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Emotion Dysregulation and Belief in Conspiracy Theories

Short title: *Emotion Dysregulation and Conspiracy Beliefs*

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Emotion Dysregulation and Belief in Conspiracy Theories

Abstract

Conspiracy beliefs typically flourish in threatening situations that evoke negative emotions. In the present research, we hypothesized that conspiracy beliefs may therefore serve as a psychological response to difficulties in the domain of emotion regulation (i.e., dysregulation of emotional experiences, expressions, and responses). This hypothesis was tested among British, American, and Polish participants and conceptually replicated across three studies. Specifically, we examined the associations between difficulties in emotion regulation and belief in general notions of conspiracy (Study 1, $n = 391$ and Study 2, $n = 411$) and belief in specific conspiracy theories in (Study 3, $n = 558$). Across all three studies, difficulties in emotion regulation positively predicted belief in conspiracy theories. These findings suggest that people having more problems with regulating their emotions may be most prone to believing in conspiracy theories.

Keywords: Difficulties in emotion regulation, negative emotions, conspiracy beliefs

1. Introduction

In recent years, humanity has been faced with a number of existential threats that can arouse negative emotions. These threats appear to inevitably give rise to conspiracy theories that offer alternative explanations, such that climate change or COVID-19 are hoaxes (e.g., Jolley & Douglas, 2014a; Łowicki et al., 2021). The literature on conspiracy beliefs suggests that some people misguidedly attempt to alleviate their existential concerns by adopting conspiracy theories (Douglas et al., 2017; see also van Prooijen, 2020). For example, those who are intolerant of uncertainty and seek cognitive closure seize on conspiracy explanations for uncertain events (Marchlewska et al., 2018). Similarly, those who are less able to cope effectively with stress (i.e., use avoidance coping) are more likely to believe in conspiracy theories related to stressful situations (Marchlewska et al., 2022; Study 1). It might be the case then, that people who have difficulties in regulating their emotions find conspiracy theories appealing at least in under certain circumstances. At present however, the relationship between emotion regulation and belief in conspiracy theories remains unexplored. In three studies across the U.S., U.K., and Poland, we examined the associations between emotion dysregulation and belief in generic and specific (e.g., climate change) conspiracy theories, whilst accounting for important socio-demographic covariates (i.e., age, gender, and social and economic political orientation).

1.1. Belief in Conspiracy Theories

Conspiracy theories involve secret plots by malevolent groups whose hidden actions allegedly cause significant global events (Douglas et al., 2019). In line with this definition, research has shown that conspiracy beliefs are often adopted in the aftermath of impactful and usually threatening incidents and crises (van Prooijen & Douglas, 2017) such as the 9/11 attacks in the U.S. in 2001 (Bell, 2018), the Smolensk air disaster in 2010 (Cichocka et al., 2016), the U.S. 2020 presidential election (Cohen, 2021), Turkey's recent wildfires (Barkey,

2021), and the COVID-19 global pandemic (Douglas, 2021a; Górska et al., 2022; Kowalski et al., 2020; Sternisko et al., 2021). It therefore seems that threatening events and societal crisis situations have psychological effects on people, involving aversive states (e.g., uncertainty), negative emotions (e.g., anxiety), or stress, which further might lead to adopting conspiracy explanations (van Prooijen & Douglas, 2017), at least among some people (Marchlewska et al., 2022).

Indeed, an increasing body of literature has demonstrated that conspiracy beliefs are associated with different types of psychological threats (for a review, see Douglas et al., 2017; van Prooijen, 2020). For example, Grzesiak-Feldman (2013) found that state and trait anxiety positively correlated with conspiracy beliefs (blaming Jews, Arabs, and Germans for their alleged wrongdoings) and that experimentally-induced anxiety (i.e., waiting outside an exam hall vs. a neutral control condition) increased people's tendency to seize on conspiracy explanations. Similarly, previous research has linked attachment anxiety (Green & Douglas, 2018), existential anxiety (Newheiser et al., 2011), generalized anxiety disorder symptoms (Leibovitz et al., 2021), and perceived stress (Swami et al., 2016) to conspiracy beliefs. In other words, it seems clear that conspiracy beliefs are linked to maladaptive psychological states and traits – especially those related to processing negative emotions or negative affect (Douglas et al., 2019).

Moreover, conspiracy beliefs seem to be activated among individuals who do not have psychological resources to deal with meaningful sudden events evoking these types of negative feelings. For example, Marchlewska et al. (2022) examined the relationships between belief in conspiracy theories and different forms of coping strategies. Results revealed that maladaptive strategies for coping with stress (e.g., avoidance coping) positively predicted belief in conspiracy theories as well as generic conspiracist ideation (Brotherton et al., 2013). Results also demonstrated that experimentally-primed avoidance coping increased

endorsement of conspiracy theories. These findings suggest that maladaptive coping may lead not only to undesirable mental health consequences (e.g., depression, anxiety; Mahmoud et al., 2012; Thompson et al., 2010; Weiner & Carton, 2012) but also to adopting conspiracist notions and searching for “hidden enemies” to blame for their distressing situation. This is in line with past theorizing (Freckelton, 2020), suggesting that negative emotions can lead to undesirable community phenomena, including scapegoating and ignoring scientifically based information, to seize on conspiracy explanations. We therefore aimed to explore the link between conspiracy beliefs and difficulties in emotion regulation.

1.2. Emotion Regulation

Emotion regulation can be defined as processes through which an individual influences one’s emotions, including arousal, experience, and expression (Gross, 1998). The ability to regulate emotions is conducive to the effective performance of tasks and goals (Aldao et al., 2015) or maintaining mental health and well-being (Aldao et al., 2010). Research suggests that emotion regulation has neural and genetic underpinnings (Johnstone & Walter, 2014). Moreover, emotion regulation processes are present from infancy, and the “development of emotion regulation is one of the central goals of early socialization” (Thompson, 2014, p. 173).

Gratz and Roemer (2004) argued that emotion regulation involves several major components: awareness, acceptance and understanding of emotions, ability to use suitable emotion regulation strategies to “modulate emotional responses as desired in order to meet individual goals and situational demands” (Gratz & Roemer, 2004, pp. 42-43), and the ability to control one’s impulses and behave according to individual's goals in the face of negative

emotions. Deficiencies in one or all these areas result in difficulties in emotion regulation, or emotion dysregulation¹ (Gratz & Roemer, 2004).

Emotion dysregulation can have serious consequences for mental health and well-being, and as some scholars have suggested that “the core of mood and anxiety disorders is the dysregulation of negative affect” (Hofmann et al., 2012, p. 409). In line with this view, research has demonstrated that emotion regulation difficulties are linked to generalized anxiety disorder (Roemer et al., 2009; Salters-Pedneault et al., 2006), social and generalized anxiety symptoms among adolescents (Mathews et al., 2014), posttraumatic stress symptoms (Tull et al., 2007), and experiencing panic attacks (Tull & Roemer, 2007). Moreover, emotion dysregulation is associated with threat-related attention bias, which suggests that individuals with more emotion regulation difficulties “exhibit attentional dyscontrol in the presence of perceived threat” (Bardeen et al., 2017, p. 407). Furthermore, Klanecky Earl and colleagues (2020) found that emotion dysregulation mediates the relationship between this attention bias and the severity of posttraumatic stress symptoms. Therefore, a growing body of research suggests that emotion dysregulation is associated with processing anxiety and threat-related stimuli, both of which have—in part—been linked to conspiracy beliefs.

Moreover, a considerable amount of literature suggests that emotion regulation has an effect not only on individuals’ well-being but also on group processes, intergroup relations, and political attitudes. For example, emotion dysregulation has been linked to prejudice and lower out-group acceptance (Steele et al., 2019; Westerlund et al., 2020, 2021), lower support for conflict-resolution policies and greater support for aggressive policies in an intergroup conflict situation (Halperin et al., 2013). It has also been linked to political intolerance and lower support for democratic values (Halperin et al., 2014). Given that endorsement of

¹ Following Gratz and Roemer’s (2004) research, we used the terms *difficulties in emotion regulation* and *emotion dysregulation* interchangeably throughout the paper.

conspiracy theories is also related to negative intergroup relations phenomena (i.e., prejudice and out-group hostility; Golec de Zavala & Cichocka, 2012; Jolley et al., 2020; Marchlewska et al., 2019). In all, there are many reasons why emotion dysregulation may play an important part in the formation of conspiracy beliefs.

