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Thought Contagion? Conspiracy Beliefs Boost Paranoid Thoughts

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Thought Contagion? Conspiracy Beliefs Boost Paranoid Thoughts

Abstract

Conspiracy theories accusing specific groups of secret malevolent actions can foster a perception of the world as a dangerous place. In our research, we contend that both adherence and exposure to conspiracy beliefs can serve as a potential cause of certain psychological problems in the form of paranoid thoughts. This hypothesis was tested in three studies conducted among Polish and British participants. In Study 1 (longitudinal, $N = 603$), we found that conspiracy beliefs exerted a positive overtime effect on paranoid thoughts. Experimental studies 2 ($N = 384$) and 3 ($N = 445$), showed that being exposed to conspiracy theories (vs. control stimuli) heightened paranoid thoughts. In Study 3, we proposed a potential mechanism explaining this effect, according to which exposure to conspiracies increased paranoid thoughts via only negative intense emotions. Our work adds to the discussion on the consequences of conspiracy beliefs and has implications for mental health research, underlining the importance of designing interventions limiting the adverse effects of conspiracy beliefs.

Keywords: conspiracy beliefs, conspiracy theories, paranoid thoughts, negative emotions

Thought Contagion? Conspiracy Beliefs Boost Paranoid Thoughts

You've been bitten by

A true believer

You've been bitten by

Someone's false beliefs

(Muse, 2018)

The Internet, especially social media platforms, provide almost unlimited space for the dissemination of conspiracy theories, making its users (un)intentionally exposed to this type of beliefs on daily basis (e.g., Kużelewska & Tomaszuk, 2022). Although previous research showed that conspiracy theories may have severe societal concomitants, to date, not many studies focused on the consequences that being exposed to them may have on intra-individual outcomes (e.g., mental health). In the current research, we claim that theories accusing secret groups of colluding to achieve nefarious goals can lead to maladaptive psychological consequences in the form of paranoid thoughts (i.e., a kind of thinking dominated by suspicious or persecutory content, such as being followed and a tendency to perceive others' actions as intentionally malicious; Cicero & Kerns, 2011).

Previous studies (see Imhoff & Lamberty, 2018), already associated conspiracy beliefs with paranoid thoughts. Some researchers (e.g., Cichocka et al., 2016) even suggested that paranoid thoughts may precede conspiracy theories' endorsement. These conclusions, however, were based on cross-sectional data, thereby limiting inference about causality. The current work aims to fill this knowledge gap by employing longitudinal and experimental research designs to scrutinize how these two phenomena are intertwined. We argue that since conspiracy beliefs are omnipresent in the current days (e.g., Stasielowicz, 2022) and constant

online exposure to theories intensifies distrust, hostility, and negative emotions (e.g., Gkinopoulos & Mari, 2023), such exposure may potentially contribute to an upsurge in paranoid thoughts.

Conspiracy Beliefs and Their Consequences

Conspiracy theories are described as hidden plots by powerful and malevolent groups, whose actions cause outcomes of public interest (e.g., Douglas & Sutton, 2023). Conspiracy beliefs were previously linked to feelings of psychological threat (e.g., anxiety or uncertainty). For this reason, many researchers (e.g., Douglas & Sutton, 2023) understood them as an attempt to reduce negative experiences by making sense of the uncertain through quick judgements about nefarious groups that allegedly control the world. However, it seems that they are merely attempts, since longitudinal research suggested that conspiracy beliefs had the potential to deteriorate initial difficulties, for instance, to heighten anxiety (Liekefett et al., 2023) or psychological defensiveness (Górska et al., 2023). Indeed, belief in conspiracy theories was predominantly linked to harmful consequences, such as prejudice (Marchlewska et al., 2019) or lower adherence to safety guidelines during the COVID-19 pandemic (e.g., Molenda et al., 2024; see also Marinthe et al., 2020).

In fact, only a handful of studies, centered primarily on social psychological outcomes, investigated the consequences of exposure to conspiracy theories experimentally. For example, exposure to conspiracy theories about out-groups (e.g., immigrants) increased prejudice against these groups (Jolley et al., 2020). Similarly, watching a video about a government's conspiracy heightened distrust towards that government (Kim & Cao, 2016). Moreover, exposure to anti-vaccine conspiracy theories decreased vaccination intentions (Jolley & Douglas, 2014) and exposure to antidepressant conspiracy theories lowered health-seeking intentions (Natoli & Marques, 2021; see also Fournier & Varet, 2023; for studies on chemotherapy-related conspiracy beliefs), suggesting that ubiquitous conspiracies might

threaten public health. Importantly, previous research also demonstrated that exposure to conspiracy theories increased negative emotions (Gkinopoulos & Mari, 2023).

Summing up, conspiracy theories have various detrimental consequences. However, none of these studies directly investigated these consequences in the area of mental health issues. Using two-wave longitudinal and experimental designs, we aim to fill this gap by examining the possible relationships between conspiracy theories and paranoid thoughts.

Conspiracy Beliefs and Paranoid Thoughts

The relationship between paranoid thoughts and conspiracy beliefs was the subject of psychological studies before, including two meta-analyses (Imhoff & Lamberty, 2018; Stasielowicz, 2022), both showing a similar estimated correlation (r = .36, r = .34, respectively). So, what is the difference between these two constructs? Paranoid thoughts are linked to an obsession "with the idea that others are trying to harm him or her, whereas most conspiracy believers may fear less for themselves than for society in general" (Imhoff & Lamberty, 2018; p. 911). Therefore, conspiracy beliefs are related to the sociopolitical or the intergroup sphere and paranoid thoughts are rather embedded in the interpersonal domain (Imhoff & Lamberty, 2018).

Indeed, paranoid thoughts are characterized by excessive interpersonal distrust, being suspicious of other's intentions, perceiving others as direct threats to oneself, and by hostile, self-referent interpretations of other's behaviors (e.g., Freeman, 2007). According to the hierarchy of paranoia (Freeman et al., 2005), the development of such disturbing thoughts is based on the perception of the world as a dangerous place. Affective processes play a pivotal role in these beliefs, specifically in the form of high-intensity negative emotions, such as anxiety (Freeman et al., 2010). The threat anticipation model (Freeman et al., 2002, 2008) hypothesizes that when an individual experiences such negative emotional states, this can shape their perception of the world, potentially leading to a misinterpretation of external

reality. Negative emotions, such as anxiety and worry, elicit heightened danger anticipation, foster a state of vigilance and encourage the interpretation of ambiguous situations as hostile, threatening, and intended to cause harm.

