

Valence Attacks Harm the Electoral Performance of the Left but not the Right

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Abstract

In elections, parties attack each other's non-ideological traits such as competence and integrity. However, it is unclear to what extent, if any, valence attacks reduce voter support for the target party. Drawing from theories on left-right personality and associated cognitive flexibility, we argue that valence attacks harm the electoral performance of leftist but not rightist parties. The relative openness of leftist voters makes them more willing to accept negative information about their party and act upon it. In contrast, the relative closedness of rightist voters makes them less likely to reconsider their political preferences in the face of negative information. We find robust evidence for our argument at the aggregate and individual levels using original data on media coverage of party campaigns in 10 European countries. We also provide experimental evidence in support of our argument. The findings have important implications for research on non-ideological rhetoric in party competition.

Keywords: valence attack, vote loyalty, personality, left-right differences

Attacks on political rivals are regular parts of election campaigns. These attacks are often statements about “valence,” i.e., a rival party’s non-ideological traits such as competence, integrity, and unity. For example, during the 2015 U.K. national election campaign, the Conservative Party leader David Cameron warned that his rival, the Labour leader Ed Miliband was a “very dangerous man” who was “using a ‘con trick’ to get into Downing Street.”¹ Miliband, in return, questioned Cameron’s integrity by saying that the Prime Minister “is demeaning himself and his office.”² During the 2017 German elections, the SPD leader Martin Schultz attacked Chancellor Angela Merkel’s competence by stating that her campaign rests on red carpet appearances and is empty of policy.³ In the 2017 Dutch elections, Prime Minister Rutte and Freedom Party leader Geert Wilders “questioned each others’ integrity and credibility” on national TV.⁴ During the 2017 French presidential elections, the top two candidates did the same, with Macron accusing Le Pen of “promoting hatred” and Le Pen labeling Macron as the “candidate of the oligarchy.”⁵

Considering the important role that non-ideological characteristics play in determining voter preferences (e.g., Abney et al. 2011; Butler and Powell 2014; Clark 2009; Stokes 1992), it makes sense that parties try to shape each other’s valence negatively. However, do such “valence attacks” actually work? Do they have the intended effect of harming the electoral

¹BT. 2015. “David Cameron: Ed Miliband is using a ‘con trick’ to get into Downing Street.” May 5. <https://tinyurl.com/ya53mq7q>

²Wintour, Patrick. 2015. “Cameron is demeaning himself and his office by talking up SNP, says Miliband.” *The Guardian*. April 21. <https://tinyurl.com/ydcol93h>

³Handelsblatt. 2017. “Schultz kritiziert Merkel.” June 13. <https://tinyurl.com/ycaqxyqo>

⁴Daily Mail. 2017. “Geert Wilders clashes with Dutch PM Rutte in TV debate.” March 13. <https://tinyurl.com/ya2adamx>

⁵Irish, John. 2017. “Macron, Le Pen trade accusations in French election race.” *Reuters*. April 25. <https://tinyurl.com/y7lr653u>

performance of the target party?

Prior work provides no clear answer because, despite the prevalence of valence attacks, their effectiveness has not received much scholarly attention. To be sure, a growing literature, mostly in the American context, has explored the causes and the consequences of negative campaigning more generally, regardless of whether it is valence related (Banda and Windett 2016; Fridkin and Kenney 2011; Krupnikov 2011; Walter, van der Brug and van Praag 2014).⁶ Yet, the results are mixed (Lau, Sigelman and Rovner 2007), comparative work on this topic is rare, and few studies have paid attention to valence attacks specifically. A separate research agenda has focused on party valence: how it relates to ideology and affects the vote (Abney et al. 2011; Clark and Leiter 2014; Stone and Simas 2010; Zakharova and Warwick 2014). However, these studies have paid little attention to the role that party rhetoric plays in shaping valence (but see Curini and Martelli 2010; 2013), and have also not explored whether valence attacks do electoral damage to their targets.

We focus on the consequences of valence attacks and argue that their impact depends on how supporters of the target party process new information. Specifically, we build on the theory of left-right personality and associated cognitive flexibility to argue that valence attacks harm the electoral performance of leftist but not rightist parties. Prior work (see, for example, Bakker, Hopmann and Persson 2015; McCrae 1996; Tetlock 1983; Vecchione et al. 2011) strongly associate leftist ideology and partisanship with psychological traits best summarized by “open-mindedness,” i.e., openness to new ideas, curiosity, willingness to re-evaluate one’s beliefs, lack of dogmatism. Right-wing voters, on the other hand, are associated with opposite traits: closed-mindedness, preference for familiarity and certainty, need for cognitive closure, and resistance to considering new ideas. We argue that the open-mindedness of leftist voters makes them more receptive to valence attacks. They are more likely to consider and accept new information even if it contradicts their prior beliefs, which

⁶See Lau and Rovner (2009) for a review.

in turn leads to higher willingness to reconsider their political allegiances. In comparison, we argue that the closed-mindedness of rightist voters means that they are more likely to dismiss new information and therefore also less likely to reconsider their political preferences even in response to negative valence statements by rival parties.⁷

We find support for our argument using novel data on media coverage of election campaigns of 78 parties in 21 elections across 10 European countries. The data allow us to create a unique measure of the amount of valence attacks each party received during an election. We conduct both party-level and voter-level analyses and show robust evidence that (1) an increase in valence attacks reduces support for leftist but not for rightist parties, and (2) compared to rightist voters, their leftist counterparts are more likely to stop supporting their party in response to valence attacks. Furthermore, the results are corroborated in a tightly controlled experiment that we conducted in the U.K. for better causal identification.

Our paper makes several contributions. First, it advances the emerging research agenda on valence in the comparative party literature (Abney et al. 2011; Clark and Leiter 2014; Green and Jennings 2012; Stone and Simas 2010; Zakharova and Warwick 2014) by investigating the important but overlooked role of strategic valence framing by rivals. Second, our paper provides a potential explanation for the mixed evidence on the effect of negative campaigning on election results (Lau, Sigelman and Rovner 2007). We suggest that the puzzle could in part be explained by differences in the psychological traits of voters, which affects how they process (negative) campaign messages. Third, our results have interesting implications for the study of partisan motivated reasoning, which has become a burgeoning research topic (Bisgaard 2015; Rogowski 2016; Slothuus and de Vreese 2010). By highlighting

⁷Note that this argument is more general in nature and potentially applicable beyond valence attacks to any type of information (e.g., policy-related) about one’s party. We are here specifically interested in the consequences of valence attacks and leave other applications of this argument for future work.

the importance of left-right personality in openness to new information, our results suggest that leftists and rightists may engage in partisan motivated reasoning to a different degree. We elaborate on these points in the concluding section.

