The impact of the argumentative mille-feuille on the belief in 9/11 conspiracy theories

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An empirical investigation of the Fort effect

Informations importantes

Cet article suit les exigences éditoriales de la revue *social psychology* de Hogrefe (les instructions sont à cette adresse), choisie par mon encadrant, afin que nous puissions réellement y être publiés. Il a été construit comme un « *original article* ».

Pour ce qui est du partage des contributions entre mon encadrant et moi-même : cet article est basé sur un travail de master que j'ai réalisé en 2018. Mon encadrant a principalement participé à la relecture du mémoire et à la conception de l'expérience. J'ai rédigé le présent article complètement seul, mon encadrant m'a « seulement » conseillé la revue.

Bonne lecture !

Abstract

The aim of this research was to test empirically the *Fort effect*, the impact of the *argumentative mille-feuille* on the belief in 9/11 conspiracy theory. The argumentative mille-feuille is defined as an argumentation composed in multiple layers. The exposure to this accumulation of elements triggers a beginning of conspiracy theory endorsement and reduces motivation to find a counter-argumentation to these arguments regardless of their quality. Participants were exposed to multiple arguments in favour of the 9/11 conspiracy theory. Results indicate that, regardless of the argumentation quality, exposure to arguments in favour of the 9/11 conspiracy reduced participants' belief in official version but did not increase their belief in conspiracy theory.

Keywords: Conspiracy theories, Fort effect, Argumentative millefeuille, attitude changes

Introduction

Nowadays, conspiracy theories seem to be widely spread across the population. For example, Oliver and Wood (2014) showed that about half of the U.S.A. citizens believe in at least one conspiracy theory. Even if the mechanisms underpinning the conspiracy theories endorsement are not yet well understood, researchers identified that there was a correlation between belief in conspiracy theories and exposure to them (Swami et al., 2011). Some belief in conspiracy theories have nefarious consequences, such as lowering the motivation to reduce the carbon footprint or intention to vaccinate (Jolley & Douglas, 2014a, b). That is why it is important to investigate the relation between exposure to conspiracy theories and their endorsement.

Theoretical background

A definition of conspiracy theories

Conspiracy theories are often defined as an explanation of events as generated by a hidden group of powerful people acting together (Keeley, 1999; Wood & Douglas, 2013). Keeley (1999) added the concept of *unwarranted conspiracy theories* (*UCT*s) to precise the definition. UCTs are defined by 5 major ideas: "(1) A UCT is an explanation that runs counter to some received, official, or "obvious" account ; (2) The true intentions behind the conspiracy are invariably nefarious ; (3) UCTs typically seek to tie together seemingly unrelated events ; (4) As noted, the truths behind events explained by conspiracy theories are typically well-guarded secrets, even if the ultimate perpetrators are sometimes well-known public figures ; (5) The chief tool of the conspiracy theorist is what I shall call errant data." (Keeley, 1999, p. 117).

This definition has the advantage to refine the concept of conspiracy theories: they are based on errant data. There are two types of errant data: *unaccounted-for data*, which are elements that not explained by the most accepted version of an event, and *contradictory data*, which are elements that, if true, belie the accepted version (Keeley, 1999). One example of unaccounted-for data could be that after the 9/11 attack, authorities found one of the terrorists' passport that crashed in one of the twin towers. This event is related to randomness and could not be easily explained by another cause effect relationship. An example of contradictory data could be Susan Lindauer's declaration that CIA had been warned of the terrorist attack before 9/11, which would mean that the U.S. government let the 9/11 attacks happen on purpose.

Main empirical results in psychology concerning conspiracy theories

Over the past 20 years, numerous researches in social psychology concerning beliefs in conspiracy theories treated the theory of the *monological belief system* (Goertzel, 1994; Wagner-Egger & Bangerter, 2007; Swami et al., 2011; Wood, Douglas & Sutton, 2012). This concept comes from the observation that people who believe in one conspiracy theory are very likely to believe in other ones (Goertzel, 1994). Therefore, there would be a "conspiracist" way of thinking. Multiple empirical researches based on the monological belief system explored different correlates related to belief in conspiracy theories like anomia, social anxiety (Wagner-Egger & Bangerter, 2007), personal willingness to conspire (Douglas & Sutton, 2011), paranoid ideation, schizotypy (Darwin, Neave & Holmes, 2011), political extremism (Van Prooijen, Krouwel & Pollet, 2015), or age (Galliford & Furnham, 2017). Conspiracy theory believers can even endorse contradictory theories: as believers do not trust official explanations, they will endorse different, even if contradictory, alternative hypotheses (Wood et al., 2012).