1.3. Conspiracy Beliefs and Emotion Regulation

Very little research has focused on the role that emotions—particularly the (in)ability to regulate emotions—might play in the formation of conspiracy beliefs. Notwithstanding, ample indirect evidence suggests that conspiracy beliefs may be associated with emotions and particularly difficulties in emotion regulation. Indeed, van Prooijen and Douglas (2018; see also Douglas et al., 2020) proposed that conspiracy beliefs may have emotional underpinnings. This theorizing was based on research examining cognitive processes and conspiracy beliefs. For instance, much research has demonstrated that conspiracy beliefs are predicted by fast, automatic and intuitive thinking (e.g., Hart & Graether, 2018; Pytlik et al., 2020), and such thinking styles tend to be driven by emotions (i.e., *System 1*), rather than slower, more deliberate thinking styles (i.e., *System 2*; see Kahneman, 2011). In other research, reliance on emotions rather than reasoning was found to predict lower truth discernment about fake news (Martel et al., 2020). Further, research has shown that negative emotional states have the potential to bias information processing, leading people to focus their attention on the negative aspects of their environment and interpret ambiguous stimuli as a hostile or threatening (Eysenck et al., 1991; Gotlib & Krasnoperova, 1998; Smith et al., 2016). These studies show the importance that emotions have in determining the processing of threat-related information, particularly regarding conspiracy theories.

Other research has shown that emotion dysregulation is linked to negative emotional outcomes (e.g., Bradley et al., 2011; Donahue et al., 2014; Hofmann et al., 2012; Roemer et al., 2009; Salters-Pedneault et al., 2006). Further, conspiracy beliefs has also been shown to

be associated with negative affect (i.e., feeling anxious, uncertain, doubtful; van Harreveld et al., 2014). These negative emotions are generally argued to be in place before the endorsement of conspiracy theories. Indeed, it is argued that these existential feelings are what attracts people to conspiracy theories in the first place, as a (misguided) means to satisfy the need to feel secure and in control (Douglas et al., 2017). But also, global crises such as the COVID-19 pandemic have been shown to greatly increase feelings of anxiety among people (Siddiqui et al., 2021), which incidentally has been shown to increase belief in COVID-19 conspiracy theories (Jutzi et al., 2020). Conversely, other research has shown that belief in COVID-19 conspiracy theories has the potential to increase feelings of anxiety (Dębski et al., 2022). This suggests a cyclical relationship between feelings of existential threat and conspiracy theories (van Prooijen, 2020). Longitudinal research backs up this account, showing that conspiracy beliefs predicted increased feelings of anxiety, uncertainty (Liekfett et al., 2021), and defensiveness (Górska et al., 2022) over time. Therefore, negative emotions not only have the potential draw people towards conspiracy explanations in the first place, but they can also be exacerbated by the subsequent endorsement of conspiracy theories too—we argue that emotion dysregulation may have a role to play in this.

Considering all of the above, we predict that difficulties in regulating emotions will be associated with increased conspiracy beliefs, over and above important socio-demographic variables.

1.4. The Current Studies

In the current studies, we took a closer look at the role of emotion dysregulation in conspiracy beliefs. Considering that emotion dysregulation has been found to be consistently related to negative emotionality, which, in turn, leads to biased information processing linked to perceiving the world as hostile, we hypothesized that conspiracy explanations involving secret, malevolent actors might be adopted more willingly by those who have greater (vs.

smaller) difficulties with emotion regulation. In this way, we aimed to shed further light on the possible underpinnings of conspiracy beliefs by empirically investigating a novel and potentially important reason why people often turn to conspiracy theories.

We tested this hypothesis in a series of three studies, each conducted in a different socio-political context. In this way, we hoped to increase the generalizability of our findings. We measured difficulties in emotion regulation as the predictor and different types of conspiracy beliefs as dependent variables in all of the studies. In Study 1—conducted among U.S. participants—we examined whether emotion dysregulation would positively predict belief in general notions of conspiracy; in Study 2, we examined this same prediction among U.K. participants. Finally, in Study 3—conducted among Polish participants—we examined whether emotion dysregulation positively predicts belief in a range of different specific conspiracy theories (anti-scientific, political, attractive to liberals vs. conservatives) concerning issues that were present in public debate (e.g., regarding Poland’s 2020 Presidential Election or climate change). In all studies, we also measured demographic variables and in Studies 2 and 3 we additionally controlled for political ideology to check whether the association between emotion regulation difficulties and conspiracy beliefs stands over and above established predictors of conspiracy beliefs (e.g., political conservatism or extremism; see Cislak et al., 2021; Imhoff et al., 2022; van Prooijen et al., 2015). Data and code for all studies are posted at

https://osf.io/4wy7p/?view_only=dbb298d175624b7997099f26be4d361d

2. Study 1

In Study 1, we first explored the relationship between emotion dysregulation and belief in general notions of conspiracy among U.S. participants. We predicted that emotion dysregulation would be positively related to belief in conspiracy theories, over and above demographic covariates.

2.1. Method

2.1.1. Participants and Procedure

Four hundred and twenty-three participants were recruited from the crowdsourcing platform Prolific to complete an online questionnaire. We screened for U.S. participants only. Participants who did not meet this criterion ($n = 11$) or did not complete the main variables of interest ($n = 21$) were excluded from the study. The remaining participants ($N = 391$; 232 men, 157 women, 2 did not report gender; $M_{\text{age}} = 35.11$ years, $SD_{\text{age}} = 10.47$, range = 19 – 68) were included in the final analyses. Informed consent was obtained from all participants. They were asked to complete measures of difficulties with emotion regulation and belief in general notions of conspiracy in a random order, and demographic measures (followed by debrief) appeared in the same order at the end of the questionnaire.² A sensitivity analysis using G*Power 3.1 found that our study was sensitive to detect a small effect size of Cohen's $f^2 = 0.02$ (linear multiple regression: fixed model, R^2 increase, Type I error = .05, power = .08).

2.1.2. Measures

Conspiracy Beliefs. We used the Generic Conspiracist Beliefs scale (GCB; Brotherton et al., 2013). GCB is a well-established and widely used scale, validated in multiple studies (Brotherton et al., 2013). The scale showed high reliability, $\alpha = .96$. There were 15 statements that described general notions of conspiracy³ (e.g., “The power held by heads of state is second to that of small unknown groups who really control world politics”, “The spread of certain viruses and/or disease is the result of deliberate, concealed efforts of some organisation”; 1 = *definitely not true*, 5 = *definitely true*).

² The same procedure was followed for all studies.

³ This scale has five subscales that measure different facets of general conspiracy beliefs. We only report the total score here. However, analyses with subfactors yielded similar results. Analyses with GCB subfactors for Studies 1 and 2 can be found in the Supplements.

Difficulties in Emotion Regulation. We used an adapted version of the 18-item Difficulties in Emotion Regulation Scale (DERS-18; Victor & Klonsky, 2016), based on the questionnaire by Gratz and Roemer (2004).⁴ DERS is a widely used scale, validated in both long (Gratz & Roemer, 2004) and short (Victor & Klonsky, 2016) versions. The measure demonstrated very good reliability, $\alpha = .94$. This scale lists different ways in which people can regulate their emotions (e.g., “When I’m upset, I become irritated with myself for feeling that way”, “When I’m upset, it takes me a long time to feel better”, “When I’m upset, I become embarrassed for feeling that way”, “I care about how I’m feeling”). Items are scored on a five-point scale, where higher scores indicate poorer emotion regulation (1 = *almost never*, 5 = *almost always*).

Covariates. We included age and gender as demographic covariates.

2.2. Results and Discussion

We first examined if there were gender differences in conspiracy belief ($M = 2.81$, $SD = 1.06$) or emotion dysregulation ($M = 41.48$, $SD = 15.22$) between females and males but no such gender differences existed ($t(387) = 0.982$, $p = .327$; $t(387) = 1.202$, $p = .230$, respectively). Bivariate correlations showed that emotion dysregulation was positively and significantly associated with belief in conspiracy theories ($r = .41$, $p < .001$), and that age was negatively and significantly associated with emotion dysregulation ($r = -.19$, $p < .001$), but was not associated with conspiracy belief ($r = -.08$, $p = .126$).

To test whether emotion dysregulation predicts conspiracy beliefs whilst taking into account demographic covariates, we loaded all variables into a multiple regression analysis. Conspiracy belief was entered as the dependent variable.⁵ The overall regression model was significant, $F(3, 385) = 26.683$, $p < .001$, and accounted for 17% of variance in belief in

⁴ This scale consists of six subscales that measures different aspects of emotion dysregulation. We only report the total DERS-18 score, however, as we were only concerned with general levels of emotion dysregulation. Please refer to Supplements for analyses that include the six subfactors of emotion dysregulation.

