

The Language of Conspiracies

BY

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THESIS

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SUMMARY

Theories of conspiracy belief assert that people believe conspiracy theories to cope with anxiety-provoking events. To date, evidence for a link between conspiracy belief and anxiety is mixed. The current study examined the link between conspiracy belief and anxiety. More specifically, it tested to see whether conspiracy belief reduces or increases anxiety, by testing if anxiety changed from baseline after exposure to a conspiracy theory, for people who believed conspiracy theories. Conspiracy belief reduced anxiety in the presence of a conspiracy theory, but did not affect anxiety in the absence of a conspiracy theory. These findings suggest that, consistent with some theories of conspiracy belief, conspiracy belief may reduce self-reported anxiety about threatening events, but only in the presence of conspiracy theories.

I. INTRODUCTION

“And then he realized why he was thinking like this. It was because he wanted there to be conspirators. It was much better to imagine men in some smoky room somewhere, made mad and cynical by privilege and power, plotting over brandy. You had to cling to this sort of image, because if you didn’t then you might have to face the fact that bad things happened because ordinary people, the kind who brushed the dog and told their children bedtime stories, were capable of then going out and doing horrible things to other ordinary people.” – Jingo, Terry Pratchett (1997, p. 205)

Like Commander Vimes in Terry Pratchett’s Jingo, many Americans hold conspiratorial beliefs. Conspiracy theories are narratives that implicate secretive efforts by two or more parties, that hold authority over others, to realize some goal (Douglas & Sutton, 2008; Goertzel, 1994; Wood, Douglas, & Sutton, 2012). Over 55% of Americans believe at least one conspiracy theory (Oliver & Wood, 2014). They appear in many cultures all over the world (e.g., Allen, 2016; Mashuri, Zaduqisti, Sukmawati, Sakdiah, & Suharini, 2016; Sapountzis & Condor, 2013), and throughout history (e.g., McKenzie-McHarg & Fredheim, 2017; Tackett, 2013). Frequently, they appear as major plot points in fiction, like the *Da Vinci Code* (Brown, 2006), and the *X-Files* (Carter, 1993).

Despite their popularity, conspiracy theories are often perceived and portrayed negatively. People feel cold towards believers of specific conspiracy theories, particularly if the theory implicates their ingroup as conspirators (Prims & Motyl, in prep). And, in popular media, conspiracy theory believers frequently are portrayed as unhinged loners (e.g., Rorschach from *Watchmen*, and Charlie Frost from *2012*). Similarly, many scientific theories presume that conspiracy belief is related to a variety of pathological traits (e.g., Darwin, Neave, & Holmes,

2011; Radnitz & Underwood, 2015; Swami, Weis, Lay, Barron, & Furnham, 2016), and tend to treat conspiracy belief as automatically irrational (Basham & Dentith, Matthew, 2016; Bjerg & Presskorn-Thygesen, 2017).

With over half of the US population believing at least one conspiracy theory (Oliver & Wood, 2014), it seems unlikely that conspiracy belief is anchored solely in pathological traits, despite current trends in research and the media. There is some evidence suggesting that conspiracy belief is the product of a specific thought style (e.g., Swami et al., 2011). Belief in conspiracy theories is one of the strongest individual difference predictors of belief in other conspiracy theories (Swami et al., 2011). Yet, belief in conspiracy theories is not a perfect predictor of belief in other conspiracy theories. People who believe one theory are more likely to believe at least one other theory, but they do not believe every theory (Oliver & Wood, 2014). Belief in one conspiracy theory cannot predict which other conspiracy theories people will believe, or when they will believe them.

Group membership is a good predictor of which theories individuals will believe. Political extremists are likely to believe conspiracy theories that blame their opposition, and unlikely to believe conspiracy theories about their own group (Alduncin, Sieja, & Uscinski, 2015; van Prooijen, Krouwel, & Pollet, 2015), and minority groups like African Americans are more likely to believe conspiracy theories about majority groups (e.g., Bird & Bogart, 2003; Westergaard, Beach, Saha, & Jacobs, 2014).

But even a general tendency to believe conspiracy theories, and group membership, cannot fully account for variations in conspiracy belief across time. Context tends to be more informative for when people will believe conspiracy theories. Some contexts are more conducive to conspiracy belief than others. For example, discussion of conspiracy theories is more common

in places with more political turmoil (Lee, 2017), and conspiracy belief is more common in organizations with despotic and laissez-faire leadership styles than organizations with participative styles (Van Prooijen & De Vries, 2015). More specific contextual factors can influence conspiracy belief as well. People have a tendency to believe conspiracy theories about events with major consequences, as opposed to events with minor consequences (van Prooijen & Van Dijk, 2014).

Group membership and a predisposition for believing in conspiracy theories often interact with context to predict conspiracy belief. People seem most likely to believe conspiracy theories when (a) they are predisposed to conspiracy belief, (b) they belong to a group that (c) is at a real or perceived disadvantage. For example, liberals propose more conspiracy theories than conservatives when conservatives are in power, and vice versa (Uscinski, Parent, & Torres, 2011). Additionally, liberals and conservatives who are predisposed to believe conspiracy theories believe conspiracy theories about voter fraud before an election, but continue to believe them only if they lose the election (Alduncin et al., 2015).

Theorists have turned to theories about meaning to explain this interaction between predispositions, group membership, and context. Terror Management Theory (Greenberg, Pyszczynski, & Solomon, 1986) argues that we create “meaning” from our environments to ward off existential threats, like feeling that life is meaningless. In a similar vein, the Sacred Value Protection Model (Tetlock, Kristel, Elson, Green, & Lerner, 2000), and the Meaning Maintenance Model (Heine, Proulx, & Vohs, 2006) posit that people are motivated to maintain this sense of “meaningfulness.”

Drawing on these theories, scholars of conspiracy theories argue that conspiracy belief is an attempt to reduce anxiety by creating meaning via simple causal explanations for complex,

threatening events. These theories see conspiracy belief as attempts to make sense of a complex and threatening world (e.g., Newheiser, Farias, & Tausch, 2011). For the purposes of this paper, I will refer to these theories of conspiracy belief as “Complex World” accounts of conspiracy belief because, while they draw on other meaning-making theories, they do not perfectly correspond to any one meaning-making theory.

Complex World theories argue that frightening events often have a variety of complex and interacting causes. Frightening events provoke anxiety, and peoples’ inability to understand what caused them creates anxiety. People try to reduce this anxiety by creating simple explanations for the event.¹ These simplified explanations commonly reject the complex “official” explanation, and pin responsibility on a single group. These simplified explanations frequently qualify as a conspiracy theory (Keeley, 1999). In short, Complex World theories believe that conspiracy theories act as quasi-religious belief systems that buffer people against anxiety (Franks, Bangerter, & Bauer, 2013).

There are two types of Complex World theories of conspiracy belief. The first claims that conspiracy belief is an effective method for dealing with the anxiety caused by complex events (e.g., Franks et al., 2013; Newheiser et al., 2011). These theories predict that conspiracy belief is a response to anxiety, and reduces it. The second claims that conspiracy belief is a tempting, but *ineffective* method for dealing with the anxiety caused by complex events (e.g., Douglas, Sutton, & Cichocka, 2017). These theories predict that conspiracy belief is a response to anxiety, but does not reduce it.

¹ Complex World Theory acknowledges that conspiracy accounts of events are frequently more complex than non-conspiracy accounts. The simplification that I refer to is a simplification of who caused the event, and why they did so. For example, it is simpler to say that “the government created HIV/AIDs to control ‘undesirable’ populations,” than it is to explain the biological origin of HIV/AIDs, and why it is more prevalent in some populations than others. Alternately, it is easier to say that scientists are faking evidence of global warming for funding, than it is to explain how carbon emissions, cattle farming, and any number of other factors are changing the climate.

A. STATEMENT OF THE PROBLEM

Despite their differences, both types of Complex World theories predict that conspiracy belief is linked with anxiety. For example, conspiracy belief is positively correlated with death anxiety (Bruder, Haffke, Neave, Nouripanah, & Imhoff, 2013), and experimentally inducing anxiety increases conspiracy belief (Grzesiak-Feldman, 2013; Radnitz & Underwood, 2015).

However, which type of anxiety predicts conspiracy beliefs remains unclear. Some studies find a relationship between conspiracy belief for both state and trait anxiety (e.g., Grzesiak-Feldman, 2013), but others only find the relationship for trait anxiety (e.g., Grzesiak-Feldman, 2007). Others find no relationship between conspiracy belief and trait *or* state anxiety, but do find that conspiracy belief is positively correlated with both perceived stress and experiencing stressful life events (Johnson & Boynton, 2008; Swami, Furnham, et al., 2016). In other words, past work on the relationship between anxiety and conspiracy belief is mixed.