Therefore, since believing in and exposure to conspiracy theories have been linked to increased anxiety and negative emotions (Gkinopoulos & Mari, 2023; Liekefett et al., 2023) - factors contributing to the development of paranoid thoughts (Bagrowska et al., 2022; Freeman, 2007) - it seems plausible that conspiracy theories could also fuel these thoughts, making those holding conspiracy convictions more suspicious and distrustful in the interpersonal sphere. Importantly, conspiracy theories might be perceived as a form of dangerous world beliefs (a worldview envisioning the social world as threatening; Leone et al., 2019), which can also fuel negative emotions, and thus, increase paranoid thoughts (Bagrowska et al., 2022). To our knowledge, this assumption has not yet been tested. Some studies (e.g., Stasielowicz, 2022) treated these constructs as correlates, without implying any direction of this relationship and others (e.g., Cichocka et al., 2016) considered paranoid thoughts as a predictor of conspiracy beliefs, assuming that perceiving others' intentions as hostile on an inter-personal level might translate into convictions that socio-political events are caused by plotting groups. Still, none of these studies permitted conclusions about causality, which we aim to address in the present research.

Overview of the Current Research

The main goal of our studies was to shed more light on the role of conspiracy beliefs in boosting paranoid thoughts, providing new evidence on the effects of conspiracies on health symptoms. In a two-wave longitudinal Study 1, we hypothesized that conspiracy beliefs at Time 1 (T1) would predict an increase in paranoid thoughts at Time 2 (T2; Hypothesis 1). In experimental Studies 2 and 3, we assumed that exposure to conspiracy theories (vs. control stimuli) would directly increase paranoid thoughts (Hypothesis 2).

Moreover, aiming to investigate a potential mechanism of this causal link in Study 3, we additionally examined the role of emotions' intensity and valency. Specifically, as the role of low-valenced intense emotions in the development of paranoid thoughts was highlighted in past literature (e.g., Freeman et al., 2010), we assumed that the effect of exposure to conspiracies on paranoid thoughts would be mediated by higher negative (vs. positive) increased intensity of emotions (i.e., only by negative intense emotions; Hypothesis 3; moderated mediation).

All the data, codes, materials, and supplements are available at https://doi.org/10.17605/OSF.IO/V4P6B. Data were analyzed using SPSS v.29 (all studies), MPlus 8.0 (Muthén & Muthén, 2017; Study 1), and Process 4.1 (Hayes, 2021; Study 3). All participants issued informed consent. The studies (both longitudinal and experimental) were approved by the Research Ethics Committee of the Institute of Psychology, Polish Academy of Sciences (number of approval: 26/X/2020).

Study 1

Method

Participants and Procedure

Study 1 was administered as part of a two-wave online survey of adult Poles. Data was collected in 2021 by an external research company, used in academic studies before (e.g., Kowalski et al., 2020). The two measurements were divided by a six-month interval. We aimed to include at least 400 participants taking part in both measurements, as for $r = .14$ (Fritz & MacKinnon, 2007), G*Power 3.1 (Faul et al., 2009) provides a target of 398 participants with a power of 0.80 for detecting small associations between variables. Out of the 1000 respondents who filled in the first measurement, 603 (60.3%) also completed the second measurement. The sample for this study consisted only of the individuals who participated in both waves of the survey (329 female, 274 male, $M_{age} = 51.94$, $SD_{age} = 15.43$).

Besides the variables reported here, Study 1 involved measures of other social psychological variables (e.g., social dominance orientation) included for the purposes of different projects.[1]

Measures

Conspiracy Beliefs. Measured with the Generic Conspiracist Beliefs scale (Brotherton et. al., 2013; Polish adaptation: Siwiak et. al., 2019). A total of 15 statements were applied, such as "Certain significant events have been the result of the activity of a small group who secretly manipulate world events." Participants responded on a scale from 1 = *definitely not true* to 5 = *definitely true*. The scale demonstrated excellent reliability, α_{T1} = .94, α_{T2} = .95.

Paranoid Thoughts. To measure paranoid thoughts, we used 18 items from the Revised Green et al. Paranoid Thoughts Scale (R-GPTS; Freeman et. al., 2019; Polish adaptation: Kowalski et. al., 2020). Participants were asked about the thoughts that they might have had in the last month and responded to statements, such as "I have definitely been persecuted," on a scale from 0 = *totally disagree* to 4 = *totally agree*. The scale showed excellent reliability across both measurements, α_{T1} = .96, α_{T2} = .96.

Results

Analytic Strategy

Analyses were conducted in two steps. First, we examined intercorrelations for the variables of interest. Next, an autoregressive cross-lagged path model (CLPM; Selig & Little, 2012) was estimated to verify our hypotheses. In this solution, both variables assessed at T2 (i.e., paranoid thoughts and conspiracy beliefs) were regressed on paranoid thoughts and conspiracy beliefs at T1.

[1] The list of measured constructs (for all studies) is available on the OSF project page. This dataset was also used in Molenda et al.'s (2023) paper, albeit employing a different set of variables. Please contact the first author for details.

Preliminary Analyses

Descriptive statistics and intercorrelations for the variables assessed in Study 1 are presented in Table 1. Across both measurements, conspiracy beliefs were positively correlated with paranoid thoughts. Moreover, participants' age was negatively related to paranoid thoughts at T1 and T2.

Table 1

Descriptive Statistics and Correlations (Study 1)

	M	*SD*	1	2	3	4	5
1. Conspiracy beliefs T1	2.70	0.92	--				
2. Paranoid thoughts T1	0.98	0.87	.21***	--			
3. Conspiracy beliefs T2	2.75	0.94	.76***	.22***	--		
4. Paranoid thoughts T2	0.97	0.88	.23***	.66***	.23***	--	
5. Age	51.94	15.43	-.02	-.25***	-.05	-.23***	--
6. Gender (0 = female, 1 = male)	-	-	-.03	-.01	.00	-.01	.00