Theory: Valence Attacks and Electoral Performance

What are the electoral consequences of valence attacks? Should we expect parties to lose votes when their rivals spread negative information about their valence? Prior work on the consequences of negative campaigning present a mixed record (Lau, Sigelman and Rovner 2007). If anything, it seems that negative campaigning has limited effect on voters' impressions of parties and candidates (Fridkin and Kenney 2011). Such null effect is consistent with the argument that people do not pay much attention to politics (Zaller 1992), and even when they do, they are not easily swayed (Kinder 2003). Recent work on partisan motivated reasoning further suggest that when voters receive negative information about the party with which they identify, they respond by disregarding or actively counterarguing that information (Bisgaard 2015; Bolsen, Druckman and Cook 2014; Redlawsk 2002; Rogowski 2016; Taber and Lodge 2006). Partisan motivated reasoning is a particular case of motivated reasoning, which refers to the biased and selective processing of information that people engage in to reach at a desired conclusion when they encounter information incongruent with their existing preferences (Kunda 1990). Taken together, these arguments would lead us to expect that valence attacks will not have any harmful electoral consequences on the target party. While attacking the valence of rivals might help the focal party mobilize its own supporters or potentially win over undecided voters, these attacks should not demobilize or convert voters leaning toward the target party.

However, these arguments presume that all voters uniformly process and respond to information that challenges their prior beliefs and preferences. This is unlikely to be the case. Rather, drawing on the literature about personality traits and politics (see Gerber

et al. 2011 for a review), we reason that systematic differences in personality traits across individuals make them more or less receptive to new information. Importantly, these traits are strongly linked to people’s left-right partisan affinities, leading to different receptivity to new and counter-attitudinal information across leftist and rightist individuals. We will elaborate on each part of this argument in turn.

Personality and new information

We argue that the extent to which voters are going to be persuaded by valence attack depends on how open or closed they are to changing their preferences and beliefs. We refer to this psychological predisposition as cognitive openness and closedness, which are concepts well studied in psychology. Political scientists are most familiar with openness and closedness through the Big Five framework, where “openness to experience” represents one of the five core personality traits (Gerber et al. 2011). These core traits remain largely stable throughout our lifetime and serve as building blocks of the human psyche (McCrae and Costa 2008). Scholars have shown that the five traits are applicable not only in the U.S., but also in different cultures and countries around the world (Schmitt et al. 2007).

According to Schultz and Searleman (2002, 172), “Openness is a broad and general dimension that includes preference for novelty, cognitive complexity, and flexibility. In contrast, closedness is manifested in a preference for familiarity, simplicity, and closure.” Openness refers to how flexible and multifaceted one is psychologically and experientially. Open-minded individuals are curious, willing to try new activities, consider new ideas, and re-evaluate their beliefs, whereas people who are low on this scale (and high on closedness) tend to value traditions, prefer familiarity, and be reserved, resistant, and afraid of change (Bakker, Hopmann and Persson 2015; Costa and McCrae 1992; McCrae 1996).

As a core construct of the human mind, it is likely that openness conditions the extent to which one accepts or dismisses information received through valence attacks. As is clear from the above definition, openness and closedness indicate psychological rigidity (Schultz

and Searleman 2002), i.e., willingness to entertain and accept new ideas and change one's opinion. Indeed, prior work show that persons high on openness are more influenced by political information and easier to persuade (Bakker et al. 2016; Gerber et al. 2013; Hibbing, Ritchie and Anderson 2011). For example, Gerber et al. (2013) show that open-minded individuals are more receptive to get-out-the-vote messages, independent of the message content. Such individuals are more receptive to counter-attitudinal information and also more likely to use new information in general before making a decision (Nisbet et al. 2013), and because they are willing to reconsider earlier held ideas, open-minded individuals are also more likely to change their party identification (Bakker, Hopmann and Persson 2015). In contrast, Webster and Kruglanski (1994) show that closed-minded individuals, i.e., those in need of cognitive closure, resist persuasion (see also Driscoll, Hamilton and Sorrentino 1991). They are more likely to “freeze” their opinions instead (McCrae 1996) by discounting new information and insisting on remaining consistent with their prior attitudes (Kruglanski 2004). This is in line with studies showing that closedness is related to dogmatism (Mondak and Halperin 2008), i.e., tendency to ignore, downplay, or selectively shut out information that is inconsistent with an individual's prior beliefs (Davies 1993; Rokeach 1960).

Applying these general arguments about how personality affects the processing of new information to the specific case of valence attacks suggests that open-minded voters might be more receptive to such attacks against their party. Because of their psychological predisposition, which makes them more tolerant of new ideas even when these ideas contradict their prior beliefs, open-minded voters are more likely to seriously consider the information provided as part of these attacks. They are also more likely to be persuaded by valence attacks because they are not dogmatic about their political preferences and allegiances but are willing to revise and update these in light of new information. On the other hand, closed-minded voters are less likely to be receptive to valence attacks against their party because taking the information provided in these attacks seriously and changing their political preferences in response is something they are psychologically predisposed not to do. Instead,

closed-minded voters are more likely to disregard the attacks to secure their existing beliefs and maintain order and consistency in their partisan preferences.

Left-right differences in personality and vote loyalty

Interestingly, previous research shows that personality is systematically correlated with political ideology—there is robust evidence that leftists and rightists hold different kinds of personalities. The clearest pattern that has emerged so far is that people who are more open and flexible tend to be leftist while those who are more resistant to change and have a stronger preference for order tend to be rightist (Bakker, Hopmann and Persson 2015; McCrae 1996; Tetlock 1983; Vecchione et al. 2011). As McCrae (1996, 325) explains, “open individuals have an affinity for liberal, progressive, left-wing political views, whereas closed individuals prefer conservative, traditional, right-wing views.” This relationship between personality and political ideology is so strong that some studies describe rightists (leftists) by applying the descriptions of closedness (openness) to them directly. For example, McCrae (1996, 328) directly equates openness with liberalism by stating “open individuals – that is, liberals.” Other studies show that rightists possess the traits of closed individuals by being more rigid in their beliefs (Schultz and Searleman 2002), more tough-minded and dogmatic, and less likely to change their political views (see Pliskin et al. 2014 for a review). Right-wingers are also more likely to freeze their beliefs and support the status quo (Jost, Federico and Napier 2009).

