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“I Know Things They Don’t Know!” The Role of Need for Uniqueness in Belief in Conspiracy Theories

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IN PRESS: Social Psychology

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This work was funded by the French Ministry of Research and Education and the University Institute of France. Parts of this work were presented in a poster at the 17th General Meeting of the European Association of Social Psychology (EASP) in Amsterdam, July 2014 at the Common-Sense Beliefs and Lay Theories Preconference at the 16th Annual Convention of the Society for Personality and Social Psychology (SPSP) in Long Beach, USA, February 2015, and at the 11th International Congress in Social Psychology in French Language (ADRIPS) in Genève, June 2016. This paper is based on the first author’s dissertation (Lantian, 2015) for the Doctorate degree in Psychology under the supervision of Dominique Muller and Cécile Nurra at University Grenoble Alpes. We thank Amandine Gabriel for her assistance with Study 1.

Abstract

In the current research, we investigated whether belief in conspiracy theories satisfies people's need for uniqueness. We found that the tendency to believe in conspiracy theories was associated with the feeling of possessing scarce information about the situations explained by the conspiracy theories (Study 1) and higher need for uniqueness (Study 2). A further two studies using two different manipulations of need for uniqueness (Studies 3 and 4), showed that people in a high need for uniqueness condition displayed higher conspiracy belief than people in a low need for uniqueness condition. This conclusion is strengthened by a small-scale meta-analysis. These studies suggest that conspiracy theories may serve people's desire to be unique, highlighting a motivational underpinning of conspiracy belief.

Keywords: Conspiracy theories, Need for uniqueness, Belief, Motivational processes

“I Know Things They Don’t Know!” The Role of Need for Uniqueness in Belief in
Conspiracy Theories

After traumatic events such as terrorist attacks (e.g., the *Charlie Hebdo* shootings in France) or climatic disaster (e.g., the 2001 tsunami in Japan), many people start to disbelieve official explanations in favor of what are known as *conspiracy theories*—explanations that refer to hidden groups working in secret to achieve sinister objectives (e.g., Goertzel, 1994). For example, one conspiracy theory attributes the *Charlie Hebdo* attacks to Mossad as an effort to make Muslims look bad. Another attributes the 2001 tsunami to secret US government weapons testing in the ocean.

In recent years, psychologists have made significant ground in understanding what draws people to conspiracy theories. For example, personality traits such as openness to experience (Swami, Chamorro-Premuzic, & Furnham, 2010; Swami et al., 2011), distrust (Abalakina-Paap, Stephan, Craig, & Gregory, 1999; Goertzel, 1994; Wagner-Egger & Bangerter, 2007), low agreeability (Swami et al., 2010, 2011), narcissism (Cichocka, Marchlewska, & Golec de Zavala, 2016) and Machiavellianism (Douglas & Sutton, 2011) are associated with conspiracy belief. In terms of cognitive processes, people with stronger conspiracy beliefs are more likely to overestimate the likelihood of co-occurring events (Brotherton & French, 2014), to attribute intentionality where it is unlikely to exist (Brotherton & French, 2015; Douglas, Sutton, Callan, Dawtry, & Harvey, 2016), and to have lower levels of analytic thinking (Swami, Voracek, Stieger, Tran, & Furnham, 2014).

Conspiracy theories also appear to have important consequences, such as negatively influencing health decisions (Jolley & Douglas, 2014a; Oliver & Wood, 2014), decreasing intentions to engage in politics (Butler, Koopman, & Zimbardo, 1995; Jolley & Douglas, 2014b), increasing people’s desire to leave their workplace (Douglas & Leite, in press), and reducing environmental behavioral intentions (Douglas & Sutton, 2015; Jolley & Douglas,

2014b; Lewandowsky, Oberauer, & Gignac, 2013; van der Linden, 2015). Further, some research suggests that conspiracy theories may perform certain functions for the self, allowing people to regain a sense of control (van Prooijen & Acker, 2015; Whitson & Galinsky, 2008), order (Van Harreveld, Rutjens, Schneider, Nohlen, & Keskinis, 2014), power (Gray, 2010; Sapountzis & Condor, 2013), and to relieve death anxiety (Newheiser, Farias, & Tausch, 2011). The current research aims to further contribute to current knowledge about the personal needs that may be satisfied by conspiracy belief. Among the self-related motivations that could influence belief in conspiracy theories, we will argue that the *need for uniqueness* should play a role in people's adherence to conspiracy theories. More specifically, our general claim is that people with a high need for uniqueness should be more likely to believe in conspiracy theories.

Need For Uniqueness: From Products to Beliefs

Need for uniqueness is defined as the need (or desire) to be reasonably different from others (Lynn & Snyder, 2002). Need for uniqueness is both a stable trait (Snyder & Fromkin, 1977) and a state that depends on feedback concerning the (lack of) perceived difference between oneself and others (Snyder & Fromkin, 1980). People with higher need for uniqueness are interested in unique, original, or scarce products (and commodities in general), because they are an indicator of uniqueness (e.g., Brock, 1968; Brock & Brannon, 1992; Lynn, 1991; Lynn & Harris, 1997; Snyder, 1992; Snyder & Fromkin, 1980; Tian, Bearden, & Hunter, 2001). Moreover, a number of studies have shown that people with high need for uniqueness prefer rare commodities (like experiences or messages) to a larger extent than people with low need for uniqueness (Fromkin, 1970; Lynn, 1991; Powell, 1974).

Consuming, however, is not the only way that people can choose to express their uniqueness. Indeed, Snyder and Fromkin (1980) suggested that people can also express their sense of difference through their beliefs. Abelson (1986) goes further by formulating the

theoretical perspective that “beliefs are like possessions”. This idea is illustrated by examining popular linguistic expressions using a belief-possession metaphor, for example “to acquire a belief” or “to hold a belief” (Abelson, 1986, p. 230). Indeed, building on Lakoff and Johnson (1980/2002), the metaphors are the basis of our conceptual system, which in turn, define our everyday realities. Hence, the belief-possession metaphor may serve as a hint to the idea of beliefs as possessions. Finally, to the same extent that people can express their uniqueness through their unique possessions, people who hold unique beliefs can demonstrate their unusual taste, as Abelson (1986) suggests, by saying that people who cultivate original views about the world convey to others the special nature of their personality.

Why Need for Uniqueness Should be Related to Conspiracy Beliefs

We argue that people high in need for uniqueness should be more likely than others to endorse conspiracy beliefs because conspiracy theories represent the possession of unconventional and potentially scarce information. Indeed, reference to secret plots is an inalienable dimension of what a conspiracy theory is really like (Douglas & Sutton, 2008; Keeley, 1999; Swami & Furnham, 2014). Moreover, conspiracy theories rely on narratives that refer to secret knowledge (Mason, 2002) or information, which, by definition, is not accessible to everyone, otherwise it would not be a secret and it would be a well-known fact. People who believe in conspiracy theories can feel “special”, in a positive sense, because they may feel that they are more informed than others about important social and political events. To quote Billig (1987): “The conspiracy theory offers the chance of hidden, important, and immediate knowledge, so that the believer can become an expert, possessed of a knowledge not held even by the so-called experts” (p. 132). At the time our studies were conducted, this idea had never been tested empirically.

Overview

In the current research, we tested the overarching hypothesis that the desire to feel unique should foster belief in conspiracy theories. Specifically, in four studies, we tested three implications of this hypothesis. First, we argue that people who believe more in conspiracy theories should think they hold scarce information that other people do not have, representing a way to feel unique. Thus, in Study 1, we tested whether people who endorse conspiracy theories are more likely to think that they possess scarce and secret information about various conspiracy theories. Second, we argue that people with a high chronic need for uniqueness should believe in conspiracy theories to a larger extent than people with a low need for uniqueness. Hence, in Study 2, we tested whether people with a higher need for uniqueness also believe in conspiracy theories to a larger extent. Third, we argue that a situational increase in the need for uniqueness should increase adherence to conspiracy theories. In Studies 3 and 4, we therefore tested the causal effect of need for uniqueness on conspiracy belief by experimentally manipulating need for uniqueness, and we predicted that manipulating need for uniqueness should result in higher conspiracy beliefs. In all the studies presented in this paper, “we report how we determined our sample size, all data exclusions (if any), all manipulations, and all measures in the study” according to the recommendations made by Simmons, Nelson, and Simonsohn (2012).

Study 1

To provide support for our overarching hypothesis, it is necessary to demonstrate that high believers in conspiracy theories assume that they possess information that other people do not have about the events in question. Therefore, in this study our main prediction is that the more people believe in conspiracy theories, the more they should have the impression that they possess scarce information about those events.