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

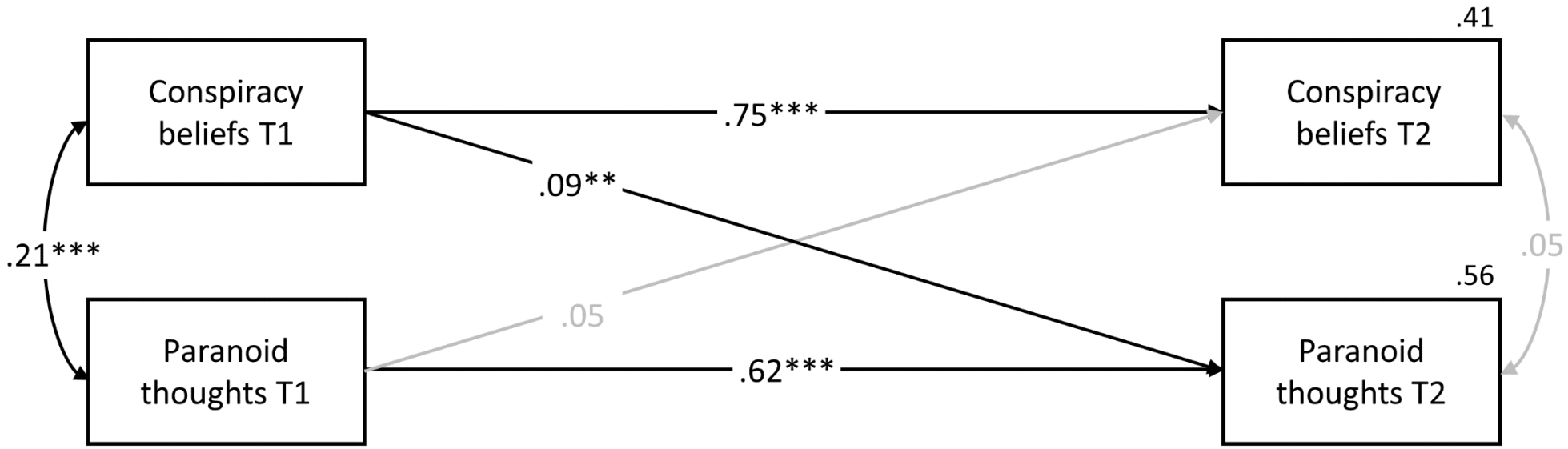
Hypotheses Testing

The model was estimated with the use of MPlus 8.0 (Muthén & Muthén, 2017) and covariates (age, gender) were accounted for. Excluding the covariates did not change the results except for the effect of paranoid thoughts measured at T1 on conspiracy beliefs measured at T2, which reached significance. Figure 1 shows the results for the autoregressive CLPM tested in Study 1. In line with our hypotheses, conspiracy beliefs at T1 were positively related to paranoid thoughts at T2 ($B = 0.09$, $SE = 0.03$, 95% CI [0.04, 0.14], $\beta = .09$, $p = .003$). The effect of T1 conspiracy beliefs on itself at T2 was positive and significant ($B =$

0.77, *SE* = 0.03, 95% CI [0.72, 0.81], β = .75, *p* < .001). Paranoid thoughts at T1 were not related to T2 conspiracy beliefs (*B* = 0.06, *SE* = 0.03, 95% CI [0.02, 0.06], β = .05, *p* = .052), but were associated to itself measured at T2 (*B* = 0.63, *SE* = 0.03, 95% CI [0.58, 0.68], β = .62, *p* < .001). Thus, the results of Study 1 supported our hypothesis that belief in conspiracy theories at T1 would be linked to higher paranoid thoughts at T2 (H1). Interestingly, paranoid thoughts at T1 were not linked to higher conspiracy beliefs at T2. Noteworthy, conspiracy beliefs and paranoid thoughts were significantly associated with each other at T1 but not significantly related at T2. Our findings suggest that while conspiracy beliefs predict paranoid thoughts, this effect does not seem to work the other way around. Thus, the results preliminary implied that conspiracy beliefs might contribute to hostile, self-referent interpretations of other's behaviors in the form of paranoid thoughts. However, as a two-wave panel survey study holds some limitations regarding causality, we conducted experimental Studies 2 and 3 to directly investigate the effects of exposure to conspiracy theories on paranoid thoughts.

Figure 1

Results of Autoregressive Cross-Lagged Panel Models Testing the Relationships Between Conspiracy Beliefs and Paranoid Thoughts, Study 1



Note. Standardized coefficients presented. Greyed out arrows reflect the non-significant effects ($p > .05$).

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

Study 2

Method

Participants and Procedure

Data for Study 2 were obtained through an online survey conducted among British participants via Prolific Academic in 2023. Based on previous experiments in the field of conspiracy beliefs' emotional concomitants (Marchlewska et al., 2022), we expected effect size $d = 0.286$. We estimated our sample size with G*Power (Faul et al., 2009), assuming the power of .80 for differences between two independent means (two-tailed), which yielded 193 participants per research condition. The study was filled out by 393 participants. Due to the experimental character of the study, we added an attention check to verify if respondents read the texts attentively. Based on that, we excluded one participant. Lastly, eight participants were excluded due to selecting "Non-binary" or "Prefer to self-describe" as their gender, which was not aligned with the study's demographic categorization criteria.[2] The final sample for this study included 384 British participants (199 women, 185 men), aged between 19 and 79 ($M_{age} = 47.62$, $SD_{age} = 14.34$).

First, participants were asked to complete demographic variables. Then, they were randomly divided into two conditions: conspiracy ($n = 189$) or control ($n = 195$). In both conditions, participants were exposed to three fabricated articles about: a. Muslims' migration to Europe, b. 5G technology, c. the world of politics. In the conspiracy condition, three texts were designed to prime conspiracy thinking by explaining certain events or phenomena as orchestrated by secretly plotting agents. In the control condition, the character of the texts was more neutral and scientific, describing the same events and phenomena without referring to any secret plots (see Supplements for more information). In both conditions, the texts were

[2] For the purpose of this study (as well as Study 3), we focused on responses from those who identified as 'man' or 'woman'. This decision was taken to maintain data homogeneity for this specific analysis, but we acknowledge and respect the importance of all gender identities.

designed using the same graphic layouts (i.e., the fonts, the arrangement of all the elements, etc., were the same for both conditions in each text). The word counts were similar in corresponding texts (i.e., Muslims' migration to Europe: 209 words in the experimental condition vs. 221 in the control condition; 5G technology: 338 words in the experimental condition vs. 321 in the control condition; the world of politics: 506 words in the experimental condition vs. 492 in the control condition). Next, participants answered questions about paranoid thoughts. Finally, they were carefully debriefed (e.g., we explained the overall goal and design of the study and informed them that some of the presented content included subjective opinions that might not be true or that might not accord to the current state of knowledge) and thanked them for their participation.

Measures

Paranoid Thoughts. This was measured as a state with six-items previously used by Freeman et al. (2015), such as "Right now I am thinking that others are trying to persecute me." Participants were asked to respond using a scale from 1 = *definitely disagree* to 7 = *definitely agree*, $\alpha = .96$.

Results

Analytic Strategy

First, we examined intercorrelations between the variables of interest. Then, we estimated hierarchical regression to test the role of exposure to conspiracy theories in increasing paranoid thoughts.

Preliminary Analyses

First, we computed correlations between all the variables across both conditions (see Table 2). Similarly to Study 1, age correlated to paranoid thoughts negatively.

