DOI: 10.1111/pops.70118

ORIGINAL ARTICLE

Political Psychology

Bridging the divide: Using metacognitive training to reduce hostility between the political left and right

Steffen Moritz[1] | **Lisa Borgmann**[1] | **Tanja M. Fritz**[2] | **Anja S. Göritz**[2] | **Klaus Michael Reininger**[3,4]

[1]University Medical Center Hamburg-Eppendorf, Department of Psychiatry and Psychotherapy, Hamburg, Germany

[2]Behavioral Health Technology, Universität Augsburg, Augsburg, Germany

[3]University Medical Center Hamburg-Eppendorf, Department for Psychosomatic Medicine and Psychotherapy, Center for Internal Medicine, Hamburg, Germany

[4]University Medical Center Hamburg-Eppendorf, Institute of Psychotherapy, Center for Psychosocial Medicine, Hamburg, Germany

Correspondence
Steffen Moritz, University Medical Center Hamburg-Eppendorf, Department of Psychiatry and Psychotherapy, Hamburg 20246, Germany.
Email: moritz@uke.de

Abstract

The study aimed at reducing the propensity for violence among supporters of left-wing parties toward the right-wing Alternative for Germany (AfD) as well as supporters of the AfD toward the German left-wing Green Party (Die Grünen) using metacognitive training (MCT). A total of 1025 German participants were recruited online. Participants' political orientation and attitude toward the Green Party and the AfD were assessed using questionnaires. The MCT intervention asked participants seemingly simple questions that evoked common stereotypes and then presented the correct counter-stereotypical answers alongside explanations. The study used a pre–post design to measure changes in political polarization. Hostile attitudes toward the opposing political camp were reduced at a small to medium effect size. Most participants felt they had learned something new from the intervention. Metacognitive variables pertaining to overconfidence predicted change. The findings suggest that MCT can reduce hostile attitudes toward an opposing political group. The study highlights the potential of MCT for reducing societal conflict by challenging stereotypes through surprising information. Studies with control groups and long-term follow-up are desirable. More research into the mechanisms of change is needed.

KEYWORDS

counter-stereotypical answers, metacognitive training (MCT), political polarization, societal conflict, stereotypes, violence reduction

INTRODUCTION

Societal polarization and political intolerance have recently escalated in many democratic societies, often preceded or accompanied by acts of violence and hostility against individuals based on their political affiliation. While this development has received much media and research coverage in the United States (Greve & Gambino, 2022; Kalmoe & Mason, 2022), the problem has also emerged in many other democracies across the world (Piazza, 2023), thereby increasing the risk of divided and vulnerable democracies (Hare & Poole, 2014; Hartman et al., 2022; Pew Research Center, 2014). Political polarization and bipartisan animosity threaten societal peace to the point of civil war as political opponents increasingly dehumanize each other (Kalmoe & Mason, 2022; Martherus et al., 2021). Bipartisan polarization is equated with negative emotions, disapproval, perceived threats, and stereotypical views (e.g., Ahler & Sood, 2018; Piazza, 2023). Opposing groups typically claim to be defending democracy, and some voters justify the use of unlawful means to achieve what they regard as worthy political goals (Kornfield & Alfaro, 2022; Piazza, 2023). This phenomenon contributes to a political climate that is perilous and destructive, thus posing a threat to societal security (Piazza, 2023).

In Germany, members of two parties, Bündnis 90/Die Grünen (the Green Party) and Alternative für Deutschland (AfD)—the former party considered left-wing and the latter right-wing—have become the most frequent targets of hostility and violent acts (Bundesregierung, 2024). The AfD was founded in 2013 as a protest against the Euro rescue policy and currently represents the most far-right party elected to the German state parliaments. The AfD brings together conservative groups and supporters of right-wing policies and is accused by some of serving as a platform for right-wing populism (Virchow, 2020). Its members advocate stricter asylum policies and the stronger enforcement of national borders. They also support the idea of a Europe of sovereign nations rather than a centralized European Union and promote free-market policies aimed at reducing government intervention in the economy. The Green Party was founded in January 1980, emerging from the new social movements of the 1970s, left-wing/communist groups, and the environmental movement. Today, their political program encompasses the protection of the climate, social justice, and defending democracy and freedom, as well as creating peace and security (Decker, 2023a, 2023b; Die Grünen, 2025). The Green Party pursues green politics and social liberalism and regards itself to be on the center-left of the political spectrum.

In line with the attitudinal dissimilarity-prejudice link, individuals tend to hold prejudices against groups with opposing political or ideological perspectives (Brandt, 2017; Brandt et al., 2014; Crawford & Pilanski, 2014; Voelkel et al., 2018). Bridging this divide is considered a crucial aspect of efforts toward societal peace (Hartman et al., 2022; Piazza, 2023; Voelkel et al., 2024). Concerned about the deepening partisan divisions in the United States, Voelkel et al. (2024) conducted a mega-study with 32,059 participants that examined 25 treatments aimed at reducing partisan animosity and antidemocratic attitudes. A total of 23 of these treatments reduced partisan animosity by highlighting sympathetic, politically dissimilar individuals and emphasizing their common identities as well as correcting misconceptions. Although the authors found some antidemocratic attitudes to be distinct from partisan animosity, treatments that reduced partisan animosity also reduced social distrust and distance, opposition to bipartisan cooperation, biased evaluation of politicized facts, and support for undemocratic candidates, suggesting that partisan animosity is a viable intervention target because of its link to several polarization-related and antidemocratic constructs. To reduce support for partisan violence, strategies involving the correction of misperceptions of rival partisans' views and endorsement of democratic principles by political elites were efficacious.

Literature on intergroup prejudice, particularly in the context of political conflict, emphasizes the role of cognitive distortions and stereotypical thinking in perpetuating hostility. For example, Moore-Berg et al. (2020) found that Democrats and Republicans not only held biases

against each other but also overestimated the other party's prejudice and dehumanization. These meta-misperceptions were associated with a desire for social distance from members of the other party and support for undemocratic policies that were advantageous to their own party but would harm the country. Partisan meta-perceptions are thus subject to negativity bias fostering intergroup hostility.

The finding that meta-perceptions—how individuals believe outgroup members view their ingroup—are often more negative than outgroup members' actual perceptions has primarily been demonstrated in the United States (e.g., Lees & Cikara, 2020; Moore-Berg et al., 2020). In Germany, a qualitative case study suggests similar patterns; opponents of COVID-19 measures reported highly negative and generalized meta-perceptions, believing that supporters of such measures viewed all opponents as "conspiracy theorists" or even "Nazis" (Schieferdecker, 2021).

Drawing on the foundations of meta-perception research, Lees and Cikara (2020) developed a corrective-feedback intervention in which participants are confronted with the inaccuracy of their negative beliefs about outgroups (e.g., their misperceptions of outgroup attitudes, behaviors, or endorsement rates). For example, Lees and Cikara (2020) asked Democratic- and Republican-leaning participants to read scenarios in which their own party tried to advance a partisan policy (e.g., forcing the opposing governor to disclose tax returns) and estimate how much the outgroup would dislike or oppose this action. Participants systematically overestimated outgroup hostility; when they were shown the actual, much less negative ratings from a representative sample, their tendency to see the outgroup as purely "obstructionist" decreased—especially among those whose initial meta-perceptions had been most inaccurate. A large-scale replication across 26 countries showed that informing individuals of their misperceptions improved intergroup attitudes (Ruggeri et al., 2021). Conceptually, this approach is an example of "unfreezing" (Kruglanski & Webster, 1996) through corrective factual feedback; it destabilizes overconfident but inaccurate beliefs by revealing their mismatch with reality.

From a social cognition perspective, rigid political stereotypes can be understood as a form of *cognitive freezing*. Once individuals feel certain about their beliefs, they become less willing to consider alternative information. Interventions aimed at fostering change can therefore be understood as attempts to unfreeze beliefs—to seed doubt and increase openness to counter-stereotypical evidence. Against this backdrop, we outline two further approaches that also operate by sowing the seeds of doubt in individuals who are certain about their stereotype-consistent beliefs: paradoxical thinking and counter-stereotype exposure.

