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More than a prejudice reduction effect: Positive intergroup contact reduces conspiracy theory beliefs

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Abstract

Emerging research suggests intergroup contact has broader implications than prejudice reduction. In three studies, we explored whether positive intergroup contact may serve as a means to reduce conspiracy beliefs. Study 1 ($n = 287$, pre-registered) demonstrated that (high quality) contact with immigrants predicted lower belief in immigrant conspiracy theories, a finding that remained when controlling for prejudice. This was replicated in a second study ($N = 501$), where positive contact with Jewish people predicted lower Jewish conspiracy beliefs. A third study ($N = 214$) provided experimental evidence of this effect by manipulating exposure to positive contact through mental imagery. In exploratory analyses, we also found that positive contact was associated with lower general conspiracy theorizing via reduced immigrant (Study 1) and Jewish (Study 2) conspiracy beliefs. Our work develops a framework where positive contact could be used as an important tool to reduce harmful conspiracy beliefs.

KEYWORDS
conspiracy theories, intergroup contact, intervention, prejudice

1 | INTRODUCTION

Conspiracy theories can be defined as attempts to explain the ultimate causes of significant events, such as the secret actions of powerful malevolent groups covering up information to suit their interests (e.g., Douglas et al., 2017). Conspiracy theories are widespread in society and vary greatly in their plausibility, scope or target (e.g., Douglas et al., 2019). Popular conspiracy theories propose that the COVID-19 pandemic is a ploy by governments to control its citizens, that climate change is a hoax covered up by scientists to secure profits, and that Jewish people secretly dominate world affairs (Douglas, 2021; Jolley & Douglas, 2014a; Jolley et al., 2020). The acceptance or tolerance of such theories is linked to detrimental behaviours, from reducing vaccination uptake and tackling climate change to worsening intergroup relations (see Jolley et al., 2022 for a review). With millions of people subscribing to conspiratorial viewpoints (Smallpage et al., 2020; Sunstein & Vermeule, 2009), examining the psychological antecedents and consequences of conspiracy beliefs alongside possible interventions to reduce their endorsement are important avenues for scholars to pursue. The current research examines whether intergroup contact, a well-established technique to reduce prejudice that can have broader implications (Hodson et al., 2018; Pettigrew & Tropp, 2006), could also reduce conspiracy theory beliefs.

1.1 | Psychology of conspiracy theories

To date, research on the psychology of conspiracy theories has typically focused on explaining who is most likely to adopt conspiracy narratives. For example, researchers have found that conspiracy theory beliefs are associated with a range of psychological traits or individual differences, including subclinical paranoid and schizotypal

personality traits (Darwin et al., 2011; Imhoff & Lamberty, 2017), distrust in authority, low levels of interpersonal trust, anomie and cynicism (e.g., Abalakina-Paap et al., 1999; Hart & Graether, 2018; Swami et al., 2010; see Douglas et al., 2019 for a review). Further, beliefs in conspiracy theories are generally correlated with each other, even when specific theories are logically incompatible with each other (Wood et al., 2012). Other research highlights that conspiracy beliefs may be the result of individuals' attempts to make sense of an often confusing and threatening world, as they are associated with feelings of uncertainty (van Prooijen & Jostmann, 2013), powerlessness and a past history of intergroup discrimination (e.g., Bilewicz, 2022; Crocker et al., 1999; Jolley & Jaspal, 2020).

However, research has also explored the consequences of holding these beliefs, revealing that conspiracy theorizing can impact the smooth running of societies (see Jolley et al., 2022, for a review). Conspiracy theories have been demonstrated to have behavioural (e.g., reduced intention to take action against climate change, Jolley & Douglas, 2014a) and attitudinal consequences (e.g., racist attitudes and negative attitudes towards science, Lewandowsky et al., 2013; Swami, 2012). For example, heightened belief in conspiracy theories can potentially have negative consequences for health. Jolley and Douglas (2014b) investigated the consequences of anti-vaccine conspiracy beliefs and found that exposure to anti-vaccine conspiracy theories reduced vaccination intentions. In the context of the COVID-19 pandemic, Romer and Jamieson (2020) demonstrated that COVID-19 conspiracy beliefs were negatively associated with taking preventive action (such as wearing a mask) and intentions to receive a COVID-19 vaccine.

We know less, however, about how to reduce these beliefs. Researchers have suggested that conspiracy theories may be extremely resistant to correction, and 'contrary evidence can usually be shown to be a product of the conspiracy itself' (Sunstein & Vermeule, 2009, p. 210, see also Jolley & Douglas, 2014a, 2017). Partially, this is because conspiracy believers generally focus more on denying the official story rather than providing a clear alternative hypothesis. Even when provided with factually 'correct' information, conspiracists persist in their incorrect beliefs (Sunstein & Vermeule, 2009), and selectively expose themselves to information that supports their worldview (e.g., Bessi et al., 2015). When confronted with factual information, conspiracy believers may ignore it, cherry-pick different 'evidence', or consider fact-checkers or experts to be part of the conspiracy themselves (Lewandowsky et al., 2013; Tingley & Wagner, 2017). However, note that these strategies are not dissimilar to how people often deal with information inconsistent with attitudes (e.g., Rothbart & John, 1985). Developing interventions are particularly timely.

1.2 | Intergroup conspiracy theories

Although many conspiracy theories are related to general beliefs about government, society or powerful people (e.g., the moon landing, climate change, COVID-19 pandemic), many other conspiracy theories have a clear intergroup context. Some of the earliest conspiracy theories have been linked with prejudice and discrimination towards Jewish people (Strack, 1891/1909). These Jewish-related conspiracy theories have persisted into the 21st century, particularly in the Muslim world, where Israel proves a significant symbolic and realistic threat (Gray, 2010). Conspiracy theories also target many other groups with similar potential links to intergroup conflict. For example, intergroup conspiracy theories often have a prominent place in war and inter-ethnic conflict, including the Algerian Civil War (Silverstein, 2002), the Yugoslavian Civil War (Byford & Billig, 2001) and the Russian-Georgian War (Sakwa, 2012). It could be argued that genocide-fuelling propaganda in Nazi Germany, Rwanda and other locales was rooted in false conspiracy beliefs (Bytwerk, 2015; Chalk, 2017).

In the psychological literature, an empirical link between conspiracy beliefs and prejudice has also been uncovered. For example, Golec de Zavala and Cichocka (2012) found that belief in conspiracy theories about Jewish domination of the world was associated with anti-Semitic attitudes. Imhoff and Bruder (2013) have shown that a general tendency to believe in conspiracy theories significantly predicts negativity towards various high-power groups (e.g., Jews, Americans, capitalists). Extending this work, Jolley et al. (2020) have found, in a series of studies, that exposure to intergroup conspiracy theories exacerbated prejudice towards the target group (i.e., immigrants, Jewish people) while also indirectly increasing prejudice towards a number of secondary outgroups (e.g., Asians, Arabs, Americans, Irish, Australians).

