Political Ideology and Attitudinal Ambivalence: Investigating the Role of Ideological Extremity

Axel M. Burger  
GESIS – Leibniz Institute for the Social Sciences, Mannheim, Germany

**Author Note**

Please direct correspondence concerning this article to Dr. Axel M. Burger, GESIS – Leibniz Institute for the Social Sciences, P.O Box 12 21 55, 68072 Mannheim, Germany, E-Mail: axel.burger@gesis.org, FAX: +49 621-1246 100.

Parts of this work have been presented at the Annual Meeting of the International Society of Political Psychology (ISPP) 2022 in Athens, Greece, and at the 2022 online meeting of the German Political Psychology Network.

Abstract

[…]

**Political Ideology and Attitudinal Ambivalence: Investigating the Role of Ideological Extremity**

A very prominent definition conceptualizes attitudes as “a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor” (Eagly & Chaiken, 1993, p. 1). However, attitudes are often more complex than this definition might make it seem at first sight. For example, attitudes can involve affective, cognitive, and behavioral evaluative reactions (e.g., Rosenberg & Hovland, 1960) and individuals can vary in the extent to which they tend to base their attitudes on these different components (for an overview, see Haddock & Maio, 2019). Furthermore, individuals can have positive and negative evaluative reactions toward the same attitude object at the same time (e.g., Cacioppo et al., 1997). That is, attitudes can be ambivalent (e.g., Thompson et al., 1995). It seems reasonable to expect that attitudinal ambivalence is particularly likely in the case of political attitudes, where individuals are continuously exposed to a multitude of conflicting pieces of information and opinions about the same attitude object such as a particular politician, a political party, or a policy proposal. However, the tools used in surveys to measure political attitudes do very often not allow to capture the complexity of these attitudes (e.g., Camparo & Camparo, 2021; Greene, 2005; Schneider & Schwarz, 2017).

The present research investigates whether and how political-ideological orientations of individuals are associated with the extent to which they tend to hold ambivalent political attitudes. The prediction that such a link exists follows from a long history of theorizing and empirical research on the associations of ideological orientations with thinking styles (see below) and from the assumption that individual differences in thinking styles have implications for the structure and complexity of attitudes (see Rudolph & Popp, 2007). Interestingly, extant empirical findings of research on this question are inconsistent: While findings by Krochik, Jost, and Nosek (2007; reported in Jost & Krochik, 2014) suggest a stable tendency for more conservative (vs. more liberal) individuals to hold less ambivalent attitudes, findings by Newman and Sargent (2020; Sargent & Newman, 2020) indicate an association in the opposite direction (see also Federico, 2006; Poteat & Mereish, 2012).

In the following, after briefly introducing the concept of attitudinal ambivalence, we describe the theoretical explanations for the opposite predictions/findings of previous research on ideology and attitudinal ambivalence and propose a third perspective. In the empirical part, we use data from large electoral surveys that allow for quantifying the ambivalence of political attitudes to test the predictions that follow from the three theoretical perspectives.

**Attitudinal Ambivalence**

Attitudinal ambivalence refers to the simultaneous existence of strong positive *and* strong negative evaluative reactions toward the same attitude object (e.g., Conner & Sparks, 2002; Jonas et al., 2000; Schneider & Schwarz, 2017; Thompson et al., 1995; van Harreveld et al., 2015)[[1]](#footnote-1). This definition makes clear that attitudinal ambivalence is conceptually distinct from indifference where an attitude object elicits weak evaluative reactions overall. Attitudinal ambivalence can emerge *within* the affective, cognitive, or behavioral attitude component as well as *between* attitude components. The present research focuses on ambivalence within the affective and cognitive attitude component. Furthermore, it is possible to distinguish between *subjective* ambivalence, which refers to the self-reported experience of ambivalence, and *objective* (or *potential*) ambivalence, which refers to the simultaneous presence of opposite evaluative reactions. Research shows that the extent to which objective ambivalence leads to a subjective experience of ambivalence depends on boundary conditions such as high simultaneous accessibility of the opposite evaluative reactions and personal factors such as the level of preference for consistency (Newby-Clark et al., 2002; see van Harreveld et al., 2015 for an overview). The present research focuses on objective ambivalence.

The extent to which political attitudes are ambivalent is relevant, because more ambivalent evaluative reactions toward political parties, politicians, or policies have been shown to be associated with more unstable global attitudes (Lavine, 2001), delayed formation of voting intentions (Lavine, 2001), more negative evaluations of political candidates (McGraw et al., 2003), weaker associations of global evaluations with specific beliefs and assessments (Lavine, 2001), increased likelihood of split-ticket voting (Mulligan, 2011), and decreased predictability of political behavior (Basinger & Lavine, 2005; Greene, 2005; Lavine, 2001). Hence, understanding the factors that play a role for the ambivalence of political attitudes makes an important contribution to understanding the bases and dynamics of political attitudes and behavior. Extant research on sources of ambivalence in political attitudes point to personal factors such as value conflict (Craig et al., 2005; Keele & Wolak, 2006) and information processing style (Rudolph & Popp, 2007) as well as to contextual factors such as campaign environments (Keele & Wolak, 2008; Rudolph, 2011). Recently, political ideological orientations have been proposed to be associated with attitudinal ambivalence (Jost & Krochik, 2014; Newman & Sargent, 2020; Sargent & Newman, 2020).

**The Rigidity of the Right Hypothesis**

As mentioned above, the prediction that ideological orientations are linked to a tendency to hold more or less ambivalent attitudes follows from considerations concerning the association of ideological orientations with thinking styles. One of the most prominent theoretical perspectives in this respect is the rigidity-of-the-right hypothesis (Tetlock, 1983), which can be traced back to early work on the psychological bases of authoritarianism (Adorno et al., 1950). According to this view and the closely related ideology-as-motivated-social-cognition theory (Jost, 2017; Jost et al., 2003, 2009), strong needs for security (existential needs) and certainty (epistemic needs) facilitate the endorsement of conservative political views that can be characterized by two core elements: (a) resistance to change and (b) acceptance of inequality. Strong epistemic needs are characterized as being associated with a rigid cognitive style. Even though the concept of cognitive rigidity is broad and often not clearly defined (see Cherry et al., 2021; Costello et al., 2021), studies documenting associations between conservatism and measures that reflect a motivation to obtain clear answers and stick to them, low tolerance of ambiguity, avoidance of attitude-inconsistent information and cognitive dissonance, low openness for new experiences, and a tendency to rely on intuitive rather than reflective judgments (for overviews, see Costello et al., 2021; Jost et al., 2009; Van Hiel et al., 2010; Hibbing et al., 2014) have been taken as evidence for the hypothesized conservatism-rigidity link.

One straightforward prediction regarding the association of ideological orientations with attitudinal ambivalence that can be derived from the rigidity-of-the-right perspective holds that the low tolerance of ambiguity that characterizes the rigid cognitive style of conservative individuals, decreases the likelihood of holding ambivalent attitudes. In line with this reasoning, Krochick and colleagues (2007) conducted an online study using a large convenience sample of US residents and involving 95 political and non-political attitude objects, where they found support for their hypotheses that individuals with a more conservative (vs. liberal) orientation (a) tend to endorse attitudes with greater certainty, (b) expect less variability of their attitudes, and (c) experience less ambivalent affective reactions toward attitudinal objects. These results are compatible with findings showing that being motivated by directional goals in information processing is associated with decreased attitudinal ambivalence (Rudolph & Popp, 2007).