Openness/closedness is strongly associated with not only ideology but also partisanship: openness predicts support for left-wing while closedness for right-wing parties (see Bakker, Hopmann and Persson 2015 for a review). Furthermore, the relationship between openness and political preferences is strong and robust across cultural contexts (Sibley, Osborne and Duckitt 2012). Openness predicts leftist preferences and closedness rightist in a wide range of countries across the developed world, and has been repeatedly demonstrated in European

samples (see Vecchione et al. 2011)—the region of interest in this study.⁸ Our own analysis confirms this. Specifically, we tested this association cross-nationally using the sixth wave of the World Values Survey (2010-2014), which contained the 10 item Big Five Inventory (BFI-10) (Rammstedt and John 2007). With answers to the battery, we are able to construct measures of the five core personality traits, including openness, and use them to predict voter ideology and partisan preferences. Results show that openness has a strong and significant negative association with rightist ideology and rightist partisan preferences in the global sample of 25 countries where the Big Five battery was administered as well as in the subsample of European countries. The details of these analyses are presented in the Online Appendix section 1 (OA1).

Importantly, we believe that these left-right differences in personality will have aggregate level consequences on party competition because it means that supporters of left-wing parties and those of right-wing parties have systematically different styles of responding to new (and negative) information, updating opinions, and making political choices. In particular, we expect that supporters of left-wing parties, who are as a whole more open-minded, are more likely to be receptive to counter-attitudinal information disseminated as part of valence attacks against their party and more likely to adjust their political preferences in response. That is, they are more likely to abandon or ‘punish’ their party after receiving information

⁸Of the Big Five core personality traits (openness, conscientiousness, extraversion, agreeableness, and emotional stability), openness predicts political preferences most strongly and consistently across contexts (see Gerber et al. 2011; Osborne et al. 2017; Sibley, Osborne and Duckitt 2012; Vecchione et al. 2011; Verhulst, Eaves and Hatemi 2012). Conscientiousness has also been linked to ideology and partisanship (with more conscientious individuals being more right-wing), but the effects are weaker (Verhulst, Eaves and Hatemi 2012) and less robust across contexts (Vecchione et al. 2011). The remaining three traits do not have very clear ideological patterns (Vecchione et al. 2011).

that undermines the party's valence. Deciding to not vote for a party they support in a given election is not an action that is fundamentally in conflict with their psychological predispositions. On the other hand, supporters of right-wing parties, who are less open-minded and more likely to dismiss the counter-attitudinal information provided by valence attacks, are also more likely to stick to their political preferences. Not 'freezing' their opinions and not sticking to their partisan loyalties regardless of any information is a challenge to their deeply rooted predisposition to maintain the status quo.

In sum, insights from research on left-right personality and associated cognitive flexibility lead to interesting expectations about the effect of valence attacks on the behavior of leftist and rightist voters and the electoral performance of the corresponding parties. We argue that leftist voters are more likely than rightist voters to process what rival parties say, update beliefs about their party's valence, and shift electoral support accordingly. On the other hand, rightist voters are more likely to be dismissive of messages from rival parties, resist persuasion, and remain consistent with their prior attitudes and partisan affinities. This difference comes from the fact that leftist voters are more open to experience than rightist voters. Therefore, *we hypothesize that an increase in valence attacks lowers voter support for the target party when that party is left-wing but not when it is right-wing.*⁹

⁹It is worth reiterating that our theoretical argument is more general in nature. That is, if leftist voters are more open-minded than rightist voters, then the personality difference is likely to affect not only the effectiveness of valence attacks, but also voters' response to other kinds of information, such as policy attacks. We leave these other applications of our theoretical argument for future research.

Research Design and Analysis

In order to test our hypothesis, we conduct both observational and experimental analyses. The former uses party-level and voter-level data from Europe to explore the differential effect of valence attacks on party support and electoral results across leftist and rightist voters and parties. The latter includes an original experiment fielded in the U.K. We begin by describing the observational analysis before presenting results from the experimental study.

Study 1: Cross-National Observational Analysis

We use the Comparative Campaign Dynamics Dataset (CCDD) (Debus, Somer-Topcu and Tavits 2016) to test our hypothesis cross-nationally. The CCDD includes, among other things, data on media coverage of parties' statements about themselves and about their rivals. The dataset is based on election-related coverage during one-month campaign period in two major daily newspapers (one left-leaning and one right-leaning) in 10 European countries for a total of 21 elections.¹⁰ The project codes all front page articles as well as a five percent random sample of remaining election-related articles for each newspaper. See Baumann and Gross (2016) for more details on the data collection procedures and descriptive information.

The dataset is useful for our purposes for several reasons. First, it is the only dataset that provides information about what parties say about other parties during their campaigns. To our knowledge, there is no other cross-national data that record party messages in such detail. Second, the dataset identifies whether each statement is about valence or not. Valence-related statements are coded as either policy-specific valence or general valence. In either case, the statements may be about the party's competence/performance, honesty/integrity, and

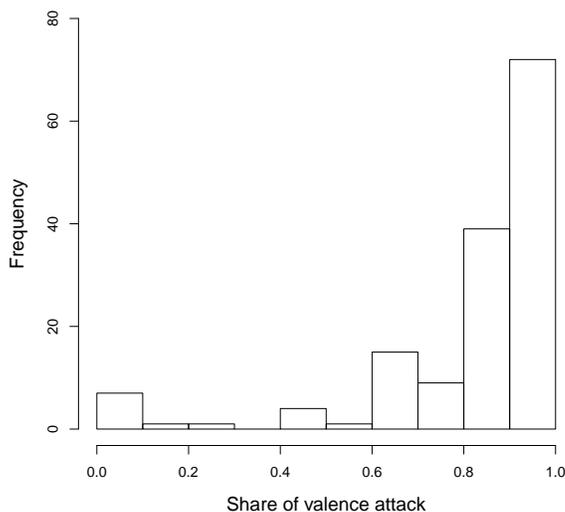
¹⁰Czech Republic 2010, 2013; Denmark 2007, 2011; Germany 2009, 2013; Hungary 2006, 2010; Netherlands 2010, 2012; Poland 2007, 2011; Portugal 2009, 2011; Spain 2008, 2011; Sweden 2010, 2014; United Kingdom 2005, 2010, 2015

unity or the leader’s competence/performance, honesty/integrity/character, and charisma. With that information, we are able to count the total volume of valence statements made by different parties during election campaigns. Third, the dataset records whether the statement a party makes about a competing party is positive, negative, neutral, or contradictory. We are interested in negative statements, which constitute the attacks in our terminology. In sum, the CCDD data allow us to get a representative picture of the extent to which each party’s valence was attacked by rivals in each election. In OA2, we present examples of valence attacks in the CCDD data.