⁵ Unless otherwise stated, there were no multicollinearity problems in our regression models.

general notions of conspiracy. In line with our hypothesis, emotion dysregulation significantly positively predicted belief in notions of conspiracy ($B = 0.03$, $\beta = .41$, 95% CI [0.02, 0.04], $p < .001$), over and above the covariates. Neither age nor gender predicted belief in conspiracy theories ($B = -0.0002$, $\beta = -.002$, 95% CI [-0.01, 0.01], $p = .971$; $B = -0.05$, $\beta = -.02$, 95% CI [-0.25, 0.15], $p = .606$, respectively).

These results provided initial confirmation of our hypothesis, showing a significant relationship between emotion dysregulation and endorsement of conspiracy theories. In line with previous research (Marchlewska et al., 2022), it seems that adopting conspiracy explanations may serve as a response to psychological problems, not only in the domain of stress but also in emotion regulation.

3. Study 2

In Study 2, we aimed to replicate the findings of Study 1 in a different context. Specifically, we conducted the same investigation with a sample of U.K. participants to increase the reliability of our findings. We did so because although the Generic Conspiracist Beliefs scale is argued to be universal (Brotherton et al., 2013), it is not known if the same psychological processes involved in the formation of conspiracy beliefs apply across cultures. Moreover, to further examine the robustness of our findings, we included new covariates: social and economic political orientation. Previous research has shown that right-wing attitudes are associated with higher conspiracy beliefs (e.g., Abalakina-Paap et al., 1999; Bruder et al., 2013; Green & Douglas, 2018; Wood & Gray, 2019). Further, research suggests that it is the political extremes—whether on the ‘left’ or ‘right’—that are associated with conspiracy beliefs (e.g., Imhoff et al., 2022; Krouwel et al., 2017; van Prooijen et al., 2015). This could be explained by a heightened sensitivity towards threats that these people tend to exhibit (Duckitt & Sibley, 2009). By including measures of political orientation, we therefore

aimed to investigate whether emotion dysregulation will predict conspiracy beliefs over and above social-demographic covariates.

3.1. Method

3.1.1. Participants

Four hundred and thirty-two participants were recruited from Prolific to complete an online questionnaire. We screened for U.K. participants only. Participants who did not meet this criterion ($n = 3$) or did not complete the main variables of interest ($n = 18$) were excluded from the study. The remaining participants ($N = 411$; 307 women, 104 men; $M_{\text{age}} = 35.67$ years, $SD_{\text{age}} = 10.57$, range = 18 – 71) were included in the final analyses. A sensitivity analysis using G*Power 3.1 found that our study was sensitive to detect a small effect size of Cohen's $f^2 = 0.02$ (linear multiple regression: fixed model, R^2 increase, Type I error = .05, power = .08).

3.1.2. Measures

Conspiracy Beliefs. As in Study 1, we used the Generic Conspiracist Beliefs scale (Brotherton et al., 2013). The scale demonstrated high reliability, $\alpha = .94$.

Difficulties with Emotion Regulation. We used the DERS-18 scale (Victor & Klonsky, 2016). The measure was internally consistent, $\alpha = .90$.

Covariates. In addition to age and gender, participants were asked to report social and economic conservatism on two single item measures (1 = *extremely liberal*, 11 = *extremely conservative*, for social political orientation and 1 = *social market economy (welfare state)*, 11 = *free market economy*, for economic political orientation).

3.2. Results and Discussion

We first examined if there were gender differences in conspiracy belief or emotion dysregulation between females and males but no such gender differences existed ($t(409) = -$

1.19, $p = .234$; $t(409) = -1.44$, $p = .152$, respectively). All means, standard deviations and zero-order correlations for the remaining variables can be found in Table 1.

---Table 1---

To test whether emotion dysregulation predicts conspiracy belief whilst accounting for demographic covariates, we loaded all variables into a multiple regression analysis. Conspiracy belief was entered as the dependent variable (Table 2). The overall regression model was significant and accounted for 9% of variance in belief in conspiracy theories. In line with our hypothesis, emotion dysregulation significantly and positively predicted belief in conspiracy theories, over and above the covariates. Of the covariates, social conservatism significantly positively, and economic conservatism significantly negatively, predicted belief in conspiracy theories.⁶

---Table 2---

Overall, Study 2 revealed that the relationship between emotion dysregulation and conspiracy beliefs was present in a different cultural context (i.e., the U.K.), providing additional support for our hypothesis. Still, both Study 1 and Study 2 focused on general notions of conspiracy (Brotherton et al., 2013), without addressing specific conspiracy theories, relevant in a particular cultural context. Indeed, it might be the case that people experience stronger or different emotional reactions if they have actually experienced the specific events associated with some conspiracy theories. That is, it cannot be assumed that emotion dysregulation is associated with belief in specific conspiracy theories in the same way the previous studies have shown it to be associated with belief in general notions of conspiracy. Therefore, in Study 3 we aimed to conceptually replicate the results obtained in Study 1 and Study 2 with a different operationalization of conspiracy beliefs.

4. Study 3

⁶ See Supplements for regression analyses with quadratic terms of social and economic conservatism included.

In Study 3 we aimed to replicate the relationship between emotion dysregulation and belief in conspiracy theories, over and above demographic covariates. This time however, instead of measuring belief in general notions of conspiracy, we instead measured belief in different specific conspiracy theories and conducted Study 3 in Poland—a post-Communist country where conspiracy beliefs are quite common and, in some cases, even primed by political authorities (as it is the case for Smoleńsk conspiracy beliefs; Cichocka et al., 2016; Soral et al., 2018). Also, it seems that some of the conspiracy theories popular in Poland are related to real-life social consequences. For example, in the project of so-called “LGBT free zones,” the discriminatory charters introduced by some local governments in Poland were said to be a response to “gender ideology” (Janiszewski, 2021). The claims that so-called “gender ideology” is a hidden way to destroy traditional values and family are captured by gender conspiracy beliefs (Marchlewska et al., 2019), also measured in this study. Thus, Poland seems to be a fertile ground for various conspiracy theories; therefore, it is worth scrutinizing our findings in this context.

We included four different specific conspiracy beliefs. We focused on anti-scientific conspiracy theories related to vaccination (Jolley & Douglas, 2014b), climate change (Jolley & Douglas, 2014a), and gender (Marchlewska et al., 2019) as well as political conspiracy theories associated with the 2020 Polish presidential election. Each of these conspiracy theories touch on different social and political issues and thus might show different appeal to people with different political views. For instance, gender conspiracy theories might be more appealing to conservatives (as they assume that a “gender ideology” is aimed at destroying traditional Christian values, according to this theory; Marchlewska et al., 2019), while Polish presidential election conspiracy theories should be more appealing to liberals, as in this case they accuse the conservative candidate who won the election of fraud (Dettmer, 2020; Easton, 2020). Thus, we would expect that social and economic political orientations would

show opposing relationships with our specific anti-science and political conspiracies, whilst at the same time emotion dysregulation should only show a positive relationship with all types of conspiracy theories.

4.1. Method

4.1.1. Participants

Study 3 was conducted among young Poles via an online research panel⁷. The final sample consisted of 558 participants, 49% women and 51% men, aged between 18 and 26 ($M_{\text{age}} = 23.30$, $SD_{\text{age}} = 2.12$). A sensitivity analysis using G*Power 3.1 found that our study was sensitive to detect a small effect size of Cohen's $f^2 = 0.01$ (linear multiple regression: fixed model, R^2 increase, Type I error = .05, power = .08).

4.1.2. Measures

Belief in Specific Conspiracy Theories. We included four different conspiracy beliefs. All specific conspiracy beliefs were measured on a scale from 1 = *definitely disagree* to 5 = *definitely agree*.

Gender Conspiracy Beliefs. Measured with three items (Marchlewska et al., 2019) regarding beliefs about “gender [ideology]” (e.g., “Gender [ideology] was created in order to destroy the Christian tradition”, “Gender [ideology] tends to take control over public media”). The scale demonstrated good reliability, $\alpha = .93$.

Vaccination Conspiracy Beliefs. Measured using five items adapted from Jolley and Douglas (2014b; see also Cislak et al., 2021, Study 3; e.g., “Tiny devices are placed in vaccines to track people”, “Pharmaceutical companies, scientists and academics work together to cover up the dangers of vaccines”). The measure showed high reliability, $\alpha = .93$.

⁷ Beside the variables reported here, this study also involved measures of political participation and a set of individual differences variables included for the purposes of different projects employing the same predictors (please contact the first author for details). This dataset was also used by Łowicki et al. (2021).

Climate Change Conspiracy Beliefs. Measured using three items adapted from Jolley and Douglas (2014a; e.g., “Climate change is a hoax”, “Scientists are creating panic about climate change because it is in their interests to do so”). The scale demonstrated good reliability, $\alpha = .90$.