**The Elaboration-Avoidance Hypothesis**

More recent research on the association of ideology with attitudinal ambivalence yielded findings that stand in contrast to the results by Krochick and colleagues (2007): Newman and Sargent (2020) investigated the association of political orientations with (subjective and objective) attitudinal ambivalence among convenience samples of US residents in a set of five online-studies where they failed to find support for a negative association of conservatism with attitudinal ambivalence. Instead, their results indicate associations of subjective and objective ambivalence in the opposite direction: On average, conservatism was associated with more rather than less attitudinal ambivalence. A follow-up study (Sargent & Newman, 2020) replicated this pattern for objective (but not subjective) ambivalence using attitude objects similar to the ones used by Krochik and colleagues (2007) as well as systematically varying the procedure of presenting these objects (paired vs. separate). As a post-hoc explanation for their findings Newman and Sargent (2020) speculate that increased attitudinal ambivalence among conservatives (vs. liberals) might result from conservatism being associated with a tendency to avoid conscious reflection on ambivalent attitude objects which could be a necessary condition for resolving these ambiguities and constructing more consistent attitudes (see Clark et al., 2008, for evidence that ambivalence can elicit avoidance of thinking about persuasive messages): “If resolving ambivalence requires one to consciously reflect on it, a preference for order and clarity might make doing so aversive for more conservative individuals. Alternatively (or in addition), the psychological characteristics associated with a liberal political orientation (e.g., openness, need for cognition) might lead people to more frequently bring to mind attitude objects associated with evaluative inconsistency and, in the process, integrate their complex thoughts and feelings to construct more straightforward attitudes” (p. 786).

**The Ideological Extremity Hypothesis**

According to the ideological extremity hypothesis, extreme political orientations on both sides of the political spectrum rather than conservatism specifically are associated with simplistic, dogmatic, and inflexible belief systems and thinking styles (Brandt et al., 2015; Conway et al., 2018; Costello & Bowes, 2022; Fernbach et al., 2013; Greenberg & Jonas, 2003; Lammers et al., 2017; Toner et al., 2013; van Prooijen & Krouwel, 2019; Zmigrod, 2020; Zmigrod et al., 2020). In line with this view, ideological extremity on both sides of the ideological spectrum has been demonstrated to be associated with higher scores on behavioral measures of cognitive inflexibility (Zmigrod et al., 2020), more simplistic perceptions of the political domain (Lammers et al., 2017), a tendency to ignore external information in judgments (Brandt et al., 2015), illusions of understanding (Fernbach et al., 2013), absolute certainty (Costello & Bowes, 2022; Rollwage et al., 2018), the perception of own beliefs as superior (Harris & Van Bavel, 2021; Toner et al., 2013), as well as intolerance (Brandt et al., 2014) and authoritarianism (Conway et al., 2018; for an overview, see van Prooijen & Krouwel, 2019). If Jost and Krochik (2014) are right that a rigid cognitive style as well a biased information processing and intolerance decrease the likelihood of holding ambivalent attitudes, it follows from the ideological extremity hypothesis that attitudinal ambivalence should be low at the extremes of both sides of the political spectrum rather than on the right side in particular.

**The Present Research**

The present research tested the hypothesis that individuals at both extremes of the left-right political ideological spectrum tend to hold less ambivalent political attitudes than individuals who place themselves more towards the center of the scale. In statistical terms, this hypothesis implies predicting a reversal of the sign of the linear association of ideology with ambivalence from positive to negative as one moves from left to right on the ideology scale at some point which is not specified a priori (Simonsohn, 2018). However, the fact that the present research investigates the association of ideological orientations with political attitudes specifically, implies that this hypothesis has to be further specified: Given (a) that ideological orientations can be expected to be associated with the individuals’ general attitudes toward the attitude objects and (b) that extreme general attitudes can be expected to be lower in ambivalence than moderate attitudes, the predicted association of ideology with attitudinal ambivalence has to be tested controlling for the association of ambivalence with general attitudes.

The main hypothesis of the present research was tested in three Studies that used different datasets of the German Longitudinal Election Study (GLES). Studies 1 and 2 investigate attitudes toward political candidates using data that was collected in the context of two different federal elections in Germany. Study 3 investigates attitudes toward political parties using data that was collected in the context of yet another German federal election. The present research differs from previous research on the association of ideological orientations with attitudinal ambivalence by (a) testing the prediction that attitudinal ambivalence tends to be lower at both extremes of the left-right ideological spectrum (b) focusing specifically on attitudes toward political candidates and parties, (c) using data from large, demographically diverse samples collected in the context of actual federal elections, (d) using non-US samples, and (e) looking at both affective and cognitive attitude components.

All data used in the present research as well as the documentations of the datasets are available for scientific research under the links specified in the References and the scripts of the analyses are available under XXX. The hypotheses and analysis plans were not pre-registered. However, tests of a-priory hypotheses and post-hoc tests are separated in the manuscript by reporting the former in the Results and the latter in the Discussion.

**Study 1**

Study 1 investigated the association of political ideology with the ambivalence of political attitudes using data on attitudes toward the two main candidates for the chancellorship in the 2017 German Federal Elections, Angela Merkel of the Christian conservative party (CDU) and Martin Schulz of the social democratic party (SPD).

**Method**

**Sample.** Study 1 used data of the Short-term Campaign Panel of the GLES that was collected during the campaign period of the 2017 German Federal Elections (GLES, 2019). This survey was conducted as an online survey and respondents eligible to vote at the elections were recruited trough quota sampling (age, gender, education) from the frame population of a large online access panel run by a commercial service provider (for details, see official study documentation). All respondents with answers on the relevant variables (see below) were included in the analyses which resulted in a maximal sample of 13,808 respondents (49.40% women, *M*age = 48.84, *SD*age = 14.69).

**Attitudinal ambivalence.** Respondents indicated the strengths of their negative feelings as well as the strength of their positive feelings toward each of the two candidates on five-point scales ranging from 1 (*no negative/positive feelings at all*) to 5 (*very strong*). On the basis of the reported positive and negative feelings, ambivalence scores regarding the two candidates were calculated using a formula proposed by Thompson and colleagues (1995): [[P + N] / 2] – |P – N|, where P and N represent the scores for positive and negative evaluative reactions (for a discussion of alternatives to this formula, see Locke & Braun, 2009). As these measures of negative and positive feelings were included in waves 4 and 6 of the campaign panel, average ambivalence scores across waves were calculated for each candidate (*r* = .55 for Merkel and *r* = .49 for Schulz).

**General attitudes.** Respondents indicated their general attitudes toward the two candidates on scales ranging from -5 (*I do not think much of the politician at all*) to +5 (*I think a great deal of the politician*). This scale was recoded from 1 to 11 and average scores across the waves 4 and 6 of the panel survey were calculated (*r* = .90 for Merkel and *r* = .81 for Schulz).

**Political ideology.** As in the previous studies on ideology and attitudinal ambivalence, a measure of symbolic ideology was used as a measure of the ideological orientation of respondents. Respondents positioned themselves on a scale ranging from 1 (*left*) to 11 (*right*). Average scores across the waves 4 and 6 of the panel survey were calculated (*r* = .84).