Table 2

Means, Standard Deviations, and Zero-Order Correlations (Study 2)

Measure	*M*	*SD*	1	2
Paranoid thoughts	2.28	1.41	-	
Age	47.62	14.34	-.13*	-
Gender (0 = female, 1 = male)	-	-	.18***	-.06

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

Hypotheses Testing

We computed hierarchical regression analysis to check whether there would be an indirect effect of the conspiracy (vs. control) condition, age, and gender on paranoid thoughts (see Table 3). The conspiracy condition was indeed a significant positive predictor, suggesting that those in the conspiracy condition had increased paranoid thoughts. Moreover, age and gender also predicted paranoid thoughts significantly, indicating that men and younger individuals had higher state paranoia. Thus, in Study 2, we provided first experimental evidence of the effects of exposure to conspiracy theories on mental health issues, showing that such exposure increased paranoid thoughts (H2).

Table 3

Predictors of Paranoid Thoughts (Study 2)

Variable	*B*	95% CI		*p*	*SE B*	β	R^2	*F*
		LL	UL				.10	$F(3, 380) = 14.13$***
Condition (control = 0, conspiracy = 1)	0.66	0.39	0.93	< .001	0.14	.23		
Gender (female = 0, male = 1)	0.48	0.21	0.75	< .001	0.14	.17		
Age	-0.01	-0.02	-0.001	.029	0.01	-.11		

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

In Study 3, we aimed to replicate this effect in a different cultural context, also examining the role of higher negative (vs. positive) increased intensity of emotions in explaining the link between exposure to conspiracy beliefs and paranoid thoughts.

Study 3

Method

Participants and Procedure

Study 3 included a sample of adult Poles and data were collected online in 2023 by the same external research company as in Study 1. Regarding the sample size, we followed the same calculations as in Study 2. We recruited 468 participants – we aimed to over-recruit to allow for exclusions. We applied two attention checks to ensure data quality. With the first one (a question regarding the content of the administered articles), we excluded 17 participants. Following this, another attention check (requiring participants to select the answer "3" in a specific item), led to the removal of 5 more individuals. Lastly, one participant was excluded for selecting "Other" as their gender, which was not aligned with the study's demographic categorization criteria. The final sample for this study included 445 participants (236 women, 209 men), aged between 18 and 81 (M_{age} = 48.58, SD_{age} = 16.37).

We used the same design as in Study 2, but added questions regarding emotions. First, participants completed demographic variables and were then randomly divided into two research conditions: conspiracy (n = 222) or control (n = 223). As in Study 2, participants in both conditions were exposed to three fabricated articles about: a. Muslims' migration to Europe (188 words in the experimental condition vs. 184 words in the control condition), b. 5G technology (310 words in the experimental condition vs. 288 words in the control condition), c. the world of politics (446 words in the experimental condition vs. 436 words in the control condition). In the conspiracy condition, these articles were designed to provide conspiracy explanations for the aforementioned issues and in the control condition, they

aimed to provide more of a neutral and scientific explanation of the same topics. These articles were almost the same as in Study 2 – we only slightly changed several sentences to embed them more in the Polish context (see Supplements for the exact wording of all articles in both experiments). As before, the texts in both conditions were presented with the use of the same graphic layouts. Next, participants answered questions about emotions' intensity and valency, and paranoid thoughts. Finally, respondents were carefully debriefed and thanked for their participation, as in Study 2.

Measures

Intensity of Emotions. This was measured using one item, inspired by Medland and colleagues (2020). Participants were asked to evaluate the intensity of the emotions they felt while reading the articles displayed in each condition. Item was scored on a seven-point scale from 1 = *not intense at all* to 7 = *very intense*, where higher scores indicated higher emotions' intensity.

Valency of Emotions. This was measured using one item, inspired by Medland and colleagues (2020). Participants were asked to evaluate the valency of emotions they felt while reading the articles displayed in each condition. Item was scored on a seven-point scale from 1 = *definitely negative* to 7 = *definitely positive*, where higher scores indicated positive emotions.

Paranoid Thoughts. This was measured as in Study 2, with six items proposed by Freeman et al. (2015; Polish version: Bagrowska et al., 2023), $\alpha = .95$.

Results

Analytic Strategy

In Study 3, analyses were conducted in two stages. First, we examined intercorrelations for the variables of interest and conducted *t-tests* for intensity and valency of

emotions. Then, we estimated a hierarchical regression and a moderated mediation model to test the role of intensity and valency of emotions in increasing paranoid thoughts.

Preliminary Analyses

First, we computed correlations between all the variables across both conditions (see Table 4). We found positive correlations between intensity of emotions and paranoid thoughts. Valency of emotions was significantly negatively associated with paranoid thoughts. Similarly to Studies 1 and 2, age correlated with paranoid thoughts negatively. Additionally, age was positively linked to intensity of emotions.

Table 4

Means, Standard Deviations, and Zero-Order Correlations Across Conditions (Study 3)

Measure	*M*	*SD*	1	2	3	4
1. Intensity of emotions	4.36	1.47	-			
2. Valency of emotions	3.75	1.48	.01	-		
3. Paranoid thoughts	2.38	1.43	.26***	-.11*	-	
4. Age	48.58	16.37	.14**	.08	-.10*	-
5. Gender (0 = female, 1 = male)	-	-	-.06	.002	-.02	.06

*p < .05. **p < .01. ***p < .001.

Hypotheses Testing

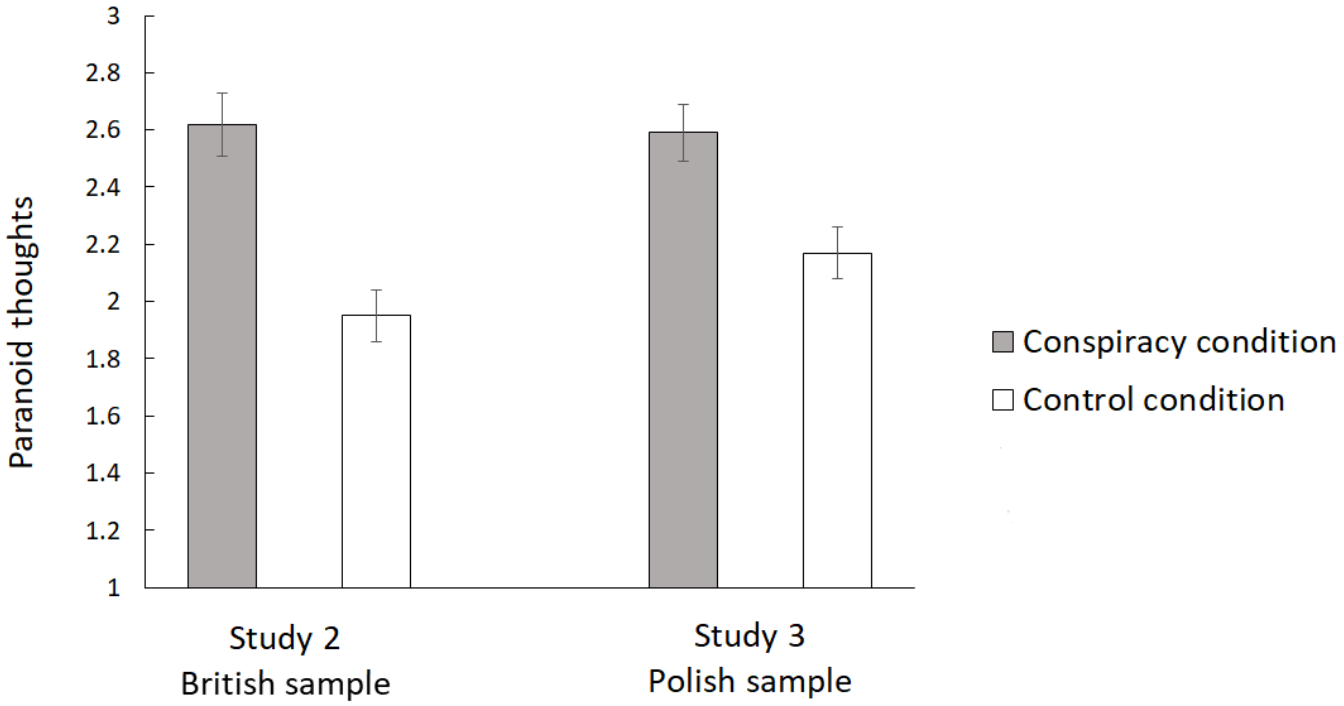
Intensity and Valency of Emotions. To investigate the effects of each condition on intensity and valency of emotions, we computed independent *t-tests* for these variables. There was a significant effect of the condition on intensity of emotions (control condition M = 4.14, SD = 1.48; conspiracy condition M = 4.58, SD = 1.43), $t(443) = 3.18$, $p = .002$, $d = 0.30$,

