need or uniqueness. Additionally, it was revealed that some conspiracy theories may simply be too outlandish for some people to support regardless of their need for uniqueness.

Lantian et al. (2017) were also interested in the relationship between need for uniqueness and conspiracy beliefs. Similar to Imhoff and Lamberty's (2017) assumption, it was surmised that conspiracy theory belief satisfied one's need for uniqueness because it symbolized the possession of potentially scarce information. Preliminary correlational studies confirmed that belief in conspiracy theories was positively correlated with the extent to which individuals thought they held scarce information. Lantian et al. (2017) proceeded with two studies in which they experimentally manipulated individuals' need for uniqueness. The studies revealed that those with an increased need for uniqueness reported greater conspiracy beliefs than those with a decreased need for uniqueness. Although these results indicate that need for uniqueness may influence the degree to which one may believe in conspiracies, it is important to note that the experimental manipulation for each study only resulted in a marginally significant effect.

INDIVIDUAL FACTORS UNDERLYING CONSPIRACY THEORIES

In addition to fulfilling epistemic, existential, and social motives, individual cognitive factors have also been associated with conspiracy theory endorsement.

Analytical Processing

Some scholars have attempted to better understand conspiracy beliefs through the use of dual-processing models of information processing systems (e.g., Petty & Cacioppo, 1984). Dual-processing models propose that information is processed through either an intuitive route or an analytic route. Information processing via the intuitive route is unconscious, automatic, and often makes use of emotional cues. Processing through the analytic route, on the other hand, is deliberate, conscious, and dependent upon the content of the information provided. Previous research has demonstrated that conspiracy beliefs are negatively correlated with analytic thinking styles, and positively correlated with intuitive thinking styles (Swami et al., 2014). Furthermore, this research also established a causal relationship between thinking styles and conspiracy beliefs. Individuals who had participated in tasks designed to elicit analytic thinking reported decreased conspiracy beliefs in comparison to those in the control group. However, the authors caution that their findings may have been influenced by unmeasured variables which may have an indirect effect on analytic thinking. Despite the limitations, these findings may be useful in future research aimed at establishing techniques which may prevent the development of conspiracy beliefs.

Education

Previous research has shown that attainment of higher education is negatively correlated with adopting conspiracist beliefs. However, the mediating factors taking part in this relationship have not been examined in depth. Education has been positively correlated with cognitive complexity (one's tendency to engage in analytic thinking), self-esteem, social standing, and control (van Prooijen, 2017). Van Prooijen investigated how these factors may be mediating the relationship between higher educational attainment and decreased conspiracy endorsement. It

was found that those with higher educational attainment are less likely to believe in simple solutions for complicated issues and feel more in control of their environment, two factors which have been negatively correlated with conspiracy theory endorsement. He also argues that a number of complex processes, rather than one psychological mechanism, are likely at the root of conspiratorial beliefs. Clearly, further research is necessary to investigate the causal relationship between these variables and belief in conspiracy theories. Although education may be a great preventative strategy, it may not be a practical intervention.

PRESENT RESEARCH

Although some scholars (van Prooijen & van Vugt, 2018) are attempting to develop a theoretical framework, little research has been done to examine interventions and their effectiveness in reducing conspiracy theory beliefs in individuals who have solidified their endorsement of conspiracy theories. Furthermore, the research in this area has not been fruitful. However, other scholars have studied possible preventative measures such as education and analytical thinking styles. Aside from examining intervention strategies, preventative measures, and the few attempts at a theoretical model, most of the research has focused on a number of motivational factors (i.e., the need for understanding), group factors (i.e., collective narcissism) and individual factors (i.e., low self-esteem) involved in the formation of conspiracy theory belief. It is also important to note that most of the research to date has been correlational. Not much can be said regarding causal factors in the development of conspiracy beliefs.