Polish Presidential Election Conspiracy Beliefs. Measured with four items regarding beliefs about electoral fraud and conspiracy regarding the recent Polish presidential election in 2020 (e.g., “The results of the 2020 presidential election were falsified”, “The real results of the 2020 presidential election have not been made public”). The scale showed high reliability, $\alpha = .94$.

Difficulties in Emotion Regulation. As in Study 2, we used the DERS-18 (Victor & Klonsky, 2016). The measure was internally consistent, $\alpha = .90$.

Covariates. In addition to age and gender, participants were asked to report their social and economic political orientations on two single item measures (1 = *extremely liberal*, 7 = *extremely conservative*, for social political orientation and 1 = *social market economy (welfare state)*, 7 = *free market economy*, for economic political orientation).

4.2. Results and Discussion

We first examined if there were gender differences in conspiracy belief or emotion dysregulation between females and males. No such gender differences were observed for emotion dysregulation ($t(556) = -0.10, p = .919$) or belief in the election conspiracy theory ($t(556) = -0.68, p = .496$). For belief in gender, vaccine, and climate change conspiracy theories ($t(556) = 3.29, p < .001, t(556) = 2.09, p = .037, t(556) = 2.70, p = .007$, respectively), males ($M = 2.71, M = 2.35, M = 2.39$, respectively) reported significantly higher conspiracy beliefs than females ($M = 2.39, M = 2.16, M = 2.16$, respectively). Means, standard deviations and zero-order correlations for belief in conspiracy theories, age, and social and economic political orientation can be found in Table 3.

---Table 3---

To test whether emotion dysregulation uniquely predicts belief in four different conspiracy theories (regarding gender, vaccines, climate change, and a recent presidential election), we loaded emotion dysregulation and covariates into four separate multiple regression analyses, where each conspiracy theory was entered as a separate dependent variable. Findings of the final models are presented in Table 4. The overall regression models for gender, vaccine, climate change, and election conspiracy beliefs were significant. In line with our hypothesis, emotion dysregulation significantly positively predicted belief in all four conspiracy theories. Of the covariates, social political orientation significantly positively predicted belief in gender, vaccine, and climate change conspiracy belief, but significantly negatively predicted election conspiracy belief. Economic political orientation significantly positively predicted election conspiracy belief and negatively predicted climate change, vaccine, and gender conspiracy beliefs.

---Table 4---

In Study 3, we replicated and extended the results of the previous studies. Results revealed that emotion dysregulation was positively linked to the endorsement of various specific conspiracy beliefs. Similar to Study 2 and in line with past research (e.g., Imhoff et al., 2022; Krouwel et al., 2017; van Prooijen et al., 2015), political ideologies were important predictors of conspiracy beliefs, but emotion dysregulation remained significant even after controlling for these political covariates. Further, emotion dysregulation was positively associated with belief in all types of conspiracy theories, whereas they appeal to people at different ends (positively and negatively) of social and economic conservatism. That is, whilst social conservatism was positively associated with belief gender, vaccine, and climate change conspiracy theories, it correlated negatively with the presidential election conspiracy theory. These results suggest that individuals having difficulties with emotion regulation

seem to be more prone to endorsing conspiracy explanations regardless of their political beliefs. Overall, Study 3 demonstrated that problems in the domain of emotion regulation are related to not only to general notions of conspiracy but also to a range of specific conspiracy beliefs (i.e., anti-scientific, political, attractive to liberals vs. conservatives).

5. General Discussion

The current research aimed to examine the link between emotion dysregulation and conspiracy beliefs. Across three cross-sectional studies, we hypothesized and found that emotion dysregulation was significantly positively related to belief in conspiracy theories. Study 1, conducted among U.S. participants, was the first to show the link between emotion dysregulation and general notions of conspiracy, delivering initial support for our hypothesis. In Study 2, conducted among U.K. participants, we additionally controlled for social and economic political orientations and showed that the effect of emotion dysregulation remained significant even after adjusting for these covariates. By introducing various specific conspiracy beliefs (anti-scientific, political, attractive to liberals vs. conservatives) in Study 3, conducted in Poland, we demonstrated that emotion dysregulation was positively linked to diverse conspiracy beliefs, regardless of the specifics of the theory and participants' political orientation.

Importantly, we measured social and economic aspects of conservatism and found opposing relations between them and conspiracy beliefs. Anti-scientific (i.e., gender, vaccine, climate change) conspiracy beliefs were positively related to social conservatism and negatively (although weakly) to economic conservatism. The presidential election conspiracy theory, however, was negatively associated with social conservatism and positively (and more robustly than in the case of anti-scientific conspiracy beliefs) with economic conservatism. It is worth noting that there are some context- and cultural-specific characteristics of political orientation (Thorisdottir et al., 2007), and Polish conservatism

(especially social vs. economic) might be somewhat different than British or American conservatism (Wojcik et al., 2021). Moreover, social and economic aspects of conservatism in Poland are weakly or insignificantly correlated (e.g., Aspelund et al., 2013; Boski, 1993), which can also be observed in Study 3 results. Taken together, the current studies demonstrated a robust link between emotion dysregulation and belief in conspiracy theories in a variety of different political contexts.

5.1. Theoretical Implications

Our findings support and extend previous theorizing about the role of psychological threat in the endorsement of conspiracy theories. Scholars have argued that conspiracy explanations might be adopted as an attempt to satisfy threatened psychological needs (Biddlestone et al., 2021; Douglas et al., 2017, 2019). In line with this, the results of our studies suggested that individuals who have difficulties in emotion regulation and, therefore, have more problems processing emotional or threat-related stimuli, find conspiracy theories more appealing.

Considering that conspiracy beliefs are often adopted after some significant world events which evoke negative emotions (van Prooijen & Douglas, 2017), our results suggested that individuals with emotion dysregulation issues might be unable to process emotional stimuli efficiently while facing disturbing incidents and existential threats and thus, endorse conspiracy theories more willingly. As previous studies have linked emotion dysregulation with negative emotional outcomes (e.g., Hofmann et al., 2012), that seem to incline people to perceive the world in a gloomy and hostile manner (Eysenck et al., 1991; Gotlib & Krasnoperova, 1998; Smith et al., 2016), we inferred that people who have difficulties with regulating emotions—in part—might also be more prone to focus mainly on malevolent cues and interpretations when explaining unexpected threatening world events. Therefore,

searching for hidden enemies to blame for alleged wrongdoings might be more appealing for people with high (vs. low) emotion dysregulation.

Our findings were also in line with some recent empirical research in the domain of stress regulation and conspiracy beliefs. Jutzi and colleagues (2020) argued that adopting conspiracy explanations about COVID-19 might be seen as a response to a threat which a global pandemic certainly is, and thus, could be used as an attempt to cope with a threat and emotions related to it. Further research by Marchlewska et al. (2022) showed that maladaptive coping with stress (i.e., avoidance coping) positively predicted belief in conspiracy theories. Our research complements these findings, showing that adopting conspiracy theories might serve as a maladaptive response to manage negative emotions among individuals who have difficulties in regulating their emotions. In this way, individuals with emotion dysregulation might focus on searching for hidden enemies responsible for their unfavourable situation and psychological distress instead of properly processing negative emotions in an adaptive manner.

In line with past theorizing, our studies suggested that adopting conspiracy theories may constitute a maladaptive way of managing negative emotions. At the same time, conspiracy beliefs seem to have severe repercussions, for example, vaccine hesitancy (Cislak et al., 2021; Jolley & Douglas, 2014b) or a decrease in intentions to engage in pro-environmental behaviors (Jolley & Douglas, 2014a). It might also be the case that conspiracy theories have consequences for the individual, in that they may perpetuate negative emotionality. Indeed, adopting conspiracy theories to deal with negative emotions and psychological threats might create a vicious circle. For example, a recent longitudinal study showed this to be true for anxiety and uncertainty (Liekefett et al., 2021). Specifically, it was found that higher conspiracy beliefs at Time 1 predicted increased anxiety and uncertainty aversion at Time 2. In light of this, believing in conspiracy theories as an attempt to manage

emotional distress may further lead to unpleasant social aftermaths, which, in turn, might evoke more negative emotions.

5.2. Limitations and Future Directions

Although our research has shed new light on the possible underpinnings of belief in conspiracy theories, some drawbacks should be noted while interpreting the results and drawing conclusions. All three studies were cross-sectional, thereby limiting inference about the casual character of the relationship between emotion dysregulation and conspiracy beliefs. Future studies should include longitudinal and experimental designs in order to establish whether this relation is indeed casual. Furthermore, since emotion regulation processes seem to be fundamental psychological phenomena (Johnstone & Walter, 2014), present from early infancy (Thompson, 2014), and embedded in cultural context and processes (Mesquita et al., 2014), emotion dysregulation (DERS) is not easy to manipulate in simple experimental settings. However, future studies might employ a different tool – not assessing dispositional tendencies but a state-based measure (S-DERS; Lavender et al., 2017) – that could be adequate for different research methods, such as ecological momentary assessment (Lavender et al., 2017).