Of course, it could be that people believe in conspiracy theories without having information about them. If this is the case, our prediction would make less sense because

there would be no specific information to back up these beliefs. Although previous research supports the idea that people generally feel their conspiracy beliefs are based on evidence (Bost, Prunier, & Piper, 2010) or information (Uscinski, Klofstad, & Atkinson, 2016), in this study we added a measure to ensure this was also true for our participants.¹

Finally, it could be argued that it is not the content of the belief that can help people feel unique, but the extremeness of this belief. Hence, one could reasonably object to our general hypothesis that some people with high need for uniqueness could feel unique by strongly rejecting conspiracy theories. To be able to exclude this alternative hypothesis, we therefore tested for the quadratic trends for all the main analyses reported in Study 1.²

Method

Study pre-registration and sample size. We pre-registered the study (materials and hypothesis) on the OSF (<https://osf.io/daus4/>). For this study, we had no clear expectation regarding the effect size. Having more than 180 participants, however, we could expect a decent power if our effect was similar to the average correlation in social psychology (namely $r = .21$, see Richard, Bond, & Stokes-Zoota, 2003).

Participants. We recruited 200 French participants ($M_{\text{age}} = 24.85$, $SD_{\text{age}} = 8.53$, 121 females) for an online study presented as a survey focusing on people's representations about the world and the elements that people take into account to form opinions. In exchange for their participation, participants could take part in a lottery involving two 25 euros gift cards (approximately US\$35). We excluded minors (under 18 years of age in France, $n = 10$)³ and the final sample therefore consisted of 190 participants ($M_{\text{age}} = 25.32$, $SD_{\text{age}} = 8.50$, 117 females). The majority of the participants were students (63.2%).

¹ This study was originally part of a wider investigation. For this reason, we present only the materials and the statistical analyses relevant to the current investigation. The complete original materials are presented in Electronic Supplementary Material 1.

² In line with this reasoning, we did the same in Study 2.

³ Inclusion of these participants did not change the results.

Materials and procedure. After reading the instructions, participants began the section described as Section 1 of the study by completing a 10-item French version (Lantian, Muller, Nurra, & Douglas, 2016) of the *Belief in Conspiracy Theories Inventory* (Swami et al., 2010). We chose to use this scale ($\alpha = .82$) because it refers explicitly to specific familiar conspiracy theories (e.g., “The assassination of John F. Kennedy was not committed by the lone gunman, Lee Harvey Oswald, but was rather a detailed, organised conspiracy to kill the President”, answered from 1 = *Completely false* to 9 = *Completely true*). Hence, we reasoned that using this kind of scale increases the likelihood that people would recruit facts or information to answer.

Then, participants moved to Section 2 in which they completed the main dependent variable, namely perceived scarcity of the information that they may have used to answer the conspiracy belief scale. To measure this perception of scarcity ($\alpha = .74$), we created a three-item scale (e.g., “The information I used to answer questions asked in the previous Section 1 are:”) that participants could answer by using a 9-point scale (1 = *Disclosed to the public view* to 9 = *Hidden from public view*).

Participants then indicated to what extent they relied on different potential sources of beliefs when they answered the conspiracy belief scale, on a 9-point scale (1 = *Strongly disagree* to 9 = *Strongly agree*). The choice of these potential sources of beliefs was based both on a pre-test⁴ and the literature. Among these potential sources of beliefs⁵, the two most relevant to our hypothesis were: a) information obtained by others “Other people allowed me to acquire the information used to answer the questions asked in the first section (discussion with my friends, etc.)” and b) information obtained by themselves “I got by myself the

⁴ This pretest was administered on 15 participants ($M_{\text{age}} = 25.80$, including 8 men) who completed a conspiracy beliefs measure followed by the open question “What means did you use to be able to answer the previous questions?”

⁵ To save space, the other potential sources of beliefs measures are presented in Electronic Supplementary Material 1. The following Section 3 is not directly related to the question hypothesis and thus not presented in this Materials and procedure Section, but are presented in detail in Electronic Supplementary Material 1.

information used to answer the questions asked in the first section (e.g., media, reading, etc.)”. To avoid order effects, all the beliefs’ subjective sources were presented randomly. Finally, participants completed demographic information before being debriefed and thanked.

Results and Discussion

In accordance with our basic premise, not only people believed that in order to answer questions about conspiracies they relied on information obtained by themselves ($M = 6.44$, $SD = 2.02$), but they thought they did so to a larger extent than they believed they relied on information provided by others ($M = 5.15$, $SD = 2.54$), $t(189) = 5.31$, $p < .001$, Cohen’s $d_z = 0.39$. More important, in line with our hypothesis, we found that the more people believed in various conspiracy theories, the more they thought they possessed scarce information about these various conspiracies, $r(188) = .46$, 95% CI [.34, .57], $p < .001$. It is also noteworthy that the quadratic trend was not significant, $t(187) = 1.31$, $p = .191$.

The results of this study therefore allow us to confirm that people with a high level of conspiracy belief are more likely to think that they possess scarce information about various conspiracies. Hence, in line with the first implication of our general hypothesis, this result could be interpreted as a crucial feature of conspiracy narratives, which may look attractive for people with high need for uniqueness because it could lead them to feel unique.

Study 2

After establishing in Study 1 that belief in conspiracy theories could serve the purpose of feeling unique, the goal of Study 2 was to directly test whether people with a chronic high need for uniqueness believe in conspiracy theories to a larger extent.

Method

Study pre-registration and *a priori* power analysis. Again, we pre-registered the study (materials, hypothesis, and exclusion criteria) on the OSF website. This pre-registration documentation, as well as data and syntax files, are available online (<https://osf.io/b36nj/>).

To determine our sample size, we conducted an *a priori* power analysis (Cohen, 1992), based on a previous unpublished study in which we found a positive linear relationship between need for uniqueness (measured with the *Self-Attributed Need for Uniqueness* scale; Lynn & Harris, 1997; $\alpha = .90$) and conspiracy beliefs (measured with the *Conspiracy Mentality Questionnaire*; Bruder, Haffke, Neave, Nouripanah, & Imhoff, 2013; $\alpha = .88$), $r(194) = .25$, 95% CI [.11, .38], $p < .001$. From this analysis we found that we needed around 160 participants to reach a 90% power. To increase safety margins, we rounded up to 200 participants, giving an *a priori* power of .95 to detect this effect.

Participants. A total of 217 MTurk workers ($M_{\text{age}} = 32.14$, $SD_{\text{age}} = 10.80$, 101 females) participated in our study. We restricted this study to participants located in the United States. The study was presented as a study on the relationship between different personality traits and participants were paid US\$0.30 for their participation. As planned, we excluded participants who failed to correctly answer the attention check (see below, $n = 9$). The final sample consisted of 208 participants ($M_{\text{age}} = 32.44$, $SD_{\text{age}} = 10.89$, 96 females).

Materials and Procedure. Our main measure of need for uniqueness was an adapted version of the Self-Attributed Need for Uniqueness scale (Lynn & Harris, 1997), a 4-item scale (1 = *Not at all* to 5 = *Extremely*) that assesses self-reported desire to be different from others (e.g., “I prefer being different from other people”). The four items were averaged into a single score with higher scores indicating a higher need for uniqueness ($\alpha = .90$).

For exploratory purposes, we also used a multi-dimensional measure of need for uniqueness: The *Uniqueness Scale* (Snyder & Fromkin, 1977). This 32-item scale (1 = *Strong disagreement* to 5 = *Strong agreement*) is composed of three dimensions: “lack of concern regarding others' reactions, actions, and so on” ($\alpha = .81$), “desire to not always follow rules” ($\alpha = .75$), and “person's willingness to publicly defend his or her beliefs” ($\alpha = .66$; Snyder & Fromkin, 1977, pp. 522–523). All the negative items were recoded, such that a higher score

reflected a higher lack of concern regarding others' reactions, the desire to not always follow rules, and the willingness to publicly defend their beliefs. Because this scale has been criticized for being too focused on public and risky displays of uniqueness, which is an overly restrictive expression of uniqueness (Lynn & Harris, 1997; Şimşek & Yalınçetin, 2010), we always used this scale in last position in the questionnaire, so it could not alter the relationships between our two main variables of interest (i.e., the Self-Attributed Need for Uniqueness scale and Generic Conspiracist Beliefs Scale).

We assessed beliefs in conspiracy theories with the Generic Conspiracist Beliefs scale (Brotherton, French, & Pickering, 2013), which is a 15-item scale (1 = *Definitely not true* to 5 = *Definitely true*) composed of generic statements about conspiracy theories (e.g., “A lot of important information is deliberately concealed from the public out of self-interest”). The 15 items were combined into a single score with a higher score indicating a higher level of belief in conspiracy theories ($\alpha = .94$). We also included the single-item conspiracy belief measure (Lantian et al., 2016). This measure is introduced by a brief introductory paragraph mentioning that some official versions of events have been “disputed”—without mentioning the expression “conspiracy theory”. Then, participants answered how they think about the following sentence: “I think that the official version of the events given by the authorities very often hides the truth” (1 = *Completely False* to 9 = *Completely True*). Each participant was randomly assigned to four possible orders of scale presentation, again with the uniqueness scale always presented last.