The attractiveness of conspiracy theories

Conspiracist explanations of errant data are appealing not only for believers, but also for general public. Indeed, compared to scientific explanations, narratives grounded on conspiracy theories are generally preferred because "[they] tend to reduce the complexity of the reality and are able to contain the uncertainty they generate" (Bessi et al., 2015, p. 2). In other words, conspiracy theories tend to make the environment a bit more predictable (by also explaining, inter alia, coincidences). They are a straight-forward method to make sense of errant data.

Some studies put into light the narrative attractiveness of conspiracy theories in general public. For instance, Raab and colleague (2013a) evaluated the frequency of use of conspiratorial sentences (among official ones) to create a narrative to describe what happened during the 9/11 attacks. They found that participants used the conspiratorial items at a high frequency even if some items were very extreme (Raab et al., 2013b). Thus, presenting conspiratorial items reduces people's perception of official explanations' importance.

The argumentative millefeuille and the Fort effect

Definition

Errant data also allow conspiracy theorists to constitute what Bronner (2012, 2013) calls the *argumentative mille-feuille*. This concept has been based on Charles Fort's life and

argumentative style. Fort was well-known for his ability to accumulate a huge amount of eclectic knowledge that allowed him to have numerous arguments about lots of topics, even some that were usually considered as wrong, like the flat Earth theory (Bronner, 2012, 2013). His argumentations were based on the arguments' quantity regardless of their quality.

This accumulation of arguments of different quality, the so-called argumentative millefeuille, will generate the *Fort effect*, which can be summarized as the feeling that even if everything may not be true, everything can't be false (Bronner, 2012, 2013). The main implication hypothesized by Bronner is that it may generate an endorsement in the millefeuille related conspiracy theory (regardless of the arguments quality). An additional impact is that, due to the multiple knowledge that are necessitated for a refutation, people's motivation to refute all the presented arguments will decrease.

Impact of exposure to conspiracy theories on beliefs

If multiple research (e.g. Goertzel, 1994; Wagner-Egger & Bangerter, 2007) concluded that conspiracy believers have distinct "cognitive properties" compared to general public, several studies show how exposure to pro-conspiracy arguments can increase people's endorsement of them.

Jolley and Douglas (2014a, b) showed that exposure to pro-conspiracy arguments tended to increase people's endorsement of it. A first study showed that an exposure to Lady Diana's conspiracy increased people's endorsement compared to people exposed to a text refuting it. Similar results were obtained with a global warming conspiracy: exposed participants showed a higher conspiracy endorsement compared to people exposed to a refutation, or a neutral text (Jolley & Douglas, 2014a). Another study (Jolley & Douglas, 2014b) concerning pro-vaccination conspiracy showed an impact of exposure to conspiracy theory on its endorsement compared to refutation and neutral text. The researchers found a relation between conspiracy theories endorsement and feeling of powerlessness and uncertainty. They also showed that it had an impact on intention to vote (in the Lady Diana's conspiracy), reduce carbon footprint (in the global warming conspiracy), and vaccination intention (Jolley & Douglas, 2014b).

Van der Linden (2015) also put into light the impact of exposure to conspiracy theories: participants exposed to a short video (~2 minutes) in favour of a global warming conspiracy, showed a higher belief in the "global warming hoax" compared exposed participants to a carbon footprint reduction video, or a neutral task. People in pro-conspiracy condition also

showed a lower intention to sign a petition in favour of global warming reduction and a lower intention to donate to a charity in the next 6 months.

One of the first study about conspiracy theory endorsement (Butler, Koopman, & Zimbardo, 1995) looked at the impact of the Oliver Stone's 1991 *JFK* movie on people's opinion. This film included elements in favour of a conspiracist explanation of John Fitzgerald Kennedy's assassination. The results put into light that people that had just seen the movie believed less in the official version of JFK's death, and had a higher belief in alternative explanations (like the responsibility of the CIA) compared to people that were about to see it. This study shows that exposure to arguments in favour of a conspiracy induces both a reduction of belief in the official version and an incrementation in the belief alternative explanations.

Bronner's explanation to these changes from "not believing" to "believing in a conspiracy theory" is that exposure to pro-conspiracy generates uneasiness; to relieve this feeling, people tend to endorse (to a certain degree) some pro-conspiracy arguments (2013). Coherent with Bronner's idea, two experiments by Van Prooijen and Jostmann (2013) brought to light the fact that belief in a conspiracy theory (here, one about oil companies involved in Iraq war, and one was about a fake conspiracy theory about the "death" of the Benin's president) was increased when the feeling of uncertainty was made salient. Leman and Cinirella's (2013) results are in line with these results. They found that manipulating people's need for cognitive closure, changed their level of conspiracy theory endorsement: when the need for cognitive closure was lowered, arguments in favour of a fictional conspiracy theory had a lower impact compared to a control group. Therefore, we can suppose that the exposure to an argumentative mille-feuille in favour of a conspiracy theory may trigger a feeling of uncertainty concerning the reality of the official version and may also generate a need for cognitive closure. These feelings would be filled by endorsing, to some extent, arguments in favour of the conspiracy theory.