Therefore, finding interventions or techniques to reduce outgroup conspiracy beliefs is critically important. However, developing such interventions has been difficult. Thus, if changing minds by appealing to facts and expert opinion is unlikely to be effective (e.g., Lewandowsky et al., 2013; Tingley & Wagner, 2017), it is important to examine alternative approaches to reducing belief in conspiracy theories. One intriguing possibility is that intergroup contact may provide a tool to debunk or reduce outgroup conspiracy beliefs without needing to directly address or correct the belief.

1.3 | Intergroup contact as a tool to reduce outgroup conspiracy beliefs

Across hundreds of empirical studies, contact between members of diverse groups has been shown to improve intergroup relations, even between very hostile groups (e.g., Pettigrew & Tropp, 2006; White et al., 2020). Moreover, intergroup contact has been shown to effect more than general evaluations of or emotions towards the outgroup; it leads to changes in political attitudes and policy support. Stringer et al. (2009) demonstrated that intergroup contact is associated with less extreme political attitudes in Northern Ireland. Cakal et al. (2011) showed that intergroup contact predicted support for policies to benefit the Black outgroup in South Africa. It should be noted that intergroup contact can sometimes be negative in valence—a meta-analysis demonstrated that negative contact increased prejudice more than positive contact reduced prejudice for

stigmatized groups (Paolini & McIntyre, 2019), although the robustness of this effect may vary depending on the situation (Pettigrew, 2021). Researchers have therefore advocated including measures of both positive and negative in research studies that focus on intergroup contact (Graf et al., 2014).

Intergroup contact critics have also called for contact researchers to consider the broader implications of contact (Dixon & Levine, 2012). In response, Hodson et al. (2018) have argued that contact may serve as an agent of *cognitive liberalization*, where contact not only improves intergroup attitudes but changes the way people think about the world and solve problems more generally. When individuals encounter diverse others who do not easily fit into an existing schema, it forces them to cognitively 'shift gear' and inhibit category-based responding in favour of more individuated and systematic modes of information processing (Fiske & Neuberg, 1990). Such exposure, and the mindset it triggers, can carry over to other decision domains. When encountering future tasks with structurally similar demands, individuals may be less susceptible to the influence of pre-existing knowledge and perspectives, allowing them to be better able to inhibit existing, dominant responses in favour of new responses that emerge from a more generative thought process (Crisp & Turner, 2011; Crisp & Meleady, 2012). In this way, it is argued that intergroup contact is relevant not only for shaping the valence of intergroup attitudes but encouraging the adaptation to a more cognitively flexible mindset. Supporting this assertion, research demonstrates that intergroup contact renders participants more open to experience (Sparkman et al., 2016; Verkuyten et al., 2010), enhances socio-cognitive skills such as perspective-taking (e.g., Bagci et al., 2019), reduces endorsement of cognitively rigid ideologies (such as Social Dominance Orientation, Dhont et al., 2014; Meleady et al., 2020) and fosters greater academic performance in educational contexts (Carey et al., 2022).

The above research demonstrates that intergroup contact experiences may help train a processing style that avoids the use of immediately and habitually accessible knowledge (Hodson et al., 2018; Meleady et al., 2019). Meanwhile, research has shown that conspiratorial thinking is associated with low critical thinking skills (Lantain et al., 2021), an over-reliance on intuitive (vs. analytic) thinking (Binnedyk & Pennycook, 2022; Tomljenovic et al., 2021), and a greater need for cognitive closure (Leman & Cinirella, 2013; Marchlewska et al., 2018). It is plausible to propose that another broader implication for intergroup contact is to reduce another type of attitude and beliefs towards outgroups, outgroup-focused conspiracy theories, with such a reduction being explained by greater cognitive flexibility.

There is some correlational research that supports this view that intergroup contact reduces conspiracy beliefs—for example, Barlow et al. (2012) found in a white American sample that negative contact with African American adults was associated with scepticism about Barack Obama's birthplace and eligibility to be president. However, in a correlational Polish sample of adolescents (15-19 years of age), Bilewicz (2007, Study 1) found that one broad measure of contact with Jewish people did not affect belief in a Jewish conspiracy stereotype. Yet, those who discussed contemporary, as opposed to historical, issues with young Jews endorsed the conspiracy stereotype about Jewish people less. Considering that much of our current discourse revolves around 'fake news' and conspiracy theories, a timely question is whether (positive) intergroup contact is a strategy to reduce outgroup conspiracy endorsement.

1.4 | The present research

Intergroup contact robustly improves intergroup attitudes, and emerging work shows that contact can also have broader outcomes beyond affective evaluations, including promoting more flexible and open-minded ways of thinking generally (e.g., Meleady et al., 2019). Another outcome of intergroup contact could therefore be the reduction in outgroup conspiracy beliefs. Across three studies, using two different outgroups, this intriguing possibility was explored. Specifically, we tested the relationship between intergroup contact and outgroup conspiracy theories that focused on immigrants (Study 1) and Jewish people (Study 2). We also explored whether greater cognitive flexibility acted as a mechanism of contact effects on conspiracy endorsement (Study 1). In Study 3, we then used an experimental design where positive contact with a Jewish person was primed. We predicted that intergroup (positive) contact would reduce outgroup-directed conspiracy theories, an effect that remained when controlling for reductions in prejudice towards that outgroup. All materials and data can be viewed at: https://osf.io/sgcr6/.

2 | STUDY 1

Study 1 provides the first examination of whether the quality and quantity of individuals' contact experience with outgroup members may represent a means of reducing outgroup conspiracy beliefs. We focused on popular conspiracy theories relating to immigrants in the UK, as conspiracy theories about the numbers of and (nefarious) motives of immigrants are commonly repeated and believed (Gaston & Uscinski, 2018; Jolley et al., 2020; Mădroane, 2021). We predicted that high-quality (positive) contact with immigrants should be related to decreased belief in conspiracy theories about this group. We propose this may go beyond a simple prejudice-reduction effect (Allport, 1954), as reduced conspiracy beliefs align with the broader implications of intergroup contact (see Hodson et al., 2018). Therefore, we expected (pre-registration: https://aspredicted.org/xb4qg.pdf) that high-quality positive contact with immigrants would be negatively related to the endorsement of immigrant conspiracy theories, even when controlling for a reduction in anti-immigrant prejudice.

We also explored whether greater cognitive flexibility may act as a mechanism explaining the link between positive contact and belief in conspiracy theories. Intergroup contact has been shown to improve cognitive inflexibility and hierarchical thinking (Hodson et al., 2018; Meleady et al., 2019), two things associated with conspiracy beliefs (Douglas et al., 2019). It follows that the association between intergroup contact and conspiracy endorsement may be explained by a cognitive mechanism whereby intergroup contact encourages more

flexible, deliberative and analytic thinking styles, which protect against conspiracy beliefs.