The final part of the questionnaire contained demographic questions. To remove participants from the analysis who did not complete the study diligently, we also used the following filler question: “This is a filler we use to detect participants who do not pay attention to the questions we ask. Please tick the sixth box from the left and continue”. Finally, participants were thanked and debriefed.

Results and Discussion

We first tested our main prediction, that people with a higher need for uniqueness should have a higher level of belief in conspiracy theories. In line with this hypothesis and with our preliminary work, we found that a higher need for uniqueness (measured by the Self-Attributed Need for Uniqueness scale) was associated with higher belief in conspiracy theories (measured with the Generic Conspiracist Beliefs scale), $r(206) = .17$, 95% CI [.03, .30], $p = .015$. The test of the quadratic effect of belief in conspiracy theories on need for uniqueness was not significant, $t(205) < 1$. The linear association was replicated with the single-item measure of belief in conspiracies, $r(206) = .18$, 95% CI [.04, .30], $p = .011$, and the quadratic effect was still not significant, $t(205) < 1$.

For the more exploratory part of our analysis, we explicitly conducted a *post-hoc* exploration of the data (Wagenmakers, Wetzels, Borsboom, van der Maas, & Kievit, 2012) that provides more detail about the relationship between need for uniqueness and belief in conspiracy theories. First, we computed the bivariate correlation matrix between all the measures of need for uniqueness used in this study: the Self-Attributed Need for Uniqueness scale, Uniqueness Scale, and the three underlying factors of the Uniqueness Scale (see Table 1). The three factors composing the Uniqueness Scale were positively correlated each other but not very strongly, suggesting that these three measures are not perfectly redundant. Then, we tested the relationship between the three underlying factors of need for uniqueness and conspiracy belief (both linear and quadratic regressions). To avoid the use of too many statistical tests, we combined our two measures of belief in conspiracy theories (i.e., the Generic Conspiracist Beliefs scale and the single-item measure of belief in conspiracies). All the analyses were done at the Bonferroni-corrected alpha level of $p < .008$ ($\alpha = .05/6$ tests). Among these tests, only one test was significant for this threshold, namely the positive linear relationship between the desire to not always follow rules and belief in conspiracy theories,

$r(206) = .22$, 95% CI [.08, .34], $p = .002$. Theoretically, this effect is consistent with the stereotypical picture of the “out from the crowd” believer in conspiracy theories. According to some authors, this “desire to not always follow rules” is the factor that “most closely reflects the desire to express uniqueness and eschew conformity.” (Stern, West, & Schmitt, 2014, p.143). As this result was yielded by an exploratory analysis, replication is needed to strengthen this finding.

Study 3

After showing a correlational relationship between the need for uniqueness and beliefs in conspiracy theories, the main goal of Study 3 was to manipulate the level of need for uniqueness. Therefore, the main hypothesis of this study is that people for whom a high need for uniqueness is activated should manifest higher conspiracy beliefs than people for whom a lower need for uniqueness is activated. To test this hypothesis, after priming need for uniqueness, we measured belief in a (potentially) newly formed conspiracy theory (see Bost & Prunier, 2013; van Prooijen & Jostmann, 2013; van Prooijen & van Dijk, 2014, for similar procedures). To do so, participants read a bogus newspaper article about a bus accident in Moldova (a country for which our participants usually have no information). This bogus newspaper article was sufficiently ambiguous to enable participants to believe it could be the result of a conspiracy. The advantage of such a procedure is that participants had no previous knowledge and pre-existing beliefs about this specific event.

In addition to our main hypothesis, we also wanted to test whether our effect would be stronger for people with lower chronic need for uniqueness. Indeed, because people with high need for uniqueness should have a chronic need to feel unique, the need for uniqueness priming may be less efficient for these participants (see Maimaran & Wheeler, 2008, for a similar reasoning in a different domain). Finally, to increase the statistical power to detect the desired effect, we decided in advance to conduct these analyses by controlling the initial level

of belief in conspiracy belief (Judd, McClelland, & Ryan, 2008; see our pre-registration documentation). This control seemed the most relevant, because previous work showed that the best predictor of a specific conspiracy belief is the belief in other conspiracy theories (e.g., Newheiser et al., 2011; Swami et al., 2011).

Method

Power analysis and *a priori* exclusion criteria. We pre-registered the study (materials, targeted sample size, hypothesis, and exclusion criteria) on the OSF website (<https://osf.io/x9y8u/>). To determine the sample size we needed in this study, failing to know the desired effect size, we based the power analysis on the only two indicators of the effect size we had about the relationship between need for uniqueness and conspiracy beliefs: $r(194) = .25$ (the unpublished study mentioned earlier) and $r(206) = .17$ (Study 2). Based on these estimates, our targeted effect size was about $\eta^2 = .042$ (equivalent to a Cohen's d of 0.42) and with an α error of .05 and 80% of power, we determined that we needed a minimum of 90 participants in each condition.

Regarding the *a priori* exclusion criteria, we planned to exclude participants who were born or who lived in Moldova (i.e., the country used in our vignette), as well as participants who reported a high level of knowledge about Moldova (i.e., those who answered 8 or 9 to the question provided for that purpose at the end of the study, see the *Materials and Procedure* section). Finally, we planned to exclude participants who showed a high level of suspicion by explicitly formulating the hypothesis.

Participants. We recruited 223 French psychology undergraduate students (178 females and 5 respondents who did not indicate their gender) with an average age of 20.95 years ($SD = 3.75$). The study took place within two sessions spaced by 14 days ($N = 210$ for Session 1 and $N = 183$ for Session 2, among which 170 participants had participated in Session 1). As decided in the *a priori* exclusion criteria, we excluded from the final sample

participants who, at the end of the experiment, explicitly formulated the hypothesis ($n = 12$), participants who were born or lived in Moldova ($n = 1$), and those who reported having a strong level of knowledge of this country ($n = 1$). Because a certain number of participants clearly did not follow the manipulation instructions, we asked two independent judges to estimate for each participant whether he/she appropriately followed the instructions (dichotomous answer yes/no). We discarded from the sample participants for whom the two judges agreed they did not comply with the instructions ($n = 12$).⁶ By considering only participants who were present for both sessions, our final sample included a total of 143 participants ($M_{age} = 20.93$, $SD_{age} = 4.10$, 121 females).

Materials and Procedure. Session 1 took place at the beginning of a class. The study took the form of a questionnaire containing a brief measure of conspiracy beliefs baseline level (with the single-item conspiracy belief measure, Lantian et al., 2016 as in Studies 1 and 2). Participants also completed the Self-Attributed Need for Uniqueness scale (Lynn & Harris, 1997, $\alpha = .86$) to evaluate their baseline level of need for uniqueness. Contrary to the previous study, we increased the number of points in this scale (from five to eight points). The order of the two scales was counterbalanced. Finally, participants provided their age and their gender.

Session 2 took place 15 days later and allegedly dealt with the relationship between writing and reading skills. We used another experimenter to minimize suspicions. Participants were randomly assigned to one of the two experimental conditions. To manipulate need for uniqueness, we used a procedure proposed by Cheema and Kaikati (2010). This procedure takes the form of a writing task in which participants are asked to

⁶ If we keep these participants in the sample, the results are less clear and do not allow us to conclude about the effect of need for uniqueness on conspiracy beliefs ($p = .23$ and $.21$, respectively for the manipulation check and the main dependent variable).

think and write about the importance of individuality (vs. conformity), which is supposed to increase (vs. decrease) the need to feel unique.

After this manipulation, participants read the bogus newspaper article about a bus accident in Moldova (see Electronic Supplementary Material 2). This accident allegedly killed 45 people, among which 8 politicians members of the political opposition at the time of the event. The article was designed such that it could potentially raise suspicions about a conspiracy (e.g., although politicians were killed, none were from the political party in power; one of the dead politicians wrote a book about scandals involving the party in power). After reading this article, participants answered four questions among which two referred to conspiratorial interpretations (e.g., “The coach crash was deliberately planned by the established power in the country”) and two referred to anti-conspiratorial interpretations (e.g., “This event is the result of an unfortunate accident due to uncontrollable factors [e.g., bad weather, mechanical failure, etc.]”). To be consistent with the cover story, we also included two filler items about the information processing easiness linked to the content of the article. These six items were presented in a 9-point Likert scale format (1 = *Strongly disagree*, 9 = *Strongly agree*). We computed a global score by averaging the answers on the four critical items (after reverse-coding the two anti-conspiratorial items) with higher scores meaning stronger conspiracy beliefs ($\alpha = .86$).