Though these findings are inconsistent, all the studies cited above have one thing in common; they all used self-report measures of anxiety. This study aims to test the link between conspiracy belief and anxiety using multiple methods of measuring anxiety. In addition to using a self-report measure, this study tests if writing about conspiracy theories is associated with anxious language use. The two types of Complex World theories of conspiracy belief predict two possible outcomes. If believing in conspiracy theories is an effective strategy for reducing anxiety, people who believe a conspiracy theory should express less anxiety when presented with that theory than when they are not presented with that theory, when controlling for baseline anxiety (Newheiser, Farias, & Tausch, 2011). If believing conspiracy theories is an ineffective strategy for reducing anxiety, people who believe a conspiracy theory should express about the same amount, or even more anxiety, when presented with that conspiracy theory than when they

are not presented with that theory, when controlling for baseline anxiety (e.g., Douglas, Sutton, & Cichocka, 2017).

C. PURPOSE OF THE STUDY

In this study, participants reported their beliefs about a novel conspiracy theory. They then read one of three event summaries. The first described an event and presented a conspiratorial explanation for that event. The second described the same event, and presented a non-conspiratorial explanation for the event. The third addressed a neutral topic. Participants then wrote a short paragraph about their thoughts on the event they read. After writing their thoughts, participants completed a short anxiety questionnaire. Participants' paragraphs were then tested for the volume of anxious language in their writing. Both complex world theories of conspiracy belief predict that participants' belief in conspiracy theories will predict a change in anxiety from baseline, when presented with a conspiratorial explanation for a threatening event. They predict that the more a participant believes conspiracy theories, the more their anxiety will change from baseline. In other words, belief in conspiracy theories should moderate the effect of a conspiratorial (or non-conspiratorial) explanation for a threatening event on anxiety.

II. METHODS

A. PARTICIPANTS

Two hundred and twenty participants from the University of Illinois at Chicago (UIC) participant pool completed the survey. They each received a half research credit for their participation. This sample size is sufficient for 80% power with an alpha of .05, for the planned linear regression (conspiracy belief [continuous] x paragraph type [between subjects: conspiracy, non-conspiracy, neutral]) to detect a relationship between conspiracy belief and anxiety². After 153 participants completed the survey, it became clear that some participants were not reading the topic summary manipulation. Two participants reported accidentally skipping the manipulation, and asked for assistance. This suggested that other participants may have skipped the manipulation, and not asked for assistance. This prompted me to check if participants were passing the manipulation check halfway through data collection. Thirty-six participants (23% of the sample at the time) failed the manipulation check. I added a delay to the survey page containing the manipulation so participants could not advance until 5 seconds passed. After the delay was added, no further participants failed the manipulation check.³ Another 24 participants did not complete the measures included in Mass Testing. All of these items were necessary for the final analysis, and so these participants were excluded from analysis.⁴

Using my remaining credit hours, I recruited an additional 19 participants, for a final sample of 179 participants. Unfortunately, this sample size only provided 53.57% post-hoc power. Participants' ages ranged from 17 to 25 ($M = 19.27$, $SD = 1.29$). One-hundred and thirty-

² The power analysis assumes an effect size of $r = .24$ for the relationship between conspiracy belief and anxiety. This estimated effect size is an average of the correlation between measures of conspiracy belief and anxiety, worry, or stress in Newheiser, Farias, & Tausch, 2011, Radnitz & Underwood, 2015, and Swami et al., 2016. The power analysis was conducted for the target interaction with the covariate.

³ Controlling for whether the participant completed the survey before or after the five second delay was added did not change the pattern of results. See Appendices D and E for regression tables.

⁴ The pattern of results remains the same if participants who failed the manipulation check are included.

five participants were women, 43 were men, and one was genderfluid. Thirty-five of the participants were Caucasian, 53 were Asian, 58 were Hispanic or Latino, 18 were African American, and the remaining 15 identified as mixed race or “other.” Finally, 37 of the participants identified as conservative, and 142 identified as liberal.⁵

B. DESIGN

This study had three predictor variables: Two were continuous measures of conspiracy belief (UIC program cut conspiracy belief, and Conspiracy Mentality Questionnaire (CMQ; Bruder et al., 2013) scores). The third variable was condition. Participants were randomly assigned to one of three conditions: Conspiracy, Non-Conspiracy, or Neutral. In addition, this study had one covariate. That covariate was Time 1 State-Trait Anxiety Inventory’s short form (STAI-6; $\alpha = .82$; Marteau & Bekker, 1992) scores. Time 1 scores were included as a covariate to test for changes in anxiety from Time 1 to Time 2.

This study was designed to have two dependent variables. The first a text measure of anxiety, based on the paragraphs that participants wrote. The second dependent variable was Time 2 STAI-6 scores. Both measures of anxiety were continuous.

C. MATERIALS AND PROCEDURE

At the beginning of each semester, undergraduates enrolled in Introduction to Psychology at UIC complete a “Mass Testing” survey designed to screen participants for studies later in the semester. During Mass Testing, potential participants completed three measures.

First, they completed the State-Trait Anxiety Inventory’s short form (STAI-6; $\alpha = .82$; Marteau & Bekker, 1992) for a baseline measure of their anxiety levels. Possible scores on the

⁵ A break-down of demographics by condition is available in the Supplemental Material.

STAI-6 range from 1 to 4. Participants' Mass Testing STAI-6 scores will be referred to as "Time 1 STAI-6 scores."

After completing the STAI-6, participants read a short paragraph informing them that administrators at UIC were considering cutting several university programs. This paragraph listed two possible explanations for the cuts; one non-conspiratorial (administrators are considering cutting programs to save other programs), and the other conspiratorial (administrators are considering cutting programs to keep money for themselves).

After reading the paragraph, participants responded to two items designed to assess their belief in the conspiracy explanation for the program cuts presented in the paragraph. These two items were averaged to create a composite score ($r(177) = .73, p < .001$). I will refer to this score as "program cut conspiracy belief." The paragraph and program cut conspiracy belief questions are in Table 1. Participants then completed the Conspiracy Mentality Questionnaire (CMQ) to measure participants' general tendency for conspiratorial beliefs ($\alpha = .84$; Bruder et al., 2013). Possible scores on the CMQ range from 1 to 100. The full Mass Testing survey is available in Appendix A.

Table 1

Mass Testing Conspiracy Belief Assessment Text

Question	Question Text
Mass Testing Paragraph	The University of Illinois at Chicago (UIC) is considering cutting certain academic, social, cultural, and other programs because of the recent budget cuts. Some people say that administrators are considering cutting some programs to keep other programs running. Others say that administrators are considering cutting some programs to keep money for themselves.
Statement 1	Given these two possible motivations, why do you think administrators are considering cutting programs?
Statement 2	In general, what drives administrators' budget decisions?

Note. Participants responded to all questions on a scale of 1 (*Question 1: To Save Other Programs; Question 2: What Is Best For The University*) to 5 (*Question 1: What Is Best For The University; Question 2: What Is Best For Their Own Gain*).

Two hundred and twenty participants completed part two of the study between a week and a half to three months after completing the measures in Mass Testing. At the beginning of the study, participants read a set of instructions for the topic summary task. These instructions informed participants that they would read a summary of a topic (Table 2), and that they would be asked to tell the researchers their thoughts about that topic.

After reading the instructions, participants were randomly assigned to one of the three conditions. Each condition asked participants to read a different topic summary. In the

conspiracy condition, participants read that UIC administrators were considering program cuts, and the conspiratorial explanation for the cuts, originally presented in Mass Testing (i.e. Administrators are cutting programs out of greed). This condition was designed to provide a threat (program cuts), and a conspiracy explanation for that threat. In the non-conspiracy condition participants read that UIC administrators were considering program cuts, and the non-conspiratorial explanation for the cuts, originally presented in Mass Testing (Administrators are cutting programs out of necessity). This condition was designed to provide a threat (program cuts), and a non-conspiracy explanation for that threat. In the neutral condition, participants read that UIC has a variety of programs. This condition was designed to provide no threat. The threatening topic, program cuts, was chosen because it was realistic given UIC's recent budget cuts (Coronoa, 2017), was relevant to the UIC subject pool, and threatened the subject pool's access to resources. The neutral topic, programs at UIC, addressed a similar topic that did not threaten the subject pool's resources. Topic summaries are available in Table 2.