Finally, we also included a general measure of conspiracy theorizing that taps into the overarching concept that powerful others are involved in conspiracies (Lantian et al., 2016). It is argued that this central conspiratorial mindset allows people to endorse specific conspiracy theories (see Brotherton et al., 2013)—such as the idea that immigrants are involved in secret plots and schemes. In a longitudinal design, Jolley et al. (2021) demonstrated that this central conspiratorial mindset predicted belief in conspiracy theories surrounding the 2016 European Union (EU) referendum in the United Kingdom, which led to increased support for leaving the EU. As a conspiratorial mindset can increase belief in specific conspiracy theories, it is plausible that reductions in specific conspiracy theories may also reduce an individual conspiratorial mindset. In an exploratory analysis, we probed the intriguing possibility that reductions in outgroup conspiracy beliefs associated with intergroup contact may correspond to a reduction in an individual's general conspiracy theorizing.

2.1 | Method

2.1.1 | Participants and design

Three hundred and thirty-four participants completed the questionnaire in early-to-mid 2021 (April–June 2021; at the time, the UK had limited COVID-19 restrictions); our pre-registered sample size goal was 250 participants since this is the number at which correlations stabilize (Schönbrodt & Perugini, 2013). One hundred and thirty-five participants were first recruited via a university recruitment portal and received course credit. However, based on an a priori decision, 20 non-British citizens were removed because the measures make explicit reference to immigrants, leaving 115 eligible participants. Without analysing the data further, we topped up with 199 (completed) participants recruited via Prolific who received a small payment for their participation to ensure we met our sample size goal, bringing us to 314 eligible participants. When analysing the data, we further excluded 27 participants who had reported zero contact with immigrants, who thus would not have been able to answer questions about the quality of contact that they did not have. The final sample used for data analysis was therefore 287 British participants (178 females, 108 males, 1 non-binary, $M_{age} = 30.72$, $SD_{age} = 13.27$). One hundred and nine participants (92 females, 17 males, $M_{age} = 19.94$, $SD_{age} = 2.94$) were students recruited via a university recruitment portal. The remaining 178 (86 females, 91 males, 1 non-binary, $M_{age} = 37.31$, $SD_{age} = 12.79$) were recruited via Prolific.

Belief in immigrant conspiracy theories formed the criterion variable; intergroup contact (quality and quantity) was measured as the predictor variable, with prejudice as a control variable. We also included a measure of the general tendency towards conspiracy theorizing, which formed a secondary criterion variable. Need for Cognitive Closure, rational and intuitive thinking were measured as potential mediator variables.

2.1.2 | Materials and procedure

Participants indicated their informed consent before completing demographic items. Intergroup contact was assessed with two scales assessing the quantity and quality of intergroup contact (adapted from Voci & Hewstone, 2003). The *quantity* of participants' intergroup contact with immigrants was measured with 4 items (e.g. 'How many immigrants do you know?', $\alpha = 0.93$ on appropriately anchored 7 point scales (e.g., 1 = *none*, 7 = *a lot*). To measure the *quality* of contact, participants were asked to describe their experience of contact with immigrants based on the following adjectives: superficial-deep; natural-forced; unpleasant-pleasant; competitive-cooperative; intimate-distance on a bipolar scale ranging from 1 to 7 ($\alpha = 0.81$).

Next, we included two measures of prejudice that tap into different dimensions of negativity towards the target group (immigrants). Specifically, to measure cognitive (belief) prejudice, participants first completed a modified version of McConahay et al.'s (1986) modern racism scale. The scale consisted of seven statements (e.g., 'Discrimination against immigrants is no longer a problem in Britain', $\alpha = 0.88$). Participants indicated their agreement on a seven-point scale (0 = *strongly disagree*, *5 = strongly agree*). Participants also completed a measure of affective prejudice (feeling), where attitudes towards immigrants were rated on a 0 (*extremely unfavourable*)—100 (*extremely favourable*) attitude thermometer (adapted from Haddock et al., 1993). This item was recoded so that a higher score represents higher levels of affective prejudice (i.e., extremely unfavourable).

We measured individuals' tendency to engage in rational and experiential thinking styles using the Rational/Experiential Multimodal Inventory (REI) developed by Norris and Epstein (2011). An experiential thinking style involves a predisposition to make judgements based on immediate responses, intuition and feelings, whereas a rational thinking style involves a preference for making decisions based on analytic, deliberative and logical reasoning. Participants rated their agreement with 12 items (e.g., 'I enjoy intellectual challenges') on a five-point scale (1 = *completely false for me*, *5 = completely true for me*; $\alpha = 0.89$). Intuitive thinking was also measured from a subscale of the REI with 10 items (e.g., 'I often go by my instincts when deciding on a course of action', $\alpha = 0.77$), using the same five-point scale. Increased reliance on intuitive thinking was expected to be positively associated with conspiracy beliefs, while analytic thinking was expected to be negatively associated with such beliefs. We also included a measure of Need for Cognitive Closure (NFCC, Roets & van Heil, 2011), which captures an individual's desire to obtain clear and unambiguous answers to questions. Individuals low in need for cognitive closure are characterized by a preference for variety, uncertainty, slow decision-making, flexibility of thought and a high tolerance for ambiguity. The scale includes 15-items (e.g., 'When I have made a decision, I feel relieved' and 'I dislike questions which could be answered in many different ways'), where participants indicated their agreement on a six-point scale (*1 = completely disagree*, *6 = completely agree*; $\alpha = 0.82$).

Next, belief in immigrant conspiracy theories was measured with a scale taken from Jolley et al. (2020) consisting of five statements

(e.g., 'Immigrants are often involved in secret plots and schemes'; $\alpha = 0.95$).[1] Participants indicated their agreement on seven-point scales (1 = *strongly disagree*, 7 = *strongly agree*). Participants also completed a measure of general tendency to engage in conspiracy theorizing with a single-item (Lantian et al., 2016). Here, participants were given a brief preamble and were asked to indicate if they agree that 'I think that the official version of the events given by the authorities very often hides the truth', on a seven-point scale (1 = *completely false*, 7 = *completely true*). This single-item measure correlates highly with multi-item measures of general conspiracy beliefs (Lantian et al., 2016). Finally, participants were thanked, debriefed and paid for their time. All measures were counterbalanced.

2.2 | Results

During data checks, we uncovered that the measure of belief in immigrant conspiracy theories was not normally distributed. Spearman's rho correlations were therefore conducted on the dataset. Means and correlations among all variables can be seen in Table 1. As expected, quality of contact with immigrants was negatively correlated with belief in immigrant conspiracy theories and prejudice, but there was no relationship with general conspiracy theorizing. Quantity of contact was positively correlated with quality and negatively with prejudice, but unexpectedly, no relationship was found with conspiracy beliefs.[2] Belief in immigrant conspiracy theories was positively correlated with each measure of prejudice and general conspiracy theorizing.