The current research aims to fill these gaps in the literature. Of particular interest is the causal relationship between need for uniqueness and belief in conspiracy theories and in the implications for interventions. Snyder and Fromkin's (1980) uniqueness theory posit that individuals experience unpleasant feelings when they perceive themselves as very similar or very

dissimilar to others (as cited in Lynn & Snyder, 2002). Extreme dissimilarity may cause unpleasant affective states in certain conditions because it may connote “abnormality” or being socially “deviant” (Fromkin, 1972). Fromkin (1970/1972) examined this prediction and found that participants who were told they were moderately similar to others reported more positive moods than those who were told they were extremely similar or dissimilar from others. Thus, individuals are motivated to engage in different behaviors to either increase or decrease their level of similarity to reduce these negative emotions. In the event that one’s uniqueness is threatened, they may attempt to reestablish uniqueness by adopting views or attitudes which are held by the minority (Imhoff & Erb, 2009). In conjunction with these findings and the findings regarding social exclusion (Graeupner & Coman, 2016; van Prooijen, 2015), the current study hypothesizes that satisfying individuals’ need for uniqueness through bogus feedback will affect the degree to which they endorse conspiracy theories. Specifically, those receiving feedback about their uniqueness will be less likely to endorse conspiracy theories, and those who receive feedback about their lack of uniqueness will be more likely to endorse conspiracy theories.

Individuals’ need for uniqueness will be fulfilled through the use of a bogus personality questionnaire which will provide bogus feedback regarding individuals’ level of uniqueness in comparison to others. It is predicted that participants will perceive this feedback as an accurate assessment of personality given the well-documented Barnum Effect, a phenomenon in which people believe bogus feedback about them is true because it is obtained through a measure which appears as a psychometrically valid assessment of personality (Furnham & Varian, 1988). Forer (1949) was the first to document the Barnum Effect, what he called the “fallacy of personal validation.” Forer demonstrated that students accepted personality feedback from a false personality assessment as accurate if it appeared valid. Furthermore, Forer found that when

students received general personality descriptions, they believed that these were accurate statements regarding their unique personality traits. However, these descriptions were general enough that they would be valid for most individuals. Not only do people perceive Barnum feedback to be accurate descriptions of their personalities, Jackson and Murray (1985) demonstrated that they believe it to be more accurate than real feedback.

METHOD

Participants

Students enrolled in Texas A&M University-Corpus Christi over the age of 18 were recruited for this study. Two hundred seventeen students participated (37 men, 176 women, 2 nonbinary; *M* age = 22.19, age range = 18-55 years). Most participants were Hispanic (49.5%) and in their third year of university (42.8%).

Procedure

The study was conducted through Qualtrics Survey Software. Participants were informed that the purpose of the study was to examine the link between personality traits and thinking styles. Informed consent was obtained by asking participants to indicate that they were over 18 years of age and agreed to participate in the study.

Drawing from Fromkin's (1970) method, before starting a bogus personality questionnaire, participants were informed that their results would be provided to them and compared to the results of other students. Once participants completed the bogus personality questionnaire, they were randomly assigned to one of the following conditions: unique feedback or non-unique feedback. One hundred and four (49.1%) participants were assigned to the unique condition and were told that their answers to the personality questionnaire differed from 95% of other students, indicating that they were unique. One hundred and twelve (51.9%) participants

were assigned to the non-unique condition and were given bogus feedback reporting that their answers differed from 5% of other students, indicating a lack of uniqueness. Participants were prompted to indicate that they read their results. Next, participants completed self-report measures of the dependent variable (endorsement of conspiracist beliefs) and the covariates (trait need for uniqueness and cognitive style). Upon completion of the scales, participants were debriefed and thanked for their participation.

Materials and Measures (see Appendix I for full scales)

Experimental manipulation: Bogus Personality Questionnaire

Participants were asked to complete a (bogus) personality questionnaire consisting of 15 items. Participants indicated the degree to which they agreed with each statement using a 5-point Likert type scale, ranging from 1 (*completely agree*) to 5 (*completely disagree*). The questionnaire included items such as “People rarely upset you,” and “You seek adventure.”

Bogus feedback.

Participants in the experimental groups received bogus feedback indicating how unique or different they are compared to others. The non-unique script was as follows:

“95% of people who have taken this survey have provided similar responses. This may indicate that you hold conventional values and beliefs that are endorsed by most people.”

The unique script was as follows:

“Only 5% of people who have taken this survey provided similar responses. This may indicate that you hold more unconventional values and beliefs compared to most people.”

Participants were prompted to answer the following scales after reading the bogus feedback.