After reading the summary, participants wrote a short paragraph (at least 100 words, or about 7 to 10 sentences) summarizing their views on what they'd just read. Once they were done writing their thoughts, they completed the same measure of self-report anxiety that they completed in Mass Testing. This measure of anxiety will be referred to as "Time 2 STAI-6." Finally, they provided general demographic information including age, race and ethnicity, general, social, and economic political orientation, and gender. The full text of the survey is available in Appendix B.

Table 2

Topic Summaries and writing prompts

Event	Event summary
Conspiracy Topic	<p>The University of Illinois at Chicago is considering cutting university programs starting next year. Some commenters state that the program cuts are a plan by the administration to keep more money for themselves.</p> <p>Please tell us what you think about the proposed program cuts and the reasons behind them. Please write at least 100 words. You can write as little or as much as you like beyond that amount.</p>
Non-Conspiracy Topic	<p>The University of Illinois at Chicago is considering cutting university programs starting next year. Some commenters state that the program cuts are a plan by the administration to ensure that other, more vital programs are fully funded.</p> <p>Please tell us what you think about the proposed program cuts and the reasons behind them. Please write at least 100 words. You can write as little or as much as you like beyond that amount.</p>
Neutral Topic	<p>The University of Illinois at Chicago has a variety of programs for its students. These programs include academic programs, support programs, and cultural programs.</p> <p>Please tell us what you think about UIC's programs. Please write at least 100 words. You can write as little or as much as you like beyond that amount.</p>

The text measure of anxiety was based on LIWC's Anxiety sub-dictionary. The LIWC Anxiety sub-dictionary is a list of words associated with anxiety, including words like "nervous," "tense," and "afraid." LIWC's dictionaries, including the anxiety sub-dictionary, are used to measure constructs like emotions in text (Pennebaker, Booth, & Francis, 2008). The anxiety sub-dictionary can be used in Latent Semantic Analysis (LSA) to measure the "anxiety content" or "anxiety loading" of a body of text.⁶

LSA determines the similarity between the words in the document and the words in the anxiety sub-dictionary, and returns a score that resembles a correlation. I will refer to this score as a "LSA loading." As the LSA loading approaches zero, the document and the dictionary have very little content in common. As the LSA loading approaches one, the document and the dictionary are almost identical. In rare cases, a LSA loading may be negative, indicating that the document contains content that is consistently dissimilar (as opposed to unrelated) to the contents of the dictionary. LSA loadings can range from -1 to +1. I used LSA to calculate loadings of the LIWC anxiety sub-dictionary for every participant-generated paragraph. The LSA anxiety loadings of the participant-generated paragraphs served as a second measure of anxiety for each participant (the first being Time 2 STAI-6 scores).⁷ This LSA was conducted in R version 3.4.2 with the *lsa* package (Wild, 2015), using the LIWC 2017 dictionary.

⁶ To clarify, LSA uses the LIWC anxiety dictionary to measure anxiety in the text. However, it uses a more complex algorithm than dictionary analysis that is better equipped to account for linguistic variation.

⁷ The LSA loadings were highly correlated with the simple word proportions derived in basic LIWC analysis in these data, $r(177) = .83, p < .001$. Therefore, this is further evidence suggesting that the LSA loadings do correspond with greater anxiety, but may capture more than the simple word counts and proportions as demonstrated in prior validation work comparing LSA and word count-based methods (e.g., Iliev, Dehghani, & Sagi, 2014)

III. RESULTS

A. PRELIMINARY ANALYSIS

A preliminary one-way ANOVA between the three conditions (conspiracy, non-conspiracy, and neutral) showed no differences in Time 2 STAI-6 anxiety between conditions, $F(2, 176) = 1.56, p = .212$, and an inspection of the semi-partial correlation matrices by condition controlling for Time 1 anxiety (Table 4) suggested that there were few meaningful differences in the relationship between conspiracy belief and anxiety in the neutral and non-conspiracy conditions when controlling for Time 1 anxiety. In addition, I conducted the two planned linear regressions while including only the neutral and non-conspiracy conditions, and excluding the conspiracy condition. In other words, two simultaneous linear regressions testing whether condition (neutral or non-conspiracy) and the measure of conspiracy belief (Regression 1: UIC program cut conspiracy belief; Regression 2: CMQ) interacted to predict Time 2 STAI-6 anxiety scores, controlling for Time 1 STAI-6 anxiety scores as a covariate. In both regressions, there were no significant main or interactive differences between the neutral or non-conspiracy conditions on anxiety (all $ps > .225$). In light of this, I collapsed across the neutral and non-conspiracy conditions, to create a single “no conspiracy” condition.

Table 3

Means, standard deviations for all numeric variables by the original three conditions, and raw and semi-partial correlations controlling for Time 1 STAI-6 between all numeric IVs and DVs overall, and within each of the three original conditions

Raw Correlations	<i>M</i>	<i>SD</i>	1	2	4	5	Semi-Partial Correlations	1	2	4	5
Overall											
1. CMQ	65.21	17.38	.				1.	.			
2. Program Cut Belief	2.49	1.20	.17	.			2.	.17	.		
3. Time 1 STAI-6	2.28	0.68	.02	.06	.		4.	.	.	.	
4. Time 2 STAI-6	2.12	0.63	-.09	.02	.54	.	5.	-.12	-.01	.	.
5. LSA Anxiety	0.003	0.01	.06	-.15	-.03	-.001	6.	.06	-.15	.	.02
Neutral											
1. CMQ	67.36	16.67	.				1.	.			
2. Program Cut Belief	2.64	0.99	.18	.			2.	.15	.		
3. Time 1 STAI-6	2.22	0.69	.27	.10	.		4.	.	.	.	
4. Time 2 STAI-6	2.03	0.57	.22	.14	.55	.	5.	.08	.10	.	.
5. LSA Anxiety	0.002	0.01	.01	-.01	-.20	-.14	6.	.06	.01	.	-.04
Non-Conspiracy											
1. CMQ	64.09	16.58	.				1.	.			
2. Program Cut Belief	2.31	1.11	.01	.			2.	-.01	.		
3. Time 1 STAI-6	2.45	0.66	-.16	-.10	.		4.	.	.	.	
4. Time 2 STAI-6	2.23	0.67	-.13	.17	.50	.	5.	-.06	.25	.	.

5. LSA Anxiety	0.01	0.01	.09	-.19	-.09	-.06	6.		.07	-.20	.	-.02
Conspiracy												
1. CMQ	64.19	18.83	.				1.		.			
2. Program Cut Belief	2.41	1.19	.27	.			2.		.28	.		
3. Time 1 STAI-6	2.19	0.68	-.03	.21	.		4.		.	.	.	
4. Time 2 STAI-6	2.11	0.66	-.27	-.15	.55	.	5.		-.30	-.32	.	.
5. LSA Anxiety	0.002	0.009	.09	-.18	.08	.11	6.		.09	-.19	.	.07

Note. Given the sample size, all correlations greater than the absolute value of .147 are statistically significant, $p < .05$. Means, standard deviations, and correlations for the combined “no conspiracy” condition are available in Appendix F.

B. DEMOGRAPHIC VARIABLES BY CONDITION

Age did not differ by condition ($t(177) = -1.30, p = .195$; Conspiracy: $M = 19.44, SD = 1.40$; No Conspiracy: $M = 19.18, SD = 1.23$), nor did overall political orientation ($t(177) = -0.69, p = .493$; Conspiracy: $M = 3.21, SD = 1.43$; No Conspiracy: $M = 3.06, SD = 1.42$), social political orientation ($t(177) = 0.79, p = .428$; Conspiracy: $M = 3.18, SD = 1.52$; No Conspiracy: $M = 3.00, SD = 1.40$), economic political orientation ($t(177) = 0.94, p = .349$; Conspiracy: $M = 3.52, SD = 1.37$; No Conspiracy: $M = 3.32, SD = 1.36$), or gender, $\chi^2(2, N = 179) = 0.93, p = .629$.⁸

To ensure that random assignment distributed the measured predictor (UIC program cut conspiracy belief and CMQ scores) and control (Time 1 STAI-6 scores) variables evenly across conditions, I examined Time 1 STAI-6 anxiety scores and Time 1 conspiracy belief scores by condition. Time 1 STAI-6 anxiety ($t(177) = 1.39, p = .166$; Conspiracy: $M = 2.19, SD = 0.68$; No Conspiracy: $M = 2.33, SD = 0.68$), responses to the program cut conspiracy belief measure ($t(177) = 0.39, p = .694$; Conspiracy: $M = 2.11, SD = 0.66$; No Conspiracy: $M = 2.13, SD = 0.62$), and the CMQ ($t(177) = 0.56, p = .574$; Conspiracy: $M = 64.19, SD = 18.83$; No Conspiracy: $M = 65.74, SD = 16.63$) did not vary by condition.