Thus, we see that multiple studies are in favour of the idea that the arguments' presentation can increase people's belief in conspiracy theories and reduce their confidence in the official version.

Arguments quality and belief change

Bronner's (2013) definition of the Fort effect states that each layer of the argumentative mille-feuille could be weak, which means that argumentation quality is not important. The idea is that arguments' quantity has a greater impact than their quality. To our knowledge, no

study has been conducted on the impact of arguments' quantity or quality on the belief in conspiracy theories. Indeed, in most of researches about exposure to conspiracy theories, participants were exposed to texts in favour of the conspiracy theories, but the argumentation's quality was not evaluated.

We can nevertheless consider one study (Nera, Pantazi & Klein, 2018) that showed that exposure to fictional conspiracy theories did not trigger an incrementation of belief in the related conspiracy theories. Indeed, they presented participants an episode of the tv series X-files that was related to multiple conspiracies (like visits from alien, evil elites, assassination of witnesses, etc). Participants had to estimate their endorsement of three conspiracy theories (two about evil elites, and one concerning hiding advanced technologies) either before or after having seen the episode. No significant difference of conspiracy theory endorsement was found between people firstly exposed to the X-files episode compared to people that had not seen it yet. Thus, we see that some types of arguments (here, arguments based on fiction) do not induce an endorsement of the related conspiracy theories.

The impact of arguments quality and quantity on people's attitudes is more studied in the research in advertisement. Johnson and colleagues (2004) showed in a meta-analysis that there actually can be an impact of the arguments' quality on people's attitude changes. This impact is related to people's initial attitudes. If the presented arguments are in favour of the person's initial attitudes, there effectively is no difference between presenting strong and weak arguments. However, there is an impact of the arguments' quality for the counter-attitudinal messages. Indeed, strong arguments can trigger an attitudinal change, whereas weak arguments induce either a resistance (i.e., no attitudinal change), or a boomerang effect (which is a reinforcement attitudes in opposition with the message) whether the person is under a high or low involvement.

Researches about the impact of advertisement on people's attitude have put into light the Elaboration Likelihood Model (ELM). This model explains that there is two ways (related to people's involvement) to persuade people: the central and the peripheral routes (De Barnier, 2006). The central route is related to the fact that people look at the information perceived as relevant for them, they therefore are active and will look more for the quality of the arguments. The potential induced changes will be stable across time, will be resistant to counter-persuasion and will predict behaviours. The peripheral route is related to a lower motivation to process information. Thus, people will focus on more superficial information like the number of arguments, the credibility of the source or its sincerity, etc (De Barnier, 2006). Several empirical researches have concluded that the arguments' quantity will be the

most persuasive element in situation of low involvement whereas their quality will be the most important in case of high involvement (De Barnier, 2006). Thus, we can connect Bronner's vision of the impact of the argumentative mille-feuille to the peripheral route to persuasion: the arguments' quality is not important (unlike their quantity), and the changes may not be deep. Indeed, this idea that "everything can't be false" can be related to a low involvement: it is quite different to a complete conspiracy theories endorsement.

However, a study by Park and colleagues (2007) have found that people were more persuaded by high quality arguments compared to low quality ones regardless of participants' type of involvement. Indeed, they presented students an argumentation in favour of a topic (either about reducing cellphone use, adding more green space in the campus, or modify the university admission) which could be highly involving or not, and was constituted of either strong or weak arguments. The results showed that the good arguments generated changes that went in the direction of the persuasive messages, whereas weak arguments generated a boomerang effect.

Research questions and hypotheses

This paper is based on an unpublished master thesis, which investigated empirically the Fort effect generated by the argumentative mille-feuille (Bronner, 2012, 2013) applied to the 9/11 conspiracy theories [Authors]. The original research focused not only on the impact of the arguments in favour of the 9/11 conspiracy theories on the belief in it, but also on participants' motivation to find a counter-argumentation, and other associated biases.

The research questions of the present paper are (1) What is the impact of an exposure to arguments in favour of the 9/11 conspiracy theories on people's belief? (2) Is there an impact of the argument's quality on their belief change? (3) Is there an impact of the argument's quantity on the belief change?