In *paradoxical thinking* (Hameiri et al., 2014; Hameiri et al., 2020; for a review, see Bar-Tal et al., 2021), participants encounter exaggerated versions of their own beliefs, rendering these beliefs irrational or absurd and thereby inducing doubt. The resulting sense of contradiction works as an unfreezing mechanism that precedes downstream attitude change.

In *counter-stereotype exposure* (e.g., Prati et al., 2015), participants are presented with stereotype-incongruent pairings (e.g., a female mechanic) that surprise and violate stereotypical expectations, subsequently reducing negative emotional responses and dehumanization. Counter-stereotype exposure can also increase cognitive reflection, particularly among individuals low in need for cognition, with weaker or slightly negative effects for individuals with a high need for cognition (Damer et al., 2019). Thus, counter-stereotype tasks unfreeze rigid beliefs by disrupting expectations and prompting more reflective, less heuristic processing—though their impact may vary depending on participants' motivation to engage in cognitive activity.

Metacognitive training: From intervening in schizophrenia to extremist beliefs

In our study, we adopted a metacognitive training (MCT) approach aimed at reducing mutual resentment of the ingroup and the outgroup. MCT for psychosis has been shown to reduce delusions

(for a meta-review see Meinhart et al., 2024) and mitigate cognitive biases, especially jumping to conclusions (e.g., Penney et al., 2022) and overconfidence in errors (Köther et al., 2017), and has therefore been included in several national treatment guidelines for the treatment of psychosis. MCT works by planting "seeds of doubt": Cognitive distortions are corrected by a question-and-answer game that elicits prejudices through seemingly simple questions, and participants are typically also asked to provide confidence ratings on their responses. In the second phase, participants are confronted with generally unexpected (prejudice-incongruent) answers along with their own initial answers and confidence estimates, thus piquing their curiosity about other opinions and improving their insight into the fallibility of their opinions.

MCT is compatible with recent work by Fischer et al. (2023), and Fischer and Fleming (2024), who emphasize two key metacognitive components—confidence and insight into the reliability and fallibility of one's own knowledge—as central to belief change. They found that metacognitive sensitivity—the ability to distinguish correct from incorrect beliefs based on confidence—was associated with more rational beliefs and behavior (Fischer et al., 2023). This aligns with our work showing that the "confidence gap"—the difference in confidence between correct and incorrect judgments—is larger in healthy controls than in individuals with schizophrenia and delusional beliefs (Moritz et al., 2014).

Based on the MCT approach, several short-term interventions aimed at diminishing biases between opposing groups have been developed. These interventions reduced mutual prejudices, especially of Christians and atheists toward Muslims as well as Muslims against Jews (Moritz et al., 2018, 2021). The scope of MCT has been expanded to address political polarization, such as between Democrats and Republicans in the United States (Reininger et al., 2020). MCT helped reducing Republicans' prejudice toward both members of the LGBTQ+ community (Reininger et al., 2024) and liberals (Reininger et al., 2025) in comparison with active and untreated control conditions. Most importantly, MCT heightened indicators of democratic intentions (tolerance, willingness to cooperate or to compromise) in Republicans toward Liberals (Reininger et al., 2025). MCT has also been successfully applied to reduce polarization regarding critical race theory (Richmond et al., 2024). The results (see also Hartman et al., 2022) tentatively confirm the effectiveness of MCT, showing reductions in polarization and a heightening of democratic intentions between opposing groups in comparison with active and passive control conditions.

Our MCT intervention attempts to induce doubt, which is seen as the core mechanism of MCT (see Köther et al., 2017; Moritz et al., 2025). To reduce ingroup favoritism (Turner et al., 1979) and outgroup derogation (Sherif et al., 1961) in line with intergroup theory and, above all, social identity approaches (Tajfel et al., 1971; Turner et al., 1987), we have developed MCT items that aim to promote identification-based metacognitive doubt (i.e., identity-relevant metacognitive or mentalizing doubts that arise when individuals realize that their beliefs about ingroup or outgroup characteristics are incorrect in light of accurate information) about either ingroup favoritism or outgroup derogation. The intervention thus ties in with the social and identity-based cognitions that have been identified in intergroup theories as central mechanisms of group dynamics (Doise, 1969; Moscovici & Zavalloni, 1969; Sherif et al., 1961; Tajfel et al., 1971; Turner et al., 1979, 1987). Through this MCT approach, we are attempting to develop an intervention based on intergroup theories. We aim to do this by consciously reflecting on and correcting automated, identity-based prejudices, thereby laying the foundation for friendlier, less hostile intergroup relations.

In addition, with regard to unfreezing rigid attitudes (described above), our approach in MCT is conceptually related to the concept of paradoxical thinking as we also aim to induce the seeds of doubt in participants regarding their prior beliefs about political-outgroup derogation (as well as ingroup favoritism). However, we use corrective factual information and confidence ratings rather than rhetorical exaggeration. Similarly, our approach is related to the concept of counter-stereotype behavior as it leverages expectancy violations to reduce

overconfident, stereotype-consistent judgments, but it does so through corrective factual feedback and metacognitive confidence ratings rather than through exemplar-based category combinations.

Two other prominent metacognitive approaches are worth noting: Metacognitive Therapy (Capobianco & Nordahl, 2023) and Metacognitive Reflection and Insight Therapy (MERIT; Lysaker & Klion, 2017). Metacognitive Therapy was originally developed for individuals with depression and anxiety. This approach links psychological problems to dysfunctional beliefs about thinking itself (e.g., "Rumination helps solve problems"). These beliefs are targeted and replaced with more adaptive coping strategies, such as using detached mindfulness instead of rumination. MERIT, like our own intervention, is primarily used in patients with schizophrenia. It emphasizes the development of metacognitive abilities and encourages individuals to reflect on their own thoughts and emotions, as well as those of others—highlighting its ties to social cognition and theory of mind. To our knowledge, MERIT has not yet been applied in the context of political psychology (though we discuss its potential later).

Aim of the present study

Based on previous research on MCT, we set up a novel metacognitive intervention to address hostility toward opposing political groups in Germany. Our study aimed at correcting misconceptions by inducing identification-based metacognitive doubt related to ingroup favoritism, outgroup derogation, and intergroup-inequality assumptions. Specifically, the study aimed to reduce the *propensity for violence* between supporters of the AfD and the Green Party. Unlike prior studies, in which opposing groups represented faiths and political views considered lawful or constitutional, the AfD has been identified as a "suspected right-wing extremist" organization by the Federal Office for the Protection of the Constitution (Bundesamt für Verfassungsschutz), which means intelligence resources are allowed to monitor the AfD (Lenz, 2024), although the party and its activities are not prohibited. Whether MCT can reduce violent attitudes toward an opposing political group has not been examined before. Our primary goal was to examine change across time, focusing on political hostility and antidemocratic attitudes. We hypothesize that a metacognitive intervention can reduce violence-endorsing and extremist attitudes, particularly among those who express strong dislike or hatred toward the opposing group.

METHODS

Participants

A total of 1480 participants filled out the online questionnaire between August 14 and August 26, 2024. Blind to results, data from 455 participants were discarded for the following reasons: age below 18 years ($n=2$), age above 80 years ($n=22$), and dropping out ($n=431$). A total of 1025 adults completed the questionnaire. Recruitment was done via the online platform WiSoPanel (www.wisopanel.net; Göritz et al., 2021), which comprises people from the general German-speaking population. Regarding political orientation, 69.3% identified themselves as left-wing (Social Democratic Party [SPD], Die Linke [the Left], and Die Grünen [the Green Party]) and 13.5% as right-wing (AfD). Sociodemographic data are presented in Table 1. The mean age of the sample was 55 years ($SD=12.91$), with right-wing voters being older at a small effect size than left-wing voters. In total, 543 (53%) of the participants identified as women and 474 (46.2%) as men. There were more women than men among the left-wing voters than among the right-wing voters. Left-wing voters were better educated than right-wing voters (see Table 1).

TABLE 1 Demographic variables at baseline with frequency (percentage) and means (standard deviations).