Moreover, future research could rely on nationwide representative samples, ideally also drawn from different countries and cultures, especially beyond WEIRD (Western, Educated, Industrialised, Rich, and Democratic) contexts (Henrich et al., 2010). Also, even though Study 3 included four various specific conspiracy beliefs, this could be insufficient for a detailed investigation of a wide range of conspiracy beliefs and emotion dysregulation. Thus, future studies should use more differentiated specific conspiracy beliefs (e.g., more conspiracy beliefs attractive to liberals vs. conservatives) to examine these relations more thoroughly. Furthermore, we tested specific conspiracy beliefs only in one country (i.e., Poland), thus limiting our knowledge of the generalizability of the relationships between

specific conspiracies and emotion dysregulation in different contexts. Hence, future research would do well to examine the links between various conspiracy beliefs and emotion dysregulation in other countries. Also, future studies could improve our research by implementing well-developed, thoroughly validated scales measuring various specific conspiracy beliefs.

Given the relationships between social and economic political orientations and specific conspiracy beliefs, future research could also check whether the pattern of results obtained in Study 3 would be similar in different socio-political contexts - for example, in the U.S., where the correlation between social and economic conservatism is higher than in Poland (e.g., Azevedo et al., 2019). Another limitation of our studies is that our conclusions are all based on self-report measures. Therefore, future work could also examine existing data and real behavior, for example, obtained from social media platforms (i.e., clicking on conspiracy articles, interest in certain profiles, belonging to specific groups). Moreover, future studies would do well to provide, examine, and compare alternative explanations for belief in conspiracy theories to investigate whether emotion dysregulation is indeed a robust predictor of this phenomenon. For example, past research showed that one of the underlying psychological mechanisms motivating individuals to believe in conspiracy theories is the need for uniqueness (Imhoff & Lamberty, 2017). Thus, future studies could account for this variable while investigating conspiracy beliefs and emotion dysregulation to examine the possible links between all of these variables more thoroughly.

The relationship between emotion dysregulation and conspiracy beliefs could be further explored by examining potential moderators and mediators. For example, future research could check whether inducing negative (vs. positive) emotions could lead to higher scores on conspiracy beliefs especially among those having difficulties in emotion regulation. This research would be helpful to examine a psychological mechanism of the link between

emotion dysregulation and conspiracy beliefs empirically. Moreover, previous research has revealed that emotion dysregulation leads to negative individual outcomes (e.g., decreased psychological well-being; Saxena et al., 2011). In this research we demonstrate that it may be also related to maladaptive socio-political concomitants (i.e., conspiracy beliefs). Given that conspiracy beliefs have served as a predictor of intergroup hostility and out-group derogation in past research (e.g., Jolley et al., 2020; Marchlewska et al., 2019), a potential avenue for future research would be to examine if conspiracy beliefs mediate the relationship between maladaptive emotion regulation and out-group derogation. Also, future studies should examine whether emotion dysregulation might play a significant role in specific contexts where conspiracy beliefs have been consequential, such as for the COVID-19 pandemic (Douglas, 2021a; Kowalski et al., 2020; Łowicki et al., 2021; Sternisko et al., 2021). This potential study appears to be even more important in the light of recent research (Wang et al., 2021), indicating that an adaptive emotion regulation strategy (i.e., reappraisal) reduced negative emotions regarding the COVID-19 pandemic.

Finally, although little research has been carried out on the relationship between quality of interpersonal relationships and conspiracy beliefs (Biddlestone et al., 2021), or vice versa, it may be important to examine these variables alongside individuals' emotion dysregulation. Indeed, research has shown that feeling socially excluded is associated with increased conspiracy beliefs (Graeupner & Coman, 2017). Therefore, it might be the case that having supportive interpersonal relationships may mitigate the effect that emotion dysregulation has on the formation of conspiracy beliefs. Conversely, having difficulties with regulating emotions alongside feelings of social exclusion, or poorer interpersonal relationships, may make it even more likely for someone to be drawn to conspiracy theories. That is, quality of interpersonal relationships may moderate the negative effects of emotion dysregulation on conspiracy beliefs.

5.3. Practical Implications

As we outlined before, conspiracy beliefs have many negative consequences (for a review, see Douglas, 2021b). Thus, it appears important to search for interventions that could diminish the appeal of conspiracy beliefs and restrain their destructive effects. Our studies demonstrated that one of the possible mechanisms underlying conspiracy beliefs is emotion dysregulation. Individuals who score high (vs. low) on difficulties with emotion regulation may exhibit more problems with processing emotional and threat-related stimuli, which in turn may lead to adopting conspiracy explanations to manage psychological threats and distress. Thus, one possible way of attenuating conspiracy beliefs could be to improve emotion regulation skills for using more adaptive ways of dealing with threats. Several possible interventions have been tested in past research. For example, recent findings showed that enhancing emotion regulation skills through Affect Regulation Training decreased the severity of depression symptoms (Berking et al., 2019). Moreover, the Integrative Training of Emotional Competencies improved the emotion regulation skills of police officers (Berking et al., 2010), suggesting that emotion regulation-based interventions can be successful among individuals routinely exposed to situations that elicit negative emotions. Therefore, future studies should consider emotion regulation training as a potential intervention to decrease the appeal of conspiracy theories.

5.4. Conclusion

The current findings demonstrate that individuals having greater emotion dysregulation appear to adopt conspiracy theories more willingly. This is in line with past theorizing suggesting that endorsement of conspiracy theories can be considered as a maladaptive way of coping with psychological distress (Douglas et al., 2017; Marchlewska et al., 2022). Indeed, conspiracy beliefs might be more appealing for those who do not have sufficient abilities to deal with psychological threat and distress: if they are not able to

process negative emotions in an adaptive manner while facing disturbing events, then blaming powerful, malevolent others may constitute an attractive alternative of managing emotional experiences, expressions, and responses. A future challenge for researchers will be to examine whether improving emotion regulation skills results in a decrease in conspiracy beliefs.

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>
- Aldao, A., Nolen-Hoeksema, S., & Schweizer, S. (2010). Emotion-regulation strategies across psychopathology: A meta-analytic review. *Clinical Psychology Review*, 30(2), 217-237. <https://doi.org/10.1016/j.cpr.2009.11.004>
- Aldao, A., Sheppes, G., & Gross, J. J. (2015). Emotion regulation flexibility. *Cognitive Therapy and Research*, 39, 263-278. <https://doi.org/10.1007/s10608-014-9662-4>
- Aspelund, A., Lindeman, M., & Verkasalo, M. (2013). Political conservatism and left–right orientation in 28 Eastern and Western European countries. *Political Psychology*, 34(3), 409-417. <https://doi.org/10.1111/pops.12000>
- Azevedo, F., Jost, J. T., Rothmund, T., & Sterling, J. (2019). Neoliberal ideology and the justification of inequality in capitalist societies: Why social and economic dimensions of ideology are intertwined. *Journal of Social Issues*, 75(1), 49-88. <https://doi.org/10.1111/josi.12310>
- Bardeen, J. R., Daniel, T. A., Hinnant, J. B., & Orcutt, H. K. (2017). Emotion dysregulation and threat-related attention bias variability. *Motivation and Emotion*, 41(3), 402–409. <https://doi.org/10.1007/s11031-017-9604-z>
- Barkey, H. J. (2021, August 5). As Turkey’s wildfires rage, conspiracy theories won’t help Erdogan. *The Arab Weekly*. <https://the arabweekly.com/turkeys-wildfires-rage-conspiracy-theories-wont-help-erdogan>
- Bell, C. (2018, February 1). *The people who think 9/11 may have been an 'inside job'*. BBC News. <https://www.bbc.co.uk/news/blogs-trending-42195513>