Based on the previous empirical research concerning conspiracy theories and persuasion mechanisms, five hypotheses have been produced: first, (H1a) participants' belief in 9/11 conspiracy theories should increase after the presentation of a collection of arguments in favour of it (Jolley & Douglas, 2014a, b; Douglas & Sutton, 2008; Van der Linden, 2015). Second, (H1b) arguments' presentation will also reduce participants' belief in the official version (Butler et al., 1995). Moreover, (H2a) the belief changes in conspiracy theories should be the same regardless of the argumentation's quality, and (H2b) the changes of confidence in the official version should also be the same regardless of the argumentation's quality (Bronner, 2012; 2013; Johnson et al., 2004; De Barnier, 2006). As an indicator of the impact

of the arguments quantity (H3) the first arguments presented will be perceived as weaker than the arguments presented in the end (De Barnier, 2006).

Methods

Study design

To these hypotheses, 3 different types of survey were created on PsyToolkit (Stoet, 2010, 2017). All of them followed the same structure: an introduction and pre-tests, the argumentative millefeuille (i.e., 10 arguments randomly presented), and the post-tests. The difference between the 3 surveys concerned the argumentative millefeuille: the arguments were either weak, strong, or mixed.

Constitution of the argumentative millefeuilles

The arguments constituting the three millefeuilles come from a preliminary study [Authors], which purpose was to determine what were strong and weak arguments in favour in 9/11 conspiracy theories. A survey constituted of 40 arguments in favour of 9/11 conspiracy theory was sent to 70 second year psychology students. 30 arguments came from debunking sources (e.g., Centriloque, 2013; DebunKer des Etoiles, 2016), and 10 additional arguments were chosen for their unlikely status (e.g., a card game predicting the twin towers and the pentagon attack).

Three types of argumentative millefeuille were created from this first experiment. The "good" one was generated with the 10 strongest arguments (i.e., the best rated on average), the "weak" with the 10 worst and the "mixed" was constituted with the 5 best and worst arguments. An ANOVA underlined a significant difference of notation between each condition ($F(3, 2876) = 71.09$, $p < .001$, partial $\eta^2 = .059$).

Three surveys were constituted with each type of argumentation: "survey G" was constituted with the 10 best arguments, "survey W" with 10 weakest ones, and "survey M" with the five best and worst sentences.

Introduction and pre-tests

The pre-tests evaluated participants original attitudes concerning the 9/11 conspiracy theory. Two different measurements about the belief in the 9/11 conspiracy theory were taken. The first was an adaptation of the French version of the single-item scale of Conspiracy belief (Lantian et al., 2016) to the 9/11 events. The first sentence (originally presenting different conspiracy theories) was replaced by a sentence concerning only the 9/11 conspiracy. The

second measurement presented a summary of the 9/11 official version and participants had to say how much they believed that this version was real on a Likert scale (from 1=Real, to 9=False).

Experimental phase (argumentative millefeuille)

10 arguments were randomly presented one at a time. Participants had to determine the quality of each of them on a scale from 1 to 10 (1=Of bad quality, 10=Of very good quality). Participants in "survey G" were exposed only to strong arguments, those in "survey W" only the weak ones, and those in "survey M" had a mix of the 5 best and worst arguments.

Post-tests and conclusion

The measurements taken in the post-tests were the same as those in the pre-test. Some socio-demographic questions (age, gender, study domain, mother tongue) concluded the survey. In the end, people were redirected to a site debunking the presented arguments.

Participants

Population was constituted with first year bachelor students following a statistics course Autor's 2; they were rewarded with half an hour of experiment credits. People were randomly assigned to one of the three surveys.

In total, 103 people took part to the surveys (31 in survey G, 44 in M and 28 in W), and 86 went to the end of their questionnaire (28 in survey G, 34 in M, and 24 in W). Almost all students (94.19%) who completed the questionnaire were following the bachelor's in psychology curriculum. All students with Survey M were in psychology. In condition G, 2 students (7.14%) were in the political science bachelor. In condition W, 2 students (8.33%) were in sociology and 1 (4.17%) was in informatics. Participants' mean age was 23.38 (SD = 10.90; $M_G = 21.82$, $SD_G = 3.83$; $M_M = 24.06$, $SD_M = 15.42$; $M_W = 24.26$, $SD_W = 8.62$). There was a majority of women (84.90% across the 3 surveys: 89.30% in Survey G, 88.25% in M, and 75% in W), and of French-speaking people (74.42% across the 3 surveys: 67.86% in Survey G, 79.41% in M, and 75% in W).