	Total sample	Left-wing voters (SPD, Die Linke, Die Grünen)	Right-wing voters (AfD)	Statistics
Age (*M*, *SD*)	54.83 (12.91)	53.01 (13.29)	55.99 (11.86)	$t(248.61) = 2.62$, $p = .009$, $d = .229$
Gender				
Women	543 (53.0%)	325 (59.3%)	61 (42.1%)	$\chi^2(2) = 16.11$, $p < .001$
Men	474 (46.3%)	218 (39.8%)	84 (57.9%)	
Other	7 (.7%)	5 (.9%)	0 (.0%)	
Education				
High school diploma, university	697 (69.0%)	421 (78.1%)	71 (49.7%)	$\chi^2(3) = 51.86$, $p < .001$
Secondary school (10 years), apprenticeship	272 (26.9%)	106 (19.7%)	61 (42.7%)	
Secondary school, less than 10 years of school	36 (3.6%)	9 (1.7%)	11 (7.7%)	
Special needs school	5 (.5%)	3 (.6%)	0 (.0%)	

A sensitivity analysis using G*Power's repeated-measure, between factors test revealed that with the given parameters of $\alpha = .05$ and a power of 95%, our sample size of $N = 1025$, and the two groups with two measurements and a correlation among the repeated measures of $r = .92$, we should be able to detect an effect size of at least $f = .11$ (for an F of at least 3.85). Regarding our main outcome of change in attitude (Political Hostility Scale), we observed a small to medium-sized effect, $F(1, 692) = 23.68$, $p < .001$, $\eta_p^2 = .033$, $f = .1847$. Thus, our observed effect was larger than the effect that G*Power indicated as being reasonably detectable at an appropriate power level.

Participation in the study was anonymous. At the beginning, participants were informed about the procedure of the study and were asked to provide informed consent. Participants were informed that the aim of the study was to ameliorate attitudes regarding people with opposite political orientation. Ethical approval for this study was granted by the local ethics committee of Medical Center Hamburg (LPEK-0792a), and research was conducted in accordance with the Declaration of Helsinki.

Procedure and material

Pre-intervention assessment

First, the participants' political orientation was assessed using two questions: "Which political party do you identify with (regardless of whether you would actually vote for it)?" and "Which political party would you currently be most likely to vote for?" Response options were: SPD, Christian Democratic Union of Germany (CDU) / Christian Social Union in Bavaria (CSU; a center-right Christian democratic and conservative political alliance), Green Party (Die Grünen; see above), Free Democratic Party (FDP; a party that endorses economic liberalism and is aligned with the center or center-right of the political spectrum), AfD (see above), the Left (Die Linke; a democratic socialist party), Bündnis Sahra Wagenknecht (Sahra Wagenknecht Alliance; a left-wing populist party), or other. Next, participants rated the position on the political spectrum of the Green Party and of the AfD on a 7-point scale ranging from *extreme*

left to *extreme right* (Political Classification), with *moderate* as a midpoint, as well as on a 7-point scale ranging from *very democratic* to *very undemocratic/authoritarian*, with *neither/nor* as a midpoint (Antidemocratic Attitude).

Political hostility scale

All participants were given questionnaires assessing their attitudes toward the Green Party and the AfD. Their attitudes were assessed with a Political Hostility Scale designed by our group that contains 17 items each for the Green Party and the AfD. Participants rated these items on a 4-point Likert scale (1 = *not at all*, 2 = *somewhat not*, 3 = *somewhat yes*, 4 = *yes, definitely*). The scale contains items assessing lack of compassion for members of the Green Party or the AfD in case of an attack, endorsement of violence against members of the Green Party or the AfD, and more general negative attitudes toward either party. An example item is "*I would have little compassion if a member of the Green Party/AfD were harmed*." We also asked whether one of the parties should be prohibited. Cronbach's alpha for the subscale on the Green Party was $\alpha = .93$, and for the AfD subscale $\alpha = .89$.

Intervention

In the style of MCT (Moritz et al., 2023), 12 seemingly easy-to-answer questions were asked that reflect typical prejudices against the AfD or the Green Party, biasing toward ingroup favoritism (Turner et al., 1979, 1987), outgroup derogation (Sherif et al., 1961), and other forms of intergroup biases including subtle forms of racism and derogation (Gaertner & Dovidio, 2000). Our paradigm was not designed as a simple knowledge test but instead aimed to elicit stereotypical responses toward the Green Party (stereotyped as "defeatists" or "traitors") and the AfD (stereotyped as "National Socialists") while presenting items whose correct responses counter the stereotypes and are backed up with facts. Each item in the paradigm was selected based on the following criteria: (1) it activated the most common negative stereotype about the respective outgroup, (2) it appeared straightforward and elicited high subjective confidence in participants' responses (false answers in line with the stereotype), and (3) the correct response served to counter or disconfirm the activated stereotype (see the Appendix for questions and response options in the Supporting Information). This approach allowed us to examine the interplay between stereotypical reasoning and overconfidence. Participants were asked to choose one of three possible responses for each question (e.g., question: "Is there an association called "Jews in the AfD" within the AfD?"; response options: 1. "No, this is false and would not be possible according to the party's statutes. Jews can be members of the party if they do not visibly practice their faith."; 2. "Yes, this is true, but the association was founded by non-Jews and should be understood as a PR measure."; 3. "Yes, this is true. The association was formed in October 2018 by Jewish members of the AfD party, including a former member of the Central Council of Jews in Germany."; the third option is correct and is later explained, see Table S1 in the Appendix for the exact German wording and the translations). Subsequently, participants were asked to rate their degree of confidence on a 4-point Likert scale (*100% sure, somewhat sure, somewhat unsure, guessing*). Following the post-intervention assessment (see below), the correct answers were shown with explanations and references (see Table S2 in the Appendix). Participants were given feedback as to whether their answers were correct.

Post-intervention assessment

After participants responded to the questions in the MCT intervention but before the correct answers were disclosed, they indicated their impression of the study and whether they perceived

the study as biased in favor of or against their own political party. They rated the following questions on a 4-point Likert scale (1 = *not at all*, 2 = *somewhat not*, 3 = *somewhat yes*, 4 = *yes, definitely*): "*The survey wanted to make the Green Party/the AfD look bad*" (Negative Bias Toward Green/AfD), "*The survey wanted to make the Green Party/the AfD look good*" (Positive Bias Towards Green/AfD), "*The survey wanted to draw attention to negative aspects of the Green Party and AfD (in line with widespread prejudices in the population)*."

After the correct answers to the questions in the intervention were revealed to the participants, the questions of the pre-intervention assessment (Democratic and Political Classification, Political Hostility Scale) were asked again. Next, participants' impression of the study was assessed with the following statements rated on a 4-point Likert scale (1 = *not at all*, 2 = *somewhat not*, 3 = *somewhat yes*, 4 = *yes, definitely*): "*I learned something from the survey*," "*My attitude towards the Green Party and the AfD has not changed as a result of the survey*," "*My attitude towards the Green Party/AfD has become more positive*," "*My attitude towards the Green Party/AfD has become more negative*," "*I found the survey manipulative*," and "*The survey made me reconsider my views. In what way?*" (see the Appendix for the full results in the Supporting Information).

Finally, sociodemographic information pertaining to gender, age, and highest achieved school degree were assessed.

Statistical analyses

We computed the total score of the 17-item Political Hostility Scale for each participant for both parties (Green Party and AfD) at both time points to represent *Party Appraisal* (attitude toward the Green Party/AfD). From the entire sample, we derived two groups: one group consisting of participants voting for the Green Party, SPD, or Linke ($n = 549$, defined as left-wing voters) and one group consisting of participants voting for the AfD ($n = 145$, defined as right-wing voters).

We calculated three-way mixed-design analyses of variance (ANOVAs) with Party Appraisal (Attitude toward the Green Party, AfD), Antidemocratic Attitude, and Survey Biases as dependent variables. Post hoc regression analyses were conducted to explore potential contributors of change of the intervention. As secondary analyses, we conducted independent samples *t*-tests to examine group differences between right-wing and left-wing voters with regard to whether they had learned something from the study and whether they found the study manipulative or thought-provoking.