In order to measure our independent variable (*Valence attack*), we divide the number of *negative* valence statements made about a party by the total number of *all* valence-related statements about that party. Weighting the number of negative statements by the number of total statements helps to account for the overall level of visibility and importance of the party. In constructing the measure, we do not incorporate the valence statements that the party made about itself; we are only interested in rhetoric from competing parties. This variable directly reflects the extent to which a party’s valence is being negatively framed by other parties and thereby accurately captures the concept of valence attack. Figure 1 shows the distribution of this variable. The values range from zero to one, with the first quantile of 0.8, the third quantile of 0.99, and the mean of 0.83. The variable is skewed because most valence statements by rivals tend to be negative rather than positive.

With this measure, we test our hypotheses at two levels: the party-level and the individual level. First, at the party level, we are interested in whether valence attacks are more likely to harm the overall electoral performance of leftist than rightist parties. In this analysis, we use change in vote share (Δ *Vote share*) as the dependent variable. Positive values indicate that the party performed better compared to the previous election, and negative values indicate that its support declined. According to our theory, as valence attacks heighten, leftist parties are more likely to suffer electoral loss because their left-leaning supporters are more likely to choose a different party or decide not to vote in response to valence attacks. On the other

Figure 1: Distribution of *Valence attack*



hand, we do not expect heightened valence attack to harm the performance of rightist parties because the partisan preferences of right-leaning voters are less likely to be influenced by those attacks.

Although the party-level analysis is an appropriate way to test our hypothesis, we are assuming that most voters who voted for a leftist (rightist) party in the previous election are actually left-leaning (right-leaning) voters with leftist (rightist) personalities. That is, at the party level, we are assuming that if we see a decline in the electoral performance of a leftist party, the lost votes are the votes of left-leaning voters. Although we believe that this is a reasonable assumption, disaggregating the data and looking at the individual level allows us to directly identify the ideology of each vote switcher and thereby perform a more direct test of voter-level behavior in response to valence attacks against their party. We use post-election survey data for the individual level analysis. Using these data, we identify respondents' vote choices in the current and previous election as well as their political ideology in order to predict whether voters of different ideological profiles are likely to remain loyal to the party that they supported in the previous election as valence attacks against that party increase.

The regressions that we run at the party and individual levels are:

$$\Delta \text{Vote share}_i = \beta_0 + \beta_1 \text{Valence attack}_i + \beta_2 \text{Leftist}_i + \beta_3 \text{Valence attack}_i \times \text{Leftist}_i + \beta_4 \text{Media attention}_i + \epsilon_i \quad (1)$$

$$\text{Vote loyalty}_j = \beta_0 + \beta_1 \text{Valence attack}_i + \beta_2 \text{Leftist}_j + \beta_3 \text{Valence attack}_i \times \text{Leftist}_j + \beta_4 \text{Media attention}_i + \gamma \mathbf{X}_j + \epsilon_j \quad (2)$$

where the interaction coefficient will show us the difference in effects of valence attack for leftists and rightists. We expect the coefficient to be reliably negative ($\beta_3 < 0$). For leftists, we expect valence attack to have a statistically significant negative marginal effect on the dependent variable ($\beta_1 + \beta_3 < 0$). For rightists, we do not expect valence attack to have a statistically significant negative marginal effect. That is, β_1 , the coefficient estimate for *Valence attack*, should not be reliably negative because we do not expect rightist voters to be persuaded by valence attack. In both models, we include a control for the total amount of media coverage a party received during the election campaign. This allows accounting for the prominence of a party, which may affect both the volume of attacks it receives as well as fluctuations in voter support. *Media attention* is calculated using the CCDD by summing up all statements (both policy-related and valence-related) about the party during a given election.¹¹ In the individual level model, \mathbf{X}_j refers to controls for gender, age, income, and education that we include to account for sociodemographic factors that may affect vote loyalty.

¹¹The CCDD gathered data on media coverage of party statements about themselves and their rivals, and journalists' statements about each party. *Media attention* includes statements by all of these actors and represent how prominently a party was featured in the media during a campaign.

Table 1: Effect of Valence Attack on Change in Vote Share

	Model 1	Model 2
Valence attack	4.23 (3.43)	-0.71 (3.24)
Leftist	9.69* (4.86)	0.36* (0.16)
Valence attack \times Leftist	-13.13* (5.56)	-0.49* (0.20)
Media attention	-0.00 (0.00)	-0.00 (0.00)
Intercept	-2.44 (2.82)	1.12 (2.67)
R ²	0.08	0.10
<i>N</i>	108	93
RMSE	5.82	6.02

Note: The dependent variable is Δ Vote share. Table entries are unstandardized linear regression coefficients with standard errors in parentheses. Model 1 uses a binary and Model 2 a continuous measure of party ideology. * $p < 0.05$

Party-Level Results

We present party level results in Table 1. In the first model, we measure the ideology of the party on a binary scale, where social democratic, green, and communist parties are coded as leftist, and nationalist, Christian Democratic, and agrarian parties as rightist. We identified party family based on the Comparative Manifesto Project (CMP) (Volkens et al. 2016). The classification of liberal parties is less straightforward because they tend to be economically rightist but socially leftist. We therefore used the manifesto-based left-right ideology scores to classify these parties as leftist if their overall ideology score (i.e., the CMP ‘rile’ measure) is below zero and rightist otherwise. In the second model, we replace the binary measure of party ideology with the continuous manifesto-based ‘rile’ score for all parties (the direction has been flipped so that greater values indicate more leftist parties).¹²

In Table 1, the interaction coefficients are reliably negative in both models indicating that