**Control variables.** Some analyses reported below include the following control variables: gender (0 = *male*, 1 = *female*), age, education (highest school degree coded as *low*, *medium*, or *high*), and region of residence (0 = *Eastern Germany*, 1 = *Western Germany*), as well as political interest – measured on a recoded scale originally ranging from 1 (*very interested*) to 2 (*somewhat interested*), to 3 (*in between*), to 4 (*not very interested*) to 5 (*not at all interested*) and averaged across waves 4 and 6 (*r* = .87).

**Results**

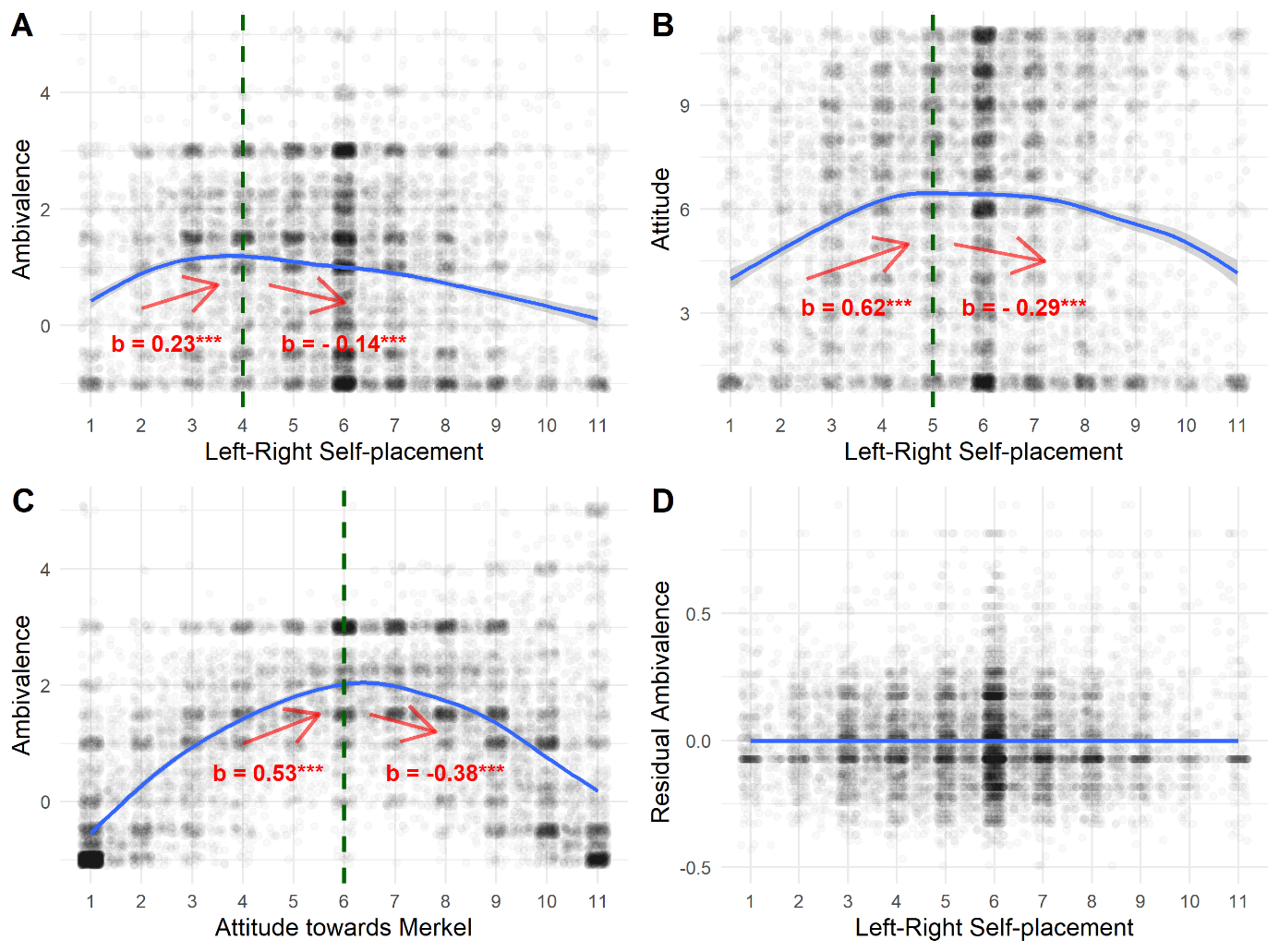
In the data of Study 1, political interest is negatively correlated with political ideology, *r* = -.07, *p* < .001, 95% CI [-.05, -.08], as well as with affective ambivalence toward Merkel, *r* = .09, *p* <.001, 95% CI [-.07, -.10], and Schulz, *r* = -.12, *p* < .001, 95% CI [-.11, -.14].

Political ideology is negatively correlated with affective ambivalence toward Merkel, *r* = -.09, *p* < .001, 95% CI [-.07, -.11], as well as toward Schulz, *r* = -.09, *p* >.001, 95% CI [-.07, -.10]. In terms of linear regressions, these associations indicate that moving from the leftmost ideological position to the rightmost position is predicted to result in a 10% decrease in affective ambivalence toward Merkel, b = -0.10, SE = 0.01, p < .001, and a 9% decrease in affective ambivalence toward Schulz, b = -.09, SE = 0.01, p < .001. These associations remain stable when the control variables listed above are included in the regression models (see Online Appendix).

As recommended by Simonsohn (2018), the prediction of an inversely u-shaped association between political ideology and attitudinal ambivalence was tested using a two-lines test as well as the algorithm proposed by the same author to identify the point where the sign of the linear association of ideology with ambivalence changes. As shown in panel A of *Figure 1* and *Figure 2*, the results of the two-lines tests provide evidence for an inversely u-shaped association between ideology and affective ambivalence toward the two political candidates.