To ensure that the origin of the incident would not be considered by default as a fortuitous accident or a political conspiracy (i.e., ceiling or floor effect), as well as the unidimensionality of the construct, we pretested the materials on 15 participants ($M_{age} = 22.27$, $SD_{age} = 2.96$), including 8 males. Results showed neither ceiling nor floor effects, and acceptable variability ($M = 4.98$ on 9, 95 % CI [3.85, 6.12], $SD = 2.05$). An exploratory factor analysis with one-forced factor (using the maximum likelihood method) on the four

items from the scale suggested one factor explaining 77% of the variance. Moreover, we observed very good internal consistency ($\alpha = .91$).

Finally, participants completed the Self-Attributed Need for Uniqueness scale (Lynn & Harris, 1997, $\alpha = .85$, again with 8-point scales), corresponding to the manipulation check. Participants were also asked to indicate if they were born or if they have lived in Moldova, their level of knowledge of this country (1 = *Very low knowledge*, 9 = *Very high knowledge*), their age, and their gender. To check the level of suspicion, we included an open question asking participants to guess the goal of the study.

Results and Discussion

Manipulation Check. We first conducted an independent sample t-test on our manipulation check measure. This analysis confirmed that participants had a higher level of need for uniqueness in the individuality condition ($M = 4.80$, $SD = 1.28$, $n = 67$) than in the conformity condition ($M = 4.37$, $SD = 1.25$, $n = 76$), $t(141) = 2.05$, $p = .042$, $[0.02, 0.85]$, $\eta_p^2 = .029$.

Belief in a conspiracy theory. Our main hypothesis was that the manipulation of need for uniqueness should induce a higher level of adherence to a conspiracy theory in the individuality condition than in the conformity condition. To increase statistical power, we planned to control for the baseline level of conspiracy belief. Our additional hypothesis was that the effect of the experimental manipulation on conspiracy beliefs should be stronger for participants who had a low chronic need for uniqueness than on participants who had a high chronic need for uniqueness.

We tested these two predictions within the same regression model. This model had the conspiracy beliefs level as a dependent variable and as predictors, we first used the experimental conditions (coded -0.5 and 0.5 respectively for the conformity condition and individuality condition), the baseline level of need for uniqueness (in a mean deviated form),

the baseline level of belief in conspiracy theories (in a mean deviated form), as well as all the two-way and three-way interactions⁷. This model revealed that none of the interactions were significant (all p s for interactions $> .10$), which leads us to reject our additional hypothesis about the differential effect of the experimental manipulation on conspiracy beliefs as a function of the level of chronic need for uniqueness. Because none of the interactions were significant and because the effect with or without controlling for the baseline level of belief in conspiracy theories were essentially the same, we simply moved to a model comparing the two conditions. This model revealed a marginally significant effect of experimental condition, $t(141) = 1.79$, $p = .078$, 95 % CI [-0.05, 0.96], $\eta^2_p = .022$, such that participants in the individuality condition had a higher level of conspiracy beliefs ($M = 4.97$, $SD = 1.65$, $n = 67$) than participants in the conformity condition, ($M = 4.52$, $SD = 1.41$, $n = 76$) as expected.

Although the effect found in this study was only marginal, it suggests that the tendency to believe in a conspiracy can be influenced by the need for uniqueness. In addition, this study did not reveal a moderation of this effect by the baseline level of need for uniqueness. However, because our main finding was only marginally significant, Study 4 was intended to replicate this finding, but also to use a different need for uniqueness manipulation and a more diverse sample.

Study 4

To manipulate the need for uniqueness, we adapted a procedure used in the domain of motivated self-concept (Kunda & Sanitioso, 1989; Sanitioso, Kunda, & Fong, 1990). In this previous work, Kunda and Sanitioso showed that people who were led to believe that being extraverted (or introverted) was related to positive consequences were more motivated to

⁷ We used this model because it allowed us to test our predictions, but also to test for possible confounds when an interaction is predicted (see Muller, Yzerbyt, & Judd, 2008; Yzerbyt, Muller, & Judd, 2004).

⁸ The condition effect controlling for the baseline level of belief in conspiracy theories was also marginally significant, $t(140) = 1.72$, $p = .087$, 95 % CI [-0.06, 0.93], $\eta^2_p = .021$. This ANCOVA model also revealed that the level of belief in conspiracy theories at Session 1 predicted the level of belief at Session 2, $t(140) = 2.58$, $p = .011$, [0.04, 0.29], $\eta^2_p = .046$.

think about themselves as extraverted (or introverted). Accordingly, in Study 4 the idea was to lead our participants to believe that trying to be unique (or trying to be like other people) was related to positive consequences (e.g., better academic success, higher salary, better quality of life, etc.).

Method

Power analysis and exclusion criteria. We pre-registered the study (materials, targeted sample size, hypothesis, and exclusion criteria) on the OSF website (<https://osf.io/maw5j/>). To determine the necessary sample in this study, we based our power analysis on the effect obtained in Study 3. Hence, we targeted an η^2 of .19 (equivalent to a Cohen's d of 0.28). We conducted a power analysis based on this estimation with an alpha error of .05 and 80% of power, resulting in sample size of about 400 participants (200 participants in each condition).

Regarding the *a priori* exclusion criteria, we decided to exclude participants who did not comply with the task manipulating the need for uniqueness (i.e., participants for whom the two independent judges considered they did not comply). Because this was an online study, we checked the time participants spent reading the bogus newspaper article about a bus accident in Moldova. Based on previous work in the domain of reading skills (Ferrand & Ayora, 2009) and given the practical limit of the reading speed (Taylor, 1965), we decided to exclude participants who took less than 18 seconds on the questionnaire page⁹. We also decided to exclude psychology students because of the risk of prior exposition to the experimental material, as well as participants who recognized not having participated seriously in the study (Aust, Diedenhofen, Ullrich, & Musch, 2013). Finally, we planned to exclude participants who showed high level of suspicion by explicitly formulating the hypothesis.

⁹ The text is composed of 214 words, so reading and understanding this text in less than 18 seconds (i.e., reading more than roughly 750 words per minute) seems unrealistic.

Participants. Participants for this online study were reached through various email lists and on various French-speaking online forums. To motivate participation, participants were informed that they would be placed in a draw to win an MP3 player. Among the 775 participants who clicked on the link to the study, 402 of them completed it ($M_{\text{age}} = 27.20$, $SD_{\text{age}} = 11.97$, with 296 females). These participants were randomly assigned to the two conditions (different is better vs. similar is better) of this study. As specified in the pre-registration documentation, we excluded participants who guessed the hypothesis ($n = 1$), those for whom the two judges conjointly considered that they did not follow the instructions ($n = 7$), and one participant who cumulated the two above-mentioned exclusion criteria ($n = 1$). Moreover, despite precautions we took to avoid psychology students in the sample, six psychology students ($n = 6$) completed the study and were therefore excluded. Regarding the time spent on the page devoted to the reading of the article, we removed participants from the sample who passed less than 18 seconds on the page ($n = 4$) and, as a precaution, those for whom the program, for an unknown reason, did not save the time spent on the page ($n = 3$). In addition to the exclusions corresponding to the pre-established criteria, we excluded other participants ($n = 5$) who seem not legitimate to keep in the final sample.¹⁰ Specifically, we excluded one participant who admitted in the comment section having searched on the internet more information about the (fictional) case mentioned in the article, one who admitted to taking a screenshot of the article, and one who expressed strong doubt about the study mentioned in the experimental manipulation. We also identified two participants who spent more than 1,000 seconds on the page containing the bogus article. In view of the time spent, and given the average time spent on the page (about 108 seconds) we can doubt that the experimental manipulation can maintain its effect. The final sample was therefore composed of 375 participants ($M_{\text{age}} = 27.06$, $SD_{\text{age}} = 11.81$, 277 females).

¹⁰ The inclusion or not of these five additional participants did not change the conclusions.

Materials and Procedure. At the beginning of the study, participants were told that the computer program would randomly select several tasks for them to work on. We did so to limit participants wondering about the connection between the different tasks. In fact, all the participants started by reading about a (fictional) meta-analysis published in a scientific journal. This fictitious study demonstrated that, in general, people who search actively to distinguish themselves (vs. who search actively to be similar to others, experimental condition randomly determined) benefit from a number of advantages (e.g., better academic success, better quality of life, etc.). To strengthen this manipulation and in line with Kunda and Sanitioso (1989), participants were also asked to list three reasons that could, in their opinion, explain these advantages.