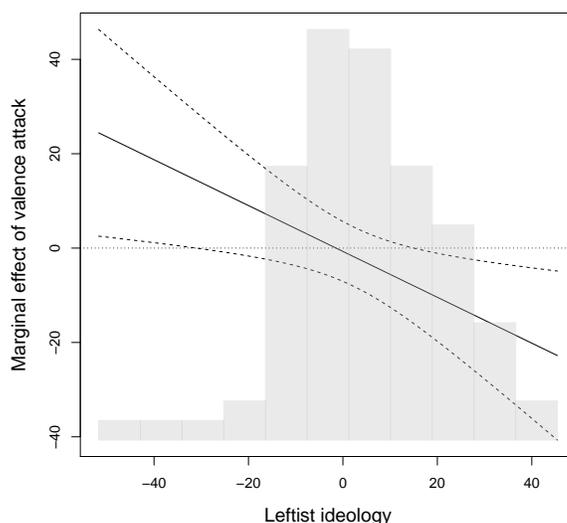
¹²In both models, we exclude special issue and ethno-regional parties, which we believe cannot be clearly placed on the left-right ideological scale in terms of their support base.

the effect of valence attack differs significantly for leftist and rightist parties, as expected. The coefficients for *Valence attack* are not statistically significant in either model. In the first model where we use a binary measure of ideology, this means that valence attacks do not significantly decrease the vote share for rightist parties (i.e., when the variable *Leftist* is ‘0’). In order to get at the electoral effect of valence attack for leftist parties, we calculated the conditional coefficient of *Valence attack* when the variable *Leftist* is ‘1’: $\beta = -8.90$, $SE = 4.57$, $p = 0.05$. This suggests that leftist parties suffer a significant vote loss as a result of being valence attacked.¹³

In order to get a better sense of the electoral effect of valence attacks across the entire ideological spectrum, we used the second model with the continuous measure of ideology, and calculated the marginal effect of *Valence attack* at different values of left-right party ideology as presented in Figure 2. The gray histogram in the background represents the distribution of the continuous *Leftist* variable. We see that the marginal effect of *Valence attack* is reliably negative for leftist parties (scoring 10 or higher on the reversed ‘rile’ score). That is, these parties are likely to suffer a significant vote loss as a result of valence attacks against them. The effect of valence attacks on electoral performance disappears as party ideology becomes more right-wing. Interestingly, for extremely rightist parties (those scoring low on the variable *Leftist*), the marginal effect of valence attack is positive, suggesting that when it comes to the supporters of these more extreme right-wing parties, valence attacks are not simply ineffective but altogether counter-productive because attacks may activate those

¹³Note that the coefficients on *Leftist* are positive and statistically significant in both models. That is, in the absence of valence attack, leftist parties do better electorally. This implies that the negative effect of valence attack on leftist parties’ vote share is substantial since it counteracts their tendency to be rewarded if their valence is not undermined.

Figure 2: Marginal Effect of Valence Attack, Conditional on Ideology



Note: The dependent variable is $\Delta \text{Vote share}$. The solid line indicates the marginal effect of *Valence attack* across values of *Leftist*, based on Model 2 in Table 1. The dotted lines are 95% confidence intervals. The histogram shows the distribution of *Leftist*.

supporters and thereby increase the vote share for the extreme right parties.¹⁴

We find these results to be very robust. The findings hold when we use alternative measures of party ideology, such as the Chapel Hill Expert Survey (CHES) data (Bakker et al. 2015). Moreover, the results persist when we control for previous party vote share instead of *Media attention* to take into account party prominence. Also, the results remain unaltered even when we include special issue and ethno-regional parties and code their ideology from either the CMP or the CHES. The results for these additional analyses are

¹⁴Note that this is consistent with the phenomenon known in the motivated reasoning literature as “backfire effect” (Nyhan and Reifler 2010; see also Chong and Druckman 2007): when engaging in motivated (as opposed to rational) reasoning, some individuals may start to produce counter-arguments in response to information that is incongruent with their pre-existing preferences and strengthen their original political preferences and positions as a result. This, again, points to the need in future studies to take a closer look at the role of left-right personality traits in the process of partisan motivated reasoning.

presented in Tables OA3.1 to OA3.4.

Individual-Level Results

At the individual level, we analyze 14 elections for which post-election survey data are available.¹⁵ Our dataset covers 95 party-elections from 8 countries. In order to measure the outcome variable, we first identify the party each respondent voted for in the previous lower house election. Then, we look at their vote choice in the most recent election to determine whether the voter continued to support his or her previous vote choice or switched to a different party. The variable is labelled *Vote loyalty* and coded ‘1’ if the voter continued to vote for the same party and ‘0’ otherwise.¹⁶

To measure voter ideology, which is the moderating variable, we use respondent’s ideological self-identification. The question that we use from the CSES asks “In politics people

¹⁵The elections are: Czech Republic 2010, 2013; Denmark 2007; Germany 2009, 2013; the Netherlands 2010, 2012; Poland 2007, 2011; Spain 2011; Sweden 2014, the United Kingdom 2005, 2010, 2015. Data sources are the Comparative Study of Electoral Systems (Waves 2-4), the 2010 and 2015 British Election Studies, the 2011 Spanish Election Study, and the 2012 Dutch Election Study.

¹⁶We do not include in the analysis respondents who did not vote in the current election. By looking at whether voters actually switch their vote to a different party (instead of just not turning out), we put a higher bar on what it means to punish a party in response to valence attack. Nonetheless, in Table OA4.3, we show that the results do not change when we include abstentions in our data. When a voter does not turn out, it could indicate decline in support for the party the voter previously voted for. Moreover, including abstentions takes into account that because countries have a different number of parties overall and different numbers of rightist and leftist parties in a given election, voters do not have the same number of alternative options to vote for.