Participants wrote an average of 130.07 ($SD = 31.12$) words in their text responses. Examination of the LSA anxiety loadings revealed that very few participants used anxious language in their paragraphs.⁹ Eighty-eight percent of participants did not use any words from the LIWC anxiety sub-dictionary in their paragraphs, 10.61% used only one word, and only

⁸ Correlations between all numeric demographic variables and the variables of interest are available in Appendix H. The demographic breakdown by condition is available in Appendix G.

⁹ LSA anxiety loadings were higher than loadings for other negative emotions like anger ($t(178) = 2.27, p = .024$), but they were 20 times lower than loadings for less emotional constructs like absolutist language ($t(178) = 7.74, p < .001$; Al-Mosaiwi & Johnstone, 2018).

1.12% of participants used more than one word. Due to a lack of variability, LSA anxiety loadings were excluded from analysis. Typical participant responses from each of the three conditions are presented in Table 4.

Table 4

Typical participant responses from each condition

Condition	Response
Conspiracy	I think that they should not cut any programs for their own benefits. The programs the the university offers are key to many student's involvement with the university. Especially a school like UIC, where more than half of the students commute to school everyday, for many of these students, if these programs did not exist many of these students, including me would find no reason (or even a way) to engage with the community and get the full experience and value from college. For this reason, I believe that instead of cutting programs, the university should try to find ways to increase the budget and make it more favorable towards the programs for students.
Non-Conspiracy	Thousands of dollars are coming into school from students and obviously we expect the best the university can offer. As a student, of course, I'm upset and disappointed that programs are being cut. We should be able to have all the resource that we need with the fact that we are paying thousands of dollars per year. I think the reason behind the program cuts is because the school wanted to focus the money on another aspect of the school instead of for the programs that we need. Obviously there's the

idea of the money going to the wrong places, but I'd like to hope that the proposed program cuts are happening because we cannot afford it.

Neutral

I think UIC's programs are diverse and cover an array of topics and categories that suit students' needs as well as interests. There are many cultural programs, educational programs as well as entertainment programs. Students always have an array of programs to choose from. UIC also has programs for students seeking to continue their education in the health field. Programs and clubs such as pre-med club, pre-dental club and pre-physical therapy club assist students in their transition into further education and help answer questions students may have about the transition. Programs like these also help students feel more prepared for the exams they have to take in order for them to place into and be accepted into the professional schools of their choice by having free practice tests available for students to be able to gauge their progress on the subjects as well as the fields they should study to better achieve their desired test results.

Note. In this table, all typos and grammatical errors are from the original student's text. Spelling and grammatical errors were corrected for the text analysis.

To test if conspiracy belief increases or decreases anxiety, I used several simultaneous linear regressions, each with one continuous measure of conspiracy belief from Mass Testing (UIC program cut conspiracy belief or CMQ scores), condition (conspiracy explanation, dummy-coded as 1, or no conspiracy explanation, dummy-coded as 0), and their interaction terms as predictor variables. All regressions controlled for Time 1 STAI-6 scores as a covariate. By

controlling for Time 1 STAI-6 scores, I was able to test for a change in anxiety within individuals over time, rather than just differences between conditions.

The no conspiracy condition was coded as the reference group to serve as a baseline for anxiety change without exposure to a conspiracy theory. Participants' Time 2 STAI-6 were the outcome variable. All data, analysis scripts, and exact materials are available on the study's OSF page (<https://osf.io/c6y3s/>).

C. ANXIETY AND NOVEL CONSPIRACY BELIEF

The first simultaneous linear regression tested whether condition (conspiracy or no conspiracy) and program cut conspiracy belief¹⁰ interacted to predict Time 2 STAI-6 anxiety scores, controlling for Time 1 STAI-6 anxiety scores as a covariate to test if STAI-6 scores changed from Time 1 to Time 2. In other words, this regression aimed to test if exposure to a conspiracy theory increases or decreases anxiety in people who believe it. The condition variable was dummy coded, with the no conspiracy condition as the reference group (Conspiracy = 1, No conspiracy = 0).

The overall model was significant (See Table 5). There was a marginal main effect of specific program cut conspiracy belief predicting Time 2 STAI-6 scores, such that the more people believed the UIC program cut conspiracy theory, the more anxious they were. Time 2 STAI-6 scores in the conspiracy condition did not differ from scores in the no conspiracy condition. In other words, people who were presented with a conspiracy theory were not more or less anxious than people who were not presented with a conspiracy theory. There was a significant interaction, indicating that the slopes of the relationship between conspiracy belief and anxiety were different between conditions. Simple effects were calculated to determine if the

¹⁰ The two items measuring program cut conspiracy belief were correlated $r = .76$, and were averaged to form a single "program cut conspiracy belief" score for this and all subsequent analyses.

slopes of the relationship between conspiracy belief and Time 2 STAI-6 scores were significant in each condition. In the no conspiracy condition, where participants did not see a conspiracy theory, there was a marginally significant positive relationship between conspiracy belief and anxiety, such that the more participants believed the UIC program cut conspiracy theory, the more anxious they were, $\beta = 0.14$, $SE = 0.08$, $p = .070$. In the conspiracy condition, where participants did see a conspiracy theory, there was a significant negative relationship between conspiracy belief and anxiety, such that the more participants believed the UIC program cut conspiracy theory, the less anxious they were, $\beta = -0.26$, $SE = 0.10$, $p = .010$. For model statistics, see Table 5. For a graph of the interaction, see Figure 1.

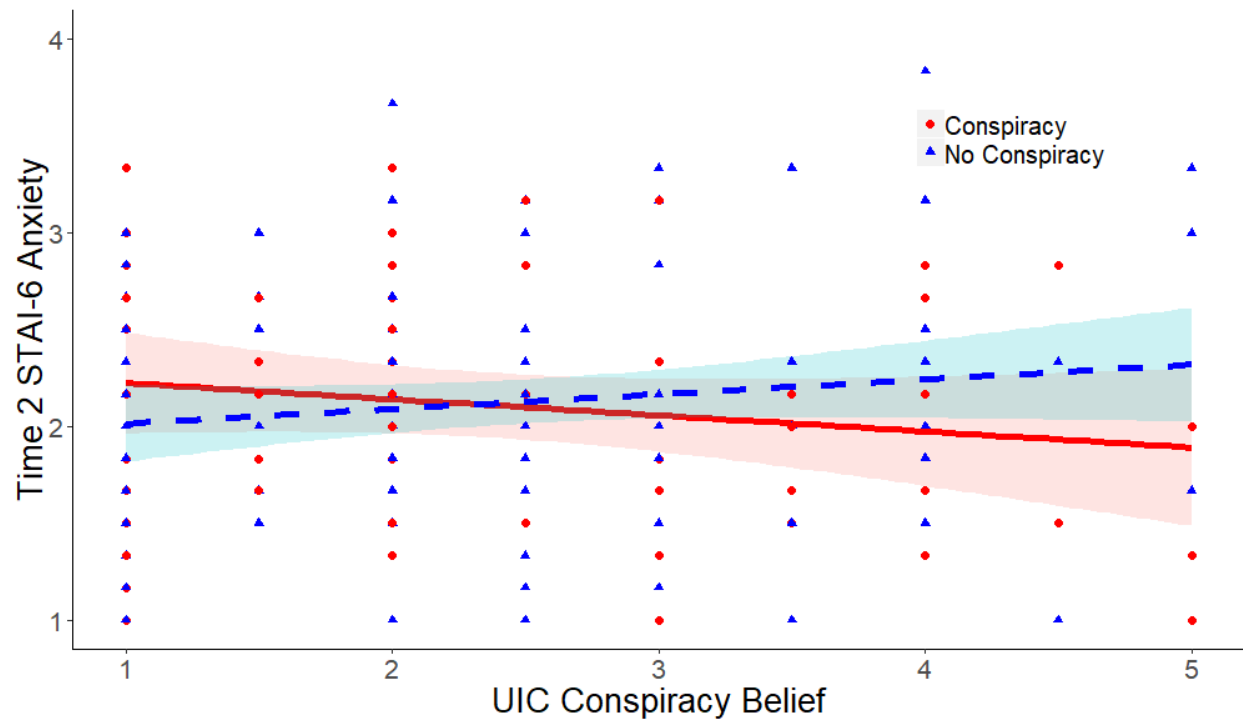
Table 5

Regression analyses predicting Time 2 STAI-6 anxiety scores, from UIC conspiracy belief and condition, controlling for Time 1 STAI-6 anxiety scores as a covariate