RESULTS

Sample description

Regarding party affiliation, most participants from the total sample indicated support for the Green Party, followed by the SPD and the CDU/CSU (importantly, this question refers to sympathy, not voting). Among the left-wing voters, most participants would vote for the Green Party, followed by the SPD and the Left Party (see Table 2). All of the 145 right-wing voters, by definition, intended to vote for the AfD (Table 2).

Change in attitude (political hostility scale)

We conducted a three-way mixed-design ANOVA with Time (pre, post) and Party Appraisal (Attitude toward the Green Party, AfD) as within-subject factors and Voter (Left-Wing Voter,

TABLE 2 Political attitudes at baseline with frequency (percentage) and means (standard deviations).

	Total sample	Left-wing voters (SPD, Die Linke, Die Grünen)	Right-wing voters (AfD)	Statistics
Party affiliation				
SPD	179 (17.5%)	148 (27.0%)	6 (4.1%)	$\chi^2(7) = 513.62$, $p < .001$
CDU/CSU	165 (16.1%)	16 (2.9%)	12 (8.3%)	
Green Party	287 (28.0%)	275 (50.1%)	0 (.0%)	
FDP	55 (5.4%)	3 (.5%)	8 (5.5%)	
AfD	99 (9.7%)	0 (.0%)	94 (64.8%)	
Left Party	66 (6.4%)	48 (8.7%)	4 (2.8%)	
BSW	65 (6.3%)	0 (.0%)	7 (4.8%)	
Other	108 (10.5%)	59 (10.7%)	14 (9.7%)	
Voting intention				
SPD	149 (14.8%)	149 (27.1%)	0 (.0%)	$\chi^2(3) = 694.00$, $p < .001$
Green Party	337 (33.5%)	337 (61.4%)	0 (.0%)	
AfD	145 (14.4%)	0 (.0%)	145 (100%)	
Left Party	63 (6.3%)	63 (11.5%)	0 (.0%)	
Political classification				
Green Party	3.02 (1.10)	3.2 (.67)	2.24 (1.62)	$t(157.09) = 6.97$, $p < .001$, $d = 1.011$
AfD	6.31 (1.10)	6.7 (.83)	5.01 (.76)	$t(692) = 22.16$, $p < .001$, $d = 2.069$
Antidemocratic attitude				
Green Party	2.98 (1.91)	1.89 (1.01)	5.58 (1.62)	$t(174.18) = 25.94$, $p < .001$, $d = 3.160$
AfD	5.43 (1.72)	6.17 (1.09)	2.61 (1.13)	$t(692) = 34.72$, $p < .001$, $d = 3.242$
Claims of negative bias				
Green Party	1.74 (.73)	1.69 (.72)	1.68 (.71)	$t(692) = .217$, $p = .828$, $d = .020$
AfD	1.90 (.81)	1.73 (.72)	2.17 (.95)	$t(190.01) = 5.23$, $p < .001$, $d = .572$
Claims of positive bias				
Green Party	1.83 (.73)	1.7 (.66)	2.1 (.87)	$t(189.81) = 5.18$, $p < .001$, $d = .567$
AfD	1.69 (.62)	1.65 (.63)	1.73 (.72)	$t(687) = 1.42$, $p = .156$, $d = .133$
Political Hostility Scale				
Green Party	30.56 (10.63)	24.15 (6.34)	45.27 (7.95)	$t(692) = 29.58$, $p < .001$, $d = 3.147$
AfD	39.04 (9.19)	42.83 (6.50)	25.26 (6.48)	$t(692) = 28.96$, $p < .001$, $d = 2.704$

Note: Political classification (1 = *extreme left*, 4 = *moderate*, 7 = *extreme right*); antidemocratic attitude (1 = *very democratic*, 4 = *neither*, 7 = *very undemocratic/authoritarian*); claims of negative bias ("The survey wanted to make *Party* × look bad"; 1 = *not at all*, 4 = *definitely*); claims of positive bias ("The survey wanted to make *Party* × look good"; 1 = *not at all*, 4 = *definitely*).

Right-Wing Voter) as the between-subject factor. Scores on the Political Hostility Scale, representing attitude toward the outgroup political party, served as the dependent variable, with higher scores indicating more hatred or resentment (negative attitude). The main effect of Time was significant at a small to medium effect size, $F(1, 692) = 23.68$, $p < .001$, $\eta_p^2 = .033$, reflecting a slight improvement in attitude toward both parties ($M_{pre} = 34.38$, $M_{post} = 33.83$). The main effect of Party Appraisal was not significant, indicating that the two political parties received similar levels of endorsement or resentment, $F(1, 692) = .90$, $p = .342$, $\eta_p^2 = .001$. The two-way ANOVA of Party Appraisal and Voter was significant at a large effect size, $F(1, 692) = 1915.15$, $p < .001$, $\eta_p^2 = .735$; left-wing voters appraised the Green Party far more

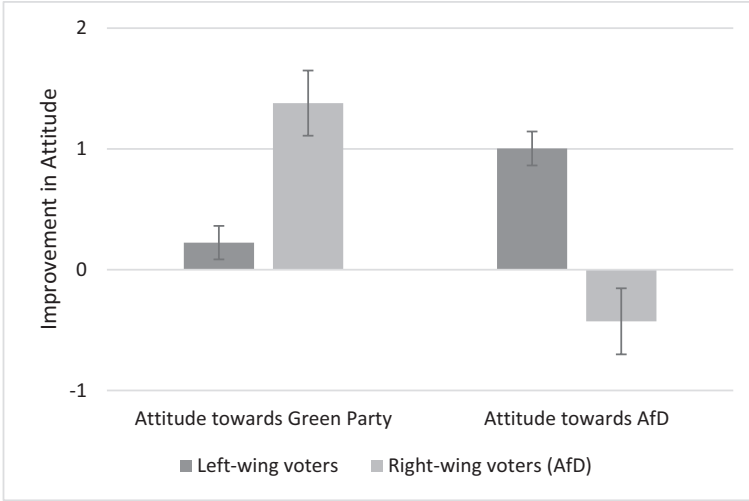

FIGURE 1 Change in political hostility scores. Improvement in attitude measured as pre–post difference score.

favorably than the AfD and vice versa. Furthermore, the two-way ANOVA of Time and Party Appraisal was significant at a small effect size, $F(1, 692) = 6.11$, $p = .014$, $\eta_p^2 = .009$, reflecting that improvement of attitudes toward the left-wing parties was slightly higher than for the AfD ($M_{\text{Left}} = .61$, $M_{\text{AfD}} = .48$). This finding was qualified by a significant three-way interaction of Time, Party Appraisal, and Voter at a small to medium effect size, $F(1, 692) = 38.75$, $p < .001$, $\eta_p^2 = .053$. As shown in Figure 1, voters affiliated with the AfD showed an improved attitude toward the Green Party (and a slight deterioration of attitude toward their own party), and left-wing voters improved their attitude toward the AfD. Post hoc paired *t*-tests showed that left-wing voters had an improved attitude toward the AfD at a small to medium effect size ($M = 1.00$, $p < .001$, $d = .327$), with no change in attitude toward their own political party ($M = .22$, $p = .085$, $d = .074$). For the AfD-affiliated voters, results were similar: improvement in attitude toward the Green Party ($M = 1.38$, $p < .001$, $d = .351$) and no change in attitude toward their own party ($M = -.43$, $p = .204$, $d = .106$).

Next, we explored whether endorsing the prohibition of the AfD moderated results and entered this item as another between-subject factor (prohibition [$n = 448$] = *definitely* and *somewhat yes* were combined; no prohibition [$n = 246$] = *somewhat not* and *not at all* were combined). The three-way interaction of Voter, Party Appraisal, and Endorsement of AfD Prohibition with the Political Hostility Scale as dependent variable was not significant, $F(1, 690) = .081$, $p = .776$, $\eta_p^2 < .001$, showing that improvement in attitude toward the opposing political party was achieved even in those who initially believed the AfD should be banned as a political party.