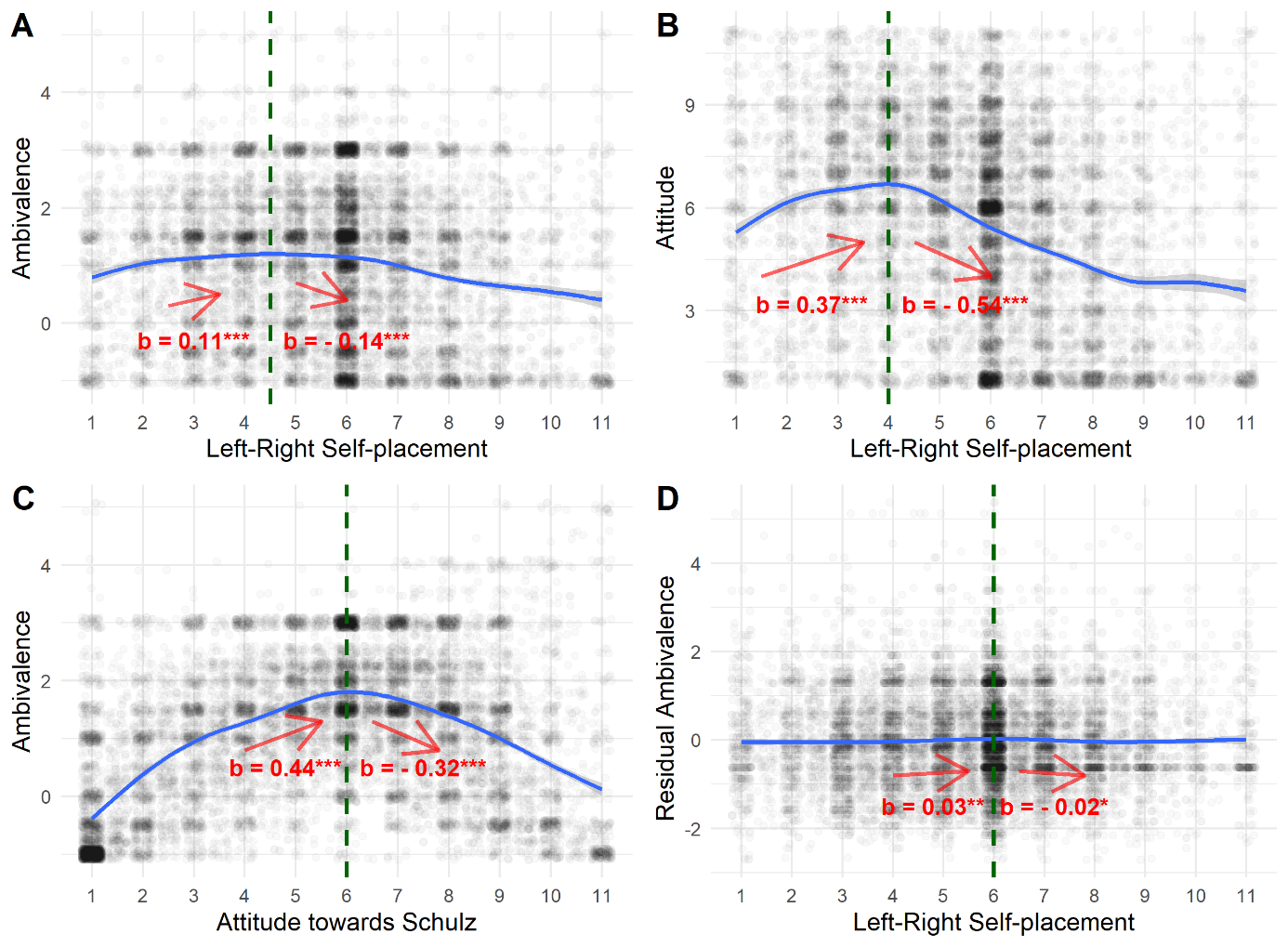
As a next step, analyses aimed at accounting for an expected association of attitudinal ambivalence with the general attitudes toward the two candidates. As *Figure 1* and *Figure 2* show, the association of ideology with the general attitudes toward the candidates (panel B in both figures) as well as the association of the general attitudes with attitudinal ambivalence (panel C in both figures) are clearly inversely u-shaped. To account for the association of affective ambivalence with general attitudes, the two-lines tests were performed with respect to the residuals of the affective ambivalence scores after using general attitudes as a predictor in regression models that included a linear and a quadratic term. As shown in panel D of *Figure 1* and *Figure 2*, the results of these two-lines tests provide evidence for a reversal of the sign of the linear association between political ideology and the variance in affective ambivalence not accounted for by general attitudes only in the case of Martin Schulz. However, the inclinations of the regression lines on both sides of the break point are very subtle. Correlations of political ideology with the residual affective ambivalence toward Merkel, *r* = .00, *p* = .82, and Schulz, *r* = .01, *p* = .22, are also non-significant.

*Figure 1.*  
Associations of affective ambivalence and the general attitude toward Angela Merkel with crucial predictors



Note.

*Figure 2.*  
Associations of affective ambivalence and the general attitude toward Martin Schulz with crucial predictors



Note.

**Study 2**

Like Study 1, Study 2 investigates the association of political ideology with the ambivalence of attitudes toward political candidates. Compared to Study 1, it uses data on a different election with different political candidates that has been collected using a different interview mode and sampling design as well as using a different question format to assess positive and negative reactions toward the candidates. In addition, Study 2 differs from Study 1 by allowing to distinguish between affective and cognitive ambivalence. Study 2 uses data collected in the context of the German Federal Election in 2021, in which Olaf Scholz of the social democratic party (SPD), Armin Laschet of the Christian conservative party (CDU), and Annalena Baerbock of the green party competed for the chancellorship.

**Method**

**Sample.** Study 2 uses data of the GLES Rolling Cross-Section 2021 (GLES, 2022), which was conducted using computer-assisted telephone interviews. The sample of this study is a probability sample of individuals eligible to vote at the elections that results from landline (60%) and mobile (40%) telephone numbers that are drawn from sampling frames that include all registered as well as generated telephone numbers (for details, see official study documentation). All respondents with answers on the relevant variables (see below) were included in the analyses

**Attitudinal Ambivalence.** The GLES Rolling Cross-Section 2021 included not only measures of feelings toward the candidates but also measures of their perceived strengths and weaknesses, which allows to differential between affective and cognitive ambivalence. With respect to feelings, respondents indicated their (dis-)agreement with the statements “[Candidate name] triggers negative feelings in me.” and “[Candidate name] triggers positive feelings in me.” using a scale ranging from 1 (*strongly agree*) to 2 (*agree*) to 3 (*neither agree nor disagree*), to 4 (*disagree*) to 5 (*strongly disagree*). With respect to strengths and weaknesses, respondents indicated their (dis-)agreement with the statements “[Candidate name] has great weaknesses as a politician.” and “[Candidate name] has great strengths as a politician.” using the same scale. The order of asking about feelings or strengths and weaknesses first versus second as well as the order of asking about the positive or the negative reaction first versus second was randomly determined for each respondent. Ambivalence scores were calculated using the same formula as in Study 1.

**Further variables.** General attitudes toward the candidates, political ideology, political interest, and the other control variables were measured as in Study 1.

**Results**

As in Study 1, political interest is negatively correlated with political ideology as well as with attitudinal ambivalence (see *Table 1*). The correlations between the scores for affective and cognitive ambivalence range between *r* = .43 and *r* = .49. The mean scores for cognitive ambivalence (see *Table 1*) are significantly higher than the scores for affective ambivalence for Scholz, *t*(6567) = -27.47, *p* < .001, Laschet, *t*(6444) = -35.30, *p* < .001, and Baerbock, *t*(6519) = -34.82, *p* < .001.

In contrast to Study 1, the direction of the linear association of political ideology with affective ambivalence is inconsistent in Study 2: Political ideology is positively correlated with affective ambivalence toward Scholz and Laschet and negative correlated with affective and ambivalence toward Baerbock. Regarding cognitive ambivalence, political ideology is unrelated to cognitive ambivalence toward Scholz, positively correlated with ambivalence toward Laschet, and negatively correlated with cognitive ambivalence toward Baerbock (see Table 1; see also Tables OA2 to OA4 in the Online Appendix, for the results of regression analyses including control variables).

Two-lines tests provide evidence for an inversely u-shaped association between ideology and affective/cognitive ambivalence in the case of Laschet only (for details, see Figures OA1 to OA6 in the Online Appendix). However, when looking at the variance in ambivalence not explained by the general attitude, there is no evidence for an inversely u-shaped association between political ideology and the residual ambivalence (affective or cognitive) for any of the candidates (see Online Appendix). Correlations of political ideology with the residual affective ambivalence toward Scholz, *r* = -.00, *p* = .75, Laschet, *r* = .02, p = .06, and Baerbock, *r* = .00, *p* = .75, are not statistically significant. However, the correlations of political ideology with the residual cognitive ambivalence toward Scholz, *r* = -.03, *p* =.01, and Baerbock, *r* = -.04, *p* < .01, are statistically significant while the correlation for Laschet is not, *r* = .02, p = .23.