Next, immigrant conspiracy beliefs were then entered as the criterion variable in a hierarchical multiple linear regression (Table 2). Quality of contact was entered as a predictor, while prejudice (cognitive and affective) acted as control variables to showcase that the finding is not simply explained by prejudice reduction. Although the quantity of contact was not associated with conspiracy beliefs (Table 1), this variable was still controlled for in the analysis. We also controlled for how participants were recruited (student vs. Prolific), as we found there were differences between the samples on the measured variables (see Supplementary Materials, Table S3), alongside age and gender. At Step 1, prejudice was the only significant positive predictor, while the recruitment method, age and gender were non-significant. In Step 2, quality of contact was a significant unique negative predictor of conspiracy beliefs alongside prejudice (although affective prejudice was now marginal). Quantity of contact, recruitment method, age and gender were non-significant.

TABLE 1 Correlations and descriptive statistics for key variables in Study 1 ($n = 287$).

	M (*SD*)	1	2	3	4	5	6	7	8	9
(1) Quality of contact	5.00 (0.97)	-	0.42***	−0.42***	0.02	−0.45***	−0.62***	0.01	0.20***	−0.10+
(2) Quantity of contact	3.63 (1.67)		-	−0.04	−0.05	−0.09	−0.25***	.06	−0.00	−0.12*
(3) Belief in immigrant conspiracy theories	1.72 (1.03)			-	0.15*	0.64***	.46***	−0.15*	0.01	0.09
(4) General conspiracy	3.35 (1.66)				-	0.04	−0.06	−0.24***	0.38***	0.08
(5) Cognitive prejudice	0.90 (0.83)					-	0.52***	−0.03	−0.08	0.05
(6) Affective prejudice	28.71 (20.81)						-	−0.01	−0.15***	−0.19***
(7) Rational thinking	3.60 (0.65)							-	−0.20***	−0.19*
(8) Intuition thinking	3.30 (0.56)								-	0.07
(9) Need for Cognitive Closure	3.72 (0.66)									-

+$p < .010$.
*$p < .05$.
**$p < .01$.
***$p < .001$.

[1] An Exploratory Factor Analysis (EFA) was run to determine whether belief in Jewish conspiracy theories and cognitive prejudice were separate factors. Statistical assumptions were met and oblique rotation (promax) with eigenvalues set to 2 factors to extract was used. The two factors explained 60.46 per cent and 10.93 per cent of the variance respectively. Each item loaded substantially on the predicted scale, providing confidence that the two distinct concepts are being measured. The loadings can be viewed in the Supplementary Materials (Table S1).

[2] It is possible to make a multiplicative index of quality × quantity; however, as quantity was not associated with the key variables (i.e., conspiracy beliefs), this index measure was not included in the main analyses. Nevertheless, we do report the multiplicative index in the Supplementary Materials (Table S2).

TABLE 2 Hierarchical regression analysis predicting endorsement of immigrant conspiracy beliefs using age, gender, recruitment method, cognitive and affective prejudice, and quantity and quality of contact with immigrants (Study 1, $n = 286$).

	Immigrant conspiracy belief	
Predictor variable	**Step 1**	**Step 2**
Age	0.05 (0.01)	0.04 (0.00)
Gender (1 = male, 2 = female)	−0.03 (0.10)	−0.04 (0.10)
Recruitment method (1 = student, 2 = Prolific)	0.04 (0.12)	0.04 (0.12)
Cognitive prejudice	0.60 (0.07)***	0.57 (0.07)***
Affective prejudice (thermometer)	0.16 (0.00)***	0.10 (0.00)+
Quantity of contact	–	0.04 (0.03)
Quality of contact	–	−0.15 (0.06)*
R^2	0.50	0.51
R^2 change		0.01*

Notes. β coefficients are standardized.
$^{+}p < .010$.
$^{*}p < .05$.
$^{**}p < .01$.
$^{***}p < .001$.

After demonstrating that quality of contact was a unique predictor of lower immigrant conspiracy beliefs, we sought to explore whether the factors representing cognitive flexibility may act as mechanisms. To do so, we used Preacher and Hayes's (2008) bootstrapped procedure with 5000 bootstrapped re-samples designed for SPSS to run a multiple mediation model, with the mediators of NFCC, rationale and intuitive thinking. Age, gender, recruitment method, prejudice (cognitive and affective) and quantity of contact were controlled for in the analysis. Unexpectedly, results demonstrated that none of the indirect effects was significant (NFCC *ab* indirect effect = −0.00, 95% *LLCI* = −0.0159, 95% *ULCI* = 0.0141; rational *ab* indirect effect = 0.00, 95% *LLCI* = −0.0018, 95% *ULCI* = 0.0535; intuitive *ab* indirect effect = 0.02, 95% *LLCI* = −0.0018, 95% *ULCI* = 0.0535). Our prediction that measures of cognitive flexibility may act as mechanisms was not supported.

Next, we then ran an exploratory analysis to probe the possibility that the quality of intergroup contact may reduce general conspiracy theorizing via reduced immigrant conspiracy beliefs (i.e., a specific conspiracy theory). To do so, we again used Preacher and Hayes's (2008) bootstrap procedure to run a simple mediation model with 5000 bootstrapped re-samples. Age, gender and recruitment method, prejudice (cognitive and affective) and quantity of contact were controlled for in the analyses. Results (see Figure 1) demonstrated a significant indirect effect of quality of contact and general conspiracy beliefs through lower belief in immigrant conspiracy theories (indirect effect *ab* = −0.05, 95% *LLCI* = −0.1242, 95% *ULCI* = −0.0047).

In summary, Study 1 demonstrates that high-quality contact with immigrants is associated with lower belief in conspiracy theories about immigrants. This relationship remained when prejudice towards the outgroup was also controlled for in the analysis. Further, we provided exploratory evidence of a link between the quality of intergroup contact and lower general conspiracy theorizing, a finding explained by lower immigrant conspiracy beliefs. However, we found that the *quantity* of contact was not associated with belief in immigrant conspiracy theories. The effects appeared to be isolated to the valence of the contact (i.e., high quality). Further, we did not find any evidence that greater cognitive flexibility (measured with NFCC, rationale and intuitive thinking) explained the link between the quality of contact and reduced conspiracy beliefs. Possible reasons for this unexpected null result are discussed in the General Discussion. Nonetheless, the results of Study 1 provide initial evidence that high-quality intergroup contact may be a tool to reduce racially motivated conspiracy theories. We sought to replicate this finding in Study 2 with another outgroup that is alleged to be involved in conspiracies—people who are Jewish.