Antidemocratic attitude

To quantify the effects of the MCT intervention on the participants' classification as democratic or authoritarian, we conducted a three-way ANOVA with Time (pre, post) and Party Appraisal (Attitude toward Green Party, AfD) as within-subject factors and Voter (left-wing voter, right-wing voter) as the between-subject factor. The severity of antidemocratic attitude served as the dependent variable and was derived from single-item questions (see Table 1), with higher scores indicating a more authoritarian/less democratic classification.

There was a main effect of Time at a small to medium effect size, $F(1, 692) = 9.72$, $p < .001$, $\eta_p^2 = .042$, suggesting that both parties were classified as more democratic after the intervention ($M_{pre} = 4.06$, $M_{post} = 3.92$). The main effect of Party Appraisal was significant at a large effect size, $F(1, 692) = 74.12$, $p < .001$, $\eta_p^2 = .097$, with the Green Party being regarded as more democratic than the AfD ($M_{Green} = 3.64$, $M_{AfD} = 4.34$). This result must be interpreted with caution given the two-way interaction of Time and Party Appraisal, which was significant at a small effect size, $F(1, 692) = 4.44$, $p = .035$, $\eta_p^2 = .006$, especially because the Green Party was classified as more democratic after the intervention. Similarly, the interaction between Time and Voter was significant at a small effect size, $F(1, 692) = 10.47$, $p = .001$, $\eta_p^2 = .015$, and the interaction between Voter and Party Appraisal was significant at a large effect size, $F(1, 692) = 1869.68$, $p < .001$, $\eta_p^2 = .73$.

Not surprisingly, voters classified their own party as more democratic than the other. This finding was qualified by a significant three-way interaction of Time, Voter, and Party Appraisal at a small effect size, $F(1, 692) = 12.24$, $p < .001$, $\eta_p^2 = .02$: As shown in Figure 2, left-wing voters classified the Green Party as more democratic than right-wing voters both before ($M_{Left} = 1.89$, $M_{Right} = 5.58$) and after the intervention ($M_{Left} = 1.87$, $M_{Righvoter} = 5.21$). The opposite was found for the democratic classification of the AfD: right-wing voters classified the AfD as more democratic than left-wing voters both before ($M_{Left} = 6.17$, $M_{Right} = 2.61$) and after the intervention ($M_{Left} = 6.07$, $M_{Right} = 2.52$). Right-wing voters, in particular, rated the Green Party as more democratic over time ($M_{Pre} = 5.58$, $M_{Post} = 5.21$).

To understand the three-way interaction, we conducted a 2×2 ANOVA with Party Appraisal as a within-subject and Voter as a between-subject factor; the dependent variable was the pre-post difference for the severity of antidemocratic attitude of each party. This corroborated the significant interaction reported earlier, $F(1, 692) = 14.24$, $p < .001$, $\eta_p^2 = .02$. Following up on this, an independent samples t-test revealed a difference between right-wing and left-wing voters in the antidemocratic appraisal of the Green Party, $t(162.59) = 3.09$, $p = .002$, which was not found for the AfD, $t(692) = .17$, $p = .869$, indicating that the more democratic appraisal of the Green Party by the AfD voters ($M_{Difference} = -.372$) was driving this interaction.

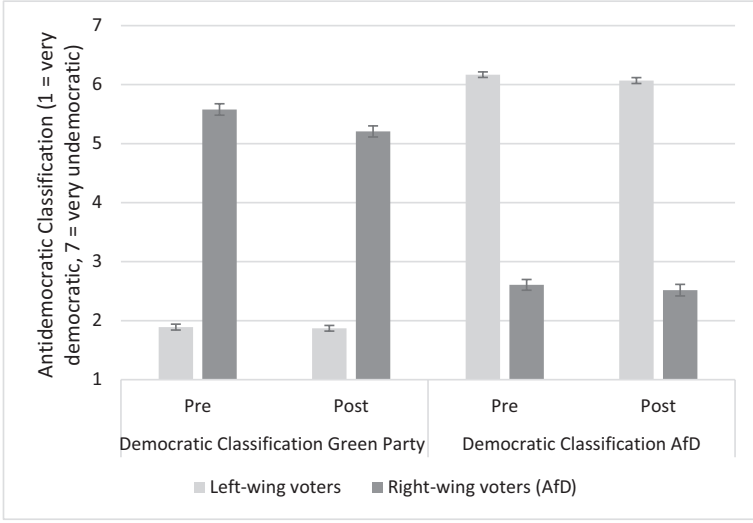

FIGURE 2 Change in appraisal of antidemocratic attitude over time.

Claims of bias

To quantify whether participants perceived the study as biased in favor of a particular political party, we conducted a three-way ANOVA with Claims of Bias (positive/negative) and Party Appraisal (Attitude toward AfD, Green Party) as within-subject factors and Voter (left-wing voter, right-wing voter) as the between-subject factor. The perceived bias in favor of or against a particular party served as the dependent variable and was derived from the single-item statement "*The survey wanted to make the Green Party/AfD look good/bad*," with higher scores indicating more agreement. There was a significant main effect of Party Appraisal at a small size, $F(1, 687) = 4.93$, $p = .027$, $\eta_p^2 = .007$, indicating a difference between the parties. The main effect of Claims of Bias was not significant, $F(1, 687) = 1.08$, $p = .299$, $\eta_p^2 = .002$, but the interaction between the two variables reached significance at a medium to large effect size, $F(1, 687) = 26.53$, $p < .001$, $\eta_p^2 = .105$, which revealed that the survey was more strongly perceived as being biased in favor of the Green Party and against the AfD. The interaction between Voter and Claims of Bias was not significant, $F(1, 687) = .325$, $p = .569$, $\eta_p^2 = .105$, but the interaction between Party Appraisal and Voter was significant at a small effect size, $F(1, 687) = 8.16$, $p < .004$, $\eta_p^2 = .012$, indicating a difference in how people perceived the survey depending on their party affiliation. The significant three-way interaction at a medium effect size, $F(1, 687) = 16.92$, $p < .001$, $\eta_p^2 = .07$, further revealed that the right-wing voters especially perceived the survey as biased in favor of the Green Party ($M_{\text{Left}} = 1.7$, $M_{\text{AfDvoter}} = 2.1$) and against the AfD ($M_{\text{Left}} = 1.73$, $M_{\text{AfDvoter}} = 2.17$). For the positive bias toward the AfD and the negative bias against the Green Party, the level of endorsement was similar. Following up on this, we calculated the difference score between the AfD and the Green Party of the claims of bias against and in favor and conducted a two-way ANOVA with Voter (left-wing voter, right-wing voter) as between-subject factor. The interaction of the difference in claims of bias against or in favor and Voter was significant, $F(1, 687) = 51.64$, $p < .001$, corroborating the three-way interaction. An independent samples t-test revealed that there was a difference between Voter in whether they perceived the survey as biased in favor of a political party, $t(169.53) = 4.13$, $p < .001$, $d = .52$, indicating that left-wing voters perceived that the survey was not biased in favor of any party ($M_{\text{Difference}} = -.057$), whereas right-wing voters perceived the survey to be biased in favor of the Green Party ($M_{\text{Difference}} = -.369$). A similar picture emerged for having a bias against a particular party, $t(169.64) = -5.40$, $p < .001$, $d = -.68$, with left-wing voters perceiving that the survey was not particularly biased against either party ($M_{\text{Difference}} = .038$) and right-wing voters perceiving the survey to be more biased against the AfD ($M_{\text{Difference}} = .497$).

Moderators of action

We conducted two regression analyses to examine potential predictors of improved attitudes toward the outgroup. We included a range of variables related to accuracy—such as the total number of incorrect responses, incorrect responses related to the outgroup (e.g., responses of right-wing voters on questions related to the Green party) and total incorrect hostile responses (where "hostile" was defined as aligning with stereotypical views about the outgroup). Additionally, we included metacognitive variables, such as the total number of high-confidence incorrect responses, high-confidence correct responses, high-confidence incorrect hostile responses (overall and toward the outgroup), and high-confidence correct responses toward the outgroup. High-confidence responses are responses participants made with the highest possible level of confidence (i.e., "100% sure").