and on valence of emotions (control condition $M = 4.39$, $SD = 1.28$; conspiracy condition $M = 3.11$, $SD = 1.40$), $t(439,196) = -10.06$, $p < .001$, $d = -0.95$.

Paranoid Thoughts. We computed hierarchical regression analysis to check whether there would be an indirect effect of the conspiracy manipulation on paranoid thoughts via intensity of higher negative (vs. positive; i.e., valency of) emotions (Table 5). In Step 1, we introduced the condition (control = 0, conspiracy = 1) and demographic variables (i.e., gender and age) as covariates. There was a positive and significant effect of the conspiracy condition on paranoid thoughts – we present mean differences between the conditions (for both experimental studies) in Figure 2. When we added the emotions' intensity and valency in Step 2, the effect of the condition became non-significant. However, we found a positive and significant effect of intensity of emotions on paranoid thoughts. The effect of valency was non-significant though. In Step 2, we also found a significant negative effect of age on the dependent variable. When we removed the covariates, the results remained the same (see the Supplements for details).

Figure 2

Mean Paranoid Thoughts in the Conspiracy and Control Conditions in Studies 2 and 3



Note. Error bars represent standard errors. In both studies, participants in the conspiracy condition reported higher levels of paranoid thoughts (M = 2.62, SD = 1.52, range 1-7 for Study 2; M = 2.59, SD = 1.54, range 1-7, for Study 3), than participants in the control condition (M = 1.95, SD = 1.21, range 1-7, for Study 2; M = 2.17, SD = 1.29, range 1-7, for Study 3); $t(358{,}525) = 4.83$, $p < .001$, $d = 0.50$, for Study 2; $t(428{,}788) = 3.14$, $p = .002$, $d = 0.30$, for Study 3.

Table 5

Predictors of Paranoid Thoughts (Study 3)

Variable	*B*	95% CI		*p*	*SE B*	β	R^2	*F*
		LL	UL					
Step 1							.03	$F(3, 441) = 4.52$**
Condition (control = 0, conspiracy = 1)	0.41	0.14	0.67	.003	0.14	.14		
Gender (female = 0, male = 1)	-0.05	-0.32	0.21	.699	0.14	-.02		
Age	-0.01	-0.02	0.0005	.065	0.004	-0.09		

Step 2						.10	$F(5, 439) = 9.44^{***}$
Condition (control = 0, conspiracy = 1)	0.20	-0.09	0.48	.184	0.15	.07	
Gender (female = 0, male = 1)	0.001	-0.26	0.26	.994	0.13	.0003	
Age	-0.01	-0.02	-0.003	.008	0.004	-0.12	
Intensity of emotions	0.26	0.17	0.35	<.001	0.05	.26	
Valency of emotions	-0.07	-0.17	0.03	.153	0.05	-.08	

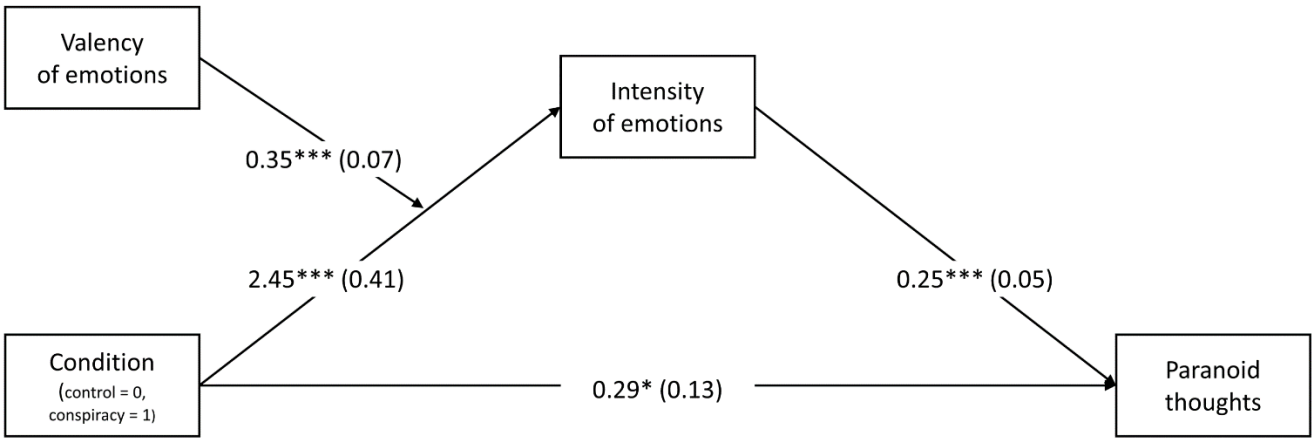
*$p < .05$. **$p < .01$. ***$p < .001$.