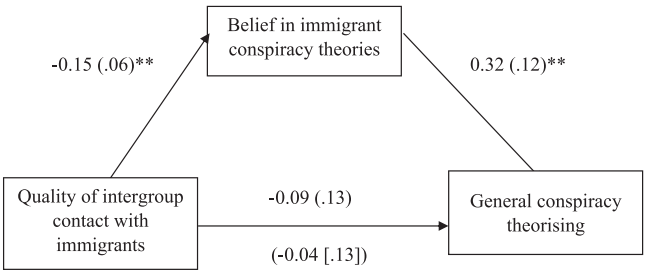

FIGURE 1 Mediation model of the relationship between quality of intergroup contact and general conspiracy theorizing through belief in immigrant conspiracy theories. Controlling for age, gender, recruitment method, prejudice (cognitive and affective) and amount of contact. *Notes*. All coefficients represent unstandardized regression coefficients. Standard Error (*SE*) is reported in the parentheses.
$^{**}p < .05$.

3 | STUDY 2

Study 1 provided evidence that the effects of positive intergroup contact may have wider implications than prejudice-reduction. Specifically, more high-quality contact (although not quantity) with an outgroup (an immigrant) was shown to reduce conspiracy beliefs towards that group, even when controlling for prejudice. This finding provides initial evidence that high-quality contact with an outgroup could be a strategy to reduce intergroup conspiracy beliefs. Study 2 sought to replicate and extend this finding in several ways. To explore the generalization of the findings, we focused on another outgroup that has been the target of conspiracy theories—Jewish people (Jolley et al., 2020). Further, as in Study 1, we measured general conspiracy theorizing to explore the possibility that changes in Jewish conspiracy beliefs by intergroup contact might be associated with reduced general conspiracy theorizing.

We also made some methodological refinements. First, in Study 1, intergroup contact quality was assessed with a traditional measure where positive and negatives contact are treated as opposite ends on the same continuum. More recently, research has highlighted the need to measure positive and negative contact as separate constructs since these experiences are not mutually exclusive, and people may report high levels of both forms of contact, low level of both, or any combination of the two (Barlow et al., 2012). Thus, in Study 2, we simultaneously measured positive and negative intergroup contact with Jewish people. Second, to help showcase that the finding is not purely a prejudice reduction effect, we included more diverse measures of prejudice than in Study 1. Specifically, as in Study 1, we included measures that tap into cognitive (belief) and affective (feeling), but also in Study 2 included a behavioural components of prejudice (following a similar approach to Turner & West (2012) in an imagined contact intervention). We predicted that positive intergroup contact would be associated with a reduction in outgroup conspiracy beliefs. Importantly, we expected these findings would remain when controlling for prejudice and negative contact.

3.1 | Method

3.1.1 | 1 Participants and design

Five hundred and one participants were recruited via Prolific in early 2020 (pre-COVID-19 restrictions in the UK); our goal was at least 499 usable participants to enable us to detect a small effect size ($f^2 = 0.026$), with 80% power of detecting the effect and five total predictors as derived via GPower (Faul et al., 2007). The sample included 160 males, 339 females, and 2 trans, with a *Mage* = 36.60 (*SD* = 12.33). All were United Kingdom residents and non-Jewish. No exclusions were made. Participants received a small payment for their participation. Belief in Jewish conspiracy theories formed the criterion; intergroup contact (positive and negative) was measured as the predictor variables, and three measures of prejudice acted as control variables. A general tendency towards conspiracy theorizing was included as a secondary criterion variable.

3.1.2 | 2 Materials and procedure

Participants indicated their informed consent before completing demographic items. Intergroup contact with Jewish people was assessed with two single items that measure the independent dimensions of contact—positive and negative contact experiences (Barlow et al., 2012). Positive contact was measured with the item 'On average, how frequently do you have positive/good contact with Jewish people?' and quantity of negative contact with the item 'On average, how frequently do you have negative/bad contact with Jewish people?' with participants responding on seven-point scales (*1 = never, 7 = extremely frequently*). Belief in Jewish conspiracy theories was then measured using six statements (e.g., 'Jews achieve their collective goals by secret agreements', $\alpha = 0.94$, Bilewicz et al., 2013). Participants indicated their agreement on seven-point scales (1 = *strongly disagree*, 7 = *strongly agree*). Participants also completed the same one-item measure of general conspiracy belief as in Study 1 (Lantian et al., 2016).

Next, participants completed three measures of prejudice.[3] First, participants were asked to indicate their agreement with 6-items that represented cognitive dimensions of prejudice towards Jewish people (e.g., 'Jews always like to be at the head of things', $\alpha = 0.86$, adapted from Sigelman, 1995, 1995) on a 7-point scale (1 = *strongly disagree*, 7 = *strongly agree)*. Second, participants completed an affective measure of prejudice (General Evaluation Scale, Wright et al., 1997), where they indicated how they felt towards Jewish people, in general, on six, seven-point semantic-differential scales (*cold-warm, suspicious-trusting, positive-negative, friendly-hostile, respect-contempt and admiration-disgust*, $\alpha = 0.92$). Results were coded such that higher values indicated more negative attitudes (i.e., higher prejudice). Third, participants completed a behavioural measure of prejudice via the Social Distance Scale (adapted from Bogardus, 1926), where they indicated their agreement to 4-items (e.g., 'I would be willing to accept a Jewish person as a close relative by marriage', $\alpha = 0.93$) on a seven-point scale (1 = *strongly disagree*, 7 = *strongly agree*). Again, a higher value was coded to indicate a higher level of prejudice. Participants were then debriefed, thanked and paid for their time.

3.2 | Results

Means and correlations among all variables can be seen in Table 3. As expected, positive contact was significantly negatively associated with belief in Jewish conspiracy theories and prejudice and marginally negatively associated with general conspiracy belief. Negative contact was significantly and positively associated with conspiracy beliefs and

[3] As in Study 1, an EFA was run to determine whether conspiracy beliefs and prejudice were separate factors. Statistical assumptions were met, and oblique rotation (promax), with eigenvalues set to 4 factors to extract was used. The four factors explained 45.71%, 13.92%, 10.39% and 3.90% of the variance respectively. Each item loaded substantially on the predicted scale, with no cross-loaded items. This provides confidence that the measure of conspiracy beliefs and prejudice (cognitive (belief), affective (feeling) and behavioural) are indeed measuring different concepts. The factor loading can be viewed in the Supplementary Information (Table S4).

TABLE 3 Correlations and descriptive statistics for all variables in Study 2 ($n = 501$).

	M (*SD*)	1	2	3	4	5	6	7
(1) Positive contact	3.79 (*1.81*)	–						
(2) Negative contact	1.57 (*1.06*)	0.06	–					
(3) Belief in Jewish conspiracy	2.41 (*1.31*)	−0.25***	0.38***	–				
(4) General conspiracy	4.35 (*1.65*)	−0.09+	0.14***	0.31***	–			
(5) Cognitive (prejudice)	2.36 (*1.12*)	−0.26***	0.36***	0.78***	0.33***	–		
(6) Affective (prejudice)	2.97 (*1.14*)	−0.37***	0.29***	0.38***	0.11*	0.44***	–	
(7) Behavioural (prejudice)	1.42 (*0.91*)	−0.23***	0.27***	0.46***	0.20***	0.53***	0.36***	–

Notes. β coefficients are standardized.
+$p < .10$.
*$p < .05$.
**$p < .01$.
***$p < .001$.