First, we ran simple linear regression analyses with change in attitude toward the outgroup as the dependent variable (i.e., attitude toward the AfD for the left-wing voters, attitude toward

the Green Party for the right-wing voters). The number of high-confidence incorrect responses was the only significant predictor, $R^2 = .097$, $F(1, 664) = 6.30$, beta = 1.00, $p = .012$.

Next, we conducted a logistic regression using a binary outcome: participants who showed a meaningful improvement in outgroup attitude (defined as at least a 4-point increase) versus those who did not. The only significant predictor was the number of high-confidence correct responses toward the outgroup, which was negatively associated with improvement. The model showed a small but significant effect: Nagelkerke's $R^2 = .01$, regression coefficient $B = -.118$, Wald = 4.787, $p = .029$.

DISCUSSION

MCT is an evidence-based approach for treating psychological disorders such as schizophrenia and has been included in several treatment guidelines (Gaebel et al., 2019; Lincoln et al., 2019). MCT aims to plant "seeds of doubt" in overconfident judgments, which, according to meta-analyses, reduces the extent of delusions (i.e., false incorrigible beliefs). In recent years, MCT has been adapted to reduce intergroup animosity and to foster mutual understanding among mutually hostile religious groups and supporters of opposing political parties. While the core element of MCT for psychosis—challenging false beliefs with seemingly simple questions that have surprising answers—remains, the content of the questions differs. Whereas MCT for psychosis avoids delusion-relevant content to prevent symptom exacerbation or distress, MCT for promoting peace in society contains politically and religiously charged content, especially content that addresses doubts about ingroup favoritism, outgroup derogation, and intergroup-inequality assumptions (Moritz et al., 2018, 2021; Reininger et al., 2020, 2024, 2025).

The present study is the first to compare left-wing versus right-wing voters in Germany. The goal was not to alter election behavior or generate sympathy for any political view but to decrease hostility, hatred, and intentions of violence toward members and leaders of the opposing political party. Being able to address these dependent variables through an ultra-short metacognitive intervention is an important contribution considering the rise of political violence in public spaces in pluralistic democratic societies.

Study participation was anonymous. Left-wing voters were defined as those who voted for the SPD, the Green Party, or the Left Party. Right-wing voters were defined as those who voted for the AfD, a German right-wing party that as of February 2024 was represented in all state and federal parliaments. Although currently regarded as constitutional, some federal state groups of the AfD are considered "suspected right-extremist" organizations by the Federal Office for the Protection of the Constitution in Germany (Lenz, 2024).

The MCT content was selected to elicit common concerns and prejudices against both the Green Party and the AfD (especially outgroup derogation). These two parties were chosen as they are the most frequent targets of violent crimes (Bundesregierung, 2024). The goals of using MCT in the current study were essentially accomplished. Hostile attitude toward the opposing political camp, as assessed by the Political Hostility Scale, was reduced at a small to medium effect size. Moreover, left-wing and right-wing voters appraised the opposite political party as more democratic after MCT than before (decrease in antidemocratic attitude); this effect was stronger for the hostile attitude of voters affiliated with the AfD toward the Green Party. While approximately one-quarter of the participants felt the survey was manipulative (25.7%) or that they did not learn anything (29.7%), this did not prevent a reduction in their hostile attitude. Most participants found the study thought-provoking (for results, see the Appendix in the Supporting Information). These secondary outcomes highlight the acceptance and feasibility of the approach and its potential suitability for large-scale efforts inviting

people to reconsider strongly held views. Right-wing voters had a stronger impression than left-wing voters that the survey was directed against their party and favored the Green Party.

Regression analyses provided preliminary insight into moderators of change. Consistent with the rationale behind MCT—which aims to provoke high-confidence responses that are actually incorrect, followed by explicit feedback—the number of high-confidence errors (in linear regression) and the number of high-confidence correct responses (a negative predictor in the logistic regression) predicted improvement. In other words, those with the most strongly held incorrect beliefs changed the most. In contrast, overall accuracy was not a significant predictor. Future studies should examine more specific outcomes and mechanisms of change, such as participants' readiness or likelihood to commit violence toward the outgroup.

While our intervention shares similarities with interventions based on the notion of paradoxical thinking (e.g., Bar-Tal et al., 2021; Hameiri et al., 2014, 2020), it is not the same. Paradoxical thinking relies on exaggeration and contradiction to induce cognitive dissonance, whereas MCT corrects biases through counter-stereotypical facts and confidence ratings. Both approaches destabilize rigid stereotypes ("unfreezing"), but MCT emphasizes metacognitive awareness of fallibility while paradoxical thinking utilizes rhetorical confrontation. A similar distinction applies to counter-stereotype exposure (e.g., Prati et al., 2015). Counter-stereotype interventions also induce unfreezing by presenting surprising, expectancy-violating examples, thereby reducing stereotypes and, in some cases, increasing cognitive reflection. However, MCT differs in that it directly targets overconfidence in incorrect judgments through individualized feedback rather than relying on example-based category violations. Thus, MCT operationalizes unfreezing via corrective information rather than through exposure to unexpected social-category combinations.

Some limitations of the current study need to be addressed. First, this study was conceptualized as a first attempt to use MCT for the purpose of ameliorating political hostility. Future studies should include a waitlist, active, or education control condition, as has been done previously (e.g., Moritz et al., 2018), which would also control for regression to the mean as a possible explanation (i.e., initially more extreme responses shifting toward neutral responses). Second, the standard MCT intervention reduces delusional overconfidence using neutral (i.e., delusion-unrelated) material. It remains to be tested whether presenting material from MCT for psychosis could decrease hostility toward political opponents, which would eliminate the need for topic-specific material. Third, while the present results are promising, justify a controlled trial, and corroborate previous results on MCT in religious and political groups, no study has yet examined long-term effects. Studies with longer follow-up intervals are therefore needed. Fourth, the ethical implications of the present approach need to be addressed as MCT could be abused to evoke compassion and understanding for groups that advocate criminal and/or inhumane acts. In short, we need to discuss possible ways to limit sympathy and tolerance for unlawful groups or actions. Normalization of criminal acts must be prevented. Fifth, although the sample was large and sociodemographically diverse, the participants were not representative of the German population based on strict sampling criteria and the subgroup sizes were unbalanced, with more left-wing than right-wing supporters. As a robustness check, similar studies should be conducted using different samples, preferably nationally representative ones. Sixth, the assessment relied on self-reports; future studies investigating MCT in a political context should consider the effects on behavioral outcomes (e.g., derogatory or hostile remarks toward the outgroup in conversation, voting behavior, donation behavior).

Future studies need to shed more light on mechanisms of change in metacognitive interventions and augment efficacy. Currently, we can only speculate about mechanisms. Identification-based metacognitive doubt may reduce intergroup animosity and foster mutual understanding through two distinct pathways: (1) doubt about ingroup favoritism, which increases humility, and (2) doubt about outgroup derogation, which enhances openness.

One possible avenue could be the addition of new concepts from intergroup research into the MCT intervention. For example, inducing identification-based metacognitive doubts about outgroup derogation, such as demonstrating to participants from ingroup A that members of outgroup B do not view them as negatively as expected, has a known appeasing effect on the attitudes of A toward B (Lees & Cikara, 2020; Moore-Berg et al., 2020). Blending such a social ("hot") hostility-challenging approach (in line with the MERIT approach, which encourages individuals to reflect on their own thoughts and emotions as well as those of others, highlighting its strong ties to social cognition and theory of mind) with a fact-based ("cold") paradigm such as ours may add impact.

To conclude, we demonstrated that an approach borrowed from psychosis research can ameliorate attitudes of political opponents toward each other and may serve as a tool to promote societal peace.

ACKNOWLEDGMENT

Open Access funding enabled and organized by Projekt DEAL.

DATA AVAILABILITY STATEMENT

Raw data, variable description, and analyses script are available from this website: https://clinical-neuropsychology.de/political_psychology/.

