



Editor's choice

Exposure to intergroup conspiracy theories promotes prejudice which spreads across groups

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This research experimentally examined the effects of exposure to intergroup conspiracy theories on prejudice and discrimination. Study 1 ($N = 166$) demonstrated that exposure to conspiracy theories concerning immigrants to Britain from the European Union (vs. anti-conspiracy material or a control) exacerbated prejudice towards this group. Study 2 ($N = 173$) found the same effect in a different intergroup context – exposure to conspiracy theories about Jewish people (vs. anti-conspiracy material or a control) increased prejudice towards this group and reduced participants' willingness to vote for a Jewish political candidate. Finally, Study 3 ($N = 114$) demonstrated that exposure to conspiracy theories about Jewish people not only increased prejudice towards this group but was indirectly associated with increased prejudice towards a number of secondary outgroups (e.g., Asians, Arabs, Americans, Irish, Australians). The current research suggests that conspiracy theories may have potentially damaging and widespread consequences for intergroup relations.

Conspiracy theories explain the ultimate causes of significant events as the secret actions of malevolent groups, who cover up information to suit their own interests (e.g., Douglas, Sutton, & Cichocka, 2017; Goertzel, 1994; McCauley & Jacques, 1979). For example, popular conspiracy theories propose that climate change is a hoax orchestrated by the world's scientists to secure research funding, that Diana, Princess of Wales, was murdered by members of the British government, and that Jewish people have a controlling and sinister influence over world affairs. A growing body of research suggests that conspiracy theories are popular (Oliver & Wood, 2014), that they are associated with a variety of psychological traits (e.g., Abalakina-Paap, Stephan, Craig, & Gregory, 1999; Swami, Chamorro-Premuzic, & Furnham, 2010), and that they have important political, social, and health-related consequences (e.g., Jolley & Douglas, 2014a,b). In the current research, we focus on the consequences of conspiracy theories for relations between groups. We argue that exposure to intergroup conspiracy theories may be damaging not just because they serve to increase prejudice and discrimination towards the implicated group, but because this prejudice then has the potential to spread across multiple social outgroups.

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The psychology of conspiracy theories

In recent years, psychologists have made significant progress in understanding why people believe conspiracy theories (see Douglas *et al.*, 2017). Specifically, it seems that people often believe conspiracy theories in an effort to gain an accurate and consistent understanding of the world. For example, findings show that factors such as the need for cognitive closure (Marchlewska, Cichocka, & Kossowska, 2018), uncertainty (van Prooijen & Jostmann, 2013), and the tendency to search for patterns (van Prooijen, Douglas, & De Inocencio, 2018) are all associated with heightened conspiracy belief. Conspiracy theories, therefore, appear to provide answers when people want to know the truth about important events.

Research suggests that people might also believe conspiracy theories in an attempt to meet their personal needs for security and control. Along this vein, research has shown that people turn to conspiracy theories when they are anxious (Grzesiak-Feldman, 2013), feel powerless (Abalakina-Paap *et al.*, 1999; van Prooijen & Acker, 2015; Whitson & Galinsky, 2008), or lack socio-political control (Bruder, Haffke, Neave, Nouripanah, & Imhoff, 2013). Conspiracy theories may therefore allow people to feel that they are restoring a sense of control and security – they provide a means to reject information from officialdom and also allow people to feel that they possess an alternative account.

Finally, research suggests that there are also important social reasons to believe conspiracy theories. For instance, research has shown that conspiracy theories appeal more to narcissists (Cichocka, Marchlewska, & Golec de Zavala, 2016) and ‘losers’ of political processes (Uscinski & Parent, 2014), who are both arguably motivated to defend or restore their sense of self-esteem or feeling of group worth. There is, therefore, a growing body of literature highlighting the psychological needs that appear to drive conspiracy belief (Douglas *et al.*, 2017).

Consequences of conspiracy theories

Less is known about the consequences of conspiracy theories. Emerging findings suggest that conspiracy theories might have potentially serious social and political outcomes. For example, HIV-related conspiracy beliefs amongst African American communities have been found to be associated with negative attitudes towards contraceptives and safe-sex practices (e.g., Bogart & Thorburn, 2006; Hoyt *et al.*, 2012). There is also evidence that exposure to conspiracy theories influences civic engagement. Specifically, Jolley and Douglas (2014a,b see also Douglas, Sutton, Jolley, & Wood, 2015) found that exposure to conspiracy theories makes people feel less inclined to vote, less inclined to reduce their carbon footprint, and less inclined towards vaccination. Also, conspiracy theories in the workplace have been linked with reduced job satisfaction and increased turnover intentions (Douglas & Leite, 2017; see also Van Prooijen & de Vries, 2016).

In the present research, we focus specifically on the consequences of conspiracy theories for intergroup relations. Initial findings hint at the negative consequences of exposure to conspiracy theories in this domain. For instance, in recent correlational research, belief in conspiracy theories about Jewish domination of the world has been found to be associated with anti-Semitic attitudes (e.g., Golec de Zavala & Cichocka, 2012; Kofta & Sędek, 2005). Similarly, Bilewicz, Winiewski, Kofta, and Wójcik (2013) reported that conspiracy stereotypes of Jewish people – which refer to social schemas of groups that typically view group members with ill intentions – are a strong predictor of discrimination towards Jewish people (e.g., favouring policies that prevent Jewish people from buying Polish land, see also Bilewicz & Krzeminski, 2010). These findings

point to an association between conspiracy beliefs and prejudice towards an alleged conspiring outgroup.