Analyses

The impact of the arguments on the belief in 9/11 conspiracy theories was tested by comparing scores in the pre-test and the post-test with a 2 x 3 mixed ANOVA. The intra-subject factor was the measurement (with pre-test and post-test as the two levels), and the

inter-subject factor was the survey condition (i.e., survey G, M, W). The same analyses were computed for the belief in the official version.

The progression of the arguments notation according to their position was evaluated with a Mixed 10 x 3 ANOVA. The inter-subject factor was the survey assignation (i.e., Survey G, M, and W), and the intra-subject factor was the argument's position (from 1 to 10).

All the analyses were computed with SPSS version 25. Before each ANOVA, a Mauchly's test was computed to guarantee the hypothesis of sphericity, and a Box's test verified the equality of covariance matrices. As Box's test tend to be easily significant, we followed Verma's recommendation to use a $p<.001$ threshold (2015). None of these tests were significant, which means that the hypotheses of sphericity and equality of covariance matrices were respected.

Results

The arguments' quality on the belief in the 9/11 conspiracy according to the survey condition showed no significant difference of conspiracy theories endorsement between pre and post-test (p = .737). No difference has been found between the 3 types of survey (p = .206), or the interaction effect (p = .807).

A significant difference in the measurement of belief in official version was found between pre and post-test, $F(1, 83) = 5.50$, p = .021, partial η^2 = .062 (see Figure 1). The score was significantly lower in the pre-test (M = 3.64, SE = .236) than in the post-test (M = 4.11, SE = .223). As it is a revert scale (1=True, 9=False), it means that the belief in the official version decreased in the post-test. The ANOVA showed neither an effect of the arguments' quality (p = .151), nor a significant interaction (p = .358).

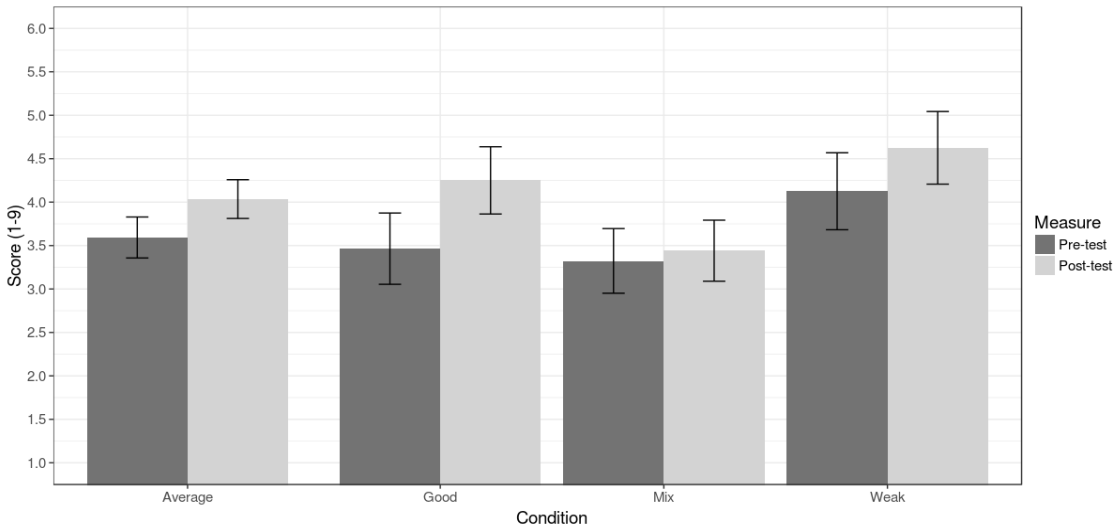

Figure 1: Scores differences of confidence in the official version (the official version is considered as: 1=True, 9=False) between the pre- and post-test on average and according to the survey. Error bars indicate ±1 standard error to the mean.

The analyses showed no significant difference of the arguments' position on their notation (p = .518) and no interaction effect (p = .525). However, there was a significant differences between the arguments' perceived quality, $F(2, 83) = 27.34$, $p < .001$, partial η^2 = .397. As presented in figure 2, Tukey's honest significant difference showed that survey G questions were significantly better rated ($M_G = 5.94$, $SE_G = .273$) than in M ($M_M = 4.02$, $SE_M = .247$), and W ($M_W = 3.075$, $SE_W = .294$) (all $p_s < .05$). Survey M's arguments were also significantly better rated than in survey W (p = .044).