Table 2: Effect of Valence Attack on Vote Loyalty

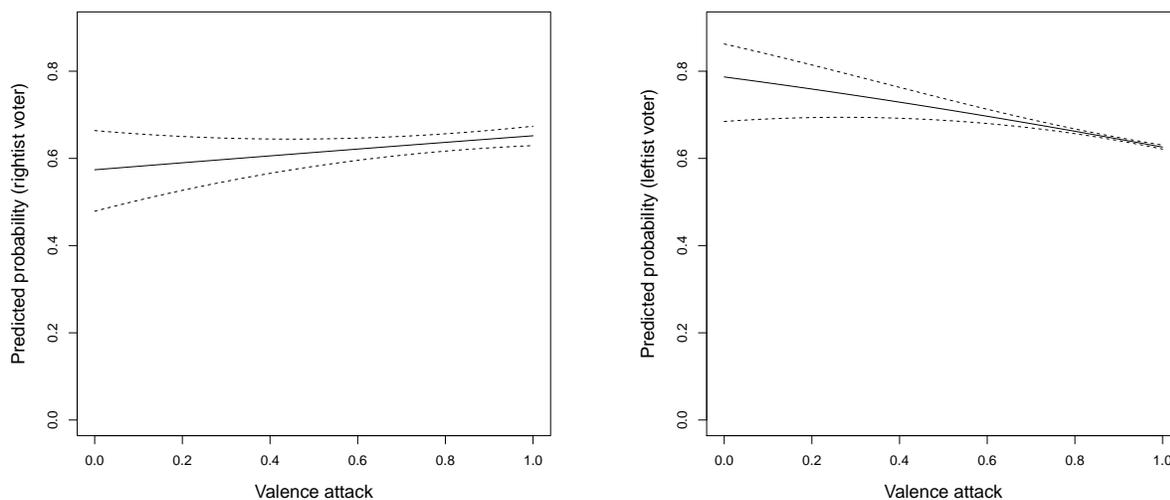
	Model 1
Valence attack	1.17 (0.73)
Leftist	2.52* (1.05)
Valence attack * Leftist	-2.80* (1.34)
Age	0.01 (0.01)
Age ²	0.00 (0.00)
Male	0.07 (0.05)
Income	0.02 (0.16)
Education	-0.10 (0.18)
Media attention	0.00 (0.00)
Intercept	-1.38* (0.64)
<i>N</i>	13978
Likelihood ratio	478.11

Note: The dependent variable is *Vote loyalty*, which is coded ‘1’ when the voter votes for the same party again and ‘0’ otherwise. Table entries are logistic regression coefficients with party-election clustered standard errors in parentheses. * $p < 0.05$

sometimes talk of left and right. Where would you place yourself on a scale from 0 to 10 where 0 means the left and 10 means the right?” Questions from non-CSES election studies are similarly worded. The variable is labelled *Leftist*, and to be consistent with party level models, the direction of the responses has been flipped so that higher values indicate more leftist voters. We also re-scaled this variable to range from zero to one so that the values are comparable across election studies. Among the demographic controls, income and education have been re-scaled in the same manner for the same reason. The measures for *Valence attack* and *Media attention* remain the same as in the party-level models.

Table 2 shows the result of a logistic regression model with clustered standard errors by

Figure 3: Predicted Probability of Vote Loyalty



Note: The dependent variable is *Vote loyalty*, which takes the value of ‘1’ if the voter votes for the same party again and ‘0’ otherwise. The solid lines show predicted probabilities of voting loyally across values of *Valence attack*, based on Table 2. The dotted lines show 95% confidence intervals. All other variables are held at their mean or modal value. The plot on the left is for a right-wing voter (i.e., ideology value of 0.3), and the plot on the right is for a left-wing voter (i.e., ideology value of 0.7).

party-election. The latter are necessary since our main predictor is at the party-election level while the dependent variable is measured at the individual voter level, and clustering allows us to take into account correlated errors among voters of the same party.

The evidence is supportive of our hypothesis. The interaction coefficient is reliably negative, indicating that valence attacks have a significantly different effect on the behavior of leftist and rightist voters.¹⁷ To better understand the substantive significance of the results of the logistic regression model, Figure 3 presents predicted probabilities of vote loyalty. The probabilities are calculated by holding all other variables at their mean or modal value, depending on variable type. The plot on the left shows predicted probabilities for a repre-

¹⁷As we saw in the party level analysis, the coefficient for *Leftist* is reliably positive, suggesting that leftist voters are in fact more likely to reward a party in the absence of valence problems. Again, this implies that the negative effect of valence attack on vote loyalty for leftist voters is substantial since it counteracts their tendency to reward parties for good valence.

sentative rightist voter with an ideology value of 0.3 (the first quartile of the distribution of *Leftist*). The plot on the right shows predicted probabilities for a typical leftist voter with an ideology value of 0.7 (the third quartile of *Leftist*). The plots reveal clearly opposite trends for the two types of voters. For the rightist voter, an increase in *Valence attack* from the first quartile to the third quartile actually increases the predicted probability of vote loyalty by one percentage point. For the leftist voter, the same increase in *Valence attack* from the first quartile to the third quartile *decreases* the predicted probability of vote loyalty by three percentage points. The difference is starker when we consider change in valence attack from its minimum to maximum. For the rightist voter, predicted probability of vote loyalty increases by roughly eight percentage points. For the leftist voter, predicted probability of vote loyalty decreases by about 16 percentage points.

OA4 shows that these results are robust to (a) including previous party vote share as a control instead of *Media attention* to account for party prominence and (b) using a logistic multilevel model with country varying intercepts in order to account for unobserved heterogeneity across countries that could affect vote loyalty, such as overall levels of electoral competitiveness. Moreover, as explained previously, Table OA4.3 shows the result when we code voters who did not turn out as ‘0’ on the dependent variable.

Overall, the results of the observational analyses provide strong support for our hypothesis that valence attacks have a differential effect on the electoral fate of leftist and rightist parties. We have shown that leftist individuals are less likely to remain loyal to their party if that party’s valence is attacked. Rightist voters, to the contrary, continue to support their party despite its valence being questioned by rivals. This is reflected at the party level: leftist parties are likely to suffer a vote loss when their valence is attacked by rivals. Rightist parties’ vote share, on the other hand, remains largely unaffected by such attacks. In short, valence attacks are harmful to the left but not to the right.

Study 2: Experimental Analysis

Although we believe that our observational analysis is well designed and the results provide strong and generalizable support for our argument, observational analysis cannot completely overcome endogeneity problems to firmly establish causality. Study 2 serves to mitigate this concern. Here, we use an experimental design that allows us to exogenously administer individual’s exposure to valence attacks against his or her party. Comparing subjects who were randomly assigned to such treatment condition to those who were not, provides a compelling and straightforward between-subjects design for causally identifying the effect of valence attacks.