In order to perform a full test of our hypotheses, we conducted a moderated mediation analysis using model 7 in Process 4.1 (Hayes, 2021). Significance was tested with bootstrapped 95% confidence intervals for the unstandardized indirect effects, constructed with 10,000 resamples. The analysis displayed in Figure 3 examined whether valency of (higher vs. lower) emotions moderated the mediation between the condition (conspiracy vs. control) and paranoid thoughts via intensity of emotions. Valency of emotions was introduced as the moderator between the condition (conspiracy vs. control) and intensity of emotions. As covariates, we used gender and age. The interaction between the condition and valency of emotions predicted intensity of emotions negatively and significantly, b = -0.49, SE = 0.10, 95% CI [-0.69, -0.30], p = <.001, suggesting that the conspiracy condition led to more intense emotions only among those who had higher negative emotions. The indirect effect of the moderated mediation was negative and significant, b = -0.12, SE = 0.04, 95% CI [-0.21, -0.05]. Thus, the results showed that the indirect effect of conspiracy (vs. control) condition on paranoid thoughts via intensity of emotions was significant only among individuals who felt more negative emotions (i.e., scored lower on valency of emotions), b = 0.33, SE = 0.09, 95% CI [0.18, 0.52], but not among those who felt more positive emotions (i.e., scored higher on valency of emotions), b = -0.03, SE = 0.06, 95% CI [-0.16, 0.07]. Therefore, Study 3 replicated the effect of exposure to conspiracy theories on increased paranoid thoughts (H2),

additionally demonstrating the possible mechanism of this effect: it was mediated by higher negative (vs. positive) valenced intensity of emotions (i.e., negative-only intense emotions; H3).

Figure 3

Results of the Moderated Mediation (Study 3)



Note. Entries are unstandardized coefficients.

*p < .05. **p < .01. ***p < .001.

Discussion

Across a series of three studies, conducted in two different countries (Poland and the UK), we investigated the role of conspiracy beliefs in fostering paranoid thoughts. Given that all previous studies examining this link were cross-sectional, we decided to employ longitudinal (Study 1) and experimental (Studies 2-3) designs to provide new insights into the knowledge about conspiracy beliefs and mental-health phenomena. In a two-wave panel study, we demonstrated that conspiracy beliefs at T1 were related to higher paranoid thoughts at T2, thus supporting H1. Experimental Studies 2 and 3 investigated the consequences of ubiquitous conspiracy theories causally. Results of the first experiment showed that being exposed to articles about conspiracies indeed enhanced paranoid thoughts (H2). The

following experiment replicated this effect, additionally showing the potential mechanism explaining the way exposure to conspiracy theories may impact paranoid thoughts. Namely, this effect was mediated only by negative, intensive emotions, providing support for our last hypothesis (H3). These results suggest that exposure to conspiracy theories might lead to higher paranoid thoughts due to eliciting negative, but not positive, intense emotions.

Theoretical Implications

The question why people believed in conspiracy theories has been explored by scientists at least since the 1990s (e.g., Abalakina-Paap et al., 1999), with explanations typically centering around various unfulfilled psychological motives (e.g., Douglas & Sutton, 2023). However, the existing literature seems to overlook the current reality, which is that we no longer need to intentionally face maladaptive psychological processes and actively seek alternative explanations for various situations to come across conspiracy theories. They pervade our surroundings and can possibly influence us, even if initially we were not their proponents (Kużelewska & Tomaszuk, 2022). Therefore, it is crucial to investigate the effects of the exposure to conspiracy theories, going beyond cross-sectional research designs. This approach is essential for determining whether the correlation between a specific variable (e.g., anxiety; Liekefett et al., 2023) and belief in conspiracies indeed stems from an individual's unmet psychological needs or rather is a consequence of exposure to conspiracies, which contributes to psychological difficulties. This principle extends to majority of variables associated with conspiracy beliefs, such as lack of control (Kofta et al., 2020), narcissistic group identity (Marchlewska et al., 2019), or the aforementioned paranoid thoughts, just to mention a few.

We were especially interested in examining the potential consequences of conspiracy theories since the COVID-19 pandemic resulted in a proliferation of such theories on social media (Kużelewska & Tomaszuk, 2022). The results of our experiments demonstrated that

being exposed to conspiracy theories increased paranoid thoughts, suggesting that the ubiquity of such views might affect mental health, at least temporarily. Thus, conspiracy theories do not only affect socio-political phenomena, such as increased prejudice (Jolley et al., 2020), but they also might affect individuals' well-being. Obtained results are also in line with previous findings regarding the increased negative emotions after being exposed to conspiracies (Gkinopoulos & Mari, 2023). As such, we combined social and clinical psychology perspectives to offer a mechanism explaining the effects of conspiracies' exposure on paranoid thoughts, and we showed that this exposure increased paranoid thoughts via negative-only intensive emotions. Building on prior research (Bagrowska et al., 2022; Freeman et al., 2010; Gkinopoulos & Mari, 2023; Liekefett et al., 2023), we may conclude that exposure to conspiratorial content has a potential to increase the perception of the world as dangerous, intensify negative emotions, and worsen mental states, increasing the likelihood of paranoid thoughts occurrence. Those who are more prone to paranoid thoughts, for example, due to factors such as low self-esteem, ongoing stress, or psychoactive substance use (Freeman et al., 2015), may be particularly susceptible to the adverse psychological effects of exposure to conspiracy theories.

These results also correspond to Kramer's (1998) paranoid cognition model, which identified situational, social cognitive underpinnings of paranoid cognitions (e.g., perceived distinctiveness, social uncertainty) that could lead to dysphoric self-consciousness, increased rumination and hypervigilance, which may contribute to an exaggerated perception of conspiracy (e.g., Wabnegger et al., 2024), ultimately triggering higher paranoid thoughts. According to that model, our results suggest that the ubiquity of conspiracy theories and exposure to them could be considered situational antecedents that could lead to paranoid thoughts (at least temporarily). The notion of different situational antecedents of paranoid thoughts (including conspiracy beliefs) is worth investigating in the future.

Conclusions and Future Directions

Although our research allows to perceive conspiracy theories consequences in a more nuanced way, it has several limitations. Our studies were conducted in two contexts (Polish and British), allowing to increase our findings' generalizability, but this does not seem enough to suggest that the obtained effects are universal. Future research should consider drawing samples from different countries and cultural contexts to replicate these results. Additionally, despite establishing sample sizes based on power analysis, our research has some drawbacks. Especially experiments should have used more appropriate estimates (i.e., from the research on conspiracy theories exposure) than we used in this project (i.e., from the research on coping and conspiracy beliefs). Future research should be more careful with estimations and effect sizes used in power analyses.

Moreover, we examined the effects of exposure to conspiracy theories experimentally, however, we did not examine if this translated into conspiracy beliefs in the long term - future studies might include more elaborated designs, including both exposure and beliefs, to thoroughly investigate these issues. Another interesting point would be to investigate the effects of the constant, long-term exposure to conspiracy theories (which we can experience, e.g., on the Internet). However, such studies should be conducted carefully, especially regarding the ethical issues it may raise. It is worth noting that the effects of the debriefings should also be tested in the future. Studies showed that debriefings can be insufficient to utterly eliminate the experimental creation of some beliefs (see Anderson et al., 1980). Thus, future research should measure whether the effect of the experimental manipulation on conspiracy beliefs holds after the debriefing in order to improve the efficiency of the debriefing, if needed, and to ensure the well-being of the participants.