- Berking, M., Eichler, E., Luhmann, M., Diedrich, A., Hiller, W., & Rief, W. (2019). Affect regulation training reduces symptom severity in depression—A randomized controlled trial. *PloS One*, 14(8), Article e0220436.
<https://doi.org/10.1371/journal.pone.0220436>
- Berking, M., Meier, C., & Wupperman, P. (2010). Enhancing emotion-regulation skills in police officers: Results of a pilot controlled study. *Behavior Therapy*, 41(3), 329-339.
<https://doi.org/10.1016/j.beth.2009.08.001>
- Biddlestone, M., Green, R., Cichocka, A., Sutton, R., & Douglas, K. (2021). Conspiracy beliefs and the individual, relational, and collective selves. *Social and Personality Psychology Compass*, 15(10), Article e12639. <https://doi.org/10.1111/spc3.12639>
- Boski, P. (1993). O dwóch wymiarach lewicy - prawicy na scenie politycznej i w wartościach politycznych polskich wyborców [On the two dimensions of left-right beliefs in the political scene and values of the Polish electorate]. In J. Reykowski (Ed.), *Wartości i postawy Polaków a zmiany systemowe. Szkice z psychologii politycznej* (pp. 49-99). Wydawnictwo Instytutu Psychologii PAN.
- Bradley, B., DeFife, J. A., Guarnaccia, C., Phifer, J., Fani, N., Ressler, K. J., & Westen, D. (2011). Emotion dysregulation and negative affect: Association with psychiatric symptoms. *The Journal of Clinical Psychiatry*, 72(5), 685–691.
<https://doi.org/10.4088/JCP.10m06409blu>
- 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>
- Bruder, M., Haffke, P., Neave, N., Nouripanah, N., & Imhoff, R. (2013). Measuring individual differences in generic beliefs in conspiracy theories across cultures:

- Conspiracy Mentality Questionnaire. *Frontiers in Psychology*, 4, Article 225.
<https://doi.org/10.3389/fpsyg.2013.00225>
- Cichocka, A., Marchlewska, M., Golec de Zavala, A., & Olechowski, M. (2016). 'They will not control us': Ingroup positivity and belief in intergroup conspiracies. *British Journal of Psychology*, 107(3), 556-576. <https://doi.org/10.1111/bjop.12158>
- Cislak, A., Marchlewska, M., Wojcik, A. D., Śliwiński, K., Molenda, Z., Szczepańska, D., & Cichocka, A. (2021). National narcissism and support for voluntary vaccination policy: The mediating role of vaccination conspiracy beliefs. *Group Processes & Intergroup Relations*, 24(5), 701-719. <https://doi.org/10.1177/1368430220959451>
- Cohen, L. (2021, January 15). *6 conspiracy theories about the 2020 election – debunked*. CBS News. <https://www.cbsnews.com/news/presidential-election-2020-conspiracy-theories-debunked/>
- Dettmer, J. (2020, July 13). *Poland presidential election likely heading to courts*. Voice of America News. https://www.voanews.com/a/europe_poland-presidential-election-likely-heading-courts/6192699.html
- Dębski, P., Boroń, A., Kapuśniak, N., Dębska-Janus, M., Piegza, M., & Gorczyca, P. (2022). Conspiratorial beliefs about COVID-19 pandemic-Can they pose a mental health risk? The relationship between conspiracy thinking and the symptoms of anxiety and depression among adult Poles. *Frontiers in Psychiatry*, 13, Article 870128.
<https://doi.org/10.3389/fpsyg.2022.870128>
- Donahue, J. J., Goranson, A. C., McClure, K. S., & Van Male, L. M. (2014). Emotion dysregulation, negative affect, and aggression: A moderated, multiple mediator analysis. *Personality and Individual Differences*, 70, 23-28.
<https://doi.org/10.1016/j.paid.2014.06.009>

- Douglas, K. M. (2021a). COVID-19 conspiracy theories. *Group Processes & Intergroup Relations*, 24(2), 270–275. <https://doi.org/10.1177/1368430220982068>
- Douglas, K. M. (2021b). Are conspiracy theories harmless? *The Spanish Journal of Psychology*, 24, Article e13. <https://doi.org/10.1017/SJP.2021.10>
- Douglas, K. M., Cichocka, A., & Sutton, R. M. (2020). Motivations, emotions and belief in conspiracy theories. In M. Butter & P. Knight (Eds.), *Routledge handbook of conspiracy theories* (pp. 181-191). Routledge.
- Douglas, K. M., Sutton, R., & Cichocka, A. (2017). The psychology of conspiracy theories. *Current Directions in Psychological Science*, 26(6), 538-542. <https://doi.org/10.1177/0963721417718261>
- Douglas, K. M., Uscinski, J. E., Sutton, R. M., Cichocka, A., Nefes, T., Ang, C. S., & Deravi, F. (2019). Understanding conspiracy theories. *Political Psychology*, 40(Suppl 1), 3–35. <https://doi.org/10.1111/pops.12568>
- Duckitt, J., & Sibley, C. G. (2009). A dual-process motivational model of ideology, politics, and prejudice. *Psychological Inquiry*, 20(2-3), 98-109. <https://doi.org/10.1080/10478400903028540>
- Easton, A. (2020, July 13). *Poland's Duda narrowly beats Trzaskowski in presidential vote*. BBC News. <https://www.bbc.com/news/world-europe-53385021>
- Eysenck, M. W., Mogg, K., May, J., Richards, A., & Mathews, A. (1991). Bias in interpretation of ambiguous sentences related to threat in anxiety. *Journal of Abnormal Psychology*, 100(2), 144–150. <https://doi.org/10.1037/0021-843X.100.2.144>
- Freckelton, I. (2020). COVID-19, negligence and occupational health and safety: Ethical and legal issues for hospitals and health centres. *Journal of Law and Medicine*, 27(3), 590-600.

- Golec de Zavala, A., & Cichocka, A. (2012). Collective narcissism and anti-Semitism in Poland. *Group Processes & Intergroup Relations*, 15(2), 213-229.
<https://doi.org/10.1177/1368430211420891>
- Górska, P., Marchlewska, M., Szczepańska, D., Molenda, Z., Michalski, P., & Furman, A. (2022). A vicious circle? Longitudinal relationships between different types of in-group commitment and COVID-19 conspiracy thinking. *The Journal of Social Psychology*. Advance online publication. <https://doi.org/10.1080/00224545.2022.2111250>
- Gotlib, I. H., & Krasnoperova, E. (1998). Biased information processing as a vulnerability factor for depression. *Behavior Therapy*, 29(4), 603-617.
[https://doi.org/10.1016/S0005-7894\(98\)80020-8](https://doi.org/10.1016/S0005-7894(98)80020-8)
- Graeupner, D., & Coman, A. (2017). The dark side of meaning-making: How social exclusion leads to superstitious thinking. *Journal of Experimental Social Psychology*, 69, 218-222. <https://doi.org/10.1016/j.jesp.2016.10.003>
- Gratz, K. L., & Roemer, L. (2004). Multidimensional assessment of emotion regulation and dysregulation: Development, factor structure, and initial validation of the difficulties in emotion regulation scale. *Journal of Psychopathology and Behavioral Assessment*, 26(1), 41-54. <https://doi.org/10.1023/B:JOBA.0000007455.08539.94>
- Green, R., & Douglas, K. M. (2018). Anxious attachment and belief in conspiracy theories. *Personality and Individual Differences*, 125, 30-37.
<https://doi.org/10.1016/j.paid.2017.12.023>
- Gross, J. J. (1998). Antecedent- and response-focused emotion regulation: Divergent consequences for experience, expression, and physiology. *Journal of Personality and Social Psychology*, 74(1), 224-237. <https://doi.org/10.1037/0022-3514.74.1.224>
- Grzesiak-Feldman, M. (2013). The effect of high-anxiety situations on conspiracy thinking. *Current Psychology*, 32(1), 100-118. <https://doi.org/10.1007/s12144-013-9165-6>

- Halperin, E., Pliskin, R., Saguy, T., Liberman, V., & Gross, J. J. (2014). Emotion regulation and the cultivation of political tolerance: Searching for a new track for intervention. *Journal of Conflict Resolution*, 58(6), 1110–1138.
<https://doi.org/10.1177/0022002713492636>
- Halperin, E., Porat, R., Tamir, M., & Gross, J. J. (2013). Can emotion regulation change political attitudes in intractable conflicts? From the laboratory to the field. *Psychological Science*, 24(1), 106–111. <https://doi.org/10.1177/0956797612452572>
- Hart, J., & Graether, M. (2018). Something's going on here. Psychological predictors of belief in conspiracy theories. *Journal of Individual Differences*, 39, 229-237.
<https://doi.org/10.1027/1614-0001/a000268>
- Henrich, J., Heine, S. J., & Norenzayan, A. (2010). Beyond WEIRD: Towards a broad-based behavioral science. *Behavioral and Brain Sciences*, 33(2-3), 111-135.
<https://doi.org/10.1017/S0140525X10000725>
- Hofmann, S. G., Sawyer, A. T., Fang, A., & Asnaani, A. (2012). Emotion dysregulation model of mood and anxiety disorders. *Depression and Anxiety*, 29(5), 409-416.
<https://doi.org/10.1002/da.21888>
- Imhoff, R., & Lamberty, P. K. (2017). Too special to be duped: Need for uniqueness motivates conspiracy beliefs. *European Journal of Social Psychology*, 47(6), 724-734.
<https://doi.org/10.1002/ejsp.2265>
- Imhoff, R., Zimmer, F., Klein, O., António, J. H., Babinska, M., Bangerter, A., ... & van Prooijen, J. W. (2022). Conspiracy mentality and political orientation across 26 countries. *Nature Human Behaviour*, 6, 392-403. <https://doi.org/10.1038/s41562-021-01258-7>