The present research employed an experimental design to investigate the causal impact of conspiracy theories on intergroup prejudice. Correlational results cannot rule out the possibility that effects exist only because people who harbour high levels of prejudice are more likely to endorse conspiracy theories about the implicated group. Indeed, believing in conspiracy theories could be an avenue to express prejudice towards other social groups and help maintain self-esteem (c.f. Tajfel & Turner, 1979; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987). On the other hand, it is plausible that exposure to conspiracy theories may increase prejudice towards the implicated group. Intergroup threat theory posits that threats to the ingroup promote negative evaluations of outgroups (Stephan & Stephan, 2000). A distinction can be made between realistic threat (perceived threat to ingroup welfare) and symbolic threat (perceived threat to ingroup values). The link between both types of threat and prejudice is well established. Conspiracy theories typify the outgroup as a collective conspirator that threatens the majority group's welfare or values (see Champion-Vincent, 2005; Moscovici, 1987). Accordingly, the present research sought to explore the potential for exposure to outgroup conspiracy narratives to increase self-reported prejudice towards these groups.

We also sought to extend the existing literature by examining whether the effects of conspiracy theories on intergroup attitudes extend beyond the group implicated in the conspiracy, to increase prejudice towards other, uninvolved outgroups. Attitudes towards particular objects can generalize to other related objects (e.g., Fazio, Eiser, & Shook, 2004; Walther, 2002). In the intergroup relations literature, research demonstrates that the attitudinal consequences of our encounters with outgroup members can generalize to the outgroup as a whole, and from there to other, secondary outgroups. This effect is known as a *secondary transfer effect* (Pettigrew, 2009). Positive contact with immigrants, for instance, has been shown to produce secondary reductions in prejudice towards homosexual people and homeless people (Pettigrew, 2009). Similarly, contact between Catholics and Protestants in northern Ireland has been shown to improve attitudes not just towards the religious outgroup, but also towards racial minority groups (Tausch *et al.*, 2010). Effects emerge via a process of *attitude generalization* in which intergroup contact improves attitudes towards the primary outgroup, and these more positive attitudes then generalize to other, uninvolved outgroups (Pettigrew, 2009; Tausch *et al.*, 2010). Emerging findings suggest that such attitude generalization effects also occur for negative intergroup encounters (Brylka, Jasinskaja-Lahti, & Mähönen, 2016; Harwood, Paolini, Joyce, Rubin, & Arroyo, 2011).

When applied to the domain of conspiracy theories, we may observe a similar process in which exposure to conspiracy theories regarding one outgroup not only increases prejudice towards this group but this prejudice then spreads also towards other, uninvolved outgroups. Some initial correlational research provides initial support for this idea. For example, Kofta and Şedek (2005) found that conspiracy stereotypes of Jewish people were a strong predictor of prejudices held towards Jewish, German, and Russian people. Swami (2012) also observed in a Malay sample that belief in Jewish conspiracy theories was negatively associated with attitudes towards Chinese people. However, as discussed by Swami (2012), it has been suggested that Jewish conspiracy theories in Malaysia reflect displaced resentment of Chinese people (Burhanuddin, 2007; Hadler, 2004; Siegel, 2000); thus, the reported link with Jewish conspiracy theories may be a mask for anti-Chinese prejudice. The novelty of our approach lies in our experimental method, allowing us to isolate the causal impact of exposure to

conspiracy theories relating to a given outgroup on prejudice towards both this outgroup and other, uninvolved outgroups.

The present research

Previous research has demonstrated how conspiracy theories can prevent individuals from engaging in society in a positive way, and an emerging literature points to the potentially damaging effect of conspiracy theories for intergroup relations. Existing cross-sectional research has tested predictor models (e.g., Bilewicz *et al.*, 2013; Golec de Zavala & Cichocka, 2012) where evidence has shown that belief in conspiracy theories related to a particular outgroup is associated with increased prejudice and discrimination towards that group. In the current research, we sought to provide an experimental examination of the impact of exposure to conspiracy theories on intergroup attitudes. Specifically, Study 1 and Study 2 tested the hypothesis that exposure to conspiracy theories would increase prejudice towards the target outgroup. This hypothesis was tested in two different intergroup contexts, specifically where immigrants were the alleged conspiratorial group (Study 1) and where Jewish people were the alleged conspirators (Study 2). In Study 2, we also examined whether exposure to conspiracy theories would lead directly to discrimination (anti-voting bias). In Study 3, we then examined how increased prejudice as a function of conspiracy theories may spread even beyond the target outgroup. We report all measures, manipulations, and exclusions in these studies, either within the text or a footnote.

STUDY 1

Study 1 aimed to provide the first evidence of the causal impact of conspiracy theories on prejudice within a timely and important real-world context. We focused on popular conspiracy theories relating to Muslim immigration, and attempts to ‘Islamicize’ Europe (Swami, Barron, Weis, & Furnham, 2018; also see Ünal, 2016). Participants were exposed to a conspiracy narrative regarding immigrants’ involvement in terrorist organizations (e.g., ISIS), and their plots to attack Britain from within (e.g., Burke, 2016; Vermaat, 2013). In an experimental design adapted from Jolley and Douglas (2014a,b), participants were asked to read one of three arguments: (1) conspiracy arguments, (2) anti-conspiracy arguments, or (3) a control condition where no information was given. Following the manipulation, participants rated their beliefs in the conspiracy theory and their prejudice towards immigrants.