After completing this first task, participants moved to the same belief in a conspiracy theory measure as the one used in Study 3 ($\alpha = .88$). The only exception was that in this study the order of the six items was chosen randomly. Then, participants were asked to complete the manipulation check that consisted of the 8-item version of the Self-Attributed Need for Uniqueness scale (Lynn & Harris, 1997, $\alpha = .87$). This measure was exactly the same as the one we used Study 3, except that the order of each items was randomly chosen.

Finally, participants reported their age, gender, and socio-economic category (and their study major if the question applies). They could also report what they thought was the goal of the study. Next, we used a question assessing whether participants thought they took part in the study seriously (“I have taken part seriously” or “I have just clicked through, please throw my data away”, see Aust et al., 2013). Participants were then debriefed and thanked.

Results

Manipulation check. Again, we first conducted an independent samples t-test on our manipulation check measure. Surprisingly, although in the expected direction with participants in the “different is better” condition having a descriptively higher level of need

for uniqueness ($M = 4.80$, $SD = 1.51$, $n = 193$) than participants in the “similar is better” condition ($M = 4.76$, $SD = 1.61$, $n = 182$), this effect was not significant, $t(373) = 0.23$, $p = .82$, $[-0.28, 0.35]$, $\eta^2_p < .001$.

Belief in a conspiracy theory. However, another independent samples t-test on the belief in a conspiracy theory measure confirmed our prediction that participants in the “different is better” condition had a higher level of conspiracy beliefs ($M = 5.32$, $SD = 1.78$, $n = 193$) than participants in the “similar is better” condition ($M = 4.97$, $SD = 2.06$, $n = 182$). As in Study 3 however, this effect was marginal, $t(373) = 1.75$, $p = .081$, 95 % CI $[-0.04, 0.74]$, $\eta^2_p = .008$.

Meta-analysis of Studies 3 and 4. Although the predicted effects were marginal in Studies 3 and 4, as documented in the preregistration we had already planned to conduct a meta-analysis of Studies 3 and 4. We did so by relying on the *R* package *meta* (Schwarzer, 2007, v. 4.1-0). We used a random-effects model¹¹ by using the inverse variance method. The examination of the different indicators, $Q(1) = 0.32$, $p = .57$, $I^2 = 0\%$ ¹², revealed a good homogeneity suggesting that the two studies were consistent. The estimation of the cumulative effect size (Hedges’ g , see Borenstein, Hedges, Higgins, & Rothstein, 2009) revealed a significant condition effect, $g = 0.21$, 95 % CI $[0.04, 0.39]$, $p = .016$, such that participants in the high need for uniqueness conditions (i.e., the individuality and the “different is better” conditions respectively in Studies 3 and 4) had a higher level of conspiracy beliefs than participants in the low level of uniqueness conditions (i.e., the conformity and the “similar is better” conditions respectively in Studies 3 and 4).

Discussion

¹¹ In most cases, a random-effects model should be preferred to a simple-effect model (Cumming, 2014).

¹² This conclusion is not reached on the sole Q test—as previous work has shown it has low power to detect heterogeneity when the number of studies is small—but in conjunction with a very low I^2 index (Higgins, Thompson, Deeks, & Altman, 2003).

The main goal of Study 4 was to replicate Study 3 with a different manipulation of need for uniqueness. We again found that participants in the need for uniqueness condition had marginally higher levels of belief in the conspiracy theory. Although, Studies 3 and 4 led to an effect in the same direction, this effect was marginal in both studies. In a small-scale meta-analysis, however, we showed that when put together, these effects were not different from one another and more importantly, these effects were significant overall.

General Discussion

The purpose of this paper was to empirically test the proposition that conspiracy beliefs can serve as a mean to satisfy people's need for uniqueness. We tested this general hypothesis by decomposing it into three testable propositions through four studies and one meta-analysis. In Study 1, our results show that participants with higher conspiracy beliefs were more prone to think they hold scarce information about the events explained by the conspiracy theories. In Study 2, we used a correlational design to demonstrate that participants with higher need for uniqueness believed more in conspiracy theories. Finally, in Studies 3 and 4 we used experimental designs to demonstrate that need for uniqueness could have a causal impact on conspiracy beliefs.

At the time we conducted this research, we knew of no other studies assessing the relationships between conspiracy beliefs, scarcity, and need for uniqueness. We recently discovered, however, that Imhoff and Lamberty (in press) conducted a concomitant line of research testing the same hypothesis. First, Imhoff and Lamberty report two correlational studies also showing that people with high need for uniqueness believe more in conspiracy theories. It is worth mentioning that, although these studies confirm the results we reported here, they too found only modest effect sizes. Hence, it seems clear that this effect exists, but it is not a large effect, as is also demonstrated by the overall positive and significant association we obtained by meta-analyzing all relevant studies that we and Imhoff and

Lamberty conducted, $r = .20$, 95 % CI [.13, .26], $p < .001$ ¹³. Interestingly, in a third study, Imhoff and Lamberty demonstrated something we did not test in the current contribution. Indeed, with the goal to start establishing causality, they showed that need for uniqueness increases belief in a conspiracy theory (indirectly through conspiracy mentality) to a larger extent when only a minority (as opposed to a majority) of people allegedly support this theory. On the one hand, this effect is interesting because it strengthens the idea that believing in conspiracy theories is a way to feel unique. On the other hand, our work nicely adds to Imhoff and Lamberty's work by establishing causality through the experimental manipulation of need for uniqueness.

Our findings can also be connected to recent research demonstrating that individual narcissism, or a grandiose idea of the self, is positively related to belief in conspiracy theories (Cichocka et al., 2016; Wilson & Rose, 2014). Interestingly, Cichocka et al. (2016) found that paranoid thought mediates the relationship between individual narcissism and conspiracy beliefs. The current work suggests, however, that need for uniqueness could be an additional mediator of this relationship. Indeed, previous work has shown that narcissism is positively correlated with need for uniqueness (Emmons, 1984) and here we showed that need for uniqueness is related to conspiracy belief. This overlap opens new avenues for future studies that could assess not only this potential mediation, but also the incremental contribution of the other components of narcissism once the uniqueness dimension is controlled for.

The idea that need for uniqueness increases conspiracy belief may seem to be at odds with previous findings showing that right-wing authoritarians believe more in specific conspiracy theories (Abalakina-Paap et al., 1999; Grzesiak-Feldman, 2015; Grzesiak-Feldman

¹³ To obtain this effect size, we meta-analyzed the correlations obtained in a previous unpublished study we mentioned in this paper, our Study 2, and Studies 1, 2 and 3 reported by Imhoff and Lamberty (in press). We first transformed the correlations to z scores (Fisher's transformation) for analysis and converted back to Pearson correlations. We performed a random effects analysis using the inverse variance method. Note that we observed a correct homogeneity, $Q(4) = 5.68$, $p = .22$, $I^2 = 29.6\%$. The R syntax to reproduce these results is available online: <https://osf.io/5323p/>.

& Irzycka, 2009). Indeed, right-wing authoritarians are people who, among other things, value social conventions (Butler, 2000). This specificity of right-wing authoritarians could somewhat contradict the need for uniqueness hypothesis (which could explain the modest effect size we found), but it is not yet entirely clear why right-wing authoritarianism is related to conspiracy belief. Therefore, because right-wing authoritarianism has two other important dimensions, namely authoritarian aggression and authoritarian submission (Funke, 2005; Passini, 2008), it could be that one or both of these dimensions, and not adherence to social conventions, are responsible for the relationship between right-wing authoritarianism and conspiracy belief.

The need for uniqueness hypothesis may also appear to be at odds with previous research showing that feelings of uncertainty fuel conspiracy beliefs (van Prooijen & Jostmann, 2013; Whitson, Galinsky, & Kay, 2015). Indeed, one could expect that people who feel uncertain prefer to conform to others rather than to seek differentiation (e.g., copy-when-uncertain strategy, Laland, 2004). We believe, however, that this does not mean that need for uniqueness is necessarily a mediator of the relationship between feelings of uncertainty and conspiracy beliefs. In fact, both could be suppressors (Judd, Yzerbyt, & Muller, 2014) such that feelings of uncertainty and need for uniqueness might have stronger effects on conspiracy beliefs when controlling for each other. Future work could test this interesting possibility.