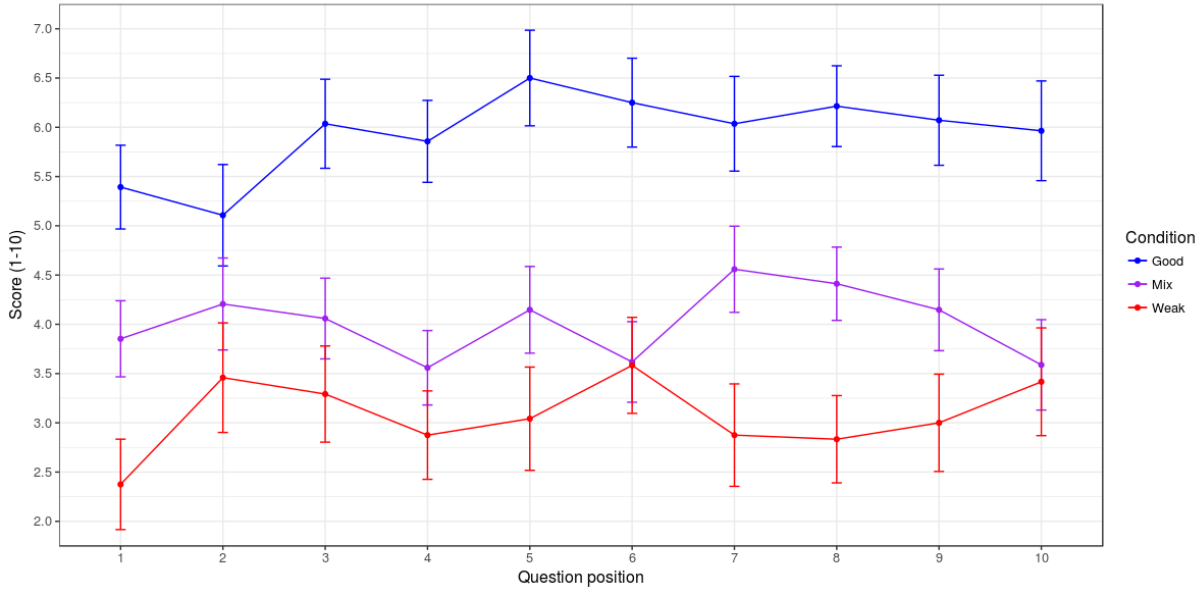

Figure 2: Mean progression of the arguments' score (1 = Of bad quality, 10 = Of very good quality) according to their condition (Good, Mix and Weak). Error bars indicate ±1 standard error to the mean.

Discussion

About the belief in 9/11 conspiracy theories and official version (H1a & H1b)

The first hypotheses concerned the impact of the argumentative mille-feuille on the endorsement of the 9/11 conspiracy theory and on the confidence in the official version. The mille-feuille should increase the belief in conspiracy theory and decrease the confidence in the official version. The results showed a significant reduction of people's belief in the official version, which is coherent with previous studies (Butler et al., 1995). On the other hand, the results did not show an increasement of the belief in 9/11 conspiracy theories after the exposure to the related argumentative millefeuille. This is quite contradictory with precedent studies about exposure to conspiracy theories (e.g., Douglas & Sutton, 2008).

These results may be explained by the fact that the modified Single-item scale (Lantian et al., 2016) refers to people acting in secret, whereas in the survey, no item in favour of a reduced hidden group was present in the surveys G and M and only 3 were present in survey W. Thus, only a limited portion of the participants had access to items in favour of the hypothesis of people acting in secret. On the other hand, 7 arguments against the official version described were presented in survey G, 5 were in the survey M and 2 in the survey W. In addition, the measurement of belief in the 9/11 official version was taken after a brief description summarizing the most important events that happened that day. Maybe the presentation of pro-official version items creates a basis onto which participants can think when they are looking at pro-conspiracy (or anti-official version) arguments. In sum, the arguments presented in the mille-feuille may contribute to discredit the official version, but they do not constitute a real argumentation in favour of a coherent conspiracy theory.

On the other hand, in this study, each argument was presented one after the other, with each time a question concerning their quality. This is quite different to other studies about exposition to conspiracy theories that presented arguments in a flowing text (e.g., Douglas & Sutton, 2008). Besides, each presented argument was quite long (i.e., more than one line per argument). Added to the fact that participants were asked to determine the arguments quality may have led participants to think about what an argument of a good quality is and may have triggered a more analytical thinking which is negatively correlated with believe in conspiracy theories (Swami et al., 2014).