Method

Participants and design

One hundred and eighty-one participants (80 men and 101 women, $M_{\text{age}} = 36.40$, $SD = 12.81$) were recruited online via a UK-based online participant database, *Prolific Academic*, which is similar to Amazon’s Mechanical Turk. Participants were all residents of the United Kingdom and received a small fee in exchange for their participation. Some exclusions were made. Specifically, participants were required to be British citizens who were currently living in the United Kingdom. Participants who either failed an attention screen or spent less than 30 s reading the conspiracy-related information were removed from the analysis. The final sample size used for data analysis was 166 (96 women and 70

men, $M_{\text{age}} = 36.72$, $SD = 12.90$). Participants were randomly assigned to either a pro-conspiracy condition ($n = 50$), anti-conspiracy condition ($n = 57$), or control condition ($n = 59$) in a between-subjects design. Prior to data analysis, an anticipated small–medium effect size (η^2) of 0.059 based on previous research (e.g., Jolley & Douglas, 2014a,b) required a sample size of approximately 150 for 80% power of detecting the effect (Clark-Carter, 1997). Anticipating participant dropout, we recruited a sample of 181.

Materials and procedure

To begin the experiment, participants were exposed to either information that supported conspiracy theories concerning immigrants' involvement in activities aimed to undermine the safety of British society (pro-conspiracy condition) or information that refuted this conspiracy theory (anti-conspiracy condition). A control condition was also included, where no information was given (Jolley & Douglas, 2014a,b). The pro-conspiracy article began by arguing that there are many reasons to be suspicious of immigrants. The article then continued to provide specific examples such as immigrants have been found to be working on behalf of terrorist organizations. An extract from the conspiracy article was as follows:

...Many argue that immigrants are actively working, in secret, with terrorist organisations to spark a cyber-attack on British society. There is ample evidence supporting this view ...

The anti-conspiracy article was similar in content and length to the pro-conspiracy article but differed by arguing that there are few reasons to be suspicious of immigrants being involved with terrorist organizations. An extract from the anti-conspiracy theory article was as follows:

...Despite detailed investigations in other countries, immigrants have never been discovered within secret terrorist organisations...Why would this be any different here in the UK? ...

The term 'conspiracy theory' was not mentioned in either of the articles. After completing the manipulation, participants then indicated their belief in conspiracy theories relating to immigrants by way of a manipulation check. Belief in the conspiracy theories was measured with four items ('Immigrants are working within secret networks on behalf of ISIS', 'Immigrants are working with terrorist groups to eventually attack British society from within', 'Immigrants are often involved in secret plots and schemes intended to disrupt British society', and 'Immigrants do not work together to support terrorist organisations*', $\alpha = .91$) on a scale of 1 (*strongly disagree*) to 7 (*strongly agree*). Next, participants completed a measure of prejudice towards immigrants. Participants were asked to describe immigrants on five semantic differential word pairings on a 7-point scale (*beautiful–ugly*, *good–bad*, *pleasant–unpleasant*, *honest–dishonest*, and *nice–awful*, adapted to the immigrant target group from Hummert, Garstka, O'Brien, Greenwald, & Mellott, 2002). Items were coded such that a higher score corresponded to higher prejudice ($\alpha = .94$).¹ Finally, participants completed the attention screen and were debriefed, thanked, and paid. Full materials are available upon request.

¹ Factor analysis was conducted on the immigrant conspiracy theory and prejudice scales. Statistical assumptions were met, and the analysis revealed two factors with eigenvalues > 1 , explaining 61.81% and 18.62% of the variance, respectively. Each component showed strong loadings on the rotated solution, and each item loaded substantially on the predicted scale.

Results and discussion

Manipulation check

A one-way ANOVA confirmed the effect of exposure to conspiracy theories (pro-conspiracy vs. anti-conspiracy vs. control) on belief in conspiracy theories, $F(2, 163) = 7.50, p = .001, \eta^2 = .10$. Pairwise comparisons revealed that conspiracy belief was significantly higher in the pro-conspiracy condition ($M = 3.50, SD = 1.70$) compared to both the anti-conspiracy condition ($M = 2.54, SD = 1.36, p < .001, d = .62$) and the control condition ($M = 2.53, SD = 1.37, p = .001, d = .63$). The manipulation was therefore successful. In line with previous research, there was no difference in conspiracy belief between the anti-conspiracy condition and control condition ($p = .972$; Jolley & Douglas, 2017).

Exposure to immigrant conspiracy theories and prejudice

A second ANOVA then examined the effect of exposure to conspiracy theories on prejudice. A significant omnibus effect of condition on prejudice was observed, $F(2, 163) = 3.68, p = .027, \eta^2 = .04$. Pairwise comparisons demonstrated that prejudice was significantly higher in the pro-conspiracy condition ($M = 3.98, SD = 1.00$) compared to both the anti-conspiracy ($M = 3.56, SD = 0.96, p = .023, d = .43$) and the control condition ($M = 3.53, SD = 0.88, p = .016, d = .50$). There were no differences in prejudice between the anti-conspiracy condition and control ($p = .899, d = .00$).

The results of Study 1 provide the first experimental demonstration of the impact of exposure to intergroup conspiracy theories on prejudice.² Previous research has provided evidence of a cross-sectional association between conspiracy beliefs and prejudice (e.g., Golec de Zavala & Cichocka, 2012; Kofta & Şeđek, 2005). By manipulating exposure to conspiracy theories in an experimental design, we can confirm the causal relationship between conspiracy theories and prejudice towards an alleged conspiring outgroup.