TABLE 4 Hierarchical regression analysis predicting endorsement of Jewish conspiracy beliefs using age, gender, prejudice (cognitive, affective and behavioural), negative contact and positive contact with Jewish people (Study 2, $N = 498$).

	Jewish conspiracy belief	
Predictor variable	**Step 1**	**Step 2**
Age	−0.01 (0.00)	−0.00 (0.00)
Gender (1 = male, 2 = female)	0.07 (0.08)*	0.07 (0.08)*
Cognitive (prejudice)	0.74 (0.04)***	0.71 (0.04)***
Affective (prejudice)	0.04 (0.04)	0.00 (0.04)
Behavioural (prejudice)	0.05 (0.05)+	0.04 (0.05)
Negative contact	–	0.14 (0.04)***
Positive contact	–	−0.06 (0.02)*
R^2	0.62	0.64
R^2 change		0.02***

Notes. β coefficients are standardized.
+$p < .010$.
*$p < .05$.
**$p < .01$.
***$p < .001$.

prejudice, and the three measures of prejudice were significantly positively correlated with each other.

Next, belief in Jewish conspiracy theories was then entered as the criterion variable in a hierarchical multiple linear regression. Positive and negative contact were entered as predictors, while prejudice (cognitive, affective and behavioural) acted as control variables, alongside age and gender (see Table 4).[4] At Step 1, (cognitive) prejudice was a positive predictor (behavioural prejudice was marginally significant), alongside gender (females were more likely to endorse Jewish conspiracy theories). In Step 2, negative contact was a significant positive predictor of conspiracy beliefs, while positive contact was a significant negative predictor. (Cognitive) prejudice and gender (female) remained significant predictors. The other variables were non-significant.

We then explored the possibility that positive and negative contact might be linked with general conspiracy theorizing, via reduced belief in Jewish conspiracy theories, as per Study 1. To do this, a mediation analysis was run using PROCESS (Model 4), simultaneously controlling for both positive and negative contact, with belief in Jewish conspiracy theories acting as the mediator and general conspiracy theorizing as the dependent variable. As the Breusch-Pagan test detected significant heteroscedasticity, a heteroscedasticity-consistent estimator (HC3, Long & Ervin, 2000) was included. Age, gender and prejudice (cognitive, affective and behavioural) were controlled for in the analyses. Unexpectedly, results demonstrated that the indirect effects were non-significant (positive *ab* −0.00, 95% *LLCI* = −0.0168, 95% *ULCI* = 0.0028; negative *ab* 0.18, 95% *LLCI* = −0.0103, 95% *ULCI* = 0.0517). However, it was noted that there is a conceptual overlap between cognitive prejudice and Jewish conspiracy beliefs. That is, while both measures do load separately in a factor analysis (see Footnote 3), there is likely conceptual overlap between the measures, which is reflected in their large correlation (−0.78). We, therefore, re-ran the analyses removing cognitive prejudice, but still controlling for affective and behavioural prejudice, and demographics. Results demonstrated (see Figure 2) that positive contact was predictive of general conspiracy theorizing through lower Jewish conspiracy beliefs (indirect effect *ab* = −0.03, 95% *LLCI* = −0.0575, 95% *ULCI* = −0.0116). The opposite was true of negative contact, which was predicted of general conspiracy theories through higher Jewish conspiracy beliefs (indirect effect *ab* = 0.11, 95% *LLCI* = 0.0612, 95% *ULCI* = 0.1786).

The current results demonstrate that positive contact is associated with a reduction in outgroup conspiracy theories, even when controlling for prejudice. We also provided further evidence of the link between (positive) contact and reductions in general conspiracy theorizing via a reduction in specific outgroup conspiracy beliefs (i.e., towards Jewish people in Study 2). However, we found that

[4] Due to potential conceptual overlap between cognitive prejudice and belief in Jewish conspiracy theories, we re-ran the model omitting cognitive prejudice. The key finding was unchanged; negative contact was a significant positive predictor of conspiracy beliefs, while positive contact was a significant negative predictor (see Supplementary Information, Table S5).

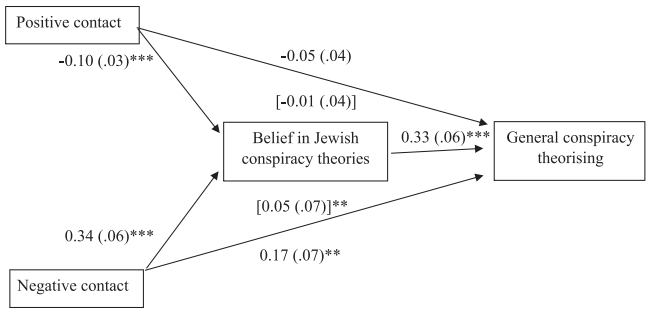

FIGURE 2 Mediation model of the relationship between positive and negative contact and general conspiracy theorizing through belief in Jewish conspiracy theories. Controlling for prejudice (affective and behavioural), age and gender. *Notes.* All coefficients represent unstandardized regression coefficients. Standard Error (SE) is reported in the parentheses. $^{**}p < .05$, $^{***}p < .001$.

negative contact experiences had the opposite effect—we found that Jewish conspiracy beliefs (and general conspiracy theorizing) were positively associated with negative contact. Furthermore, the findings were consistently stronger for negative contact than positive contact when predicting Jewish conspiracy beliefs. This is not surprising, as related studies have demonstrated that negative contact is typically stronger than positive contact in predicting a range of outcomes (e.g., Barlow et al., 2012; Graf et al., 2014; Paolini & McIntyre, 2019). Yet, as Graf et al. (2014) discussed, positive contact is more common than negative contact, whereby the prevalence may compensate for the strength of negative contact. It is also worth noting that while the indirect link between (positive) contact and decreased general conspiracy theorizing remained when controlling for affective and behavioural prejudice, the indirect link was lost when we also controlled for cognitive prejudice. However, this is probably due to conceptual overlap between the measures. In sum, the work so far showcases a broader implication of (positive) intergroup contact than merely prejudice reduction. However, a limitation of the studies has been their correlational design. Study 3 sought to provide evidence of the causal pathway between positive contact and the reduction of outgroup belief in conspiracy theories using an experimental paradigm.

4 | STUDY 3

Studies 1 and 2 provide evidence that (positive) intergroup contact reduces outgroup-directed conspiracy beliefs. However, both studies are cross-sectional and cannot speak to causality. In Study 3, we sought experimental evidence for the proposed causal nature of this relationship by manipulating exposure to (positive) intergroup contact using an indirect contact technique. Imagined contact is a cognitive technique focusing the accumulated knowledge of over 500 intergroup contact studies into a simple and effective intervention technique. It principally comprises of 'the mental simulation of a social interaction with a member or members of an outgroup category' (Crisp & Turner, 2009, p. 234). More than 70 studies have now provided evidence of the effectiveness of imagined contact on a range of phenomena related to the promotion of positive intergroup relations and in a range of different intergroup contexts (Miles & Crisp, 2014). We predict that imagined (positive) contact should reduce conspiracy endorsement, even when controlling for prejudice.