Another point of caution should be made regarding the CLPM we employed in Study 1. Although it is a popular method for two-wave data analysis (Orth et al., 2021), it has also

been criticized, for example, for inadequate accounting for stable-trait-level associations, potentially resulting in erroneous conclusions about the cross-lagged effects (Hamaker et al., 2015). For an adequate examination of causality, future studies should use three-wave designs, in which the random intercept within the model can be included, addressing some of the constraints of the CLPM (Hamaker et al., 2015).

We believe that the role of adherence and exposure to conspiracy beliefs in intra-individual processes is an important issue that may help explain the nature of psychological problems that many people are currently struggling with. Our research suggests the detrimental consequences of conspiracy theories and indicates the necessity of discussing potential ways to attenuate the harmful aftermath of conspiracies in the age of their proliferation in the online world.

References

Abalakina-Paap, M., Stephan, W. G., Craig, T., & Gregory, W. L. (1999). Beliefs in conspiracies. *Political Psychology, 20*(3), 637–647. https://doi.org/10.1111/0162-895X.00160

Anderson, C. A., Lepper, M. R., & Ross, L. (1980). Perseverance of social theories: The role of explanation in the persistence of discredited information. *Journal of Personality and Social Psychology, 39*(6), 1037–1049. https://doi.org/10.1037/h0077720

Bagrowska, P., Pionke-Ubych, R., & Gawęda, Ł. (2022). Do emotional modulation induced by social rejection or social inclusion influences paranoia-like thoughts? The Autobiographical memory recall and Cyberball paradigms in two online studies. *Psychiatry Research Communications, 2*(4), Article 100087. https://doi.org/10.1016/j.psycom.2022.100087

Bagrowska, P., Siepsiak, M., Nalberczak-Skóra, M., & Gawęda, Ł. (2023). *Exacerbation of paranoia-like thoughts following exposure to common misophonia trigger sounds* [Manuscript submitted for publication]. Institute of Psychology, Polish Academy of Sciences.

Brotherton, R., French, C. C., & Pickering, A. D. (2013). Measuring belief in conspiracy theories: The generic conspiracist beliefs scale. *Frontiers in Psychology, 4*, Article 279. https://doi.org/10.3389/fpsyg.2013.00279

Cicero, D. C., & Kerns, J. G. (2011). Is paranoia a defence against or an expression of low self–esteem? *European Journal of Personality*, *25*(5), 326-335. https://doi.org/10.1002/per.794

Cichocka, A., Marchlewska, M., & Golec de Zavala, A. (2016). Does self-love or self-hate predict conspiracy beliefs? Narcissism, self-esteem, and the endorsement of

conspiracy theories. *Social Psychological and Personality Science, 7*(2), 157-166. https://doi.org/10.1177/1948550615616170

Douglas, K. M., & Sutton, R. M. (2023). What are conspiracy theories? A definitional approach to their correlates, consequences, and communication. *Annual Review of Psychology, 74*, 271–298. https://doi.org/10.1146/annur ev-psych-032420-031329

Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G*power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods, 41*(4), 1149–1160. https://doi.org/10.3758/BRM.41.4.1149

Fournier, V., & Varet, F. (2023). Conspiracy beliefs and intention to use conventional, complementary and alternative medicines: Two vignette studies. *British Journal of Health Psychology*. Advance online publication. https://doi.org/10.1111/bjhp.12702

Freeman D. (2007). Suspicious minds: The psychology of persecutory delusions. *Clinical Psychology Review, 27*(4), 425–457. https://doi.org/10.1016/j.cpr.2006.10.004

Freeman, D., Dunn, G., Murray, R. M., Evans, N., Lister, R., Antley, A., Slater, M., Godlewska, B., Cornish, R., Williams, J., Di Simplicio, M., Igoumenou, A., Brenneisen, R., Tunbridge, E. M., Harrison, P. J., Harmer, C. J., Cowen, P., & Morrison, P. D. (2015). How cannabis causes paranoia: Using the intravenous administration ofΔ 9-tetrahydrocannabinol (THC) to identify key cognitive mechanisms leading to paranoia. *Schizophrenia Bulletin, 41*(2), 391-399. https://doi.org/10.1093/schbul/sbu098

Freeman, D., Garety, P. A., Bebbington, P. E., Smith, B., Rollinson, R., Fowler, D., Kuipers, E., Ray, K., & Dunn, G. (2005). Psychological investigation of the structure of paranoia in a non-clinical population. *The British Journal of Psychiatry, 186*(5), 427–435. https://doi.org/10.1192/bjp.186.5.427

Freeman, D., Garety, P. A., Kuipers, E., Fowler, D., & Bebbington, P. E. (2002). A cognitive model of persecutory delusions. *The British Journal of Clinical Psychology, 41*(4), 331–347. https://doi.org/10.1348/014466502760387461

Freeman, D., Loe, B., Kingdon, D., Startup, H., Molodynski, A., Rosebrock, L., & Bird, J. (2019). The revised Green et al., Paranoid Thoughts Scale (R-GPTS): Psychometric properties, severity ranges, and clinical cut-offs. *Psychological Medicine, 51*(2), 244-253. https://doi.org/10.1017/S0033291719003155

Freeman, D., Pugh, K., Antley, A., Slater, M., Bebbington, P., Gittins, M., Dunn, G., Kuipers, E., Fowler, D., & Garety, P. (2008). Virtual reality study of paranoid thinking in the general population. *The British Journal of Psychiatry, 192*(4), 258–263. https://doi.org/10.1192/bjp.bp.107.044677

Freeman, D., Pugh, K., Vorontsova, N., Antley, A., & Slater, M. (2010). Testing the continuum of delusional beliefs: an experimental study using virtual reality. *Journal of Abnormal Psychology, 119*(1), 83–92. https://doi.org/10.1037/a0017514

Fritz, M. S., & MacKinnon, D. P. (2007). Required sample size to detect the mediated effect. *Psychological Science, 18*(3), 233-239. https://doi.org/10.1111/j.1467-9280.2007.01882.x

Gkinopoulos, T., & Mari, S. (2023). How exposure to real conspiracy theories motivates collective action and political engagement? The moderating role of primed victimhood and underlying emotional mechanisms in the case of 2018 bushfire in Attica. *Journal of Applied Social Psychology, 53*(1), 21-38. https://doi.org/10.1111/jasp.12923

Górska, P., Marchlewska, M., Szczepańska, D., Molenda, Z., Michalski, P., & Furman, A. (2023). A vicious circle? Longitudinal relationships between different modes of in-group identity and COVID-19 conspiracy thinking. *The Journal of Social Psychology, 163*(3), 877-894. https://doi.org/10.1080/00224545.2022.2111250

Hamaker E. L., Kuiper R. M., Grasman R. (2015). A critique of the cross-lagged panel model. *Psychological Methods, 20*(1), 102–116. https://doi.org/10.1037/a0038889

Hayes, A. F. (2021). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach* (3rd ed.). Guilford Press.