ORCID

Steffen Moritz https://orcid.org/0000-0001-8601-0143
Tanja M. Fritz https://orcid.org/0000-0002-1854-6269
Anja S. Göritz https://orcid.org/0000-0002-4638-0489
Klaus Michael Reininger https://orcid.org/0000-0002-6671-0465

REFERENCES

Ahler, D. J., & Sood, G. (2018). The parties in our heads: Misperceptions about party composition and their consequences. *The Journal of Politics, 80*(3), 964–981. https://doi.org/10.1086/697253

Bar-Tal, D., Hameiri, B., & Halperin, E. (2021). Paradoxical thinking as a paradigm of attitude change in the context of intractable conflict. In B. Gawronski (Ed.), *Advances in experimental social psychology* (pp. 129–187). Elsevier Academic Press. https://doi.org/10.1016/bs.aesp.2020.11.003

Brandt, M. J. (2017). Predicting ideological prejudice. *Psychological Science, 28*(6), 713–722. https://doi.org/10.1177/0956797617693004

Brandt, M. J., Reyna, C., Chambers, J. R., Crawford, J. T., & Wetherell, G. (2014). The ideological-conflict hypothesis. *Current Directions in Psychological Science, 23*(1), 27–34. https://doi.org/10.1177/0963721413510932

Bundesregierung. (2024). *Angriffe auf Politiker, Parteibüros und Wahlplakate bis einschließlich 2023 [Attacks on politicians, party offices, and campaign posters up to and including 2023]*. https://dserver.bundestag.de/btd/20/101/2010177.pdf

Capobianco, L., & Nordahl, H. (2023). A brief history of metacognitive therapy: From cognitive science to clinical practice. *Cognitive and Behavioral Practice, 30*(1), 45–54. https://doi.org/10.1016/j.cbpra.2021.11.002

Crawford, J. T., & Pilanski, J. M. (2014). Political intolerance, right and left. *Political Psychology, 35*(6), 841–851. https://doi.org/10.1111/j.1467-9221.2012.00926.x

Damer, E., Webb, T. L., & Crisp, R. J. (2019). Diversity may help the uninterested: Evidence that exposure to counter-stereotypes promotes cognitive reflection for people low (but not high) in need for cognition. *Group Processes & Intergroup Relations, 22*(8), 1079–1093. https://doi.org/10.1177/1368430218811250

Decker, F. (2023a, February 6). *Die Programmatik der Grünen [The Greens' policy platform]*. https://www.bpb.de/themen/parteien/parteien-in-deutschland/gruene/42154/die-programmatik-der-gruenen/

Decker, F. (2023b, February 6). *Kurz und bündig: Die Grünen [The Greens in a nutshell]*. https://www.bpb.de/themen/parteien/parteien-in-deutschland/gruene/42149/kurz-und-buendig-die-gruenen/#node-content-title-1

Die Grünen. (2025, January). *Wofür wir kämpfen [What we are fighting for]*. https://www.gruene.de/wofuer-wir-kaempfen

Doise, W. (1969). Intergroup relations and polarization of individual and collective judgments. *Journal of Personality and Social Psychology, 12*(2), 136–143. https://doi.org/10.1037/h0027571

Fischer, H., & Fleming, S. (2024). Why metacognition matters in politically contested domains. *Trends in Cognitive Sciences, 28*(9), 783–785. https://doi.org/10.1016/j.tics.2024.06.005

Fischer, H., Huff, M., Anders, G., & Said, N. (2023). Metacognition, public health compliance, and vaccination willingness. *Proceedings of the National Academy of Sciences, 120*(43), e2105425120. https://doi.org/10.1073/pnas.2105425120

Gaebel, W., Hasan, A., & Falkai, P. (2019). *S3-Leitlinie Schizophrenie [S3 guideline on schizophrenia]*. Springer-Verlag.

Gaertner, S. L., & Dovidio, J. F. (2000). *Reducing intergroup bias: The common ingroup identity model*. Psychology Press. https://doi.org/10.4324/9781315804576

Göritz, A. S., Borchert, K., & Hirth, M. (2021). Using attention testing to select crowdsourced workers and research participants. *Social Science Computer Review, 39*(1), 84–104. https://doi.org/10.1177/0894439319848726

Greve, J. E., & Gambino, L. (2022, July 31). *US faces new era of political violence as threats against lawmakers rise*. https://www.theguardian.com/us-news/2022/jul/31/us-political-violence-threats-against-lawmakers

Hameiri, B., Idan, O., Nabet, E. N., Bar-Tal, D., & Halperin, E. (2020). The paradoxical thinking 'sweet spot': The role of recipients' latitude of rejection in the effectiveness of paradoxical thinking messages targeting anti-refugee attitudes in Israel. *Journal of Social and Political Psychology, 8*(1), 266–283. https://doi.org/10.5964/jspp.v8i1.1158

Hameiri, B., Porat, R., Bar-Tal, D., Bieler, A., & Halperin, E. (2014). Paradoxical thinking as a new avenue of intervention to promote peace. *Proceedings of the National Academy of Sciences of the United States of America, 111*(30), 10996–11001. https://doi.org/10.1073/pnas.1407055111

Hare, C., & Poole, K. T. (2014). The polarization of contemporary American politics. *Polity, 46*(3), 411–429. https://doi.org/10.1057/pol.2014.10

Hartman, R., Blakey, W., Womick, J., Bail, C., Finkel, E. J., Han, H., Sarrouf, J., Schroeder, J., Sheeran, P., Van Bavel, J. J., Willer, R., & Gray, K. (2022). Interventions to reduce partisan animosity. *Nature Human Behaviour, 6*(9), 1194–1205. https://doi.org/10.1038/s41562-022-01442-3

Kalmoe, N. P., & Mason, L. (2022). *Radical American partisanship*. University of Chicago Press. https://doi.org/10.7208/chicago/9780226820279.001.0001

Kornfield, M., & Alfaro, M. (2022, January 1). *1 in 3 Americans say violence against government can be justified, citing fears of political schism, pandemic*. https://www.washingtonpost.com/politics/2022/01/01/1-3-americans-say-violence-against-government-can-be-justified-citing-fears-political-schism-pandemic/

Köther, U., Vettorazzi, E., Veckenstedt, R., Hottenrott, B., Bohn, F., Scheu, F., Pfueller, U., Roesch-Ely, D., & Moritz, S. (2017). Bayesian analyses of the effect of metacognitive training on social cognition deficits and overconfidence in errors. *Journal of Experimental Psychopathology, 8*(2), 158–174. https://doi.org/10.5127/jep.054516

Kruglanski, A. W., & Webster, D. M. (1996). Motivated closing of the mind: "Seizing" and "freezing". *Psychological Review, 103*(2), 263–283. https://doi.org/10.1037/0033-295X.103.2.263

Lees, J., & Cikara, M. (2020). Inaccurate group meta-perceptions drive negative out-group attributions in competitive contexts. *Nature Human Behaviour, 4*(3), 279–286. https://doi.org/10.1038/s41562-019-0766-4

Lenz, L. (2024, May 13). *AfD-Einstufung als Verdachtsfall ist rechtens [The AfD's classification as a suspected case is lawful]*. https://www.tagesschau.de/inland/innenpolitik/afd-ovg-verdachtsfall-100.html

Lincoln, T., Pedersen, A., Hahlweg, K., & Frantz, I. (2019). *Evidenzbasierte Leitlinie zur Psychotherapie von Schizophrenie und anderen psychotischen Störungen [Evidence-based guideline for the psychotherapy of schizophrenia and other psychotic disorders]*. Hogrefe Verlag.