4.1 | Method

4.1.1 | Participants and design

As this is the first test of our hypothesis that imagined contact would reduce conspiracy endorsement, we had the goal of 102 usable subjects in each of two groups (based on an effect size derived from a meta-analytic test of imaged contact ($d = 0.35$, Miles & Crisp, 2014), with 80% of finding the effect; Faul et al., 2007). The sample of 214 included 76 males, 135 females and 2 Trans (1 participant did not indicate gender, $M_{age} = 33.56$, $SD_{age} = 11.34$). All were United Kingdom residents, non-Jewish and recruited in March 2016. No exclusions were made. Participants were randomly assigned to either the imagined contact ($n = 107$) or control ($n = 107$) condition in a between-subjects design. The dependent variable was a belief in Jewish conspiracy theories, where anti-Jewish prejudice was also measured as a control variable in a secondary analysis.

4.1.2 | Materials and procedure

Participants indicated their informed consent before completing demographic items. Participants were then randomly assigned to either the imagined contact or a control condition. Participants in the imagined contact condition completed a standard imagined contact simulated adapted from Crisp and Turner (2009). Specifically, they were instructed:

We would like you to take a minute to imagine yourself meeting a Jewish stranger for the first time. While imagining this think specifically of when (e.g., next Thursday) and where (e.g., the bus stop) this conversation might occur. During the conversation imagine you find out some interesting and unexpected things about the Jewish stranger and that the interaction is positive, relaxed, and comfortable.

Participants in the control condition completed an almost identical task, but the text did not mention a Jewish person but rather an unspecified stranger (Stathi & Crisp, 2008). All participants were given one minute to complete the simulation. They then wrote several lines to describe what they imagined to reinforce the effects of the imagery.

Belief in Jewish conspiracy theories was then measured with a scale taken from Swami (2012) consisting of twelve statements (e.g., 'Jewish people have too much power and influence in the world'; $\alpha = 0.92$). Participants indicated their agreement on seven-point scales (1 = *strongly disagree*, 7 = *strongly agree*). Outgroup affective prejudice was again measured with the General Evaluation Scale as in Study 2, but

five-semantic-differential scales were used in the analysis rather than six [5] (*cold-warm, suspicious-trusting, positive-negative, friendly-hostile, and admiration-disgust*, $\alpha = 0.88$). Participants were then thanked, debriefed and paid for their time.

4.2 | Results and discussion

Results demonstrated that participants who were asked to imagine an interaction with a Jewish person rated Jewish people more positively ($M = 5.29$, $SD = 0.97$) than those in the control condition ($M = 4.71$, $SD = 1.25$), $t(212) = 3.76$, $p < .001$, $d = 0.52$, 95% CI = 0.27; 0.88. Importantly, participants in the imagined contact condition also indicated lower belief in Jewish conspiracy beliefs ($M = 1.84$, $SD = 0.72$) than those in the control condition ($M = 2.17$, $SD = 0.98$), $t(212) = -2.62$, $p = .009$, $d = -0.36$, 95% CI = −0.54; −0.08. Being asked to imagine a positive interaction with a Jewish person reduced belief in conspiracy theories about Jewish people. This provides the first causal evidence that intergroup contact may indeed reduce outgroup-directed conspiracy theories.

To provide further evidence that the effects of imagined intergroup contact are not wholly reliant on a prejudice-reducing effect, we also controlled for prejudice in the imagined contact–conspiracy beliefs analysis. Results demonstrated that when controlling for prejudice and background variables (age and gender), the significant effect between the positive imagined contact condition (vs. control) and reduced belief in Jewish conspiracy theories remained, $F(1, 211) = 4.47$, $p = .036$, $\eta^2 = 0.02$.

In sum, the results of Study 3 demonstrate that participants who imagined engaging in a positive interaction with a Jewish person subsequently reported less belief in Jewish conspiracy theories. This study provides causal evidence that intergroup contact may be a successful avenue to reduce belief in racially motivated conspiracy theories. Imagined contact, as demonstrated here, may provide a simple and versatile cognitive tool capable of reducing the endorsement of intergroup conspiracy theories when direct intergroup contact is not feasible or desirable. While imagined contact may not be as powerful as direct, face-to-face contact (Giacobbe et al., 2013), it is useful when opportunities for contact are scarce, or in high-prejudice environments where direct contact poses are risky (West et al., 2014). Here we demonstrate that this technique may have utility as a tool to reduce conspiratorial thinking by virtue of the broader implications of intergroup contact that go beyond simple prejudice-reducing effects.

[5] As in Studies 1 and 2, an EFA was run to provide further evidence that conspiracy beliefs and prejudice are separate factors. Statistical assumptions were met, and using oblique rotation (promax) with eigenvalues set to two factors to extract was used. The two factors explained 40.04% and 20.74% of the variance, respectively. Each item loaded substantially on the predicted scale, except for one prejudice item (respect-contempt), which did not load on either scale, so it was removed. The factor loading can be viewed in the Supplementary Information (Table S6).

5 | GENERAL DISCUSSION

5.1 | Summary of results

Our research provides cross-sectional (Studies 1 and 2) and experimental (Study 3) evidence that positive intergroup contact could be a successful tool to reduce belief in outgroup-directed conspiracy theories. Importantly, we replicated these effects using a variety of scales measuring conspiracy theories and prejudice. The first and second studies demonstrated that high-quality (positive) contact with immigrants (Study 1) and Jewish people (Study 2) was associated with lower belief in conspiracy theories related to these groups, even when controlling for prejudice. Study 3 provided causal evidence of our predictions: imagining positive contact with a Jewish person reduced belief in Jewish conspiracy theories, which again, remained when controlling for prejudice. Furthermore, our results showcased evidence of a link between intergroup contact and the reduction in general conspiracy theorizing via lower immigrant (Study 1) and Jewish (Study 2) conspiracy beliefs. This novel work provides strong empirical evidence that experiences of intergroup contact may reduce outgroup conspiracy theories.

This research also sought to explore a potential mechanism underlying the protective effects of intergroup contact on conspiracy beliefs. Emerging research suggests that intergroup contact experiences may help train a processing style that avoids the use of immediately and habitually accessible knowledge (Hodson et al., 2018; Meleady et al., 2019). Meanwhile, lower levels of analytic thinking have been associated with greater conspiracy beliefs (for a review, see Douglas et al., 2019). Accordingly, Study 1 explored whether the greater analytic thinking (and lower reliance on intuitive thinking styles) and lower need for cognitive closure may explain the association between intergroup contact and conspiracy beliefs. We found no evidence of a mediated effect.