STUDY 2

Study 2 sought to replicate this effect in a different intergroup context. Previous research suggests an association between Jewish conspiracy stereotypes and anti-Semitic attitudes (e.g., Golec de Zavala & Cichocka, 2012; Kofta & Şeđek, 2005). In the current investigation, we aimed to provide causal evidence of this effect by demonstrating that exposure to Jewish conspiracy theories can increase prejudice towards this group. We also included a measure of discrimination. Specifically, we asked participants whether or not they would vote for a Jewish candidate in an election. We predicted and tested a simple mediational model in which exposure to conspiracy theories relating to Jewish

² A mediation analysis was also conducted to examine whether the effect of exposure to conspiracy theories on prejudice is explained by increased belief in conspiracy theories relating to immigrants. This was carried out using Hayes' (2013) bootstrapping method for indirect effects, using PROCESS Model 4, including one mediator with 5,000 bootstrapped resamples and a 95% confidence interval. Because the independent variable had three levels, indicator coding was used to create two dummy variables. The pro-conspiracy condition was coded as the reference group and was compared to the anti-conspiracy condition (D1) and control (D2) separately. Results confirmed that the indirect effect was significant in both cases. When compared to both the anti-conspiracy condition and the control condition, exposure to conspiracy theories increased prejudice towards immigrants via increases in belief in conspiracy theories.

people would increase anti-Semitic prejudice which then would increase discrimination towards this group.

Method

Participants and design

One hundred and eighty-nine participants (99 men, 85 women, 4 trans/other, and 1 who did not report their gender) were recruited online via *Prolific Academic*. Participants were all residents of the United Kingdom and received a small fee in exchange for their participation. As in Study 1, participants completed attention check items and a timer was also used to identify participants who had spent less than 30 s reading the conspiracy theory material. Participants who failed these screening measures were removed from analyses, alongside participants who also indicated that they were of Jewish origin. The final sample size used for data analysis was 173 (81 women, 88 men, and 4 trans/other, $M_{\text{age}} = 31.12$, $SD = 10.73$). Participants were randomly assigned to either the pro-conspiracy condition ($n = 57$), anti-conspiracy condition ($n = 56$), or control condition ($n = 60$) in a between-subjects design. Similarly, to Study 1, an anticipated small–medium effect size (η^2) of 0.059 required a sample size of approximately 150 for 80% power of detecting the effect (Clark-Carter, 1997). Anticipating participant dropout, we recruited a final sample of 189.

Materials and procedure

As in Study 1, participants were presented with either pro-conspiracy information, anti-conspiracy information, or a no information control condition. The pro-conspiracy article suggested that Israel orchestrated attacks on the Twin Towers on 11 September 2001. An extract from the conspiracy article was as follows:

...one reason is that many Jewish employees in the Twin Towers were not at work on September 11th, suggesting that they were pre-warned by Israeli intelligence that the attacks were going to happen. . .

The anti-conspiracy article was similar in content to the pro-conspiracy article but differed by arguing that there are few reasons to doubt the official account of events. An extract from the anti-conspiracy theory article was as follows:

...there is no evidence to suggest that Jewish employees in the Twin Towers were absent from work on that day and that they were pre-warned about the attacks by Israeli intelligence. . .

As in Study 1, the term ‘conspiracy theory’ was not mentioned in either of the articles. After completing the manipulation, participants completed a manipulation check where belief in conspiracy theories about Jewish people was measured with five items (e.g., ‘Jewish people have controlled other international affairs for decades’; ‘Israeli intelligence officers pre-warned Jewish employees about the attacks on the Twin Towers’; ‘Jewish people have a controlling influence over international affairs, such as finance and the film industry’, $\alpha = .86$) on a scale of 1 (*strongly disagree*) to 7 (*strongly agree*). Participants then completed the dependent variables relating to prejudice. First, participants rated Jewish people on the semantic differential word

pairings as used in Study 1 (e.g., *beautiful–ugly*, $\alpha = .94$).³ Second, a measure of stereotypes was included, where participants were asked to complete four sentences ('how [insert adjective] are Jewish people?', adapted from Cuddy, Fiske, and Glick (2007) on a 1 (*not at all*) to 7 (*very*) scale, which measured competence (competent, capable; Spearman–Brown coefficient = .96) and warmth (warm, friendly; Spearman–Brown coefficient = .95). Third, participants were then asked to complete a measure of dehumanization, where participants were asked to rate 'how much Jewish people are likely to feel each of the emotions' (adapted from Vezzali, Capozza, Stathi, & Giovannini, 2012). Participants were asked to rate uniquely human (positive: hope, pride, and negative: remorse, shame; $\alpha = .84$) and non-uniquely human (positive: pleasure, excitement, and negative: anger, fear; $\alpha = .90$) emotions on a 1 (*not at all*) to 7 (*very*) scale. Each of the prejudice measures was counterbalanced. Finally, as a measure of discrimination, participants completed an anti-Jewish voting bias measure (adapted from Bilewicz et al., 2013). Participants were asked to indicate whether they would vote for a Jewish candidate within a parliamentary election from 1 (*would vote*) to 7 (*would not vote*). To conclude the experiment, participants completed the attention screen and were then debriefed, thanked, and paid.

Results and discussion

Manipulation check

Exposure to conspiracy theories was shown to have the expected influence on belief in Jewish conspiracy theories, $F(2, 170) = 21.51, p < .001, \eta^2 = .25$. Specifically, belief in Jewish conspiracy theories was significantly higher in the conspiracy condition ($M = 2.78, SD = 1.45$) than the anti-conspiracy condition ($M = 1.48, SD = 1.55, p < .001, d = .87$) and the control condition ($M = 1.93, SD = 1.00, p < .001, d = .68$). The manipulation was therefore successful. Contrary to Study 1, belief in conspiracy theories was also significantly lower in the anti-conspiracy condition than the control condition ($p = .003, d = .35$).