Dependent variable: The Generic Conspiracist Beliefs Scale Short (GCB-short)

The GCB-short is designed to measure individuals' general tendency to engage in conspiracist ideation (Brotherton, French, & Pickering, 2013). The GCB-short is a 15-item measure, consisting of three items which represent each of the following factors: governmental malfeasance, extraterrestrial cover-up, malevolent global conspiracies, personal well-being, and control of information. Examples of the items include, "Evidence of alien contact is being hidden," and "A lot of important information is deliberately concealed from the public." Participants indicated their agreement with each statement using a 5-point Likert-type scale, ranging from 1 (*definitely not true*) to 5 (*definitely true*). The GCB has demonstrated extremely high internal reliability ($\alpha = .95$; Brotherton, French, and Pickering; 2013) and good criterion, convergent, and discriminant validity. For the current study, a mean score of all 15 items was calculated as an index of conspiracist beliefs ($\alpha = .91$).

Covariates

The following variables were assessed to serve as covariates in the statistical analyses.

The Need for Uniqueness Scale (NFU)

Participants' dispositional need for uniqueness was measured using the 32-item NFU scale. Using a 5-point scale (1 = *strongest disagreement* to 5 = *strongest agreement*), participants indicated how much they agreed or disagreed with statements such as, "I do not always live by the rules and standards of society" and "I find that criticism affects my self-esteem." The NFU scale has demonstrated high internal reliability, with a .87 Kuder-Richardson 20 coefficient (Snyder & Fromkin, 1977). Additionally, the NFU scale has demonstrated good criterion, convergent, and discriminant validity (citation). For the current study, a mean score of items 1 through 26 was calculated as an index of need for uniqueness ($\alpha = .71$).

Rational Experiential Inventory (REI)

The REI is a 40-item measure consisting of two independent subscales, 20-items each, intended to measure engagement in rational-analytical thinking styles (REI-R) and experiential-intuitive thinking styles (REI-E; Pacini & Epstein, 1999). Both the rationality subscale and experiential subscale have demonstrated high reliability ($\alpha = .90$ and $\alpha = .87$, respectively). The current study used an abbreviated 20-item version of the REI. Examples of items on the REI include, “I enjoy intellectual challenges” and “I believe in trusting my hunches.” Participants indicated the degree to which they felt each statement was true of themselves, using a 5-point Likert type scale (1 = *definitely not true of myself* to 5 = *definitely true of myself*). A mean score of 10 rational sub-scale items was calculated as an index of rational thinking style ($\alpha = .85$), and a mean score of 10 experiential sub-scale items was calculated as an index of experiential thinking style ($\alpha = .71$).

RESULTS

Descriptive Statistics

Overall mean scores on the GCB were low, reflecting little endorsement of conspiracy theories ($M = 2.67$, $SD = 0.75$). Both REI_R and REI_E means scores were moderate, demonstrating that the sample engaged equally in both rational and experiential processing ($M = 3.67$, $SD = 0.69$; $M = 3.59$, $SD = 0.60$, respectively). Lastly, overall mean scores on the NFU indicated a moderate need for uniqueness among participants ($M = 3.00$, $SD = 0.37$; see Table 1 for descriptive statistics).

Correlational Analyses

Correlational analyses revealed a weak negative correlation between GCB mean scores and NFU mean scores (see Table 2 for full correlation matrix). Furthermore, NFU mean scores

were weakly positively correlated with REI_R and REI_E mean scores. However, correlational strength between NFU mean scores and REI_R mean scores was greater.

Hypothesis Testing

The main hypothesis of the current study was that the fulfillment of the need for uniqueness (through bogus feedback) would decrease endorsement of conspiracy theories (as measured by the GCB). An independent samples t-test was conducted to compare GCB mean scores in the unique and non-unique conditions (see Table 1). There was no significant difference in the scores for the unique ($M = 3.02$, $SD = 0.36$) and non-unique ($M = 2.98$, $SD = 0.38$) conditions; $t(207) = .35$, $p = .73$, 95% CI [-0.17, 0.24].

A one-way ANCOVA was conducted to determine a statistically significant difference between the unique and non-unique groups on endorsement of conspiracy theories controlling for rational thinking style (as measured by the REI_R). Analyses revealed no significant effect of uniqueness on endorsement of conspiracy theories after controlling for rational thinking style, $F(1, 201)$, $p = .09$, 95% CI [-0.02, 0.28]. Regarding any significant differences between groups when controlling for experiential thinking style (as measured by the REI_E), analyses revealed no significant effect of uniqueness on conspiracy beliefs, $F(1, 204)$, $p = .19$, [-0.29, 0.06]. An additional one-way ANCOVA was conducted to determine a statistically significant difference between the unique and non-unique groups on conspiracist beliefs controlling for need for uniqueness (as measured by the NFU). Analyses revealed no significant effect of uniqueness on endorsement of conspiracy theories after controlling for NFU mean scores, $F(1, 197)$, $p = .79$, [-0.62, -0.06]. Complete ANCOVA results controlling for the REI_R, the REI_E, and the NFU are reported in Table 3, Table 4, and Table 5, respectively.