Lysaker, P. H., & Klion, R. E. (2017). *Recovery, meaning-making, and severe mental illness*. Routledge. https://doi.org/10.4324/9781315447001

Martherus, J. L., Martinez, A. G., Piff, P. K., & Theodoridis, A. G. (2021). Party animals? Extreme partisan polarization and dehumanization. *Political Behavior, 43*(2), 517–540. https://doi.org/10.1007/s11109-019-09559-4

Meinhart, A., Sauvé, G., Schmueser, A., Penney, D., Berna, F., Gawęda, Ł., Lamarca, M., Moritz, S., Ochoa, S., Acuña, V., & Fischer, R. (2024). Metacognitive training for psychosis (MCT): A systematic meta-review of the current evidence regarding the effectiveness for psychotic symptom reduction. *Translational Psychiatry, 15,* 156. https://doi.org/10.2139/ssrn.4774474

Moore-Berg, S. L., Ankori-Karlinsky, L.-O., Hameiri, B., & Bruneau, E. (2020). Exaggerated meta-perceptions predict intergroup hostility between American political partisans. *Proceedings of the National Academy of Sciences, 117*(26), 14864–14872. https://doi.org/10.1073/pnas.2001263117

Moritz, S., Ahmed, K., Krott, N. R., Ohls, I., & Reininger, K. M. (2021). How education and metacognitive training may ameliorate religious prejudices: A randomized controlled trial. *The International Journal for the Psychology of Religion, 31*(2), 121–137. https://doi.org/10.1080/10508619.2020.1815994

Moritz, S., Balzan, R. P., Menon, M., Rojahn, K. M., Schlechte, M., Veckenstedt, R., Schöttle, D., & Meinhart, A. (2025). Two decades of metacognitive training for psychosis: Successes, setbacks, and innovations. *Expert Review of Neurotherapeutics, 25*(5), 579–590. https://doi.org/10.1080/14737175.2025.2483204

Moritz, S., Lasfar, I., Reininger, K. M., & Ohls, I. (2018). Fostering mutual understanding among Muslims and non-Muslims through counterstereotypical information: An educational versus metacognitive approach.

The International Journal for the Psychology of Religion, 28(2), 103–120. https://doi.org/10.1080/10508619.2018.1431759

Moritz, S., Menon, M., Balzan, R., & Woodward, T. S. (2023). Metacognitive training for psychosis (MCT): Past, present, and future. *European Archives of Psychiatry and Clinical Neuroscience, 273*(4), 811–817. https://doi.org/10.1007/s00406-022-01394-9

Moritz, S., Ramdani, N., Klass, H., Andreou, C., Jungclaussen, D., Eifler, S., Englisch, S., Schirmbeck, F., & Zink, M. (2014). Overconfidence in incorrect perceptual judgments in patients with schizophrenia. *Schizophrenia Research: Cognition, 1*(4), 165–170. https://doi.org/10.1016/j.scog.2014.09.003

Moscovici, S., & Zavalloni, M. (1969). The group as a polarizer of attitudes. *Journal of Personality and Social Psychology, 12*(2), 125–135. https://doi.org/10.1037/h0027568

Penney, D., Sauvé, G., Mendelson, D., Thibaudeau, É., Moritz, S., & Lepage, M. (2022). Effectiveness, durability, and moderators of metacognitive training for psychosis (MCT): A systematic review and meta-analysis. *JAMA Psychiatry, 79,* 417–429. https://doi.org/10.1001/jamapsychiatry.2022.0277.

Pew Research Center. (2014, June 12). *Political Polarization in the American Public. Political Polarization in the American Public*. https://www.pewresearch.org/politics/2014/06/12/political-polarization-in-the-american-public/

Piazza, J. A. (2023). Political polarization and political violence. *Security Studies, 32*(3), 476–504. https://doi.org/10.1080/09636412.2023.2225780

Prati, F., Crisp, R. J., & Rubini, M. (2015). Counter-stereotypes reduce emotional intergroup bias by eliciting surprise in the face of unexpected category combinations. *Journal of Experimental Social Psychology, 61,* 31–43. https://doi.org/10.1016/j.jesp.2015.06.004

Reininger, K. M., Brückner, T. F. P., Henning, T., Kokot, M. R., Löwe, B., Briken, P., & Moritz, S. (2025). Metacognitive training in U.S. republican leaners reduces polarization and fosters democratic behavior-intentions with liberals: Evidence from a randomized-controlled trial. *Peace and Conflict: Journal of Peace Psychology, 31,* 36–46. https://doi.org/10.1037/pac0000791

Reininger, K. M., Koulen, H., Biel, H. M., Hennig, T., Pietras, L., Kokot, M. R., Löwe, B., Briken, P., & Moritz, S. (2024). A pilot study of metacognitive training in U.S. republican leaners: Reducing polarization toward LGBTIQ+ persons. *Archives of Sexual Behavior, 53*(5), 1609–1620. https://doi.org/10.1007/s10508-024-02856-y

Reininger, K. M., Krott, N. K., Hoenisch, M., Scheunemann, J., & Moritz, S. (2020). Targeting our blind spot: A metacognitive intervention ameliorates negative feelings, evaluations, and stereotypes towards conservatives in a liberal sample. *Journal of Social and Political Psychology, 8*(2), 453–472.

Richmond, B. S., Toosi, N. R., Wellman, J. D., & Wilkins, C. L. (2024). Ignorance of critical race theory predicts White Americans' opposition to it. *Journal of Social Issues, 80*(1), 240–271. https://doi.org/10.1111/josi.12601

Ruggeri, K., Većkalov, B., Bojanić, L., Andersen, T. L., Ashcroft-Jones, S., Ayacaxli, N., Barea-Arroyo, P., Berge, M. L., Bjørndal, L. D., Bursalıoğlu, A., Bühler, V., Čadek, M., Çetinçelik, M., Clay, G., Cortijos-Bernabeu, A., Damnjanović, K., Dugue, T. M., Esberg, M., Esteban-Serna, C., … Folke, T. (2021). The general fault in our fault lines. *Nature Human Behaviour, 5*(10), 1369–1380. https://doi.org/10.1038/s41562-021-01092-x

Schieferdecker, D. (2021). Beliefs, attitudes, and communicative practices of opponents and supporters of COVID-19 containment policies: A qualitative case study from Germany. *Javnost—The Public, 28*(3), 306–322. https://doi.org/10.1080/13183222.2021.1969620

Sherif, M., Harvey, O. J., White, B. J., Hood, W. A., & Sherif, C. W. (1961). *Intergroup conflict and cooperation: The robbers cave experiment*. University Book Exchange.

Tajfel, H., Billig, M. G., Bundy, R. P., & Flament, C. (1971). Social categorization and intergroup behaviour. *European Journal of Social Psychology, 1*(2), 149–178. https://doi.org/10.1002/ejsp.2420010202

Turner, J. C., Brown, R. J., & Tajfel, H. (1979). Social comparison and group interest in ingroup favouritism. *European Journal of Social Psychology, 9*(2), 187–204. https://doi.org/10.1002/ejsp.2420090207

Turner, J. C., Hogg, M. A., Oakes, P. J., Reicher, S. D., & Wetherell, M. S. (1987). *Rediscovering the social group: A self-categorization theory*. Basil Blackwell.

Virchow, F. (2020). *Alternative für Deutschland (AfD): eine Partei der extremen Rechten? [Alternative for Germany (AfD): a far-right party?]* https://www.ifri.org/sites/default/files/migrated_files/documents/atoms/files/virchow_afd_extremen_rechten_2020.pdf

Voelkel, J. G., Brandt, M. J., & Colombo, M. (2018). I know that I know nothing: Can puncturing the illusion of explanatory depth overcome the relationship between attitudinal dissimilarity and prejudice? *Comprehensive Results in Social Psychology, 3*(1), 56–78. https://doi.org/10.1080/23743603.2018.1464881

Voelkel, J. G., Stagnaro, M. N., Chu, J. Y., Pink, S. L., Mernyk, J. S., Redekopp, C., Ghezae, I., Cashman, M., Adjodah, D., Allen, L. G., Allis, L. V., Baleria, G., Ballantyne, N., Van Bavel, J. J., Blunden, H., Braley, A., Bryan, C. J., Celniker, J. B., Cikara, M., … Willer, R. (2024). Megastudy testing 25 treatments to reduce antidemocratic attitudes and partisan animosity. *Science, 386*(6719), eadh4764. https://doi.org/10.1126/science.adh4764

SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

How to cite this article: Moritz, S., Borgmann, L., Fritz, T. M., Göritz, A. S., & Reininger, K. M. (2026). Bridging the divide: Using metacognitive training to reduce hostility between the political left and right. *Political Psychology*, *47*, e70118. https://doi.org/10.1111/pops.70118