Model	<i>t</i>	<i>p</i>	β	<i>B</i> (<i>SE</i>)	<i>F</i>	<i>df</i>	<i>p</i>	<i>R</i> ²
Overall model					21.20	4, 173	< .001	.33
Intercept	42.55	< .001	-0.09	2.08 (0.05)				
Time 1 STAI-6	8.94	< .001	0.57	0.36 (0.04)				
Conspiracy belief (CB)	1.84	.067	0.14	0.09 (0.05)				
Conspiracy condition	0.41	.684	0.05	0.03 (0.08)				
CB * Conspiracy condition	-3.14	.002	-0.39	-0.24 (0.08)				

Figure 1

The interaction between UIC program cut and conspiracy belief and condition predicting Time 2 STAI-6 scores



D. ANXIETY AND CONSPIRACY MENTALITY

The second simultaneous linear regression tested whether condition (conspiracy or no conspiracy) and CMQ scores interacted to predict Time 2 STAI-6 anxiety scores, controlling for Time 1 STAI-6 anxiety scores as a covariate to test if STAI-6 scores changed from Time 1 to Time 2. In other words, this regression aimed to test if exposure to a conspiracy theory increases or decreases anxiety in people who are predisposed to believe conspiracy theories. The condition

variable was dummy-coded, with the no conspiracy condition as the reference group (Conspiracy = 1, No conspiracy = 0).

The overall model was significant (See Table 6). There was no main effect of CMQ scores. In other words, a general tendency to believe conspiracy theories was not associated with anxiety on its own. Overall, anxiety levels in the conspiracy condition did not differ from anxiety levels in the no conspiracy condition. Finally, there was a marginally significant interaction. Simple effects were calculated to determine if the slopes of the relationship between conspiracy belief and Time 2 STAI-6 scores were significant in each condition. Time 2 STAI-6 scores were not related to CMQ scores in the no conspiracy condition, $\beta = -0.10$, $SE = .08$, $p = .907$, but STAI-6 scores did relate negatively with CMQ scores in the conspiracy condition. A greater tendency to believe conspiracy theories predicted less anxiety in the conspiracy condition, where participants were presented with a conspiracy theory, $\beta = -0.25$, $SE = .10$, $p = .020$. For model statistics, see Table 6. For a graph of the interaction, see Figure 2.

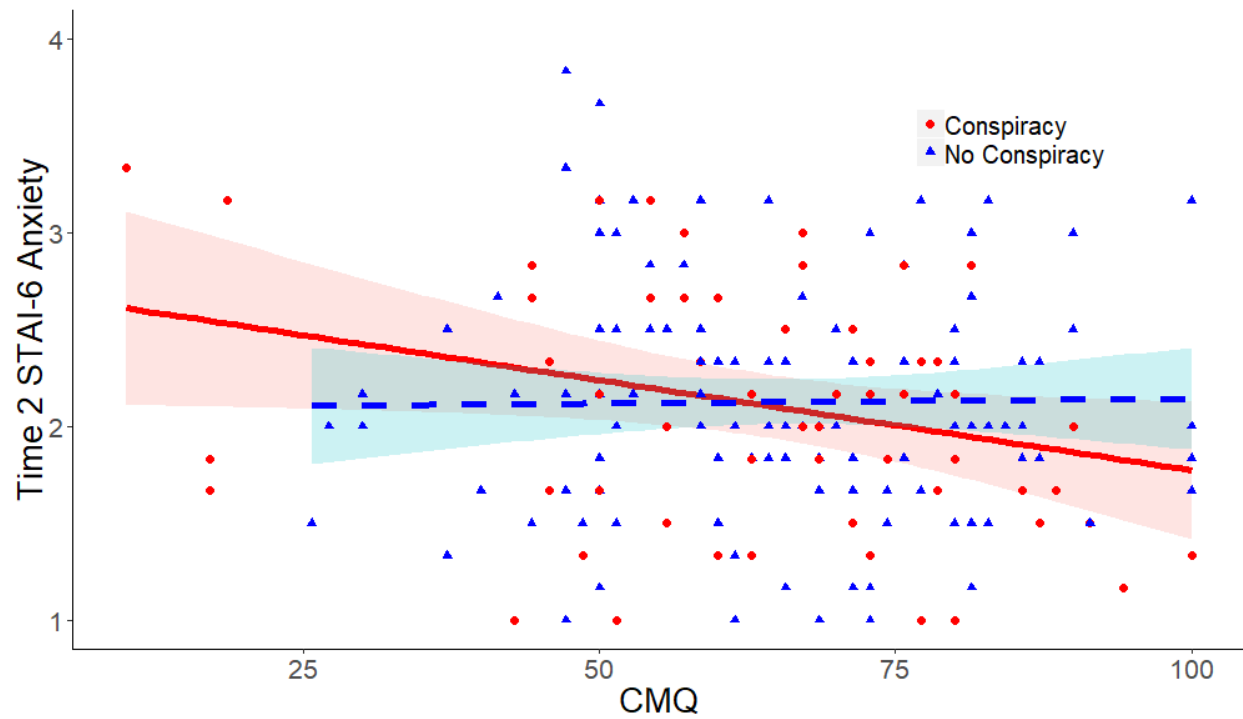
Table 6

Regression analyses predicting Time 2 STAI-6 anxiety scores, from CMQ scores and condition, controlling for Time 1 STAI-6 anxiety scores as a covariate

Model	<i>t</i>	<i>p</i>	β	<i>B</i> (<i>SE</i>)	<i>F</i>	<i>df</i>	<i>p</i>	<i>R</i> ²
Overall model					19.76	4, 173	< .001	.31
Intercept	41.97	< .001	-0.09	2.08 (0.05)				
Time 1 STAI-6	8.51	< .001	0.54	0.34 (0.04)				
CMQ	-0.12	.901	-0.01	-0.01 (0.05)				
Conspiracy condition	0.59	.552	0.08	0.05 (0.08)				
CMQ * Conspiracy condition	-1.79	.075	-0.24	-0.15 (0.08)				

Figure 2

The interaction between CMQ scores and condition predicting Time 2 STAI-6 scores



IV. DISCUSSION

A. SUMMARY

The current study provides initial evidence that conspiracy theories may reduce anxiety in conspiracy believers. There is, however, mixed evidence for a direct relationship between conspiracy belief and anxiety. While the first regression shows a marginal relationship, such that more UIC program cut conspiracy belief predicts more anxiety, the second regression shows no such relationship. The direct relationship between conspiracy belief and anxiety in the first regression is consistent with prior research on conspiracy belief that finds that higher conspiracy belief is associated with higher anxiety (e.g., Grzesiak-Feldman, 2013), but is inconsistent with previous findings that do not find a relationship between the two (e.g., Swami et al., 2016). The results of the second regression, which found no direct relationship between conspiracy belief and anxiety, is inconsistent with the former findings, but consistent with the latter. In short, the simple relationship between conspiracy belief and anxiety in this study is inconsistent, just as it is in the literature as a whole.

B. IMPLICATIONS FOR RESEARCH

The results, while inconsistent, seem to support the first type of Complex World theories, that state that conspiracy belief is an effective strategy for reducing anxiety. Both interactions suggest that exposure to conspiracy theories reduces anxiety for people who believe them. When exposed to a conspiracy theory, the more people believed that specific conspiracy theory or the more inclined they were to believe conspiracy theories in general, the less anxious they were.

When exposed to non-conspiracy explanations or neutral information, the more that people believed the conspiratorial explanation, the more anxious they were. However, when not

exposed to a conspiracy theory, a greater tendency to believe conspiracy theories in general was not related to anxiety. That said, the interaction with CMQ scores (the measure of tendency to believe conspiracy theories) was only marginally significant, and should be interpreted with caution.

These interactions are inconsistent with Swami and colleagues' (2016) conclusion that anxiety is not related to conspiracy belief. There are several explanations for this discrepancy. Swami and colleagues' (2016) did not have equivalent conditions, and only examined the overall relationship between anxiety and conspiracy belief. This relationship may only emerge under specific circumstances, and Swami and colleagues' (2016) study may not approximate those circumstances. In addition, while Swami and colleagues' (2016) also used the STAI-6 to measure anxiety, they used a different measure of conspiracy belief. Their measure of conspiracy belief asked participants to express their belief in several popular conspiracy theories, while the measures used here focused on a novel conspiracy theory, and a general tendency to believe conspiracy theories. Grzesiak-Feldman (2013), which did find a relationship between conspiracy belief and anxiety, used a measure that did not include pre-existing and widely-known conspiracy theories. It may be that exposure to pre-existing conspiracy theories in measures of conspiracy belief reduces anxiety in believers, thereby eliminating the relationship between conspiracy belief and anxiety. This would be consistent with the discrepancy between Swami and colleagues' (2016) and Grzesiak-Feldman (2013)'s results, and explain why the current study found a relationship, while Swami and colleagues' (2016) did not.