Although the current research adds to previous research, it comes with its own limitations. First, in Study 4, the manipulation check measure did not reveal a significant increase in the need for uniqueness. A possible explanation for this non-significant finding is that participants may have felt awkward saying they felt unique or not after reading that it was good to be one or the other to succeed in life. In other words, it could be that this induction was successful at increasing the need for uniqueness, but the nature of this induction made it more difficult for participants to acknowledge this increase (or decrease) in need for

uniqueness. Given that we do not see an obvious alternative to what was manipulated in this study, we believe this study contributes to what we intended to show (see Sigall & Mills, 1998). Another possible limitation regarding Studies 3 and 4 was that we did not include a control condition in either study. Therefore, from these studies we cannot claim that our findings are due to an increase or in fact a decrease in need for uniqueness. However, we do not see this as a crucial limitation, because our goal was to induce differences in need for uniqueness level, not to specifically study increases or decreases in this variable or a qualitative switch (i.e., reasoning in terms of conformity rather than uniqueness). Moreover, at a pragmatic level, including a control group would have been at the expense of statistical power. For this same reason, although our hypothesis could predict that situationally induced need for uniqueness also increases belief in existing conspiracy theories, the likely stability of specific beliefs and the modest effect size of the effect reported here discouraged us to engage in this potentially costly investigation.

Our research also calls for future investigations that could determine the respective share of the multiple potential underlying factors occurring in the relationship between need for uniqueness and conspiracy beliefs. For instance, the positive association between need for uniqueness and conspiracy beliefs could mainly be due to scarcity, or perhaps the “alternative” nature of conspiracy theories suffices to explain this observation. More generally, one can wonder if belief in conspiracy theories is only an exemplar of a broader association between need for uniqueness and unconventional beliefs (e.g., paranormal beliefs).

Another limitation is that we restricted our conceptualization of uniqueness to an individual level only. Indeed, the self-concept is not only composed of a personal identity, but also a social identity (Turner & Reynolds, 2011). According to self-categorization theory, people will actively categorize themselves as a member of a specific group, if, in a relevant

comparative context, they see more differences between groups than similarities within groups (i.e., the meta-contrast ratio, Turner, Oakes, Haslam, & McGarty, 1994). Building on this, it would be informative to consider, at the group level, to what extent people who believe in conspiracy theories define themselves as a part of a group of “conspiracists” (and how they evaluate them), and especially, if they attempt to maximize the differences between their own group of an “informed minority” and the other groups. In the same vein, we could also draw on the optimal distinctiveness theory of social identity (Brewer, 1991), dealing with the fact that people are torn between two competitive needs: the need to belong and the need to be different. Indeed, belonging to a distinctive minority could satisfy both needs at once.

It is important to recognize that it is, as this point, difficult to generalize our results beyond individualistic cultures. In this regard, a considerable amount of research suggests that uniqueness (considered as a manifestation of freedom and independence) is valued in individualist cultures (reflecting an independent construal of the self), while in collectivist cultures such as East Asian countries, it is, on the contrary, the maintenance of group harmony (the conformity) that is valued, reflecting an interdependent construal of the self (Kim & Drolet, 2003; Kim & Markus, 1999; Markus & Kitayama, 1991; Yamaguchi, Kuhlman, & Sugimori, 1995). Because we defend the idea that the link between need for uniqueness and conspiracy beliefs lies on the rewarding dimensions of being different from other people, if the cultural context does not value being different (as it is the case in collectivist cultures, Takemura, 2014), we could predict that the relationship between need for uniqueness and conspiracy beliefs should be theoretically more negligible in Japan than in the United States, to take two cultures prototypically considered as collectivist vs. individualist.

To conclude, the converging evidence presented in this paper demonstrates that believing in conspiracy theories may be a way to satisfy one’s need for uniqueness.

Conspiracy theories are likely to appeal more to people who have a chronic need to feel

different to others, or who are led to feel that uniqueness is an important trait. In each case, we argue that conspiracy theories place people in possession of unconventional and scarce information that allows them to feel unique compared to others. More generally, our work also demonstrates that the needs of the self should be taken in consideration for a more complete understanding of the functions of conspiracist thought.

Electronic Supplementary Material

ESM 1. Complete design of Study 1 (Complete Design_Study1.docx).

This document contains the complete original materials, translated from French.

ESM 2. Bogus newspaper article (Bus_Accident_Moldova.docx).

This document contains a bogus newspaper article about a bus accident in Moldova, as well as its corresponding measurement scale (used in Studies 3 and 4, translated from French)

References

- Abalakina-Paap, M., Stephan, W. G., Craig, T., & Gregory, W. L. (1999). Beliefs in conspiracies. *Political Psychology, 20*, 637–647. doi: 10.1111/0162-895X.00160
- Abelson, R. P. (1986). Beliefs are like possessions. *Journal for the Theory of Social Behaviour, 16*, 223–250. doi:10.1111/j.1468-5914.1986.tb00078.x
- Aust, F., Diederhofen, B., Ullrich, S., & Musch, J. (2013). Seriousness checks are useful to improve data validity in online research. *Behavior Research Methods, 45*, 527–535. doi: 10.3758/s13428-012-0265-2
- Billig, M. (1987). Anti-Semitic themes and the British far Left: Some social-psychological observations on indirect aspects of the conspiracy tradition. In C. F. Graumann, & S. Moscovici (Eds.), *Changing conceptions of conspiracy* (pp. 115–136). New York, NY: Springer.
- Borenstein, M., Hedges, L. V., Higgins, J. P. T., & Rothstein, H. R. (2009). *Introduction to meta-analysis*. Chichester, England: Wiley.
- Bost, P. R., & Prunier, S. G. (2013). Rationality in conspiracy beliefs: The role of perceived motive. *Psychological Reports, 113*, 118–128. doi: 10.2466/17.04/PR0.113x17z0.
- Bost, P. R., Prunier, S. G., & Piper, A. J. (2010). Relations of familiarity with reasoning strategies in conspiracy beliefs. *Psychological Reports, 107*, 593–602. doi: 10.2466/07.09.17.PR0.107.5.593-602
- Brewer, M. B. (1991). The social self: On being the same and different at the same time. *Personality and Social Psychology Bulletin, 17*, 475–482. doi: 10.1177/0146167291175001
- Brock, T. C. (1968). Implications of commodity theory for value change. In A. G. Greenwald, Brock, & T. M. Ostrom (Eds.), *Psychological foundations of attitudes* (pp. 243–275). New York, NY: Academic.

- Brock, T. C., & Brannon, L. A. (1992). Liberalization of commodity theory. *Basic and Applied Social Psychology, 13*, 135–144. doi: 10.1207/s15324834basp1301_11
- Brotherton, R., & French, C. C. (2014). Belief in conspiracy theories and susceptibility to the conjunction fallacy. *Applied Cognitive Psychology, 28*, 238–248. doi: 10.1002/acp.2995
- Brotherton, R., French, C. C. (2015). Intention seekers: Conspiracist ideation and biased attributions of intentionality. *PLoS ONE, 10*, e0124125. doi: 10.1371/journal.pone.0124125
- Brotherton, R., French, C. C., & Pickering, A. D. (2013). Measuring belief in conspiracy theories: The generic conspiracist beliefs scale. *Frontiers in Psychology, 4*: 279. doi: 10.3389/fpsyg.2013.00279
- Bruder, M., Haffke, P., Neave, N., Nouripanah, N., & Imhoff, R. (2013). Measuring individual differences in generic beliefs in conspiracy theories across cultures: Conspiracy mentality questionnaire. *Frontiers in Psychology, 4*: 225. doi: 10.3389/fpsyg.2013.00225
- Butler, J. C. (2000). Personality and emotional correlates of right-wing authoritarianism. *Social Behavior and Personality: An International Journal, 28*, 1–14. doi: 10.2224/sbp.2000.28.1.1
- Butler, L. D., Koopman, C., & Zimbardo, P. G. (1995). The psychological impact of viewing the Film "JFK": Emotions, beliefs, and political behavioral intentions. *Political Psychology, 16*, 237–257. doi: 10.2307/3791831
- Cheema, A., & Kaikati, A. M. (2010). The effect of need for uniqueness on word of mouth. *Journal of Marketing Research, 47*, 553–563. doi: 10.1509/jmkr.47.3.553
- Cichocka, A., Marchlewska, M., & de Zavala, A. G. (2016). Does self-love or self-hate predict conspiracy beliefs? Narcissism, self-esteem and the endorsement of