Exposure to Jewish conspiracy theories, prejudice, and discrimination

A one-way ANOVA examined the influence of exposure to conspiracy theories on affective prejudice. There was a significant omnibus effect, $F(2, 170) = 4.03, p = .019, \eta^2 = .05$. Pairwise comparisons confirmed that prejudice was significantly higher in the conspiracy condition ($M = 3.32, SD = 0.94$) than the anti-conspiracy condition ($M = 2.80, SD = 1.00, p = .008, d = .54$) and the control condition ($M = 2.91, SD = 1.15, p = .034, d = .39$). There was no difference in prejudice between the anti-conspiracy and control condition ($p = .545, d = .10$). There were no reported differences on the cognitive dimensions of prejudice (stereotypes and dehumanization [uniquely human or non-uniquely human], $p > .05$), so these were not analysed further.

Another ANOVA examined the influence of conspiracy condition on participants' intentions to vote for a political candidate who was known to have Jewish ethnic

³ Factor analysis was conducted on the Jewish conspiracy theory and prejudice scales. Statistical assumptions were met, and the analysis revealed two factors with eigenvalues > 1 , explaining 46.72% and 27.71% of the variance respectively. Each component showed strong loadings on the rotated solution, and each item loaded substantially on the predicted scale.

origin, as a measure of discrimination. Again, there was a significant omnibus effect of condition, $F(2, 170) = 3.29, p = .040, \eta^2 = .04$. Specifically, discrimination towards a Jewish political candidate was significantly higher in the conspiracy condition ($M = 2.30, SD = 1.60$) than the anti-conspiracy condition ($M = 1.66, SD = 0.98, p = .013, d = .48$), and marginally higher than the control condition ($M = 1.88, SD = 1.37, p = .097, d = .28$). Voting intentions did not differ between the anti-conspiracy condition and control ($p = .374, d = .18$).

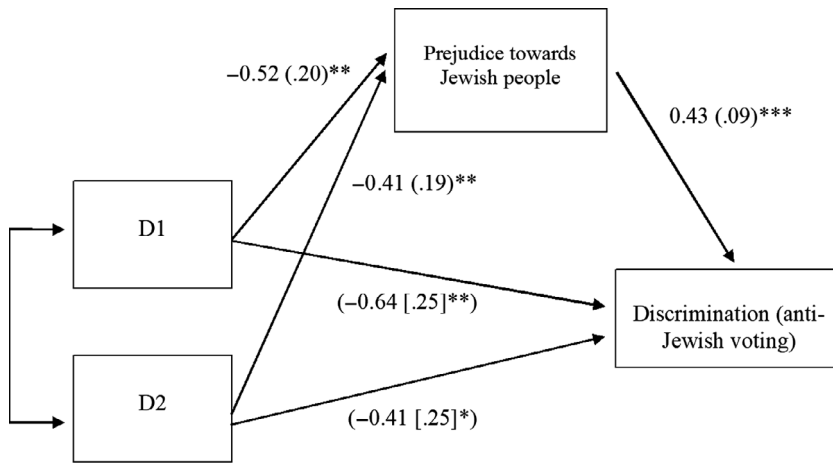
A mediation analysis was then conducted to examine whether the effect of exposure to conspiracy theories on anti-Jewish discrimination could be explained by increased prejudice towards this group. This was carried out using Hayes' (2013) bootstrapping method for indirect effects, using PROCESS Model 4, including one mediator with 5,000 bootstrapped resamples and a 95% confidence interval with indicator coding. The pro-conspiracy condition was coded as the reference group and was compared to the anti-conspiracy condition (D1) and control (D2) separately. Results (see Figure 1) confirmed that the indirect effect was significant in both cases. When compared to both the anti-conspiracy condition and the control condition, exposure to conspiracy theories increased discrimination towards a Jewish political candidate via increases in prejudice towards this group.

Study 2 provides further support to the prediction that exposure to intergroup conspiracy theories can increase prejudice towards the group implicated in the conspiracy. Results are demonstrated in a different intergroup context with a different target outgroup, and also show that exposure to conspiracy theories not only affects attitudinal prejudice but also intended behaviour towards the outgroup.⁴ We also found, however, that exposure to conspiracy theories may more strongly impact the affective vs. cognitive dimensions of prejudice. Whilst exposure to conspiracy theories increased affective prejudice, there was no reported difference on stereotypes or dehumanization. Nonetheless, Study 2 provides evidence that exposure to intergroup conspiracy theories can change the way we *feel* – and potentially behave – towards implicated outgroups.

STUDY 3

Across two studies, we have experimentally demonstrated that exposure to conspiracy theories can increase prejudice towards the outgroup implicated in the conspiracy theory (Study 1), which, in turn, can lead to discrimination towards that group (Study 2). In Study 3, we examined whether the prejudice-enhancing effect of conspiracy theories may generalize even beyond the group implicated in the conspiracy to other, unrelated outgroups. It was expected that exposure to conspiracy theories about Jewish people may not only increase the level of prejudice towards Jewish people but that these negative attitudes may then generalize to other secondary outgroups (an *attitude generalization effect*; Fazio *et al.*, 2004). Importantly, if this generalization effect is observed, it would suggest that the detrimental consequences of conspiracy theories for intergroup relations may be even more wide-reaching than originally conceived.

⁴ As in Study 1, we also ran a mediation analysis using indicator coding where we found that exposure to conspiracy theories (vs. anti-conspiracy vs. control) was indirectly associated with prejudice and discrimination towards Jewish people through increased belief in conspiracy theories, respectively. This provides confidence that conspiracy theories are driving the reported effects.