We conducted the survey experiment on Labour (leftist) and Conservative (rightist) identifiers in the U.K. We believe the U.K. is a good context for testing our hypothesis. Most importantly, it is largely a two-party system, which provides a hard test of our hypothesis since turning away from one’s party is more consequential to electoral results in this context than it is in multiparty systems. If we find that valence attacks affect voter loyalty in this context, we can be more confident that this relationship holds also in the multi-party systems. Second, the two-party system offers us a clean test of our argument. Most voters support one of the two major parties, and we can clearly identify Labour supporters as leftist and Conservative supporters as rightist.

The experiment was carried out as part of an online survey that we administered through Prolific, a crowdsourcing platform for researchers developed in the U.K. It is similar to Amazon’s Mechanical Turk (MTurk) but overcomes many of the problems that researchers face with MTurk and other similar platforms (Palan and Schitter 2017). For our purposes, Prolific is particularly useful because it allows us to restrict survey respondents based on party identity. Prolific enables this by having participants answer pre-screening questions that researchers request. Participants are incentivized to answer these pre-screening questions because doing so potentially qualifies them for more studies. For our study, Prolific added the question “Which political party do you most identify with?” to their list of pre-screening

question. This allowed us to restrict our survey to the appropriate pool of respondents without having to ask for party identity during the survey, and conduct our experiment on Conservative and Labour identifiers separately.

The survey was administered from September 30 to November 1, 2017 on 600 Conservative and 600 Labour identifiers (total $N = 1,200$) for a reward of \$0.90 to each participant. Our survey started by asking standard demographic questions, which include gender, age, education, and ethnicity. Then, subjects read a hypothetical campaign message from the party they support. The message played up the party's valence by talking about its competence and integrity positively. After reading the message, subjects are randomly assigned to the treatment or control group. The treatment group read a hypothetical campaign message from a rival party that attacked the valence of the subject's party. For Conservative identifiers, the rival party was the Labour Party, and for Labour identifiers, the Conservative Party. The control group did not see the valence attack message. We believe that such design creates an externally valid experimental setting where voters are exposed to competing arguments, rather than just one (Chong and Druckman 2007; Druckman and Lupia 2016). The vignettes were written up so that the messages are realistic to all respondents, regardless of which party they identify with.

The following is the pro-valence message that all respondents received:

Imagine that the [Conservative/Labour] Party is using the following message in its campaign:

“The political options voters face are clear. The choice comes down to competence and integrity. It's the competence of us and our long-term economic and social plans that will secure Britain's future. We pride in doing what is right and good. We are the party of hope and leadership. Our party is united to serve the British people.”

The following is the valence-attack message that the treatment group received:

Now imagine that the [Labour/Conservative] Party is using the message

below in its campaign:

“The [Conservative/Labour] Party does not serve the interests or the values of the British people. It falls short in every aspect of British life—the deficit, growth, living standards, social policies, you name it. The word incompetent doesn’t come close to covering it. The [Conservative/Labour] Party is untrustworthy. Its many policy U-turns reveal how chaotic the organization is. It is the party of the past.”

Randomization and balance tests reported in OA5 indicate that the treatment and control groups are balanced across the pre-treatment sociodemographic variables and the treatment randomization was successful for both Labour and Conservative samples. Moreover, in both experiments, we had a manipulation check question at the very end to see if the attack vignette is in fact perceived as an attack. The question asked “How positive or negative is the tone of the message below?” The answer options are very positive, somewhat positive, neither negative nor positive, somewhat negative, and very negative. We find that the manipulation worked: 94% of the Labour sample and 93% of the Conservative sample responded that the vignette is somewhat negative or very negative.

Post-treatment, subjects were asked “If there were a UK General Election tomorrow, which party would you vote for?” We coded answers to this question as a binary variable, with “1” indicating that the subject chooses to vote for his/her party and “0” otherwise. This is conceptually similar to the *Vote loyalty* variable that we used in the observational analysis. Answer options included all major parties in the U.K.

Results of Study 2

To analyze the results, we ran bivariate logistic regression models. In Table 3, we present the results for Labour and Conservative identifiers separately as well as combined. The first column shows that in the Conservative sample, the treatment does not have any effect on vote loyalty. That is, for rightist voters, valence attacks against their party have no effect

on their vote loyalty, which is consistent with our expectation. The second column is for the Labour sample, and here we see a significant *negative* effect of treatment on voting for the Labour Party. That is, compared to leftist subjects who were not exposed to a valence attack against their party, those subjects who experienced such an attack were more likely to withdraw their support. In terms of predicted probabilities, we find that for Labour identifiers, the predicted probability of vote loyalty is 0.97 in the control group and 0.93 for the treatment group, resulting in a four percentage-point drop. Recall that the U.K. offers a hard test of our hypothesis: with no alternative parties in the same party family to choose from, voters may be compelled to remain loyal to their party despite any valence concerns. Given this, we interpret the effect size as substantively meaningful.

The last column in Table 3 combines both samples and includes an interaction effect between *Treatment* and *Labour identifier*. The coefficient for this interaction variable is negative and statistically significant at the 0.1 level. This provides suggestive evidence that the treatment effects are significantly different for the rightist (Conservative) and leftist (Labour) subjects, with valence attack having a stronger negative effect on vote loyalty of the leftist than the rightist voters. The conditional coefficient of *Treatment* when the variable *Labour identifier* is ‘1’ is: $\beta = -0.94$, $SE = 0.40$, $p = 0.02$.¹⁸

Overall, the results from all of these different analyses provide consistent support for our expectation that valence attacks are effective on the leftist but not on the rightist voters: leftist voters are discouraged from supporting their party if the party’s valence is called into question while rightist voters are unfazed by such attacks.

¹⁸Our substantive conclusions do not change when we control for pre-treatment sociodemographic covariates to the models in Table 3 (see Table OA5.7 for the results).