- conspiracy theories. *Social Psychological and Personality Science*, 7, 157–166. doi: 10.1177/1948550615616170
- Cohen, J. (1992). A power primer. *Psychological Bulletin*, 112, 155–159. doi: 10.1037//0033-2909.112.1.155
- Cumming, G. (2014). The new statistics: Why and how. *Psychological Science*, 25, 7–29. doi: 10.1177/0956797613504966
- Douglas, K. M., & Leite, A. C. (in press). Suspicion in the workplace: Organizational conspiracy theories and work-related outcomes. *British Journal of Psychology*. doi: 10.1111/bjop.12212
- Douglas, K. M., & Sutton, R. M. (2008). The hidden impact of conspiracy theories: Perceived and actual influence of theories surrounding the death of Princess Diana. *Journal of Social Psychology*, 148, 210–222. doi: 10.3200/SOCP.148.2.210-222
- Douglas, K. M., & Sutton, R. M. (2011). Does it take one to know one? Endorsement of conspiracy theories is influenced by personal willingness to conspire. *British Journal of Social Psychology*, 50, 544–552. doi: 10.1111/j.2044-8309.2010.02018.x
- Douglas, K. M., & Sutton, R. M. (2015). Climate change: Why the conspiracy theories are dangerous. *Bulletin of the Atomic Scientists*, 71, 98–106. doi: 10.1177/0096340215571908
- Douglas, K. M., Sutton, R. M., Callan, M. J., Dawtry, R. J., & Harvey, A. J. (2016). Someone is pulling the strings: hypersensitive agency detection and belief in conspiracy theories. *Thinking & Reasoning*, 22, 57–77. doi: 10.1080/13546783.2015.1051586
- Emmons, R. A. (1984). Factor analysis and construct validity of the narcissistic personality inventory. *Journal of Personality Assessment*, 48, 291–300. doi: 10.1207/s15327752jpa4803_11

- Ferrand, L., & Ayora, P. (2009). *Psychologie cognitive de la lecture*. [Cognitive psychology of reading] Bruxelles: De Boeck.
- Fromkin, H. L. (1970). Effects of experimentally aroused feelings of indistinctiveness upon valuation of scarce and novel experiences. *Journal of Personality and Social Psychology, 16*, 521–529. doi: 10.1037/h0030059
- Funke, F. (2005). The dimensionality of right-wing authoritarianism: Lessons from the dilemma between theory and measurement. *Political Psychology, 26*, 195–218. doi: 10.1111/j.1467-9221.2005.00415.x
- Goertzel, T. (1994). Belief in conspiracy theories. *Political Psychology, 15*, 731–742. doi: 10.2307/3791630
- Gray, M. (2010). Revisiting Saddam Hussein's political language: The sources and roles of conspiracy theories. *Arab Studies Quarterly, 32*, 28–46. Retrieved from <https://www.jstor.org/stable/41858602>
- Grzesiak-Feldman, M. (2015). Are the high authoritarians more prone to adopt conspiracy theories? The role of right-wing authoritarianism in conspiratorial thinking. In M. Bilewicz, A. Cichocka & W. Soral (Eds.). *The Psychology of Conspiracy*. New York: Routledge.
- Grzesiak-Feldman, M., & Irzycka, M. (2009). Right-wing authoritarianism and conspiracy thinking in a Polish sample. *Psychological Reports, 105*, 389–393. doi: 10.2466/PRO.105.2.389-393
- Higgins, J. P., Thompson, S. G., Deeks, J. J., & Altman, D. G. (2003). Measuring inconsistency in meta-analysis. *British Medical Journal, 327*, 557–560. doi: 10.1136/bmj.327.7414.557

- Imhoff, R., & Lamberty, P. (in press). Too special to be duped: Need for uniqueness motivates conspiracy beliefs. *European Journal of Social Psychology*. doi: 10.1002/EJSP.2265
- Jolley, D., & Douglas, K. M. (2014a). The effects of anti-vaccine conspiracy theories on vaccination intentions. *PLoS ONE*, 9, e89177. doi: 10.1371/journal.pone.0089177
- Jolley, D., & Douglas, K. M. (2014b). The social consequences of conspiracism: Exposure to conspiracy theories decreases intentions to engage in politics and to reduce one's carbon footprint. *British Journal of Psychology*, 105, 35–56. doi: 10.1111/bjop.12018
- Judd, C. M., McClelland, G. H., & Ryan, C. S. (2008). *Data analysis: A model comparison approach (2nd edition)*. New York, NY: Routledge.
- Judd, C. M., Yzerbyt, V. Y., & Muller, D. (2014). Mediation and Moderation. In H. Reis, & C.M. Judd (Eds.). *Handbook of Research Methods in Social and Personality Psychology* (2nd ed., pp. 653-676), New York, NY: Cambridge University Press.
- Keeley, B. L. (1999). Of conspiracy theories. *The Journal of Philosophy*, 96, 109–126. doi: 10.2307/2564659
- Kim, H., & Markus, H. R. (1999). Deviance or uniqueness, harmony or conformity? A cultural analysis. *Journal of Personality and Social Psychology*, 77, 785–800. doi: 10.1037/0022-3514.77.4.785
- Kim, H. S., & Drolet, A. (2003). Choice and self-expression: A cultural analysis of variety-seeking. *Journal of Personality and Social Psychology*, 85, 373–382. doi: 10.1037/0022-3514.85.2.373
- Kunda, Z., & Sanitioso, R. (1989). Motivated changes in the self-concept. *Journal of Experimental Social Psychology*, 25, 272–285. doi: 10.1016/0022-1031(89)90023-1

- Lakoff, G., & Johnson, M. (1980/2002). *Metaphors we live by*. Chicago: University of Chicago press.
- Laland, K. N. (2004). Social learning strategies. *Animal Learning & Behavior*, 32, 4–14. doi: 10.3758/BF03196002
- Lantian, A. (2015). *Rôle fonctionnel de l'adhésion aux théories du complot : un moyen de distinction ?* [The functional role of believing in conspiracy theories: A way to distinguish ourselves from others?] (Doctoral dissertation, Université Grenoble Alpes). Retrieved from <https://tel.archives-ouvertes.fr/tel-01251554/document>
- Lantian, A., Muller, D., Nurra, C., & Douglas, K. M. (2016). Measuring belief in conspiracy theories: Validation of a French and English single-item scale. *International Review of Social Psychology*, 29, 1–14. doi: 10.5334/irsp.8
- Lewandowsky, S., Oberauer, K., & Gignac, G. E. (2013). NASA faked the moon landing—therefore, (climate) science is a hoax: An anatomy of the motivated rejection of science. *Psychological Science*, 24, 622–633. doi: 10.1177/0956797612457686
- Lynn, M. (1991). Scarcity effects on value: A quantitative review of the commodity theory literature. *Psychology & Marketing*, 8, 43–57. doi: 10.1002/mar.4220080105
- Lynn, M., & Harris, J. (1997). The desire for unique consumer products: A new individual differences scale. *Psychology & Marketing*, 14, 601–616. doi: 10.1002/(SICI)1520-6793(199709)14:6<601::AID-MAR5>3.0.CO;2-B
- Lynn, M., & Snyder, C. R. (2002). Uniqueness seeking. In C. R. Snyder & S. J. Lopez (Eds.), *Handbook of positive psychology* (pp. 395–419). New York: Oxford University Press.
- Maimaran, M., & Wheeler, S. C. (2008). Circles, squares, and choice: The effect of shape arrays on uniqueness and variety seeking. *Journal of Marketing Research*, 45, 731–740. doi: 10.1509/jmkr.45.6.731

- Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review*, *98*, 224–253. doi: 10.1037/0033-295X.98.2.224
- Mason, F. (2002). A poor person's cognitive mapping. In P. Knight (Ed.), *Conspiracy nation: The politics of paranoia in postwar America* (pp. 40–56). New York: New York University Press.
- Muller, D., Yzerbyt, V. Y., & Judd, C. M. (2008). Adjusting for a mediator in models with two crossed treatment variables. *Organizational Research Methods*, *11*, 224–240. doi: 10.1177/1094428106296636
- Newheiser, A. K., Farias, M., & Tausch, N. (2011). The functional nature of conspiracy beliefs: Examining the underpinnings of belief in the Da Vinci Code conspiracy. *Personality and Individual Differences*, *51*, 1007–1011. doi:10.1016/j.paid.2011.08.011
- Oliver, J. E., & Wood, T. J. (2014). Medical conspiracy theories and health behaviors in the United States. *JAMA Internal Medicine*, *174*, 817–818. doi: 10.1001/jamainternmed.2014.190
- Passini, S. (2008). Exploring the multidimensional facets of authoritarianism: Authoritarian aggression and social dominance orientation. *Swiss Journal of Psychology*, *67*, 51–60. doi: 10.1024/1421-0185.67.1.51
- Powell, F. A. (1974). The perception of self-uniqueness as a determinant of message choice and valuation. *Speech Monographs*, *41*, 163–168. doi: 10.1080/03637757409375831
- Richard, F. D., Bond, Jr, C. F., & Stokes-Zoota, J. J. (2003). One hundred years of social psychology quantitatively described. *Review of General Psychology*, *7*, 331–363. doi: 10.1037/1089-2680.7.4.331