C. LIMITATIONS

This study was also interested in seeing if different measures of anxiety provided convergent evidence for a relationship between conspiracy belief and anxiety. For that reason, I

used a text measure of anxiety in addition to the self-report measure of anxiety. Despite both measuring anxiety, the STAI-6 self-reported anxiety did not correlate with the measure of text anxiety, or the simple counts of anxious words in participants' writing. Prior research suggests that LIWC measures of emotion are positively correlated with subjective coding of emotion, but may not correlate with self-report measures of emotion (Bantum & Owen, 2009).

The lack of correlation between the two measures of anxiety may also be due to the lack of anxious language in participant paragraphs. Only a fraction of participants used any anxious language in their paragraphs. Overall, anxiety in participant text was uniformly low, and did not have enough variability to lend itself to statistical analysis. While participants were not specifically instructed to share their feelings, these instructions should not have drastically reduced the emotion words in their responses. People use emotion words in language in the absence of explicit prompts, even in short text, and LSA is sufficient to measure emotion under these circumstances (Gill, French, Gergle, & Oberlander, 2008). Alternately, it is possible that emotion is not consciously involved in conspiracy belief. When prompted with self-report measures, participants may express emotion that they would not express otherwise.

There were other concerns with measurement. The two measures of conspiracy belief were only weakly correlated. This contradicts previous research (e.g., Goertzel, 1994), which suggests that one of the strongest predictors of conspiracy belief is belief in other conspiracy theories. That said, the CMQ is intended to measure a general tendency to believe conspiracy theories, and does not measure belief in any specific conspiracy theories (Bruder et al., 2013). The CMQ is correlated with belief in a list of popular conspiracy theories ($r_s = .37-.76$; Bruder et al., 2013), but there may be something about the program cut conspiracy theory that dampens this correlation. Past research that has used novel conspiracy theories like Oliver and Wood

(2014)'s pacifying fluorescent light bulbs, or Swami and colleagues' (2011) secretly-poisonous Red Bull, that have higher stakes than the one used in this study. Conspiracy belief, and the creation of conspiracy narratives, are more prevalent around events with larger consequences (McCauley & Jacques, 1979; Van Prooijen & Van Dijk, 2014). Hypothetical program cuts at UIC may not have had high enough stakes to arouse much conspiracy belief. In the future, it may be beneficial to use a variety of novel conspiracy theories with more dire consequences, to prevent the peculiarities of any one theory from affecting results.

In addition to irregularities in measurement, this study has several other limitations. One limitation is its small sample size. This study does not have an adequate number of participants to reliably detect the relationship it seeks to examine. While I aimed for a sample size of 220 for adequate power to detect the relationship between conspiracy belief and anxiety, I fell short of that goal after dropping participants who did not meet the study criteria. The pattern of results does not change if they are included, but given that they did not read the manipulation, their data does not provide a good test of the hypotheses. I recruited additional participants, but the sample never reached 220 participants who provided usable, valid data. This insufficient number of participants means that these results may not be reliable, and there is a higher chance that they are a result of sampling error. While demographics do not differ by condition, it is impossible to account for every type of variation in the sample that may have influenced the results.

The participants that did complete this study were not necessarily comparable to the samples in previous research, which may make it difficult to compare these results to previous results. The racial and ethnic breakdown of the sample differs from the samples in previous research. Other samples, like the sample used in Swami et al. (2016), are predominantly white (See Appendix C for demographic comparison between the current study and previous work).

Belief in certain conspiracy theories, such as conspiracy theories about HIV/AIDS, tends to be more common in certain racial groups (Bogart & Thorburn, 2005; Bohnert & Latkin, 2009). The subject pool at UIC has students who live in roughly the same geographical area, attend the same college, are in their early 20s, and are taking Introduction to Psychology. Previous samples were almost twenty years older on average (e.g., Swami, 2016), or from a different country (e.g., Grzesiak-Feldman, 2013).

The UIC sample was also disproportionately (79%) liberal. While there is little evidence of ideological asymmetries in levels of conspiracy belief, people at the extremes of the ideological spectrum are more likely to believe conspiracy theories than people in the middle (van Prooijen et al., 2015), and liberals and conservatives tend to believe different types of conspiracy theories. For example, conservatives are more likely to believe the government is conspiring, while liberals are more likely to believe that large corporations are conspiring (Radnitz & Underwood, 2015). While the novel conspiracy theory in this study does not directly implicate the government or large corporations, there may be systematic ideological differences in belief that skewed the results. Supplemental analyses did not show a correlation between overall political orientation and UIC program cut conspiracy belief ($r(176) = .003, p = .962$), however there was a weak correlation between overall political orientation and CMQ scores, such that the more liberal a participant was, the higher their CMQ scores, $r(176) = -.15, p = .049$. Given the strong liberal skew of the sample, these results may not be reliable.

This study provided support for the Complex World theory, but did not have adequate power to detect the relationship it tested, and so its results should be taken with a grain of salt. While the results suggest that exposure to a conspiracy theory reduced anxiety in people that believe conspiracy theories, this interaction was marginally significant in the second regression.

As such, these findings should be interpreted with caution, and should be replicated with an adequately powered sample.

D. FUTURE DIRECTIONS

Despite its limitations, this study lends some support to the first type of Complex World theories that state that conspiracy belief can reduce anxiety. But even within this study, results are mixed. In the first regression, there is evidence that conspiracy belief increased anxiety in the absence of a conspiracy theory, but this effect did not replicate in the second regression. The literature has similar mixed findings; sometimes a relationship between conspiracy belief and anxiety is there (e.g., Grzesiak-Feldman, 2013), and sometimes it is not (e.g., Swami et al, 2016). In the future, it may be beneficial to conduct a meta-analysis of the relationship between conspiracy belief and anxiety and, if it proves robust, search for moderators. Perhaps the relationship between conspiracy belief and anxiety is moderated by the personal impact of the event, the identity of the alleged conspirators (e.g., Radnitz & Underwood, 2015), or the magnitude of the event (e.g., McCauley & Jacques, 1979; Van Prooijen & Van Dijk, 2014). For example, the topic summaries did not say if the program cuts would directly affect the participants, or how large they would be. If they had told participants that the program cuts would have a dramatic and direct impact on their college experience, the results may have been different.

E. CONCLUSION

In conclusion, this study provides partial support for the first type of Complex World theories. It provides preliminary evidence that exposure to conspiratorial explanations for threatening events may reduce anxiety for people who believe conspiracy theories. It will, however, require replication with larger samples. Complex World theories require further testing,

and perhaps a meta-analysis to confirm or deny a link between conspiracy belief and anxiety, and whether any moderators of this relationship exist.

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VI. APPENDICIES

A. APPENDIX A

Mass Testing Survey

A number of statements which people have used to describe themselves are given below. Read each statement and then select the most appropriate number to the right of the statement to indicate how you feel right now, at this moment. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe your present feelings best

	Not at all (1)	Somewhat (2)	Moderately (3)	Very much (4)
I feel calm (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am tense (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel upset (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am relaxed (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel content (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am worried (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The University of Illinois at Chicago (UIC) is considering cutting certain academic, social, cultural, and other programs because of the recent budget cuts. Some people say that administrators are considering cutting some programs to keep other programs running. Others say that administrators are considering cutting some programs to keep money for themselves.

Given these two possible motivations, why do you think administrators are considering cutting programs?

- ☐ To save other programs
- ☐ Mostly to save programs, but partially to keep money for themselves
- ☐ Equal parts saving programs and keeping money for themselves
- ☐ Mostly to keep money for themselves, but partially to save programs
- ☐ To keep money for themselves

In general, what drives administrators' budget decisions?

- ☐ What is best for the university
- ☐ Mostly the university, but partially their own gain
- ☐ Equal parts the university and their own gain
- ☐ Mostly their own gain, but partially the university
- ☐ What is best for their own gain

CMQ I think that...

	0% certainly not	10% extremely unlikely	20% very unlikely	30% unlikely	40% somewhat unlikely	50% undecided	60% somewhat likely	70% likely	80% very likely	90% extremely likely	100% certainly
... many very important things happen in the world, which the public is never informed about. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... politicians usually do not tell us the true motives for their decisions. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... government agencies closely monitor all citizens. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... events which superficially seem to lack a connection are often the result of secret activities. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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B. APPENDIX B

Main Survey

University of Illinois at Chicago Research Information and Consent for Participation in Social Behavioral Research

Thank you for your interest! In this study, you will complete a survey about your views on the possible effects of the recent budget cuts at UIC. You will also be asked to read one of three short paragraphs, write a response to it, and provide general information about yourself, such as age and gender. Both your question responses and your writing will be used in analysis. This research aims to understand reactions to current events. Your participation will take approximately 10 minutes.