DISCUSSION

The current study set out to examine the relationship between need for uniqueness and endorsement of conspiracy theories. The study proposed that satisfying participants' need for uniqueness through bogus feedback would impact the degree to which they endorse conspiracy theories. Specifically, it was hypothesized that (1) those receiving feedback about their uniqueness would be less likely to endorse conspiracy theories, and (2) those receiving feedback about their lack of uniqueness would be more likely to endorse conspiracy theories. The current study failed to demonstrate a causal relationship between fulfilling individuals' need for uniqueness and endorsement of conspiracy theories. This finding does not align with previous research which has demonstrated a positively correlated relationship between high need for uniqueness and endorsement of conspiracy theories (Imhoff & Lamberty, 2017) as well as a causal relationship between an increased need for uniqueness and greater conspiracy theory endorsement (Lantian et al., 2017).

Limitations

There were several limitations of the current study which could account for this finding. To begin with, an independent samples t-test revealed that the groups did not significantly differ on their NFU mean scores, indicating the experimental manipulation did not effectively change participants' need for uniqueness. However, the NFU is a measure of *trait* need for uniqueness, and the manipulation was intended to change *state* need for uniqueness. Thus, the current study would have benefited from a better manipulation check to determine whether the bogus feedback had its intended effect. The failure of the manipulation may be due to a number of reasons. Firstly, participants may not have perceived the bogus feedback provided as valid. A description of the bogus personality questionnaire was not provided to participants. In Fromkin's (1970)

study, which was used as a guideline for this current study, a description of the validity of a bogus personality questionnaire was provided to participants before completing the measure. Had a description of validity been provided, perhaps participants may have perceived the bogus questionnaire as a valid measure. It is also possible that the bogus feedback was too specific, negatively impacting perceived validity. In Forer's (1949) study demonstrating the Barnum Effect, it was revealed that general and universal personality descriptors are most likely to be perceived as accurate measures of personality.

Another reason why the experimental manipulation was not effective may be due to the bogus feedback provided. For participants in the non-unique group, their bogus results may have resulted in a positive affective state because it resulted in feelings of conformity. Asch's (1956) groundbreaking research regarding conformity revealed that individuals often feel pressured to agree with the majority, regardless of the accuracy of the majority consensus. Participants of the study often agreed with the majority because they did not want to appear deviant, were afraid of revealing a personal defect, or feared group disapproval. Therefore, the non-unique condition may not have elicited a negative affective state due to feeling undifferentiated from most other students, as proposed by Snyder and Fromkin (1980); instead participants may have been reluctant to endorse conspiracist beliefs because it would be indicative of a personal defect or deviance. Furthermore, it may be that participants viewed endorsement of conspiracy theories as a negative form of uniqueness.

Another limitation in the current study is the lack of a true control group. Perhaps the presence of a control group would illustrate some difference between groups. Lastly, participants' need for uniqueness may not have been captured accurately due to clerical error,

resulting in the exclusion of items 26 through 32 of the NFU from the survey. However, the NFU still demonstrated adequate reliability ($\alpha = .71$).

Future Directions

The current study is the first to examine whether manipulation of need for uniqueness can act as a preventive measure to prevent conspiracy theory endorsement. Future studies could replicate the current study using a true control group and a different method of manipulating individual's need for uniqueness. Most of the research in the field has examined correlational relationships between personality factors and endorsement of conspiracy theories. Only a few studies have examined causal relationships regarding conspiracy theory endorsement, and many have neglected to examine ways in which conspiracy beliefs can be prevented. Replicating the current study would contribute to these areas of research and would also provide insight into whether the experimental manipulation was simply ineffective or if manipulation of need for uniqueness may not be a preventive measure against conspiracy beliefs.