D1: Indirect effect: -0.22 ($SE: .10$); Bootstrapped CI (95%): $-0.4671/-0.0701$

D2: Indirect effect: -0.17 ($SE: .10$); Bootstrapped CI (95%): $-0.4412/-0.0190$

Figure 1. A simple mediation test of conspiracy condition (D1, conspiracy versus anti-conspiracy/conspiracy, versus D2, conspiracy versus conspiracy/anti-conspiracy) on discrimination (DV) through prejudice towards Jewish people in Study 2 (MV) ($N = 173$; 5,000 bootstrap samples). *Note.* First number represents b statistic, and the second is the SE * $p < .10$. ** $p < .05$. *** $p < .001$.

Method

Participants and design

One hundred and twenty-four participants (57 men, 64 women, 2 trans/other, and 1 who would rather not say, $M_{age} = 34.69$, $SD = 10.88$) were recruited online via *Prolific Academic*. Participants were all residents of the United Kingdom and received a small fee in exchange for their participation. As in the previous studies, participants who failed attention screening measures were removed from the analysis, alongside those participants who indicated they were of Jewish origin. The final sample size used for data analysis was 114 (50 women, 61 men, 2 trans/other, and 1 who would rather not say, $M_{age} = 34.80$, $SD = 10.86$). The design was refined in Study 3 to focus only on the pro-conspiracy ($n = 52$) and control condition ($n = 62$). Effects in Study 1 and 2 were consistent in demonstrating an increase in prejudice in the pro-conspiracy condition relative to the anti-conspiracy condition, so we removed the anti-conspiracy condition in Study 3. Comparison focused on the difference between the pro-conspiracy condition and the control condition. A small–medium effect size (d) of 0.54 determined from the previous studies required a sample size of approximately 110 for 80% power of detecting the effect. Anticipating participant dropout (which after running Study 1 and 2 on the same platform was lower than we first anticipated), we targeted 124 participants.

Materials and procedure

In a between-groups design, participants were exposed to either information that supported conspiracy theories surrounding Jewish people (pro-conspiracy condition) or

no information (control condition). Participants then completed the same measure of belief in Jewish conspiracy theories as used in Study 2 by way of a manipulation check ($\alpha = .88$). To measure prejudice, participants completed a feeling thermometer scale (Haddock, Zanna, & Essess, 1993). Participants were asked to indicate how cold (unfavourable) or warm (favourable) they feel towards Jewish people, in general, on a scale from 0° to 100° . To make interpretation of the data easier, the thermometer scale was reversed-coded so that higher values indicated high levels of prejudice. Participants then completed this same measure to indicate their feelings towards a number of other, secondary groups, specifically Americans, Irish, Australians, Asians, rich people, feminists, housewives, disabled people, elderly people, Arabs, people on benefits, and poor people (adapted from Harwood *et al.*, 2011). The order of these secondary groups was randomized across participants. To conclude, participants completed attention check questions and were debriefed, thanked, and paid.

Results and discussion

Manipulation check

An independent samples *t*-test was conducted with conspiracy condition (pro-conspiracy vs. control) as the independent variable and scores on belief in Jewish conspiracy theories as the dependent variable. As expected, exposure to Jewish conspiracy theories resulted in significantly higher conspiracy theory belief ($M = 2.85$, $SD = 1.31$), compared to the control condition ($M = 2.09$, $SD = 0.93$), $t(112) = 3.59$, $p < .001$, $d = .67$. The manipulation was therefore successful.

Exposure to Jewish conspiracy theories and prejudice

A second *t*-test confirmed the impact of conspiracy condition on prejudice towards Jewish people as the dependent variable. As predicted, prejudice towards Jewish people was significantly higher in the experimental condition ($M = 38.25$, $SD = 21.14$) compared to the control ($M = 31.15$, $SD = 16.10$), $t(112) = -2.04$, $p = .044$, $d = .38$.

The generalized consequences of exposure to conspiracy theories were investigated by examining the indirect path from exposure to conspiracy theories to prejudice towards the secondary outgroups *through* prejudice towards Jewish people.⁵ The examination of the indirect path constitutes the most appropriate analysis to examine the generalization effects as it specifically tests the generalization process in which exposure to conspiracy theories increases prejudice towards the target outgroup, which then spreads to other, uninvolved outgroups (for similar procedure, see Harwood *et al.*, 2011; Vezzali & Giovannini, 2012). This indirect effect was tested using Hayes' (2013) bootstrapping method for indirect effects, using PROCESS Model 4, with 5,000 bootstrapped resamples and a 95% confidence interval. Separate models were performed for each of the secondary outgroups (12 models in total). Significant indirect effects emerged in each case. Point estimates and confidence intervals are reported in Table 1, ordered by magnitude of the indirect effect.

⁵ A MANOVA was conducted with the conspiracy condition as the independent variable and prejudice towards a variety of other outgroups as the dependent variables. Exposure to Jewish conspiracy theories influenced prejudice towards people on benefits, $F(2, 110) = 4.84$, $p = .010$, $\eta^2 = .07$. Specifically, prejudice was higher towards people on benefits in the conspiracy condition ($M = 52.23$, $SD = 17.78$) than the control condition ($M = 42.23$, $SD = 15.47$). There were no other direct effects on the other secondary groups.