**Study 3**

Study 3 investigates the association of political ideology with attitudinal ambivalence with respect to political parties rather than political candidates as attitude targets. It uses data collected in the context of the German Federal Elections 2013 on attitudes toward the five parties represented in the German Bundestag at that time.

**Method**

**Sample.** Study 3 uses data of the Short-term Campaign Panel of the GLES collected during the campaign period of the German Federal Elections in 2013 (GLES, 2016). This study was conducted as an online survey and respondents eligible to vote at the elections were recruited trough quota sampling (age, gender, education) from the frame population of a large online access panel run by a commercial service provider (for details, see official study documentation). All respondents with answers on the relevant variables (see below) were included in the analyses which resulted in a maximal sample of 4,789 respondents (49.05% women, *M*age = 46.03, *SD*age = 14.76).

**Affective ambivalence.** Positive and negative feelings were measured as in Study 1, however, with political parties instead of political candidates as the attitude targets. An affective ambivalence score for each political party was calculated as described in Study 1. As the measures of negative and positive feelings were included in waves 1, 3, and 6 of the campaign panel, average ambivalence scores across waves were calculated (.86 ≤ *α* ≤ .91).

**Further variables.** General attitudes toward the parties, political ideology, political interest, and the other control variables were measured as in Study 1.

**Results**

As in the previous studies, political interest is negatively correlated with political ideology as well as with attitudinal ambivalence toward the different parties (see *Table 2*).

The direction of the linear association of political ideology with affective ambivalence is inconsistent for the different political parties, ranging from a positive correlation of r = .33 to a negative correlation of r = -.14 (see Table 2, see also Tables OA5 and OA6 in the Online Appendix, for the results of regression analyses including control variables).

Two-lines tests provide evidence for an inversely u-shaped association between ideology and affective ambivalence in the case of all political parties except for the FDP (for details, see Figures OA7 to OA11 in the Online Appendix). However, when looking at the variance in ambivalence not explained by the general attitude toward the respective party, there is no evidence for an inversely u-shaped association between political ideology and the residual ambivalence for any of the parties (see Online Appendix). Correlations of political ideology with the residual affective ambivalence are positive in the case of four of the five parties, ranging from *r* = .03 to *r* = .10 (see Table OA7 in the Online Appendix).

**Discussion**

The present research investigated the association of political ideological orientations with the level of ambivalence of attitudes toward political candidates (Studies 1 and 2) and political parties (Study 3). The core hypothesis of this research was that attitudinal ambivalence is stronger among individuals at both extremes of the left-right scale compared to individuals with more moderate ideological orientations. Even though there was evidence for the predicted association pattern in most of the cases investigated, there was no evidence for this association pattern once the association of ambivalence with general attitudes was controlled for. Zero-order correlations between ideology and attitudinal ambivalence were very heterogeneous across attitude objects as were the correlations between ideology and the residuals of ambivalence not linked to general attitudes. The results of this research should be interpreted bearing in mind that the need to control for the association of ambivalence with the general attitudes toward the attitude objects (due to the association of ideology with the general attitudes) set the bar for the tests of potential ideology-ambivalence relations relatively high.

**Operationalizing Ideology**

Following prior research on the association of ideology with attitudinal ambivalence (Krochik et al., 2007; Newman & Sargent, 2020; Sargent & Newman, 2020) the present research focused on left-right self-placements as a measure of ideological orientation. However, strong arguments in favor of differentiating between social and economic ideological orientations have been brought forward in the literature stressing that these two ideology dimensions often differ in their psychological correlates (Costello et al., 2021; Duckitt & Sibley, 2010; Federico & Malka, 2018; Feldman & Johnston, 2014; Jedinger & Burger, 2021; Malka et al., 2014; Malka & Soto, 2015). Since the surveys used in Studies 1 and 3 of the present research included items that can be used as proxies for the respondents’ social and economic ideological orientation, it is possible to explore whether the pattern of results differs when these ideology dimensions rather than the left-rights self-placements are used as predictors (see Online Appendix, for detailed results). A look at bivariate correlations reveals that in the data of Study 1 social ideology is correlated significantly more strongly with attitudinal ambivalence toward political candidates than economic ideology. The correlation of left-right self-placements with ambivalence is weaker than the correlation of social ideology with ambivalence and stronger than the correlation of economic ideology with ambivalence. Two-lines tests show that ambivalence is weaker at the extremes of both social and economic ideology than at moderate levels and that this pattern remains statistically significant when the association of ambivalence with general attitudes toward the candidates is controlled. In the data of Study 3, there is no clear pattern indicating that social ideology is correlated more strongly with attitudinal ambivalence compared to economic ideology (for several parties, it is the opposite) or compared to left-right self-placements. Again, two-lines tests show that ambivalence is weaker at the extremes of both social and economic ideology than at moderate levels. For some parties, this pattern holds when the association of ambivalence with general attitudes is controlled for, but not for others. Hence, whether or not indicators of social and economic ideology are more or less strongly associated with ambivalence compared to each other or compared to left-right self-placements seems to vary as a function of historical context and/or attitude object. This resonates with the argument that the reliance on different attitude dimensions can vary between as within individuals (Morgan & Wisneski, 2017).

**Interpreting Attitudinal Ambivalence**

A finding of the present research that is worth being highlighted is the negative correlation between political interest and attitudinal ambivalence that has consistently been observed in all three studies. How does this finding relate to the rationale of treating more ambivalent attitudes as an indicator of a more open-minded, less rigid cognitive style and how convincing is this rationale? Given that more politically interested individuals can be expected to assign more personal importance to political attitudes and to elaborate more extensively on political topics, the negative correlation between political interest and ambivalence is consistent with findings showing that more ideologically biased information processing is associated with higher attitude importance (for an overview, see Howe & Krosnick, 2017) as well as with more rather than less cognitive elaboration and sophistication (Kahan, 2013). The assumed association of ambivalence with more open-minded, less biased thinking is supported by empirical findings which indicate that while topic-specific ambivalence can facilitate biased processing of information that topic (e.g., Clark et al., 2008; Nordgren et al., 2006; Rothman et al., 2017; Sawicki et al., 2011, 2013), more general tendencies to experience ambivalence as well as incidental experiences of ambivalence are associated with more balanced and accurate judgment and decision making (Guarana & Hernandez, 2016; Hohnsbehn et al., 2022; Rees et al., 2013; Rothman et al., 2017; Schneider, Novin, et al., 2021).

**Limitations**

As a recent meta-analysis by Costello and colleagues (2021) shows, American samples are overrepresented and demographically representative samples are underrepresented in in research on associations of political ideologies with thinking styles. In the light of these findings, the fact that the present research is based on non-US demographically representative samples constitutes a benefit. However, the exclusive focus on German samples collected in the context of German elections is also a clear limitation of the present research. Future investigations of the ideology-ambivalence link within multiple societies would allow for conclusions regarding the generalizability of findings and potential contextual moderators of the association.