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Table 1***Descriptive Statistics and t-test for Equality of Means***

	Unique		Non-unique		<i>t</i> -test
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
GCB	2.64	0.70	2.68	0.80	0.35
NFU	3.02	0.36	2.98	0.38	0.43
REI_R	3.80	0.63	3.56	0.72	-2.54*
REI_E	3.56	0.62	3.62	0.59	0.66

Note. *M* = Mean. *SD* = Standard Deviation. GCB = Generic Conspiracist Belief Scale. NFU = Need for Uniqueness. REI_R = Rational Experiential Inventory – Rational Subscale. REI_E = Rational Experiential Inventory – Experiential Scale.

**p* < .01 (2-tailed)

Table 2

Correlations Among All Study Variables

	GCB Mean Scores	NFU Mean Scores	REI_R Mean Scores	REI_E Mean Scores
GCB Mean Scores	1	-0.168*	0.112	-.088
NFU Mean Scores		1	0.258**	0.153*
REI_R Mean Scores			1	0.273**
REI_E Mean Scores				1

Note. *M* = Mean. *SD* = Standard Deviation. GCB = Generic Conspiracist Belief Scale. NFU = Need for Uniqueness. REI_R = Rational Experiential Inventory – Rational Subscale. REI_E = Rational Experiential Inventory – Experiential Scale.

* Correlation is significant at the 0.05 level (2-tailed)

**Correlation is significant at the 0.01 level (2-tailed).

Table 3***ANCOVA Results GCB as the Dependent Variable While Controlling for REI_R Scores***

Source	SS	df	MS	F	Sig.
Corrected Model	1.678 ^a	2.00	0.84	1.49	0.23
Intercept	32.40	1.00	32.40	57.45	0.00
REI_R MEAN	1.60	1.00	1.60	2.84	0.09
Condition	0.23	1.00	0.23	0.41	0.52
Error	113.92	202.00	0.56		
Total	1568.40	205.00			
Corrected Total	115.60	204.00			

Note. R Squared = .015 (Adjusted R Squared = .005). *ANCOVA* = Analysis of Covariance. *SS* = Type III Sum of Squares. *df* = Degrees of Freedom. *MS* = Mean Squares.

Table 4*ANCOVA Results GCB as the Dependent Variable While Controlling for REI_E Scores*

Source	SS	df	MS	F	Sig.
Corrected Model	1.05	2.00	0.52	0.93	0.40
Intercept	53.76	1.00	53.76	95.81	0.00
REI_E MEAN	0.99	1.00	0.99	1.76	0.19
Condition	0.08	1.00	0.08	0.13	0.71
Error	115.04	205.00	0.56		
Total	1591.64	208.00			
Corrected Total	116.09	207.00			

Note. R Squared = .009 (Adjusted R Squared = .001).

Table 5***ANCOVA Results GCB as the Dependent Variable While Controlling for NFU Scores***

Source	SS	df	MS	F	Sig.
Corrected Model	3.28	2.00	1.64	2.94	0.06
Intercept	41.24	1.00	41.24	73.86	0.00
NFU_MEAN	3.20	1.00	3.20	5.72	0.02
Condition	0.04	1.00	0.04	0.07	0.79
Error	110.01	197.00	0.56		
Total	1545.48	200.00	1.64		
Corrected Total	113.29	199.00			

Note. R Squared = .029 (Adjusted R Squared = .019).

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APPENDIX I SURVEY MATERIALS

Bogus Personality Questionnaire

Please indicate the degree to which you agree with each statement using the scale below.

Completely disagree		Neutral		Completely agree
1	2	3	4	5

1. You enjoy spending time in nature.
2. You prefer to get your revenge rather than forgive.
3. You seek adventure.
4. People describe you as “down to earth.”
5. You like having a strict schedule.
6. You would rather be an artist than an engineer.
7. People rarely upset you.
8. Most of your choices are made spontaneously.
9. You would rather have deep discussions than engage in small talk.
10. You work most effectively when facing tight deadlines.
11. Most of your dreams are very strange.
12. You cry easily.
13. You love to daydream.
14. You would rather read a book than attend a concert.
15. You dislike routines.