- Janiszewski, J. (2021, April 15). Neither in nor out: The paradox of Poland's 'LGBT-free' zones. *Balkan Insight*. <https://balkaninsight.com/2021/04/15/neither-in-nor-out-the-paradox-of-polands-lgbt-free-zones/>
- Jolley, D., & Douglas, K. M. (2014a). The social consequences of conspiracism: Exposure to conspiracy theories decreases intentions to engage in politics and to reduce one's carbon footprint. *British Journal of Psychology*, 105(1), 35-56. <https://doi.org/10.1111/bjop.12018>
- Jolley, D., & Douglas, K. M. (2014b). 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>
- Johnstone, T., & Walter, H. (2014). The neural basis of emotion dysregulation. In J. J. Gross (Ed.), *Handbook of emotion regulation* (pp. 58–75). The Guilford Press.
- Jutzi, C. A., Willardt, R., Schmid, P. C., & Jonas, E. (2020). Between conspiracy beliefs, ingroup bias, and system justification: How people use defense strategies to cope with the threat of COVID-19. *Frontiers in Psychology*, 11, Article 578586. <https://doi.org/10.3389/fpsyg.2020.578586>
- Kahneman, D. (2011). *Thinking, fast and slow*. Farrar, Straus and Giroux.
- Klanecky Earl, A. K., Robinson, A. M., Mills, M. S., Khanna, M. M., Bar-Haim, Y., & Badura-Brack, A. S. (2020). Attention bias variability and posttraumatic stress symptoms: The mediating role of emotion regulation difficulties. *Cognition and Emotion*, 34(6), 1300–1307. <https://doi.org/10.1080/02699931.2020.1743235>

- 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>
- Krouwel, A., Kutiyski, Y., van Prooijen, J. W., Martinsson, J., & Markstedt, E. (2017). Does extreme political ideology predict conspiracy beliefs, economic evaluations and political trust? Evidence from Sweden. *Journal of Social and Political Psychology*, 5(2), 435-462. <https://doi.org/10.5964/jspp.v5i2.745>
- Lavender, J. M., Tull, M. T., DiLillo, D., Messman-Moore, T., & Gratz, K. L. (2017). Development and validation of a state-based measure of emotion dysregulation: The State Difficulties in Emotion Regulation Scale (S-DERS). *Assessment*, 24(2), 197–209. <https://doi.org/10.1177/1073191115601218>
- Leibovitz, T., Shamblaw, A. L., Rumas, R., & Best, M. W. (2021). COVID-19 conspiracy beliefs: Relations with anxiety, quality of life, and schemas. *Personality and Individual Differences*, 175, Article 110704. <https://doi.org/10.1016/j.paid.2021.110704>
- Liekefett, L., Christ, O., & Becker, J. C. (2021). Can conspiracy beliefs be beneficial? Longitudinal linkages between conspiracy beliefs, anxiety, uncertainty aversion, and existential threat. *Personality and Social Psychology Bulletin*. Advance online publication. <https://doi.org/10.1177/01461672211060965>
- Łowicki, P., Marchlewska, M., Molenda, Z., Karakula, A., & Szczepańska, D. (2021). Does religion predict coronavirus conspiracy beliefs? Centrality of religiosity, religious fundamentalism and COVID-19 conspiracy beliefs. *Personality and Individual Differences*, 187, Article 111413. <https://doi.org/10.1016/j.paid.2021.111413>

- Mahmoud, J. S. R., Staten, R. T., Hall, L. A., & Lennie, T. A. (2012). The relationship among young adult college students' depression, anxiety, stress, demographics, life satisfaction, and coping styles. *Issues in Mental Health Nursing, 33*(3), 149-156. <https://doi.org/10.3109/01612840.2011.632708>
- Marchlewska, M., Cichocka, A., & Kossowska, M. (2018). Addicted to answers: Need for cognitive closure and the endorsement of conspiracy beliefs. *European Journal of Social Psychology, 48*(2), 109-117. <https://doi.org/10.1002/ejsp.2308C>
- Marchlewska, M., Cichocka, A., Łozowski, F., Górka, 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/10.1080/00224545.2019.1586637>
- Marchlewska, M., Green, R., Cichocka, A., Molenda, Z., & Douglas, K. M. (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>
- Martel, C., Pennycook, G., & Rand, D. G. (2020). Reliance on emotion promotes belief in fake news. *Cognitive Research: Principles and Implications, 5*(1), 47. <https://doi.org/10.1186/s41235-020-00252-3>
- Mathews, B. L., Kerns, K. A., & Ciesla, J. A. (2014). Specificity of emotion regulation difficulties related to anxiety in early adolescence. *Journal of Adolescence, 37*(7), 1089–1097. <https://doi.org/10.1016/j.adolescence.2014.08.002>
- Mesquita, B., De Leersnyder, J., & Albert, D. (2014). The cultural regulation of emotions. In J. J. Gross (Ed.), *Handbook of emotion regulation* (pp. 284–301). The Guilford Press.
- Newheiser, A., Farias, M., & Tausch, N. (2011). The functional nature of conspiracy beliefs: Examining the underpinnings of belief in the Da Vinci Code conspiracy. *Personality*

and Individual Differences, 51(8), 1007–1011.

<https://doi.org/10.1016/j.paid.2011.08.011>

Pytlik, N., Soll, D., & Mehl, S. (2020). Thinking preferences and conspiracy belief: Intuitive thinking and the jumping to conclusions-bias as a basis for the belief in conspiracy theories. *Frontiers in Psychiatry*, 11, Article 568942.

<https://doi.org/10.3389/fpsyt.2020.568942>

Roemer, L., Lee, J. K., Salters-Pedneault, K., Erisman, S. M., Orsillo, S. M., & Mennin, D. S. (2009). Mindfulness and emotion regulation difficulties in generalized anxiety disorder: Preliminary evidence for independent and overlapping contributions.

Behavior Therapy, 40(2), 142–154. <https://doi.org/10.1016/j.beth.2008.04.001>

Salters-Pedneault, K., Roemer, L., Tull, M. T., Rucker, L., & Mennin, D. S. (2006). Evidence of broad deficits in emotion regulation associated with chronic worry and generalized anxiety disorder. *Cognitive Therapy and Research*, 30(4), 469–480.

<https://doi.org/10.1007/s10608-006-9055-4>

Saxena, P., Dubey, A., & Pandey, R. (2011). Role of emotion regulation difficulties in predicting mental health and well-being. *Journal of Projective Psychology & Mental Health*, 18(2), 147–155.

Siddiqui, I., Aurelio, M., Gupta, A., Blythe, J., & Khanji, M. Y. (2021). COVID-19: Causes of anxiety and wellbeing support needs of healthcare professionals in the UK: A cross-sectional survey. *Clinical Medicine*, 21(1), 66–72.

<https://doi.org/10.7861/clinmed.2020-0502>

Smith, H. L., Summers, B. J., Dillon, K. H., Macatee, R. J., & Coughle, J. R. (2016). Hostile interpretation bias in depression. *Journal of Affective Disorders*, 203, 9–13.

<https://doi.org/10.1016/j.jad.2016.05.070>

- Soral, W., Cichocka, A., Bilewicz, M., & Marchlewska, M. (2018). The collective conspiracy mentality in Poland. In J. E. Uscinski (Ed.), *Conspiracy theories and the people who believe them*. Oxford University Press.
- <https://doi.org/10.1093/oso/9780190844073.003.0025>
- Steele, R. R., Rovenpor, D. R., Lickel, B., & Denson, T. F. (2019). Emotion regulation and prejudice reduction following acute terrorist events: The impact of reflection before and after the Boston Marathon bombings. *Group Processes & Intergroup Relations*, 22(1), 43–56. <https://doi.org/10.1177/1368430217706182>
- Sternisko, A., Cichocka, A., Cislak, A., & Van Bavel, J. J. (2021). National narcissism predicts the belief in and the dissemination of conspiracy theories during the COVID-19 pandemic: Evidence from 56 countries. *Personality and Social Psychology Bulletin*. Advance online publication. <https://doi.org/10.1177/01461672211054947>
- Swami, V., Furnham, A., Smyth, N., Weis, L., Lay, A., & Clow, A. (2016). Putting the stress on conspiracy theories: Examining associations between psychological stress, anxiety, and belief in conspiracy theories. *Personality and Individual Differences*, 99, 72-76.
- <https://doi.org/10.1016/j.paid.2016.04.084>
- Thompson, R. A. (2014). Socialization of emotion and emotion regulation in the family. In J. J. Gross (Ed.), *Handbook of emotion regulation* (pp. 173–186). The Guilford Press.
- Thompson, R. J., Mata, J., Jaeggi, S. M., Buschkuehl, M., Jonides, J., & Gotlib, I. H. (2010). Maladaptive coping, adaptive coping, and depressive symptoms: Variations across age and depressive state. *Behaviour Research and Therapy*, 48(6), 459-466.
- <https://doi.org/10.1016/j.brat.2010.01.007>
- Thorisdottir, H., Jost, J. T., Liviatan, I., & Shrout, P. E. (2007). Psychological needs and values underlying left-right political orientation: Cross-national evidence from

Eastern and Western Europe. *Public Opinion Quarterly*, 71(2), 175–203.