**Conclusions**

While these results do not provide empirical support to the ideological extremity hypothesis regarding the association of ideology with attitudinal ambivalence or to its alternatives (the rigidity-of-the right hypothesis and the elaboration-avoidance hypothesis), they nonetheless allow for several important insights and considerations for future research. One conclusion that can be derived from the present results is that the association of ideological orientations with the ambivalence of political attitudes seems to be highly dependent on the specific political context and the particular attitude object in focus. Hence, political attitude objects do not seem to be well suited to derive general conclusions regarding the association of ideological orientations with attitudinal ambivalence. Yet, investigating predictors of attitudinal ambivalence toward specific politicians, parties, or policy proposals holds the potential to yield very interesting findings and is a promising avenue for future research (for examples, see Federico, 2006; Schneider, Dorrough, et al., 2021). In this respect, it is worth pointing out that the associations of ideology with ambivalence toward different attitude objects reported by XX are also very heterogeneous even though the average association was found to be positive in this study. This suggests that focusing on trait ambivalence (see Hohnsbehn et al., 2022; Schneider et al., 2022; Schneider, Novin, et al., 2021) might be a more promising approach to investigating the general association of ideology with attitudinal ambivalence than assessing state ambivalence toward sets of attitude objects. Another important conclusion that can be derived from this and other research on attitudinal ambivalence is that large survey programs can gain a lot from using measures that allow for assessing the ambivalence of attitudes in addition to global attitude measures.

**References**

Adorno, T., Frenkel-Brenswik, Levinson, D. J., & Sanford, R. N. (1950). *The authoritarian personality*. Verso Books.

Basinger, S. J., & Lavine, H. (2005). Ambivalence, Information, and Electoral Choice. *American Political Science Review*, *99*(2), 169–184. https://doi.org/10.1017/S0003055405051580

Brandt, M. J., Evans, A. M., & Crawford, J. T. (2015). The Unthinking or Confident Extremist? Political Extremists Are More Likely Than Moderates to Reject Experimenter-Generated Anchors. *Psychological Science*, *26*(2), 189–202. https://doi.org/10.1177/0956797614559730

Brandt, M. J., Reyna, C., Chambers, J. R., Crawford, J. T., & Wetherell, G. (2014). The Ideological-Conflict Hypothesis: Intolerance Among Both Liberals and Conservatives. *Current Directions in Psychological Science*, *23*(1), 27–34. https://doi.org/10.1177/0963721413510932

Cacioppo, J. T., Gardner, W. L., & Berntson, G. G. (1997). Beyond Bipolar Conceptualizations and Measures: The Case of Attitudes and Evaluative Space. *Personality and Social Psychology Review*, *1*(1), 3–25. https://doi.org/10.1207/s15327957pspr0101\_2

Camparo, J. C., & Camparo, L. B. (2021). Are political-opinion pollsters missing ambivalence: “I love Trump”… “I hate Trump.” *PLOS ONE*, *16*(3), e0247580. https://doi.org/10.1371/journal.pone.0247580

Cherry, K. M., Hoeven, E. V., Patterson, T. S., & Lumley, M. N. (2021). Defining and measuring “psychological flexibility”: A narrative scoping review of diverse flexibility and rigidity constructs and perspectives. *Clinical Psychology Review*, *84*, 101973. https://doi.org/10.1016/j.cpr.2021.101973

Clark, J. K., Wegener, D. T., & Fabrigar, L. R. (2008). Attitudinal Ambivalence and Message-Based Persuasion: Motivated Processing of Proattitudinal Information and Avoidance of Counterattitudinal Information. *Personality and Social Psychology Bulletin*, *34*(4), 565–577. https://doi.org/10.1177/0146167207312527

Conner, M., & Sparks, P. (2002). Ambivalence and Attitudes. *European Review of Social Psychology*, *12*(1), 37–70. https://doi.org/10.1080/14792772143000012

Conway, L. G., Houck, S. C., Gornick, L. J., & Repke, M. A. (2018). Finding the Loch Ness Monster: Left-Wing Authoritarianism in the United States: Left-Wing Authoritarianism in the United States. *Political Psychology*, *39*(5), 1049–1067. https://doi.org/10.1111/pops.12470

Costello, T. H., Bowes, S., Baldwin, M., Malka, A., & Tasimi, A. (2021). *Revisiting the rigidity-of-the-right hypothesis: A meta-analytic review* [Preprint]. PsyArXiv. https://doi.org/10.31234/osf.io/kq4mn

Costello, T. H., & Bowes, S. M. (2022). Absolute Certainty and Political Ideology: A Systematic Test of Curvilinearity. *Social Psychological and Personality Science*, 194855062110704. https://doi.org/10.1177/19485506211070410

Craig, S. C., Martinez, M. D., Kane, J. G., & Gainous, J. (2005). Core Values, Value Conflict, and Citizens’ Ambivalence about Gay Rights. *Political Research Quarterly*, *58*(1), 5–17. https://doi.org/10.1177/106591290505800101

Duckitt, J., & Sibley, C. G. (2010). Personality, Ideology, Prejudice, and Politics: A Dual-Process Motivational Model. *Journal of Personality*, *78*(6), 1861–1894. https://doi.org/10.1111/j.1467-6494.2010.00672.x

Eagly, A. H., & Chaiken, S. (1993). *The psychology of attitudes*. Hartcourt Brace Janovich College Publishers.

Federico, C. M. (2006). Ideology and the Affective Structure of Whites’ Racial Perceptions. *Public Opinion Quarterly*, *70*(3), 327–353. https://doi.org/10.1093/poq/nfl001

Federico, C. M., & Malka, A. (2018). The Contingent, Contextual Nature of the Relationship Between Needs for Security and Certainty and Political Preferences: Evidence and Implications: Contingent Political Implications of Needs for Security and Certainty. *Political Psychology*, *39*, 3–48. https://doi.org/10.1111/pops.12477

Feldman, S., & Johnston, C. (2014). Understanding the Determinants of Political Ideology: Implications of Structural Complexity: Understanding Political Ideology. *Political Psychology*, *35*(3), 337–358. https://doi.org/10.1111/pops.12055

Fernbach, P. M., Rogers, T., Fox, C. R., & Sloman, S. A. (2013). Political Extremism Is Supported by an Illusion of Understanding. *Psychological Science*, *24*(6), 939–946. https://doi.org/10.1177/0956797612464058

GLES. (2016). *Short-term Campaign Panel 2013 (GLES)* (3.2.0) [Data set]. GESIS Data Archive. https://doi.org/10.4232/1.12561

GLES. (2019). *Short-term Campaign Panel (GLES 2017)* (7.0.0) [Data set]. GESIS Data Archive. https://doi.org/10.4232/1.13323

GLES. (2022). *GLES Rolling Cross-Section 2021GLES Rolling Cross-Section 2021* (2.0.0) [Data set]. GESIS. https://doi.org/10.4232/1.13876

Greenberg, J., & Jonas, E. (2003). Psychological motives and political orientation--The left, the right, and the rigid: Comment on Jost et al. (2003). *Psychological Bulletin*, *129*(3), 376–382. https://doi.org/10.1037/0033-2909.129.3.376

Greene, S. (2005). The Structure of Partisan Attitudes: Reexamining Partisan Dimensionality and Ambivalence. *Political Psychology*, *26*(5), 809–822. https://doi.org/10.1111/j.1467-9221.2005.00445.x