Table 1. Table of simple mediation (and descriptive statistics) from exposure to conspiracy theories (IV) to increased levels to prejudice towards Jewish people (MV), on prejudice towards secondary outgroups (DV) in Study 3 (N = 114; 5,000 bootstrap samples)

Social group	Pro-conspiracy (M [SD])	Control (M [SD])	Indirect effect (SE)	LLCI	ULCI
Asians	37.40 (19.58)	30.23 (18.04)	-5.50 (2.68)	-10.7197	-0.1897
Arabs	43.81 (20.82)	41.90 (17.54)	-4.83 (2.34)	-9.3739	-0.2320
Irish	27.96 (19.67)	26.85 (19.67)	-4.75 (2.40)	-9.8326	-0.2720
Americans	38.48 (20.12)	34.58 (21.73)	-4.53 (2.56)	-9.5437	-0.2656
Australians	30.48 (19.50)	26.79 (17.47)	-4.43 (2.22)	-9.1618	-0.4317
Disabled people	26.04 (19.51)	23.39 (18.17)	-4.29 (2.14)	-8.7850	-0.2989
Housewives	32.29 (21.75)	28.95 (18.02)	-4.24 (2.09)	-8.5113	-0.2650
Elderly people	26.52 (19.30)	23.39 (18.17)	-3.80 (1.85)	-7.4485	-0.2942
Poor people	35.38 (16.30)	31.76 (18.01)	-3.21 (1.68)	-6.8645	-0.0949
People on benefits	52.23 (16.78)	42.23 (15.47)	-3.17 (1.68)	-7.0037	-0.2808
Rich people	49.52 (18.45)	45.16 (18.21)	-2.98 (1.64)	-7.0689	-0.1132
Feminists	43.38 (24.78)	43.03 (21.01)	-2.68 (1.54)	-6.6918	-0.4956

In Study 3, we provide the first evidence that exposure to conspiracy theories not only increases prejudice towards the outgroup implicated in the alleged conspiracy but also towards other, uninvolved outgroups. Specifically, our results point to an indirect effect, such that exposure to conspiracy theories relating to Jewish people increases prejudice towards secondary outgroups via increases in prejudice towards Jewish people. This spreading of prejudiced attitudes was apparent across a range of different outgroups including Americans, Arabs, the elderly, poor people, and people on benefits. Previous findings suggest that transfer effects emerge most strongly for groups that are perceived to be similar to the primary outgroup, and least strongly to dissimilar groups (Harwood *et al.*, 2011). Interestingly, if we adopt a stereotype content model perspective (Fiske, Cuddy, Glick, & Xu, 2002) we can see that, generally, indirect effects were strongest for groups that, along with Jewish people, are classified as high in competence (e.g., Asians, Irish, Americans, Australians) as opposed to low competence groups (e.g., the elderly, poor people, people on benefits). Ultimately, however, findings suggest the consequences of exposure to conspiracy theories for intergroup relations may be much broader than originally conceived, and capable of reducing more widespread intergroup tolerance.

GENERAL DISCUSSION

Across three studies, the current research has provided experimental evidence of the impact of conspiracy theories on intergroup attitudes. In Study 1, exposure to conspiracy theories about immigrants increased prejudice towards this group. Study 2 replicated these results in a different intergroup context where prejudice translated into biased behavioural tendencies towards Jewish people. Study 3 then showed that exposure to Jewish conspiracy theories not only increased prejudice towards this group but also indirectly increased prejudice towards a range of other groups.

These findings make a number of important advances on previous work. First, previous examinations of the association between conspiracy theories and prejudice have relied on cross-sectional data (e.g., Bilewicz & Sedek, 2015; Golec de Zavala & Cichocka, 2012; Kofta & Sedek, 2005;). Here, we offer the first experimental demonstration of the causal impact of exposure to conspiracy theories on prejudice towards the implicated outgroup. Findings were replicated in two different intergroup contexts, not just examining prejudice and conspiracy theories regarding Jewish people as in previous studies (e.g., Golec de Zavala & Cichocka, 2012; Kofta & Sedek, 2005), but also European immigrants who represent another group that has been the subject of conspiracy theories in recent years. In both intergroup contexts, we provided novel experimental evidence that simply being exposed to conspiracy theories can impair intergroup relations.

Second, we have demonstrated that exposure to intergroup conspiracy theories can lead to discriminatory action – in this case, an anti-Jewish voting bias. This finding extends previous cross-sectional findings (e.g., Bilewicz *et al.*, 2013) and provides evidence for the assertion by Bilewicz and Sedek (2015) that Jewish conspiracy theories are a strong predictor of discriminatory intentions. This effect was mediated by increased prejudiced attitudes. It is clear, therefore, that this research demonstrates the practical consequences of conspiracy theories in a new domain (e.g., Jolley & Douglas, 2014a,b). The work extends the psychological work examining conspiracy theories and prejudice by uncovering the wider impact that exposure to conspiracy theories may have on intergroup relations.

Third, and perhaps most importantly, the current research demonstrates how the prejudice-enhancing effects of intergroup conspiracy theories are not limited to the group targeted by the conspiracy but can spread to other, uninvolved groups. In Study 3, exposure to conspiracy theories relating to the actions of Jewish people was found not only to increase prejudice towards this group, but also to indirectly increase prejudice towards other social groups such as Americans, Asians, and Arabs. This effect occurred via a process of attitude generalization in which conspiracy theories about a particular outgroup increased prejudice towards them, and these negative attitudes then generalized to other, secondary outgroups.