<https://doi.org/10.1093/poq/nfm008>

Tull, M. T., & Roemer, L. (2007). Emotion regulation difficulties associated with the experience of uncued panic attacks: Evidence of experiential avoidance, emotional nonacceptance, and decreased emotional clarity. *Behavior Therapy*, 38(4), 378–391. <https://doi.org/10.1016/j.beth.2006.10.006>

Tull, M. T., Barrett, H. M., McMillan, E. S., & Roemer, L. (2007). A preliminary investigation of the relationship between emotion regulation difficulties and posttraumatic stress symptoms. *Behavior Therapy*, 38(3), 303–313. <https://doi.org/10.1016/j.beth.2006.10.001>

van Harreveld, F., Rutjens, B. T., Schneider, I. K., Nohlen, H. U., & Keskinis, K. (2014). In doubt and disorderly: Ambivalence promotes compensatory perceptions of order. *Journal of Experimental Psychology: General*, 143(4), 1666–1676. <https://doi.org/10.1037/a0036099>

van Prooijen, J. W. (2020). An existential threat model of conspiracy theories. *European Psychologist*, 25(1), 16–25. <https://doi.org/10.1027/1016-9040/a000381>

van Prooijen, J. W., & Douglas, K. M. (2017). Conspiracy theories as part of history: The role of societal crisis situations. *Memory Studies*, 10(3), 323–333. <https://doi.org/10.1177/1750698017701615>

van Prooijen, J. W., & Douglas, K. M. (2018). Belief in conspiracy theories: Basic principles of an emerging research domain. *European Journal of Social Psychology*, 48(7), 897–908. <https://doi.org/10.1002/ejsp.2530>

van Prooijen, J. W., Krouwel, A. P., & Pollet, T. V. (2015). Political extremism predicts belief in conspiracy theories. *Social Psychological and Personality Science*, 6(5), 570–578. <https://doi.org/10.1177/1948550614567356>

- Victor, S. E., & Klonsky, E. D. (2016). Validation of a brief version of the Difficulties in Emotion Regulation Scale (DERS-18) in five samples. *Journal of Psychopathology and Behavioral Assessment*, 38(4), 582-589. <https://doi.org/10.1007/s10862-016-9547-9>
- Wang, K., Goldenberg, A., Dorison, C. A., Miller, J. K., Uusberg, A., Lerner, J. S., ... & Isager, P. M. (2021). A multi-country test of brief reappraisal interventions on emotions during the COVID-19 pandemic. *Nature Human Behaviour*, 5(8), 1089-1110. <https://doi.org/10.1038/s41562-021-01173-x>
- Weiner, B. A., & Carton, J. S. (2012). Avoidant coping: A mediator of maladaptive perfectionism and test anxiety. *Personality and Individual Differences*, 52(5), 632-636. <https://doi.org/10.1016/j.paid.2011.12.009>
- Westerlund, M., Antfolk, J. & Santtila, P. (2021). Negative views of out-groups and emotion regulation strategies: Evidence for an association with the tendency to suppress emotion expression, but not with cognitive reappraisal or emotion dysregulation. *Current Psychology*, 40, 5094–5105. <https://doi.org/10.1007/s12144-019-00430-7>
- Westerlund, M., Santtila, P., & Antfolk, J. (2020). Regulating emotions under exposure to negative out-group-related news material results in increased acceptance of out-groups. *The Journal of Social Psychology*, 160(3), 357-372. <https://doi.org/10.1080/00224545.2019.1675575>
- Wojcik, A. D., Cislak, A., & Schmidt, P. (2021). ‘The left is right’: Left and right political orientation across Eastern and Western Europe. *The Social Science Journal*. Advance online publication. <https://doi.org/10.1080/03623319.2021.1986320>
- Wood, M. J., & Gray, D. (2019). Right-wing authoritarianism as a predictor of pro-establishment versus anti-establishment conspiracy theories. *Personality and Individual Differences*, 138, 163-166. <https://doi.org/10.1016/j.paid.2018.09.036>

Table 1*Means, Standard Deviations, and Zero-Order Correlations (Study 2)*

Measure	<i>M</i>	<i>SD</i>	1	2	3	4	5
1. Conspiracy beliefs	2.77	0.88	-	.18***	-.11*	.08	-.09
2. DERS	43.05	12.17		-	-.18***	-.07	-.12*
3. Age	35.67	10.57			-	.14**	.16**
4. Social Conservatism	4.61	2.34				-	.74***
5. Economic Conservatism	4.99	2.31					-

Note. DERS = difficulties in emotion regulation.

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

Table 2*Predictors of Belief in Notions of Conspiracy (Study 2)*

Variable	Belief in notions of conspiracy			
	<i>B</i>	95% CI	β	<i>p</i>
DERS	0.01	[0.01, 0.02]	.15	.003
Age	-0.01	[-0.02, 0.001]	-.08	.098
Gender (Male = 0, Female = 1)	0.04	[-0.15, 0.24]	-.02	.648
Social Conservatism	0.11	[0.06, 0.17]	.30	< .001
Economic Conservatism	-0.11	[-0.16, -0.06]	-.28	< .001
R^2		.09		
F		$F(5, 405) = 7.483***$		

Note. DERS = difficulties in emotion regulation

*** $p < .001$.

Table 3*Means, Standard Deviations, and Zero-Order Correlations (Study 3)*

Measure	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8
1. Gender CB	2.55	1.14	-	.61***	.59***	-.17***	.14***	.00	.64***	-.03
2. Vaccine CB	2.26	1.04		-	.65***	.03	.24***	-.03	.41***	-.07
3. Climate change CB	2.28	1.04			-	.01	.25***	.08	.41***	-.08
4. Election CB	3.04	1.14				-	.18***	-.04	-.28***	.21***
5. DERS	50.05	11.88					-	-.05	.05	-.02
6. Age	23.30	2.12						-	.08	.06
7. Social Conservatism	3.69	1.56							-	.08
8. Economic Conservatism	4.35	1.48								-

Note. DERS = difficulties in emotion regulation* $p < .05$. ** $p < .01$. *** $p < .001$.

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Table 4*Predictors of Belief in Specific Conspiracy Theories (Study 3)*

Variable	Belief in specific conspiracy theories															
	Gender				Vaccine				Climate change				Election			
	<i>B</i>	95% CI	β	<i>p</i>	<i>B</i>	95% CI	β	<i>p</i>	<i>B</i>	95% CI	β	<i>p</i>	<i>B</i>	95% CI	β	<i>p</i>
DERS	0.01	[0.004, 0.02]	.10	.002	0.02	[0.01, 0.03]	.22	< .001	0.02	[0.01, 0.03]	.23	< .001	0.02	[0.01, 0.03]	.20	< .001
Age	-0.02	[-0.05, 0.02]	-.04	.276	-0.02	[-0.05, 0.02]	-.04	.333	0.04	[0.000, 0.07]	.07	.049	-0.01	[-0.05, 0.03]	-.02	.656
Gender	-0.19	[-0.33, -0.04]	-.08	.011	-0.10	[-0.26, 0.05]	-.05	.191	-0.16	[-0.32, -0.01]	-.08	.036	-0.04	[-0.21, 0.14]	-.02	.696
Social conservatism	0.47	[0.42, 0.52]	.64	< .001	0.27	[0.22, 0.32]	.40	< .001	0.26	[0.21, 0.31]	.39	< .001	-0.23	[-0.28, -0.17]	-.31	< .001
Economic conservatism	-0.05	[-0.10, -0.01]	-.07	.031	-0.06	[-0.11, -0.01]	-.09	.024	-0.07	[-0.12, -0.02]	-.10	.006	0.18	[0.12, 0.24]	.24	< .001
R^2	.44				.23				.24				.17			
F	$F(5, 552) = 86.473^{***}$				$F(5, 552) = 32.918^{***}$				$F(5, 552) = 34.832^{***}$				$F(5, 552) = 22.995^{***}$			

Note. DERS = difficulties in emotion regulation.*** $p < .001$.