Your participation in this research is voluntary. Your decision whether or not to participate will not affect your current or future relations with the University.

If you decide to participate, you are free to withdraw your consent and discontinue participation at any time. If you choose to discontinue your participation, simply tell the experimenter that you no longer wish to participate. You have the right to leave this study at any time without penalty.

To the best of our knowledge, the things you will be doing have no more risk of harm than you would experience in everyday life. We are not collecting identifiers, so when the results of the research are published or discussed in conferences, no information will be included that would reveal your identity. Confidentiality will be maintained to the degree permitted by the technology used, however any activity on the internet presents some risk of a breach. Your participation in

this study involves risks no greater than a person's everyday life.

This research will contribute to your understanding of how psychological research is conducted, and supplement your PSCH 100 lessons. You will receive half a PEC for your participation.

This research will further our understanding of how people view historic events.

The researcher conducting this study is JP Prims, BA and Faculty Adviser, Matt Motyl, PhD. If you have questions about this study or your part in it and/or questions, concerns or complaints about the research, you may contact the researcher by phone at (925) 413-4031, or by email at jprims2@uic.edu or motyl@uic.edu.

If you have any questions about your rights as a research subject, including questions, concerns, complaints, or to offer input, you may call the Office for the Protection of Research Subjects (OPRS) at 312-996-1711 or 1-866-789-6215 (toll-free) or e-mail OPRS at uicirb@uic.edu. Please print a copy of this document for your records.

☐ I accept of free will, after having read and fully understood the above paragraphs, to participate in the study.

☐ I do not consent to participate in this study.

In this survey you will be asked to read a summary of a topic, and then tell us your thoughts about this topic. We will then ask you some demographic questions.

This should take about ten minutes to complete, but you are welcome to take as long as you like.

Please read the following passage from beginning to end.

Conspriacy Condition. The University of Illinois at Chicago is considering cutting university programs starting next year. Some commentators state that the program cuts are a plan by the administration to keep more money for themselves.

Please tell us what you think about the proposed program cuts and the reasons behind them.

Please write at least 100 words (about 7 to 10 sentences). You can write as little or as much as you like beyond that amount.

Please read the following paragraph from beginning to end.

Non-Conspiracy Condition. The University of Illinois at Chicago is considering cutting university programs starting next year. Some commentators state that the program cuts are a plan by the administration to ensure that other, more vital programs are fully funded.

Please tell us what you think about the proposed program cuts and the reasons behind them.

Please write at least 100 words. You can write as little or as much as you like beyond that amount.

Please read the following passage from beginning to end.

Neutral Condition. The University of Illinois at Chicago has a variety of programs for its students. These programs include academic programs, support programs, and cultural programs.

Please tell us what you think about UIC's programs. Please write at least 100 words. You can write as little or as much as you like beyond that amount.

In the paragraph you read, what did commentators believe was the motivation behind the proposed program cuts?

- ☐ Administrators' financial gain (1)
- ☐ To save other programs (2)

A number of statements which people have used to describe themselves are given below. Read each statement and then select the most appropriate number to the right of the statement to indicate how you feel right now, at this moment. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe your present feelings best

	Not at all (1)	Somewhat (2)	Moderately (3)	Very much (4)
I feel calm (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am tense (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel upset (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am relaxed (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel content (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am worried (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

What is your age (in years)?

What is your gender?

☐ Male (1)

☐ Female (2)

☐ Other (3) _____

What is your race/ethnicity? (Check all that apply):

- White (1)
- Black or African American (2)
- American Indian or Alaska Native (3)
- Hispanic/Latino (4)
- Asian (5)
- Native Hawaiian or Pacific Islander (6)
- Other (7)

Where would you place yourself in terms of your OVERALL political ideology?

- ☐ Very Liberal (1)
- ☐ Liberal (2)
- ☐ Slightly Liberal (3)
- ☐ Moderate; Middle of the Road (4)
- ☐ Slightly Conservative (5)
- ☐ Conservative (6)
- ☐ Very Conservative (7)

If you had to choose, would you consider yourself a liberal or a conservative?

- ☐ Liberal (1)
- ☐ Conservative (2)

Where would you place yourself in terms of your SOCIAL political ideology?

- ☐ Very Liberal (1)
- ☐ Liberal (2)
- ☐ Slightly Liberal (3)
- ☐ Moderate; Middle of the Road (4)
- ☐ Slightly Conservative (5)
- ☐ Conservative (6)
- ☐ Very Conservative (7)

Where would you place yourself in terms of your ECONOMIC political ideology?

- ☐ Very Liberal (1)
- ☐ Liberal (2)
- ☐ Slightly Liberal (3)
- ☐ Moderate; Middle of the Road (4)
- ☐ Slightly Conservative (5)
- ☐ Conservative (6)
- ☐ Very Conservative (7)

DEBRIEFING FORM University of Illinois at Chicago Thank you for participating in this study! We hope you enjoyed the experience. This form provides background about our research to help you learn more about why we are doing this study. Please feel free to ask any questions or to comment on any aspect of the study. You have just participated in a research study conducted by JP Prims, B.A. and Faculty Adviser, Matt Motyl, PhD (emails: jprim2@uic.edu, motyl@uic.edu). The purpose of this study is to learn how anxiety relates to belief in conspiracy theories. More specifically, we aim to learn if exposure to conspiracy theories results in changes in anxiety. You read one of three possible paragraphs: One presented a conspiracy theory about program cuts at UIC, another spoke about the program cuts without a conspiracy theory, and the third addressed a neutral topic. While the information contained in the paragraphs is true, these program cuts are still proposals, and the administration has made no move to implement any cuts that would affect undergraduate students. The questionnaire about your emotions, and the words you used in your paragraph, will serve as our measures of anxiety. For additional information on similar research, you may read the following articles: Swami, V., Furnham, A., Smyth, N., Weis, L., Lay, A., & Clow, A. (2016). Putting the stress on conspiracy theories: Examining associations between psychological stress, anxiety, and belief in conspiracy theories. *Personality and Individual Differences*, 99, 72-76. Oliver, J. E., & Wood, T. J. (2014). Conspiracy theories and the paranoid style (s) of mass opinion. *American Journal of Political Science*, 58(4), 952-966. As you know, your participation in this study is voluntary. If you so wish, you may withdraw after reading this debriefing form, at which point all records of your participation will be destroyed. You will not be penalized if you withdraw. I expect to do follow-up experiments that will continue into

future semesters. Because of this, it is important that you do NOT talk (or write or e-mail, etc.) about this project. The main reason for this is that YOUR COMMENTS could influence the expectations, and therefore, performance of a future participant, which would bias our data. Failure to comply with this request may have severe repercussions with regards to the accuracy of the data. YOUR COMMENTS could compromise months of hard work preparing this experiment. We hope you will support our research by keeping your knowledge of this study confidential. You may request a paper copy of this debriefing for your records. If you have questions now about the research, please ask. If you have questions later, please e-mail JP Prims (jprims2@uic.edu) or Matt Motyl (motyl@uic.edu). If, as a result of your participation in this study, you experienced any adverse reaction, please contact the Office for the Protection of Research Subjects (OPRS) at 312-996-1711 or 1-866-789-6215 (toll-free) or e-mail OPRS at uicirb@uic.edu.

**ONCE YOU HAVE FINISHED READING THIS DOCUMENT, PLEASE CLICK
"NEXT" TO SUBMIT YOUR SURVEY RESPONSE.**

C. APPENDIX C*Supplementary Table 1.* Demographics of the current study, compared to past work

	Current Study	Swami et al. (2016)	Grzesiak-Feldman (2013)
Country	U.S.	U.S.	Poland
N	179	420	87
Average age	19.27	44.7	20.5
% white	19.5%	82.6%	-
% liberal	79.3%	-	-
A-Priori power	.66	.97	.61

D. APPENDIX D

The following tables show the results if whether the participant took the study before or after the five second delay was added to the manipulation check is added as a covariate. For the sake of brevity, only betas and confidence intervals are included.

Supplementary Table 2.