The fact that we did not find a direct effect of exposure to conspiracy theories on secondary outgroup attitudes does not undermine the validity of our results. It is the indirect path, in which exposure to conspiracy theories increases prejudice towards secondary groups *through* prejudice towards the primary outgroup that provides evidence of attitude generalization. These findings remind us of the secondary transfer effects of intergroup contact (e.g., Pettigrew, 2009; Tausch *et al.*, 2010), where this pattern of indirect effects in the absence of direct effects is similarly common (e.g., Brylka *et al.*, 2016; Drury, Abrams, Swift, Lamont, & Gerocova, 2017; Harwood *et al.*, 2011; Vezzali & Giovannini, 2012). Importantly, our findings suggest that conspiracy theories not only have the potential to increase prejudice towards the group at the centre of the alleged conspiracy but can transfer to other, uninvolved groups. There is also some evidence that the magnitude of the effects was stronger in general for groups perceived to be similar (e.g., highly competent) to the alleged conspirators. Finding strategies that can break this negative spiral will represent an important challenge for future research.

There are some limitations to the present work that should be acknowledged. First, although we demonstrate that exposure to conspiracy theories can fuel prejudice and discrimination; this effect – although small – appears to be stronger for affective versus cognitive dimensions of prejudice. In Study 2, we found that exposure to conspiracy theories did not change the stereotypes of Jewish people, nor did exposure to conspiracy theories lead to the dehumanization of a Jewish person. Research in other areas has uncovered similar discrepancies between different dimensions of prejudice. For example, positive intergroup contact has been shown to primarily produce more favourable outgroup evaluations (affective), which scholars argue is because cognitive dimensions (e.g., stereotypes) of prejudice are more resistant to change (e.g., Aberson, 2015; Wolsko, Park, Judd, & Bachelor, 2003). In future research, the differences between these dimensions of prejudice and conspiracy exposure could be further explored. Further, whilst we did have a measure of discrimination in these studies, we relied on a measure of behavioural intentions. We know that intentions do not always correlate strongly with behaviour (Sheeran, 2002). Future research should, therefore, examine whether exposure to Jewish conspiracy theories leads to measurable behavioural change towards the outgroup, such as maintaining social distance or withholding resources (e.g., Bilewicz *et al.*, 2013, who examined a measure of preventing Jewish people from buying land).

Participants in both the pro- and anti-conspiracy conditions read negatively valenced information about the outgroup in question, specifically their involvement in conspiracies designed to harm the ingroup. In the pro-conspiracy condition, the text included statements supporting the validity of the conspiracy theory, whilst the anti-conspiracy condition included statements refuting the conspiracy. The fact that prejudice was increased in the pro-conspiracy condition relative to the anti-conspiracy condition suggests that results are not simply due to an information availability bias, as, in both conditions, participants are reminded that the outgroup can do harmful things. We were

also able to show that the pro-conspiracy manipulation enhanced conspiracy beliefs (relative to the control and anti-conspiracy condition) and that these beliefs mediated the effect of the manipulation on outgroup prejudice, further increasing confidence in our account. Of course, however, people are not literalists when completing surveys (McCrae & Costa, 2003); it is possible that the manipulation check items themselves do not measure genuine conspiracy beliefs so much as a general fear of foreigners. Future research should include a manipulation of intergroup threat that is non-contingent upon the conspiracy in pursuit of divergent validity. In a similar vein, the conspiracy manipulations used throughout this investigation concerned specifically immigrants or Jewish people involved in terrorist organizations, yet we measured prejudice towards immigrants and Jewish people generally. Whilst this could be considered a limitation, the results could be considered further evidence of a generalization effect where exposure to conspiracy theories relating to one (sub)group subsequently generalizes to other, related groups.

In the current investigation, we were also unable to examine whether the experimental manipulation has a long-lasting effect on people's prejudice and discrimination towards groups. We know that conspiracy beliefs can remain heightened after 2 weeks following exposure to conspiracy theories (vs. control; Kim & Cao, 2016). It is possible, therefore that exposure to intergroup conspiracy may lead to similar prolonged effects on outgroup prejudice. Future research could test this possibility. Future research could also examine the mechanisms underlying the effect of exposure to conspiracy theories on prejudice. Whilst previous research has argued that perceptions of intergroup threat drive endorsement of conspiracy narratives (Ünal, 2016; Swami *et al.*, 2018), we argue that increased perceptions of threat may also represent a mechanism through which exposure to conspiracy theories increases prejudice. Moderators of the relationship between conspiracy theories and prejudice should also be explored. For example, the influence of exposure to conspiracy theories on prejudiced attitudes may be moderated by prior prejudice held towards the target group (cf. Dhont & Van Hiel, 2011; Hodson, 2011). One may expect that the effect of exposure to conspiracy theories about the target group may be even more pronounced for people who hold stronger initial prejudice. In a similar vein, prior held conspiracy beliefs may moderate the effect of simple exposure to conspiracy theories on prejudice. Future research could test this possibility.

Our research demonstrates that exposure to conspiracy theories can increase prejudice towards the target group, which can then generalize to other, uninvolved groups. Future research should endeavour to examine avenues to limit the negative impact of conspiracy theories on intergroup relations. For example, Jolley and Douglas (2017) found that if participants are exposed to anti-conspiracy material before exposure to conspiracy theories, this can reduce the negative behavioural consequences of the conspiracy theories. Perhaps the negative impact of intergroup conspiracy theories could be lessened when people are aware of anti-conspiracy arguments at an earlier point in time.

Conclusion

In summary, the current research has demonstrated that exposure to intergroup conspiracy theories can directly increase prejudice and discrimination. These effects have been established in two contexts: (1) concerning immigrants and (2) concerning people of the Jewish faith. Exposure to intergroup conspiracy theories can also lead to an attitude generalization effect – we showed that Jewish conspiracy theories led to

increased prejudice towards other groups such as Americans and Arabs. Together, this research suggests that conspiracy theories can have a widespread negative impact on intergroup relations. Efforts to reduce prejudice and defuse negative intergroup relations should, therefore, consider the contribution of popular and pervasive conspiracy theories.

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