Franks and colleagues' (2017) interpretation of the theory of the monological belief system could be an explanation of the observed results. Franks et al. (2017) proposed 5 typologies of conspiracy believers. Type 1 is related to people putting into question our world organization, but do not endorse conspiracy theories; Type 2 is related to people that also reject mainstream solutions and consider some conspiracy theories as believable; Type 3 endorse some conspiracies to explain several events; Type 4 is related to the fully monological belief system, and Type 5 includes belief in some paranormal and non-human agents. Therefore, the doubt in the official version may be a good indicator of Type 1 and 2 (or even 3) believer whereas the Lantian and colleague (2016) single item scale may be better to spot Types 4 and 5 conspiracy. The study conducted by Lantian and colleagues (2016) to validate their single-item scale is quite in line with this hypothesis. Indeed, researchers found a very good stability of their scale over two weeks. Moreover, the scale had provided a good correlation ($r = .50$ and $.54$) with paranormal belief (Tobacyk, 2004). Therefore, single-item scale may be good to measure monological conspiracy theory believers, with a deep

conspiracy theory endorsement, which also explains its stability. Thus, the argumentative mille-feuille may have "only" a limited impact: it may trigger a change from Type 1 to Type 2 (or even Type 3). This interpretation of conspiracy theories endorsement is coherent with Bronner's metaphor of the "cognitive market" (Bronner, 2013). Indeed, just like an attractive product in a supermarket, conspiracy theories arguments are attractive to undecided people (i.e., Type 1 or 2), whereas individuals strictly not interested by this kind of "products" (e.g., non-believer) will never "buy" them, and people that are already consuming them (e.g., Type 3, 4 and 5) would have "bought" them anyway.

These findings are consistent with the Elaboration-likelihood model. Indeed, the ELM states that the central route to persuasion will generate a people's attitudes change more persistent across time and will predict behaviours, whereas the peripheral persuasion will be less resistant to change (De Barnier, 2006). Lantian et al. (2016) scale could thus be an indicator of an attitude obtained with a central route, which could explain its stability over two weeks, whereas the confidence in the official version could be an indicator of a more peripheral influence. In addition, Johnson & Eagly (1990 in De Barnier, 2006) found that people find essential to keep their central values. To keep it, they can refuse to take into consideration persuasive messages, even if the arguments quality is strong . This would be coherent with what is observed here: the difference of attitudinal change may be explained by the fact that doubt about the official version implicates a change of peripheral value, whereas embrace 9/11 conspiracy theories implies a central change.

Another possible explanation of why we did not observe a change in the single-item scale (Lantian et al., 2016) can also be explained by other studies about persuasion. Indeed, Petty and Cacioppo (1977) found that there was a resistance from participants when they knew that they were going to be under persuasion. They then tended to deeply reject the arguments of weak quality and to avoid taking into consideration arguments of good quality. Maybe the way we designed our questionnaires and the fact that participants were used to take part to experiments increased the saliency of the persuasion attempt, which have triggered some resistance mechanisms to it.

In addition, the 9/11 conspiracy theories are not the most endorsed in the country in which the experiment was conducted. Maybe the resistance to persuasion would be less strong if it concerned a more widely accepted conspiracy theory, such as JFK assassination or Big Pharma conspiracy (Wagner-Egger & Bangerter, 2007).

Another element could be the high educational level of the population. Indeed, some studies underlined that there was a negative correlation between the belief in conspiracy

theories and the educational level (Douglas et al., 2016; Oliver & Wood, 2014). This could explain the stability of the measurement of belief in 9/11 conspiracy theory.

The impact of arguments' quality on people's attitudes changes (H2a, H2b)

Concerning the argument quality *per se*, an effect of the survey was found on the argument's perceived quality. Survey G's mean notation was significantly greater than surveys M and W's, whereas survey W's mean was significantly lower than the two others (all $p_s < .05$). This is consistent with the result observed in the preliminary study, and underlines that some arguments are constantly perceived as weaker than other ones.

The two hypotheses concerning the arguments' quality was that the mille-feuille's constitution (Good, weak, mixed) should not have an impact on people attitude change. Thus, the type of survey should have an impact nor (H2a) on the belief in 9/11 conspiracy theories, neither (H2b) on the confidence in official version. These two hypotheses have been validated.

We have to be a bit careful with this conclusion. Indeed, no "type of argument" effect was found on the two measurements, but the arguments had no effect at all on the belief in 9/11 conspiracy theories measurement. Thus, the present conclusion that the arguments' quality does not have an impact on people's attitudes is not immune to a possible further refutation.

Out of this consideration, these results correspond to Bronner's (2013) definition of the Fort effect. It is also coherent with the idea that the Fort effect would be related to an ELM peripheral route to persuasion. Indeed, it seems that the arguments' quality, which is related to the central route, did not have an impact on participants' attitudes (De Barnier, 2006).