Regression results for UIC program cut conspiracy belief and condition predicting Time 2 STAI-6 anxiety, controlling for Time 1 STAI-6 anxiety

	β	β 95% CI
Specific program cut		
Intercept	-0.05	[-0.33, 0.23]
Delay (0: before, 1: after)	0.02	[-0.25, 0.28]
Time 1 STAI-6	0.57**	[0.44, 0.69]
Conspiracy belief	-0.25*	[-0.44, -0.06]
No Conspiracy condition	-0.05	[-0.32, 0.21]
CB * No Conspiracy condition	0.39**	[0.14, 0.63]

E. APPENDIX E*Supplementary Table 3.*

Regression results for CMQ scores and condition predicting Time 2 STAI-6 anxiety, controlling for Time 1 STAI-6 anxiety

	β	β 95% CI
Specific program cut		
Intercept	-0.02	[-0.30, 0.27]
Delay (0: before, 1: after)	0.00	[-0.27, 0.27]
Time 1 STAI-6	0.54**	[0.41, 0.67]
Conspiracy belief	-0.25*	[-0.45, -0.04]
No Conspiracy condition	-0.08	[-0.34, 0.18]
CB * No Conspiracy condition	0.24	[-0.03, 0.50]

F. APPENDIX F*Supplementary Table 4*

Raw and semi-partial correlations controlling for Time 1 STAI-6 between all numeric IVs and DVs in the No Conspiracy condition

Raw Correlations	<i>M</i>	<i>SD</i>	1	2	3	4	5	Semi-Partial Correlations	1	2	3	4	5
No Conspiracy													
1. CMQ	65.74	16.63	.					1.	.				
2. Program Cut Belief	2.48	1.06	.10	.				2.	.10	.			
3. Political Orientation	3.08	1.41	-.11	-.08	.			3.	-.10	-.09	.		
4. Time 1 STAI-6	2.33	0.68	.04	-.02	-.15	.		4.	
5. Time 2 STAI-6	2.13	0.62	.01	.13	-.23	.53	.	5.	-.01	.17	-.18	.	.
6. LSA Anxiety	0.004	0.01	.04	-.15	.06	-.10	-.05	6.	.04	-.15	.05	.	-.005

Note. Political orientation is measured on a scale of 1 (*Very Liberal*) to 7 (*Very Conservative*). Given the sample size, all correlations greater than the absolute value of .147 are statistically significant, $p < .05$.

G. APPENDIX G*Supplementary Table 5*

Demographic variables by condition

	Overall	Conspiracy Condition	No Conspiracy Condition
Mean Age	19.27	19.44	19.18
% Women	75.42%	78.69%	73.73%
% White	19.55%	26.22%	16.10%
% Liberal	79.32%	75.41%	81.35%

H. APPENDIX H*Supplementary Table 6*

Correlations between variables of interest and demographic variables.

	1	2	3	4
1. Age	.			
2. Overall Political Orientation	.05	.		
3. Social Political Orientation	-.01	.87	.	
4. Economic Political Orientation	-.08	.74	.77	.
5. CMQ	-.01	-.15	-.10	-.13
6. Program Cut Belief	-.03	.003	-.001	-.06
7. Time 1 STAI-6	-.15	-.11	-.08	-.04
8. Time 2 STAI-6	-.07	-.11	-.06	-.04
9. LSA Anxiety	-.04	.06	.04	.11

Note. Political orientation is measured on a scale of 1 (*Very Liberal*) to 7 (*Very Conservative*).

Given the sample size, all correlations greater than the absolute value of .147 are statistically significant, $p < .05$. Correlations between the variables of interest (5-9) are available in Table 3 in the main text.

VII. VITA

J.P. Y. Prims

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Education

University of Illinois at Chicago, 2015 - Present
 Adviser: Matt Motyl

University of Colorado at Boulder, 2009 - 2012
 B.S., Psychology, December 2012
 Minor: Technology, Arts, and Media
 Adviser: Diane Martichuski
 Thesis: “*Societal Challenge and Depression, Self-Esteem, and Self-Concept Clarity in Asexuals*”

Awards, Honors, and Scholarships

- 2018 University of Illinois at Chicago GSC Travel Award
- 2015-Present University of Illinois at Chicago University Fellowship
- 2013 Rocky Mountain Psychology Association (RMPA) Paper Award
- 2012 Summa cum Laude: Psychology
- 2012 Honors: Technology, Arts, and Media
- 2012 Bachelor's with Distinction
- 2012-Present Phi Beta Kappa
- 2012-Present Psi Chi
- 2009-2012 Dean's List, College of Arts and Sciences
- 2009-2012 Chancellor's Achievement Scholarship

Papers

- Washburn, A. N., Hanson, B. E., Motyl, M., Skitka, L., Yantis, C., Wong, K., Sun, J., **Prims, J.**, Mueller, A., Melton, Z., & Carsel, T. S. (In Press). Why Do Some Psychology Researchers Resist Using Proposed Reforms to Research Practices? A Description of Researchers' Rationales. *Advances in Methods in Psychological Science*.
- Motyl, M., Demos, A., Carsel, T., Hanson, B., Melton, Z., Mueller, A., **Prims, J.**, Sun, J., Washburn, A., Wong, K., Yantis, C., & Skitka, L. (2017). Rotten to the core, not so bad, or getting better? The state of social and personality science. *Journal of Personality and Social Psychology*. 113(1). 34-58.
- **Prims, J.** & Moore, D. (2017). Overconfidence Over the Lifespan. *Judgment and Decision Making*. 12(1). 29-41.

Book Chapters

- **Prims, J.,** Melton, Z., Motyl, M. (2017). Morality and political choices: Twitter and the 2016 elections. In Fitzduff, M. (Eds.), *Why irrational politics appeals*. Westport, CT: Praeger.

Presentations

- **Prims, J.,** Mueller, A., Demos, A. (April, 2018) *Institutional Prestige: A Help or Hindrance to Large Samples?* Paper presented at the Midwest Psychological Association Conference, Chicago, IL.
- **Prims, J.,** Motyl, M. (March, 2018). *How do people feel about conspiracy theorists?* Paper presented at the University of Illinois at Chicago's Cross Program Conference, Chicago, IL.
- **Prims, J.,** Motyl, M., Iyer, R. (March, 2018) *How ambient cues facilitate ideological segregation.* Paper presented at the Society of Personality and Social Psychology's Convention, Atlanta, GA.
- **Prims, J.,** Motyl, M. (November, 2017). *How do people feel about conspiracy theorists?* Paper presented at the University of Illinois at Chicago's Social Psychology Brownbag, Chicago, IL.
- **Prims, J.,** Motyl, M. (January, 2017). *Conspiracy belief and political fit.* Poster presented at the Society for Personality and Social Psychology Conference, San Antonio, TX.
- **Prims, J.** (November, 2016). *Making morality great again: Twitter and the 2016 presidential election.* Paper presented at the University of Illinois at Chicago's Social Psychology Brownbag, Chicago, IL.
- **Prims, J.** (February, 2016). *Where and when do people believe political conspiracies?* Paper presented at the University of Illinois at Chicago's Social Psychology Brownbag, Chicago, IL.
- **Prims, J.** (April, 2013). *Societal challenge and depression, self-esteem, and self-concept clarity in asexuals.* Paper presented at the Rocky Mountain Psychological Association Convention, Denver, CO.

Memberships

- Member of the American Psychological Association.
- Member of the Society for Personality and Social Psychologists.
- Member of the Psi Chi Psychology honors society.
- Member of the Phi Beta Kappa honors society.

Teaching Experience

Teaching Assistant:

- Cultural Psychology (Summer 2016, Summer 2017)

- Social Psychology (Fall 2016)
- Social Psychology Lab (Spring 2017, Spring, 2018)
- Personality Psychology (Fall 2017)
- Introduction to Psychology (Fall 2017)

Honor's Thesis Supervisor:

- Letoria Overton (2018)
- Nica Lorenz Lim (2016)

Media Coverage

- Forbes - Three ways overconfidence can sink your ship (8/15/2017)

Research Experience

[July 2014-July 2015] Laboratory Manager, Moore Accuracy Lab

Haas School of Business, UC Berkeley. (Berkeley, CA)

<http://learnmoore.org>

Duties and Responsibilities

- Prepared research procedures and materials.
- Assisted in study design.
- Performed data analysis.
- Prepared papers for publication.
- Coordinated lab projects and undergraduate research assistants.
- Recruited and conducted orientations for new undergraduate research assistants.

[July 2014-July 2015] Administrative Assistant, Good Judgment Project

Aggregative Contingent Estimation Program, IARPA. (Berkeley, CA)

<http://www.goodjudgmentproject.com>

Duties and Responsibilities

- Performed preliminary data analysis.
- Prepared training materials.
- Managed finances and processed consultant payments.
- Provided assistance to participants in the study.