Groenendyk, E. (2016). The Anxious and Ambivalent Partisan: The Effect of Incidental Anxiety on Partisan Motivated Recall and Ambivalence. *Public Opinion Quarterly*, *80*(2), 460–479. https://doi.org/10.1093/poq/nfv083

Guarana, C. L., & Hernandez, M. (2016). Identified ambivalence: When cognitive conflicts can help individuals overcome cognitive traps. *Journal of Applied Psychology*, *101*(7), 1013–1029. https://doi.org/10.1037/apl0000105

Haddock, G., & Maio, G. R. (2019). Inter-individual differences in attitude content: Cognition, affect, and attitudes. In *Advances in Experimental Social Psychology* (Vol. 59, pp. 53–102). Elsevier. https://doi.org/10.1016/bs.aesp.2018.10.002

Harris, E. A., & Van Bavel, J. J. (2021). Preregistered Replication of “Feeling Superior Is a Bipartisan Issue: Extremity (Not Direction) of Political Views Predicts Perceived Belief Superiority.” *Psychological Science*, *32*(3), 451–458. https://doi.org/10.1177/0956797620968792

Hibbing, J. R., Smith, K. B., & Alford, J. R. (2014). Differences in negativity bias underlie variations in political ideology. *Behavioral and Brain Sciences*, *37*(3), 297–307. https://doi.org/10.1017/S0140525X13001192

Hohnsbehn, J.-M., Urschler, D. F., & Schneider, I. K. (2022). Torn but balanced: Trait ambivalence is negatively related to confirmation. *Personality and Individual Differences*, *196*, 111736. https://doi.org/10.1016/j.paid.2022.111736

Howe, L. C., & Krosnick, J. A. (2017). Attitude Strength. *Annual Review of Psychology*, *68*(1), 327–351. https://doi.org/10.1146/annurev-psych-122414-033600

Jedinger, A., & Burger, A. M. (2021). Do Smarter People Have More Conservative Economic Attitudes? Assessing the Relationship Between Cognitive Ability and Economic Ideology. *Personality and Social Psychology Bulletin*, 014616722110468. https://doi.org/10.1177/01461672211046808

Jonas, K., Broemer, P., & Diehl, M. (2000). Attitudinal Ambivalence. *European Review of Social Psychology*, *11*(1), 35–74. https://doi.org/10.1080/14792779943000125

Jost, J. T. (2017). Ideological Asymmetries and the Essence of Political Psychology: Presidential Address. *Political Psychology*, *38*(2), 167–208. https://doi.org/10.1111/pops.12407

Jost, J. T., Federico, C. M., & Napier, J. L. (2009). Political Ideology: Its Structure, Functions, and Elective Affinities. *Annual Review of Psychology*, *60*(1), 307–337. https://doi.org/10.1146/annurev.psych.60.110707.163600

Jost, J. T., Glaser, J., Kruglanski, A. W., & Sulloway, F. J. (2003). Political conservatism as motivated social cognition. *Psychological Bulletin*, *129*(3), 339–375. https://doi.org/10.1037/0033-2909.129.3.339

Jost, J. T., & Krochik, M. (2014). Ideological Differences in Epistemic Motivation: Implications for Attitude Structure, Depth of Information Processing, Susceptibility to Persuasion, and Stereotyping. In *Advances in Motivation Science* (Vol. 1, pp. 181–231). Elsevier. https://doi.org/10.1016/bs.adms.2014.08.005

Kahan, D. M. (2013). Ideology, motivated reasoning, and cognitive reflection. *Judgment and Decision Making*, *8*(4), 407–424.

Keele, L., & Wolak, J. (2006). Value Conflict and Volatility in Party Identification. *British Journal of Political Science*, *36*(4), 671–690. https://doi.org/10.1017/S0007123406000354

Keele, L., & Wolak, J. (2008). Contextual Sources of Ambivalence. *Political Psychology*, *29*(5), 653–673. https://doi.org/10.1111/j.1467-9221.2008.00659.x

Krochik, M., Jost, J. T., & Nosek, B. A. (2007). *Ideology informs structure: Social and moti- vational inﬂuences on the attitudinal strength of liberals and conservatives.* Annual Meeting of the International Society of Political Psychology, Portland, Oregon.

Lammers, J., Koch, A., Conway, P., & Brandt, M. J. (2017). The Political Domain Appears Simpler to the Politically Extreme Than to Political Moderates. *Social Psychological and Personality Science*, *8*(6), 612–622. https://doi.org/10.1177/1948550616678456

Lavine, H. (2001). The Electoral Consequences of Ambivalence toward Presidential Candidates. *American Journal of Political Science*, *45*(4), 915. https://doi.org/10.2307/2669332

Lavine, H., Johnston, C. D., & Steenbergen, M. R. (2012). *The ambivalent partisan: How critical loyalty promotes democracy*. Oxford University Press.

Locke, K. D., & Braun, C. C. (2009). Ambivalence versus Valence: Analyzing the Effects of Opposing Attitudes. *Social Cognition*, *27*(1), 89–104. https://doi.org/10.1521/soco.2009.27.1.89

Malka, A., & Soto, C. J. (2015). Rigidity of the Economic Right? Menu-Independent and Menu-Dependent Influences of Psychological Dispositions on Political Attitudes. *Current Directions in Psychological Science*, *24*(2), 137–142. https://doi.org/10.1177/0963721414556340

Malka, A., Soto, C. J., Inzlicht, M., & Lelkes, Y. (2014). Do needs for security and certainty predict cultural and economic conservatism? A cross-national analysis. *Journal of Personality and Social Psychology*, *106*(6), 1031–1051. https://doi.org/10.1037/a0036170

McGraw, K. M., Hasecke, E., & Conger, K. (2003). Ambivalence, Uncertainty, and Processes of Candidate Evaluation. *Political Psychology*, *24*(3), 421–448. https://doi.org/10.1111/0162-895X.00335

Morgan, G. S., & Wisneski, D. C. (2017). The Structure of Political Ideology Varies Between and Within People: Implications for Theories About Ideology’s Causes. *Social Cognition*, *35*(4), 395–414. https://doi.org/10.1521/soco.2017.35.4.395

Mulligan, K. (2011). Partisan Ambivalence, Split-Ticket Voting, and Divided Government: Partisan Ambivalence. *Political Psychology*, *32*(3), 505–530. https://doi.org/10.1111/j.1467-9221.2011.00830.x

Newby-Clark, I. R., McGregor, I., & Zanna, M. P. (2002). Thinking and caring about cognitive inconsistency: When and for whom does attitudinal ambivalence feel uncomfortable? *Journal of Personality and Social Psychology*, *82*(2), 157–166. https://doi.org/10.1037/0022-3514.82.2.157

Newman, L. S., & Sargent, R. H. (2020). Liberals Report Lower Levels of Attitudinal Ambivalence Than Conservatives. *Social Psychological and Personality Science*, 194855062093979. https://doi.org/10.1177/1948550620939798

Nordgren, L. F., van Harreveld, F., & van der Pligt, J. (2006). Ambivalence, discomfort, and motivated information processing. *Journal of Experimental Social Psychology*, *42*(2), 252–258. https://doi.org/10.1016/j.jesp.2005.04.004