There are a number of possible reasons for this null effect. First, it is argued that intergroup contact is most likely to evoke cognitive liberalization effects when it occurs with low-prototypicality outgroup members (Meleady et al., 2019). When a target is seen as deviating from the group prototype intergroup contact is more cognitively demanding, requiring perceivers to look beyond existing knowledge and perspectives and engage in more systematic generative models of information processing in order to resolve the categorical inconsistency (R. J. Crisp & Turner, 2011). It is the repeated engagement of this process that is expected to train a processing style that avoids the use of immediately and habitually accessible knowledge. The measures of intergroup contact employed in the current investigation tapped the quality and quantity of contact experiences with outgroup members generally without considering the prototypicality of contact targets. Thus, it is possible that we did not capture the type of contact likely to impact broader cognitive functioning. In addition to employing a more suitable measure of contact, broader measures of cognitive flexibility that have been linked with intergroup contact—such as becoming less accepting of hierarchies (e.g., Meleady & Vermue, 2019) and

increasing feelings of intercultural competence (Meleady et al., 2020)—may plausibly prove to be mediators in the future.

Alternatively, the effects observed here may not be due to cognitive liberalization but to another process. For instance, the fact that only positive contact (in terms of both self-reports of prior contact in Study 2 and the imagination of a positive contact encounter in Study 3) appears effective in mitigating conspiracy beliefs may point to a purely affective process. That is, (positive) intergroup contact arouses a positive emotional state and more positive views of the outgroup, which interferes with the activation of conspiracy theories. Examining the links between (positive) intergroup contact, emotions and conspiracy beliefs would be a timely avenue for future research.

5.2 | Implications

It has previously been suggested that it may be extremely difficult to debunk or de-bias conspiracy beliefs (e.g., Jolley & Douglas, 2017). The fact that this work offers a tool to reduce racist or intergroup conspiracy beliefs and also general conspiracy theorizing is a considerable breakthrough. Intergroup contact is a well-established route to reduce prejudice regardless of the outgroup (Pettigrew & Tropp, 2006). Although this was not the primary goal of their research, Barlow et al. (2012) found that intergroup contact was associated with fewer conspiracy beliefs; we replicated and extended this finding to different groups. In three studies, we demonstrate that this traditional prejudice-reduction method is also successful in reducing belief in ethnically motivated conspiracy beliefs in adult samples. Importantly, this effect remained even when controlling for prejudice towards the target group. Our work provides further evidence of the broader implications of intergroup contact—not only can intergroup contact improve outgroup evaluations, but the consequences are also much broader. The use of intergroup contact technique does not rely on attempting to counter-argue conspiracy theories with factual information, something that can be nearly impossible (e.g., Pluviano et al., 2017). Instead, this work has shown imagined and actual intergroup contact to be an indirect avenue to reduce ethnically motivated conspiracy beliefs, which may also reduce the general tendency to engage in conspiracy theorizing.

Indeed, not all conspiracy beliefs are intergroup in nature. Conspiracy theories about the government (broadly defined) may be difficult to debunk using prejudice-reduction methods. However, it is within the realm of possibility that engaging in real or imagined contact with a governmental official may reduce such biases, just as imagined contact with a company executive has been shown to improve general attitudes about that company (Meleady & Crisp, 2017). We also provide evidence that intergroup contact may reduce a general conspiracy mindset (via lower specific beliefs). It is very plausible that this process may also aid the reduction of other specific beliefs, such as those concerning the government or vaccines. However, it is worth noting that most of the effects we uncovered are conventionally classified as small. Inspired by Funder and Ozer (2019), who consider such labels to be often arbitrary, we believe that as a test of theory, these effects may still demonstrate that there are meaningful relationships between positive contact and conspiracy theory reduction in the general population.

5.3 | Limitations and future research

This investigation has some limitations that should be considered for future investigations. For example, our work only examined the conspiracy beliefs among majority group members in relation to minority groups (i.e., Jewish people). We did not examine conspiracy theories held by minority groups towards majority groups. Historically stigmatized groups, such as African-Americans, may be more likely to hold conspiracy theories towards the government or a majority group (Nelson et al., 2010), perhaps because of actual conspiracies perpetrated against members of their group (e.g., Tuskegee Syphilis Study, the Central Park Five). Intergroup contact techniques may reduce conspiracy beliefs held by members of minority groups, but it could additionally have the consequence of reducing healthy scepticism and decreasing willingness to engage in positive collective action (Dixon et al., 2012).

Future research should also refine the use of intergroup contact as a technique to reduce belief in conspiracy theories. For example, it would be worthwhile to determine whether contact is more or less effective if conspiracy theories are directly mentioned in the encounter and how long the intergroup contact effects last. Intergroup contact is also generally more effective when the intergroup nature of the interaction is salient (e.g., Voci & Hewstone, 2003). Perhaps discussing anti-Jewish conspiracy theories with a Jewish person may lead to direct attitude change. However, bringing up such an issue may lead to a negative encounter, including defensiveness and the marshalling of cognitive strategies used to resist persuasion (Wegener et al., 2004). In this case, or with negative contact in general (Graf et al., 2014), conspiracy beliefs (and prejudice) may become more entrenched. Moreover, we have demonstrated that while contact is associated with lower endorsement of conspiracy theories (Study 1 and 2) and experimentally manipulated imagined contact (Study 3) leads to lower conspiracy beliefs in an adult sample, Bilewicz (2007) found no such correlational link using limited measures in a sample of adolescents. Understanding intervention levers in adolescents to reduce conspiracy beliefs is particularly timely (Jolley et al., 2021). Therefore, future research could further explore these differences in younger populations to understand how the positive effects of contact could possibly be utilized as an inoculation to misinformation, perhaps in addition to 'prebunking' strategies suggested by Lewandowsky and van der Lindern (2021).

6 | CONCLUSION

Intergroup conspiracy theories are common and potentially can lead to everything from misinformed voting to extreme expressions of prejudice. In three studies, we demonstrated in correlational and experimental studies that positive intergroup contact is a successful tool for reducing intergroup conspiracy beliefs. Importantly, these

effects are maintained even when controlling for prejudice; thus, that these effects are not merely another prejudice reduction effect. We also provide evidence suggesting that even general conspiracy theorizing is lower after such contact via reductions in specific outgroup conspiracy beliefs. This article provides a framework that, along with future research, might lead to the reduction of harmful conspiracy beliefs in the general population.

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CONFLICT OF INTEREST

The authors have no conflict of interest to declare.

DATA AVAILABILITY STATEMENT

Data files and materials of all three studies are available on the Open Science Framework (https://osf.io/sgcr6/).

ETHICS STATEMENT

The Authors also confirm that this article adheres to ethical guidelines specified in the APA Code of Conduct as well as the authors' national ethics guidelines.

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SUPPORTING INFORMATION

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