The impact of the arguments quantity on the perception of their quality (H3)

Finally, based on the idea that argumentative mille-feuille's was related to a peripheral route of persuasion, we supposed that the arguments quantity should have an impact on people's attitudes. The related hypothesis (H3) was that the arguments presented in the end would have a higher score than arguments presented in the beginning. Concerning this hypothesis, the results obtained were not significant.

As explained in a higher paragraph, the arguments presentation (i.e. one after the other and asking them to focus on the quality) may have increased a more analytic way of thinking (Swami et al., 2014). This could thus have reduced the feeling of arguments' accumulation (compared to a film or a flowing text).

General limitations and further studies

One of the major limitations of this research is the way arguments were presented. First, present one argument after the other with each time a question concerning their quality, was quite different to other studies about exposure to conspiracy theories (e.g., Jolley & Douglas, 2014a or Leman & Cinnirella, 2013). In addition, even if it permitted to have interesting findings, the arguments presentation could be more ecologically presented. Indeed, our setting was well controlled, but was not very close to what people are confronted in their everyday life. The study did not consider all the rhetoric related to conspiracy theories. Furthermore, the written media is far from being the only one used in the spreading of conspiracy theories (Stempel, Hargrove & Stempel, 2007). Indeed, conspiracy theories are often presented with pictures on written sites, but they can also be in the documentary format with multiple additional factors like the music, slow motion, catch phrases, etc. For example, the argument that the hole in the Pentagon was too small compared to the size of the plane that hit the building is systematically accompanied by a picture of the building, whereas in our study, only the sentence was presented. Moreover, the film media put people in a more passive position, which reduce their capacity to counter-argue the presented arguments (Banas & Miller, 2013). This way of presenting arguments could change people's involvement, and therefore change the impact of the persuasive message (De Barnier, 2006). Thus, working with different media in future studies could be an interesting lead for future research.

Different parameters concerning the sample could be modified to go beyond the results of this research. As the effects found were quite small (Field, 2009), having a bigger sample could improve this research. It would also be interesting to work with a more representative sample. Indeed, participants were students, with a high educational level, which is negatively correlated with the belief in conspiracy theories (Douglas et al., 2016). This research could also be improved by having a more homogenous sample concerning the gender proportion.

It would also be interesting to focus on the variation concerning the arguments. For example, investigate the impact of the type of arguments (like their theme, or the type of sources) could provide a more precise view of the parameters that generate a feeling of "strong argument". It would also be interesting to modify the measurement concerning the arguments. For instance, instead of asking participants their opinion concerning the arguments quality, asking them if the arguments are true or false could give an additional indicator of the conspiracy theory endorsement. The subject of the arguments could also be explored. For example, expose participants to conspiracy theories that encountered more adhesion in the

population of the country in which the experiment was conducted. Indeed, present arguments in favour of a conspiracy theory like Big Pharma may reduce the resistance to persuasion (Wagner-Egger & Bangerter, 2007). Finally, we could also investigate the modality of the mille-feuille's constitution, by working on the arguments quantity instead of their quality for instance.

As our results seem to show that there only was an impact on participants' peripheral attitudes, the duration of the impact of the exposure to pro-conspiracies arguments could be studied. With a more long-term design, we could see the duration of the impact of the arguments on participants beliefs. We could also investigate the impact of repeated exposure to conspiracy theories on people's belief in conspiracies could also be investigated. As explained by Swami and colleagues (2011), the conspiracy belief thinking is positively correlated to exposure to conspiracy ideation. Expose repeatedly people to conspiracies could also give us some new clues about how people get into the monological belief system. It would also be a good occasion to empirically test Franks and colleagues' (2017) conspiracy believers' thinking system (i.e. the 5 types of believers).

Conclusion

To sum up, the goal of this research was to test the Fort effect: the impact of a collection of arguments of different quality (the argumentative mille-feuille) on people's belief in conspiracy theories. Hypothesis H1a was not validated: no significant incrementation of belief in conspiracy theory was observed. However, hypothesis H1b showed a diminution of confidence in the official version. These results are a clue that there may be a first step in endorsing conspiracy theories: the argumentative mille-feuille has an impact on people's peripheral belief, but this change is not deep enough to impact people's central belief system. The hypotheses H2a and H2b has been partially validated: no effect of the surveys on the different measurement have been underlined. Finally, (H3) the arguments' quantity did not improve their perceived quality.

This research is a first empirical understanding of the argumentative mille-feuille and the related Fort effect. It also put into light that the Fort effect and exposure to conspiracy theories trigger processes studied in research about persuasion and advertisement.

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