Poteat, V. P., & Mereish, E. H. (2012). (Dis)similarity Between Liberals and Conservatives: Predicting Variability in Group Differences on Abortion and Same-Sex Marriage Rights Attitudes. *Basic and Applied Social Psychology*, *34*(1), 56–65. https://doi.org/10.1080/01973533.2011.637852

Rees, L., Rothman, N. B., Lehavy, R., & Sanchez-Burks, J. (2013). The ambivalent mind can be a wise mind: Emotional ambivalence increases judgment accuracy. *Journal of Experimental Social Psychology*, *49*(3), 360–367. https://doi.org/10.1016/j.jesp.2012.12.017

Robison, J. (2021). What’s the Value of Partisan Loyalty? Partisan Ambivalence, Motivated Reasoning, and Correct Voting in U.S. Presidential Elections. *Political Psychology*, *42*(6), 977–993. https://doi.org/10.1111/pops.12729

Rollwage, M., Dolan, R. J., & Fleming, S. M. (2018). Metacognitive Failure as a Feature of Those Holding Radical Beliefs. *Current Biology*, *28*(24), 4014-4021.e8. https://doi.org/10.1016/j.cub.2018.10.053

Rosenberg, M. J., & Hovland, C. I. (1960). Cognitive, Affective, and Behavioral Components of Attitudes. In M. J. Rosenberg, C. I. Hovland, W. J. McGuire, R. P. Abelson, & J. W. Brehm (Eds.), *Attitude Organization and Change: An Analysis of Consistency among Attitude Component* (pp. 1–14). Yale University Press.

Rothman, N. B., Pratt, M. G., Rees, L., & Vogus, T. J. (2017). Understanding the Dual Nature of Ambivalence: Why and When Ambivalence Leads to Good and Bad Outcomes. *Academy of Management Annals*, *11*(1), 33–72. https://doi.org/10.5465/annals.2014.0066

Rudolph, T. J. (2011). The Dynamics of Ambivalence. *American Journal of Political Science*, *55*(3), 561–573. https://doi.org/10.1111/j.1540-5907.2010.00505.x

Rudolph, T. J., & Popp, E. (2007). An Information Processing Theory of Ambivalence. *Political Psychology*, *28*(5), 563–585. https://doi.org/10.1111/j.1467-9221.2007.00590.x

Sargent, R. H., & Newman, L. S. (2020). Conservatism and attitudinal ambivalence: Investigating conflicting findings. *Personality and Individual Differences*, 109996. https://doi.org/10.1016/j.paid.2020.109996

Sawicki, V., Wegener, D. T., Clark, J. K., Fabrigar, L. R., Smith, S. M., & Bengal, S. T. (2011). Seeking Confirmation in Times of Doubt: Selective Exposure and the Motivational Strength of Weak Attitudes. *Social Psychological and Personality Science*, *2*(5), 540–546. https://doi.org/10.1177/1948550611400212

Sawicki, V., Wegener, D. T., Clark, J. K., Fabrigar, L. R., Smith, S. M., & Durso, G. R. O. (2013). Feeling Conflicted and Seeking Information: When Ambivalence Enhances and Diminishes Selective Exposure to Attitude-Consistent Information. *Personality and Social Psychology Bulletin*, *39*(6), 735–747. https://doi.org/10.1177/0146167213481388

Schneider, I. K., Dorrough, A. R., & Frank, C. (2021). Ambivalence and Self-Reported Adherence to Recommendations to Reduce the Spread of COVID-19. *Social Psychology*, *52*(6), 362–374. https://doi.org/10.1027/1864-9335/a000465

Schneider, I. K., Novin, S., Harreveld, F., & Genschow, O. (2021). Benefits of being ambivalent: The relationship between trait ambivalence and attribution biases. *British Journal of Social Psychology*, *60*(2), 570–586. https://doi.org/10.1111/bjso.12417

Schneider, I. K., Novin, S., & van Harreveld, F. (2022). *The Ambivalent Individual: Validation Studies for the Trait Ambivalence Scale* [Preprint]. Open Science Framework. https://doi.org/10.31219/osf.io/4cbex

Schneider, I. K., & Schwarz, N. (2017). Mixed feelings: The case of ambivalence. *Current Opinion in Behavioral Sciences*, *15*, 39–45. https://doi.org/10.1016/j.cobeha.2017.05.012

Simonsohn, U. (2018). Two Lines: A Valid Alternative to the Invalid Testing of U-Shaped Relationships With Quadratic Regressions. *Advances in Methods and Practices in Psychological Science*, *1*(4), 538–555. https://doi.org/10.1177/2515245918805755

Tetlock, P. E. (1983). Cognitive style and political ideology. *Journal of Personality and Social Psychology*, *45*(1), 118–126. https://doi.org/10.1037/0022-3514.45.1.118

Thompson, M. M., Zanna, M. P., & Griffin, D. W. (1995). Let’s not be indifferent about (attitudinal) ambivalence. In R. E. Petty & J. A. Krosnick (Eds.), *Attitude strength: Antecedents and consequences* (pp. 361–386). Lawrence Erlbaum Associates, Inc.

Toner, K., Leary, M. R., Asher, M. W., & Jongman-Sereno, K. P. (2013). Feeling Superior Is a Bipartisan Issue: Extremity (Not Direction) of Political Views Predicts Perceived Belief Superiority. *Psychological Science*, *24*(12), 2454–2462. https://doi.org/10.1177/0956797613494848

van Harreveld, F., Nohlen, H. U., & Schneider, I. K. (2015). The ABC of Ambivalence. In *Advances in Experimental Social Psychology* (Vol. 52, pp. 285–324). Elsevier. https://doi.org/10.1016/bs.aesp.2015.01.002

Van Hiel, A., Onraet, E., & De Pauw, S. (2010). The Relationship Between Social-Cultural Attitudes and Behavioral Measures of Cognitive Style: A Meta-Analytic Integration of Studies: Social-Cultural Attitudes and Cognitive Style. *Journal of Personality*, *78*(6), 1765–1800. https://doi.org/10.1111/j.1467-6494.2010.00669.x

van Prooijen, J.-W., & Krouwel, A. P. M. (2019). Psychological Features of Extreme Political Ideologies. *Current Directions in Psychological Science*, *28*(2), 159–163. https://doi.org/10.1177/0963721418817755

Zmigrod, L. (2020). The role of cognitive rigidity in political ideologies: Theory, evidence, and future directions. *Current Opinion in Behavioral Sciences*, *34*, 34–39. https://doi.org/10.1016/j.cobeha.2019.10.016

Zmigrod, L., Rentfrow, P. J., & Robbins, T. W. (2020). The partisan mind: Is extreme political partisanship related to cognitive inflexibility? *Journal of Experimental Psychology: General*, *149*(3), 407–418. https://doi.org/10.1037/xge0000661

1. A related but distinct concept in Political Psychology is *partisan ambivalence*, which is used to refer to the extent to which evaluative reactions toward two alternative parties or candidates are (in-)consistent (e.g., Basinger & Lavine, 2005; Mulligan, 2011; Rudolph & Popp, 2007) or to characterize individuals with evaluative reactions at odds with their party identification (e.g., Groenendyk, 2016; Lavine et al., 2012; Robison, 2021). The present research focuses on attitudinal ambivalence in the sense of simultaneous strong positive and strong negative evaluative reactions toward the same attitude object. [↑](#footnote-ref-1)