- Sanitioso, R., Kunda, Z., & Fong, G. T. (1990). Motivated recruitment of autobiographical memories. *Journal of Personality and Social Psychology*, *59*, 229–241. doi: 10.1037//0022-3514.59.2.229
- Sapountzis, A., & Condor, S. (2013). Conspiracy accounts as intergroup theories: Challenging dominant understandings of social power and political legitimacy. *Political Psychology*, *34*, 731–752. doi: 10.1111/pops.12015
- Schwarzer, G. (2007). Meta: An R package for meta-analysis. *R News*, *7*, 40–45.
- Sigall, H., & Mills, J. (1998). Measures of independent variables and mediators are useful in social psychology experiments: But are they necessary? *Personality and Social Psychology Review*, *2*, 218–226. doi: 10.1207/s15327957pspr0203_5
- Simmons, J. P., Nelson, L. D., & Simonsohn, U. (2012). A 21 word solution. *Dialogue: The Official Newsletter of the Society for Personality and Social Psychology*, *26*, 4–7.
- Şimşek, Ö. F., & Yalınçetin, B. (2010). I feel unique, therefore I am: The development and preliminary validation of the personal sense of uniqueness (PSU) scale. *Personality and Individual Differences*, *49*, 576–581. doi: 10.1016/j.paid.2010.05.006
- Snyder, C. R. (1992). Product scarcity by need for uniqueness interaction: A consumer catch-22 carousel? *Basic and Applied Social Psychology*, *13*, 9–24. doi: 10.1207/s15324834basp1301_3
- Snyder, C. R., & Fromkin, H. L. (1977). Abnormality as a positive characteristic: The development and validation of a scale measuring need for uniqueness. *Journal of Abnormal Psychology*, *86*, 518–527. doi: 10.1037/0021-843X.86.5.518
- Snyder, C. R., & Fromkin, H. L. (1980). *Uniqueness: The pursuit of human difference*. New York, NY: Springer.
- Stern, C., West, T. V., & Schmitt, P. G. (2014). The liberal illusion of uniqueness. *Psychological Science*, *25*, 137–144. doi: 10.1177/0956797613500796

- Swami, V., Chamorro-Premuzic, T., & Furnham, A. (2010). Unanswered questions: A preliminary investigation of personality and individual difference predictors of 9/11 conspiracist beliefs. *Applied Cognitive Psychology, 24*, 749–761. doi: 10.1002/acp.1583
- Swami, V., Coles, R., Stieger, S., Pietschnig, J., Furnham, A., Rehim, S., & Voracek, M. (2011). Conspiracist ideation in Britain and Austria: Evidence of a monological belief system and associations between individual psychological differences and real-world and fictitious conspiracy theories. *British Journal of Psychology, 102*, 443–463. doi: 10.1111/j.2044-8295.2010.02004.x
- Swami, V., & Furnham, A. (2014). Political paranoia and conspiracy theories. In J.-P. Prooijen & P. A. M. van Lange (Eds.), *Power politics, and paranoia: Why people are suspicious of their leaders* (pp. 218–236). Cambridge: Cambridge University Press.
- Swami, V., Voracek, M., Stieger, S., Tran, U. S., & Furnham, A. (2014). Analytic thinking reduces belief in conspiracy theories. *Cognition, 133*, 572–585. doi: 10.1016/j.cognition.2014.08.006
- Takemura, K. (2014). Being different leads to being connected: On the adaptive function of uniqueness in “open” societies. *Journal of Cross-Cultural Psychology, 45*, 1579–1593. doi: 10.1177/0022022114548684
- Taylor, S. E. (1965). Eye movements in reading: Facts and fallacies. *American Educational Research Journal, 2*, 187–202. doi: 10.3102/00028312002004187
- Tian, K. T., Bearden, W. O., & Hunter, G. L. (2001). Consumers' need for uniqueness: Scale development and validation. *Journal of Consumer Research, 28*, 50–66. doi: 10.1086/321947

- Turner, J. C., Oakes, P. J., Haslam, S. A., & McGarty, C. (1994). Self and collective: Cognition and social context. *Personality and Social Psychology Bulletin*, *20*, 454–463. doi: 10.1177/0146167294205002
- Turner, J. C., & Reynolds, K. J. (2011). Self-categorization theory. In P. A. M. Van Lange, A. W. Kruglanski, & E. T. Higgins (Eds.), *Handbook of theories in social psychology* (Vol. 2, pp. 399–417). Thousand Oaks, CA: Sage.
- Uscinski, J. E., Klofstad, C., & Atkinson, M. D. (2016). What drives conspiratorial beliefs? The role of informational cues and predispositions. *Political Research Quarterly*, *69*, 57–71. doi: 10.1177/1065912915621621
- van der Linden, S. (2015). The conspiracy-effect: Exposure to conspiracy theories (about global warming) decreases pro-social behavior and science acceptance. *Personality and Individual Differences*, *87*, 171–173. doi: 10.1016/j.paid.2015.07.045
- van Harreveld, F., Rutjens, B. T., Schneider, I. K., Nohlen, H. U., & Keskinis, K. (2014). In doubt and disorderly: Ambivalence promotes compensatory perceptions of order. *Journal of Experimental Psychology: General*, *143*, 1666–1676. doi: 10.1037/a0036099
- van Prooijen, J.-W., & Acker, M. (2015). The influence of control on belief in conspiracy theories: Conceptual and applied extensions. *Applied Cognitive Psychology*, *29*, 753–761. doi: 10.1002/acp.3161
- van Prooijen, J.-W., & Jostmann, N. B. (2013). Belief in conspiracy theories: The influence of uncertainty and perceived morality. *European Journal of Social Psychology*, *43*, 109–115. doi: 10.1002.ejsp.1922
- van Prooijen, J.-W., & van Dijk, E. (2014). When consequence size predicts belief in conspiracy theories: The moderating role of perspective taking. *Journal of Experimental Social Psychology*, *55*, 63–73. doi: 10.1016/j.jesp.2014.06.006

- Wagenmakers, E. J., Wetzels, R., Borsboom, D., van der Maas, H. L. J., & Kievit, R. A. (2012). An agenda for purely confirmatory research. *Perspectives on Psychological Science*, 7, 632–638. doi: 10.1177/1745691612463078
- Wagner-Egger, P., & Bangerter, A. (2007). La vérité est ailleurs: corrélats de l'adhésion aux théories du complot [The truth lies elsewhere: Correlates of belief in conspiracy theories]. *Revue Internationale de Psychologie Sociale*, 20, 31–61.
- Whitson, J. A., & Galinsky, A. D. (2008). Lacking control increases illusory pattern perception. *Science*, 322, 115–117. doi: 10.1126/science.1159845
- Whitson, J. A., Galinsky, A. D., & Kay, A. (2015). The emotional roots of conspiratorial perceptions, system justification, and belief in the paranormal. *Journal of Experimental Social Psychology*, 56, 89–95. doi: 10.1016/j.jesp.2014.09.002
- Wilson, M. S., & Rose, C. (2014). The role of paranoia in a dual-process motivational model of conspiracy belief. In J.-W. van Prooijen, & P. A. M. van Lange (Eds.), *Power, politics, and paranoia: Why people are suspicious of their leaders*. (pp. 273–291). Cambridge, UK: Cambridge University Press.
- Yamaguchi, S., Kuhlman, D. M., & Sugimori, S. (1995). Personality correlates of allocentric tendencies in individualist and collectivist cultures. *Journal of Cross-Cultural Psychology*, 26, 658–672. doi: 10.1177/002202219502600609
- Yzerbyt, V., Muller, D., & Judd, C. M. (2004). Adjusting researchers' approach to adjustment: On the use of covariates when testing interactions. *Journal of Experimental Social Psychology*, 40, 424–431. doi: 10.1016/j.jesp.2003.10.001

Table 1.

Bivariate correlations (with 95% confidence intervals) between all the different measures of need for uniqueness.

	1. SANU	2. US	3. US-1	4. US-2	5. US-3
1.	-	.27** [.14, .40]	.18 [.04, .31]	.24*** [.11, .37]	.15 [.01, .28]
2.		-	.77*** [.71, .82]	.71*** [.63, .77]	.61*** [.52, .69]
3.			-	.18 [.04, .31]	.22* [.09, .35]
4.				-	.39*** [.26, .50]
5.					-
<i>Mean/Sum</i>	3.24	100.94	49.27	34.20	17.47
<i>SD</i>	0.99	13.39	8.33	6.54	3.82

Notes: $N = 208$. * = $p < .005$, ** = $p < .001$, *** = $p < .0005$ (Bonferroni-adjusted alpha for 10 bivariate correlations). SANU: Self-attributed need for uniqueness, US: Uniqueness scale, US-1: Lack of concern regarding others' reactions, actions, and so on, US-2: Desire to not always follow rules, US-3: Person's willingness to publicly defend his or her