Generic Conspiracist Beliefs Scale-Short (GCB-short)

There is often debate about whether or not the public is told the whole truth about various important issues. This brief survey is designed to assess your beliefs about some of these subjects. Please indicate the degree to which you believe each statement is likely to be true on the following scale: Definitely not true; Probably not true; Not sure/cannot decide; Probably true; Definitely true

1. The government is involved in the murder of innocent citizens and/or well-known public figures, and keeps this a secret
2. The power held by heads of state is second to that of small unknown groups who really control world politics
3. Secret organization communicate with extraterrestrials, but keep this fact from the public
4. The spread of certain viruses and/or diseases is the result of the deliberate, concealed efforts of some organization
5. Groups of scientists manipulate, fabricate, or suppress evidence in order to deceive the public
6. The government permits or perpetrates acts of terrorism on its own soil, disguising its involvement
7. A small, secret group of people is responsible for making all major world decisions, such as going to war
8. Evidence of alien contact is being concealed from the public
9. Technology with mind-control capacities is being used on people without their knowledge
10. New and advanced technology which would harm current industry is being suppressed
11. The government uses people as patsies to hide its involvement in criminal activity

12. Certain significant events have been the result of the activity of a small group who secretly manipulate world events

13. Some UFO sightings and rumors are planned or staged in order to distract the public from real alien contact

14. Experiments involving new drugs or technologies are routinely carried out on the public without their knowledge or consent

15. A lot of important information is deliberately concealed from the public out of self-interest

The Need for Uniqueness Scale (NU)

Respondents indicate the strength of their agreement or disagreement with each of the following items on a 5-point scale (1 = Strongest Disagreement; to 5 = Strongest Agreement).

1. When I am in a group of strangers, I am not reluctant to express my opinion publicly.

2. I find that criticism affects my self-esteem.

3. I sometimes hesitate to use my own ideas for fear that they might be impractical.

4. I think society should let reason lead it to new customs and throw aside old habits or mere traditions.

5. People frequently succeed in changing my mind.

6. I find it sometimes amusing to upset the dignity of teachers, judges, and “cultured” people.

7. I like wearing a uniform because it makes me proud to be a member of the organization it represents.

8. People have sometimes called me “stuck-up.”

9. Others’ disagreements make me uncomfortable.

10. I do not always need to live by the rules and standards of society.

11. I am unable to express my feelings if they result in undesirable consequences.

12. Being a success in one's career means making a contribution that no one else has made.
13. It bothers me if people think I am being too unconventional.
14. I always try to follow rules.
15. If I disagree with a superior on his or her views, I usually do not keep it to myself.
16. I speak up in meetings in order to oppose those whom I feel are wrong.
17. Feeling "different" in a crowd of people makes me feel uncomfortable.
18. If I must die, let it be an unusual death rather than an ordinary death in bed.
19. I would rather be just like everyone else than be called a "freak."
20. I must admit I find it hard to work under strict rules and regulations.
21. I would rather be known for always trying new ideas than for employing well-trusted methods.
22. It is better to agree with the opinions of others than to be considered disagreeable.
23. I do not like to say unusual things to people.
24. I tend to express my opinions publicly, regardless of what others say
25. As a rule, I strongly defend my own opinions.
26. I do not like to go my own way.
27. When I am with a group of people, I agree with their ideas so that no arguments will arise.
28. I tend to keep quiet in the presence of persons of higher ranks, experience, etc.
29. I have been quite independent and free from family rule.
30. Whenever I take part in group activities, I am somewhat of a nonconformist.
31. In most things in life, I believe in playing it safe rather than taking a gamble.
32. It is better to break rules than always to conform with an impersonal society.

Rational Experiential Inventory

**Definitely not
true of myself**

1

2

3

4

**Definitely true
of myself**

5

Rational sub-scale

1. I try to avoid situations that require thinking in depth about something. (-)
2. I'm not that good at figuring out complicated problems. (-)
3. I enjoy intellectual challenges.
4. I am not very good at solving problems that require careful logical analysis. (-)
5. I don't like to have to do a lot of thinking. (-)
6. I enjoy solving problems that require hard thinking.
7. Thinking is not my idea of an enjoyable activity. (-)
8. I am not a very analytical thinker. (-)
9. Reasoning things out carefully is not one of my strong points. (-)
10. I don't reason well under pressure. (-)

Experiential sub-scale

1. I like to rely on my intuitive impressions.
2. I don't have a very good sense of intuition. (-)
3. Using my gut feelings usually works well for me in figuring out problems in my life.
4. I believe in trusting my hunches.
5. Intuition can be a very useful way to solve problems.
6. I often go by my instincts when deciding on a course of action.
7. I trust my initial feelings about people.
8. If I were to rely on my gut feelings, I would often make mistakes. (-)

9. I don't like situations in which I have to rely on intuition. (-)

10. I think it is foolish to make important decisions based on feelings. (-)

(A minus sign (-) denotes reverse coding of that item).