Imhoff, R., & Lamberty, P. (2018). How paranoid are conspiracy believers? Toward a more fine-grained understanding of the connect and disconnect between paranoia and belief in conspiracy theories. *European Journal of Social Psychology, 48*(7), 909–926. https://doi.org/10.1002/ejsp.2494

Jolley, D., & Douglas, K. M. (2014). The effects of anti-vaccine conspiracy theories on vaccination intentions. *PloS One, 9*(2), Article e89177. https://doi.org/10.1371/journal.pone.0089177

Jolley, D., Meleady, R., & Douglas, K. M. (2020). Exposure to intergroup conspiracy theories promotes prejudice which spreads across groups. *British Journal of Psychology, 111*(1), 17–35. https://doi.org/10.1111/bjop.12385

Kim, M., & Cao, X. (2016). The impact of exposure to media messages promoting government conspiracy theories on distrust in the government: Evidence from a two-stage randomized experiment. *International Journal Of Communication, 10*, Article 20. https://ijoc.org/index.php/ijoc/article/view/5127

Kofta, M., Soral, W., & Bilewicz, M. (2020). What breeds conspiracy antisemitism? The role of political uncontrollability and uncertainty in the belief in Jewish conspiracy. *Journal of Personality and Social Psychology, 118*(5), 900–918. https://doi.org/10.1037/pspa0000183

Kowalski, J., Marchlewska, M., Molenda, Z., Górska, P., & Gawęda, Ł. (2020). Adherence to safety and self-isolation guidelines, conspiracy and paranoia-like beliefs during

COVID-19 pandemic in Poland-associations and moderators. *Psychiatry Research, 294*, Article 113540. https://doi.org/10.1016/j.psychres.2020.113540

Kramer, R. M. (1998). Paranoid cognition in social systems: Thinking and acting in the shadow of doubt. *Personality and Social Psychology Review, 2*(4), 251–275. https://doi.org/10.1207/s15327957pspr0204_3

Kużelewska, E., & Tomaszuk, M. (2022). Rise of conspiracy theories in the pandemic times. *International Journal for the Semiotics of Law, 35*, 2373-2389. https://doi.org/10.1007/s11196-022-09910-9

Leone, L., Giacomantonio, M., & Lauriola, M. (2019). Moral foundations, worldviews, moral absolutism and belief in conspiracy theories. *International Journal of Psychology, 54*(2), 197–204. https://doi.org/10.1002/ijop.12459

Liekefett, L., Christ, O., & Becker, J. C. (2023). Can conspiracy beliefs be beneficial? Longitudinal linkages between conspiracy beliefs, anxiety, uncertainty aversion, and existential threat. *Personality and Social Psychology Bulletin, 49*(2), 167–179. https://doi.org/10.1177/01461672211060965

Marchlewska, M., Cichocka, A., Łozowski, F., Górska, P., & Winiewski, M. (2019). In search of an imaginary enemy: Catholic collective narcissism and the endorsement of gender conspiracy beliefs. *The Journal of Social Psychology, 159*(6), 766–779. https://doi.org/10.1080/00224 545.2019.1586637

Marchlewska, M., Green, R., Cichocka, A., Molenda, Z., & Douglas, K. (2022). From bad to worse: Avoidance coping with stress increases conspiracy beliefs. *British Journal of Social Psychology, 61*(2), 532-549. https://doi.org/10.1111/bjso.12494

Marinthe, G., Brown, G., Delouvée, S., & Jolley, D. (2020). Looking out for myself: Exploring the relationship between conspiracy mentality, perceived personal risk, and

COVID-19 prevention measures. *British Journal of Health Psychology, 25*(4), 957-980. https://doi.org/10.1111/bjhp.12449

Medland, H., De France, K., Hollenstein, T., Mussoff, D., & Koval, P. (2020). Regulating emotion systems in everyday life: Reliability and validity of the RESS-EMA scale. *European Journal of Psychological Assessment, 36*(3), 437–446. https://doi.org/10.1027/1015-5759/a000595

Molenda, Z., Marchlewska, M., Karakula, A., Szczepańska D., Rogoza, M., Green, R., Cislak, A., & Douglas, K. M. (2024). Coping strategies and belief in COVID-19 conspiracy theories. *British Journal of Social Psychology, 63*(1), 319-339. https://doi.org/10.1111/bjso.12684

Molenda, Z., Marchlewska, M., Rogoza, M., & Szczepańska, D. (2023). Shake it off! Adaptive coping with stress reduces national narcissism. *British Journal of Social Psychology, 62*(4), 1856-1874. https://doi.org/10.1111/bjso.12660

Muse (2018). Thought contagion [Song]. On *Simulation Theory*. Warner Bros.

Muthén, L. K., & Muthén, B. O. (2017). *Mplus user's guide* (8th ed.). Muthén & Muthén. https://www.statm odel.com/download/usersguide/MplusUserGuideVer_8.pdf

Natoli, E. E., & Marques, M. D. (2021). The antidepressant hoax: Conspiracy theories decrease health-seeking intentions. *British Journal of Social Psychology, 60*(3), 902-923. https://doi.org/10.1111/bjso.12426

Orth U., Clark D. A., Donnellan M. B., Robins R. W. (2021). Testing prospective effects in longitudinal research: Comparing seven competing cross-lagged models. *Journal of Personality and Social Psychology, 120*(4), 1013–1034. https://doi.org/10.1037/pspp0000358

Selig, T., & Little, J. P. (2012). Autoregressive and cross-lagged panel analysis for longitudinal data. In B. Laursen, T. Little, & N. A. Card (Eds.), *Handbook of developmental research methods* (pp. 265–278). Guilford Press.

Siwiak A., Szpitalak M., Polczyk R. (2019). Generic Conspiracist Beliefs Scale: Polish adaptation of the method. *Polish Psychological Bulletin, 50*(3), 259-269. https://doi.org/10.24425/ppb.2019.130699

Stasielowicz, L. (2022). Who believes in conspiracy theories? A meta-analysis on personality correlates. *Journal of Research in Personality, 98*, Article 104229. https://doi.org/10.1016/j.jrp.2022.104229

Wabnegger, A., Potthoff, J., & Schienle, A. (2024). Believing in conspiracy theories: The role of emotional granularity and maladaptive emotion regulation strategies. *Applied Cognitive Psychology, 38*(3), Article e4198. https://doi.org/10.1002/acp.4198