Table 3: Effect of Valence Attack on Vote Loyalty

	Conservative	Labour	Both
Treatment	-0.16 (0.23)	-0.94* (0.40)	-0.16 (0.23)
Labour identifier			1.63* (0.38)
Treatment \times Labour			-0.78 [†] (0.47)
Intercept	1.84* (0.17)	3.48* (0.34)	1.84* (0.17)
Log Likelihood	-249.89	-119.08	-368.97
N	600	600	1200

Note: The dependent variable is *Vote loyalty*, which is coded ‘1’ if the respondent chooses to vote for his/her party and ‘0’ otherwise. Table entries are logistic regression coefficients with standard errors in parentheses. The first column is for the Conservative sample, the second column is for the Labour sample, and the third column combines the two with an interaction term. * $p < 0.05$, [†] $p < 0.1$

Conclusion

We have argued that leftist parties are more vulnerable to valence attacks than their rightist competitors. We have drawn insights from the literature on left-right personality to argue that leftist voters are more open-minded than their rightist counterparts, and therefore more likely to update their political preferences in response to valence attacks. Using the CCDD data on media coverage of party campaigns, we provided robust cross-national evidence for our argument at both the party level and the individual voter level. We then replicate our finding in a tightly controlled experiment that allows for better causal identification. Specifically, a vignette experiment, that we conducted in the U.K. and which directly manipulated individuals’ exposure to a valence attack against their party, showed that leftists party supporters are receptive to valence attacks while rightists are not. The fact that we were able to replicate our finding using different research strategies, levels of analysis, and research contexts, bolsters our confidence in the robustness of our results. In short, parties can harm the valence and thus the electoral prospects of their leftist but not rightist competitors.

Our paper has several important contributions. First, we add to the study of valence

in party competition. Our findings highlight the role that political rivals can play in trying to shape focal party's valence. We show that at least some parties are able to emphasize the valence problems of their rivals to their advantage. Attention to the valence-related rhetoric and framing attempts by rivals paints a more dynamic, strategic, and interactive view of party competition. This helps push forward comparative research on valence, which so far has primarily focused on parties' own actions or external events to understand the role of valence in party competition (see, for example, Adams and Merrill III 2009; Clark and Leiter 2014; Stone and Simas 2010). Our results also speak to how voters form their valence perceptions of parties—an area of research that scholars are only starting to explore (see Green and Jennings 2012; Zakharova and Warwick 2014).

Second, our paper contributes to the literature on negative campaigning. Studies on negative campaigning, both American and comparative, have focused on the circumstances under which elites are more likely to go negative (e.g., Harrington and Hess 1996; Skaperdas and Grofman 1995; Walter, van der Brug and van Praag 2014). When it comes to the effects of negative campaigning, results are rather inconclusive. That is particularly the case for parties and politicians on the receiving end of attacks. According to Lau, Sigelman and Rovner (2007)'s meta-analysis, some scholars find the target party experiencing a decrease in voter support while some others find surprising improvement in electoral performance. Our paper suggests that such inconsistent patterns might be a consequence of unexplored differences in the characteristics of leftist and rightist voters.¹⁹ Our intuition that individual-level factors might be at work is echoed by other scholars. Fridkin and Kenney (2011), for example, argue that uncivil and relevant negative campaign messages are particularly effective in lowering voters' assessment of the targeted candidate when voters are intolerant

¹⁹Banda and Windett (2016) directly attempt to resolve the inconsistent findings in the literature. They provide a temporal explanation, arguing that getting attacked harms the attacked in the short run but helps the attacked in the long run.

of negativity. Therefore, we believe that the negative campaign literature could be advanced with more attention to how voters perceive and process the content of attacks. Previous work have theorized about voters' normative views toward negative campaigning (i.e., whether it is desirable or not) to understand its consequences (Ansolabehere and Iyengar 1995; Pattie et al. 2011). We propose cognitive flexibility as another moderating variable. Our observation that cognitive flexibility plays out along ideological lines has a deep significance because it means that individual level differences lead to party-level consequences.

Third, our study provides interesting implications for research on partisan motivated reasoning, which is increasingly being used to explain a range of different political phenomena, such as retrospective voting and policy attitudes (Bisgaard 2015; Bolsen, Druckman and Cook 2014; Homola and Tavits 2017; Rogowski 2016; Slothuus and de Vreese 2010; Stevens et al. 2013; Taber and Lodge 2006). Scholars have acknowledged the conditional strength of partisan motivated reasoning on individual traits like strength of partisanship and political awareness. Our findings suggest that personality might be an important moderator of partisan motivated reasoning as well, with rightist individuals having higher propensity to engage in partisan motivated reasoning in response to information that is incongruent with their prior views. An interesting avenue for future research is to consider how left-right personality interacts with partisan motivated reasoning to affect political opinions and behavior.

More broadly, our argument contribute to the work that highlights the different ways leftists and rightists react to political stimuli. For example, Homola and Tavits (2017) argue that contact with immigrants has different consequences on leftists' and rightists' views toward immigration: the former are likely to decrease their immigration-related fears while the latter are not. Our findings suggest the left and the right are different not only in their attitudes, values, and beliefs, but also in their cognitive and experiential flexibility, with consequences to party competition.

References

- Abney, Ronni, James Adams, Michael Clark, Malcolm Easton, Lawrence Ezrow, Spyros Kosmidis and Anja Neundorf. 2011. "When Does Valence Matter? Heightened Valence Effects for Governing Parties During Election Campaigns." *Party Politics* 19(1):61–82.
- Adams, James and Samuel Merrill III. 2009. "Policy-Seeking Parties in a Parliamentary Democracy with Proportional Representation: A Valence-Uncertainty Model." *British Journal of Political Science* 39:539–558.
- Ansolabehere, Stephen and Shanto Iyengar. 1995. *Going Negative: How Political Advertisements Shrink and Polarize the Electorate*. The Free Press.
- Bakker, Bert N., David Nicolas Hopmann and Mikael Persson. 2015. "Personality Traits and Party Identification Over Time." *European Journal of Political Research* 54:197–215.
- Bakker, Bert N., Robert Klemmensen, Asbjørn Sonne Nørgaard and Gijs Schumacher. 2016. "Stay Loyal or Exit the Party? How Openness to Experience and Extroversion Explain Vote Switching." *Political Psychology* 37(3):419–429.
- Bakker, Ryan, Erica Edwards, Liesbet Hooghe, Seth Jolly, Jelle Koedam, Filip Kostelka, Gary Marks, Jonathan Polk, Jan Rovny, Gijs Schumacher, Marco Steenergen, Milada Vachudova and Marko Zilovic. 2015. "1999-2014 Chapel Hill Expert Survey Trend File." Version 1.1 Available on chesdata.eu. Chapel Hill, NC: University of North Carolina, Chapel Hill.
- Banda, Kevin K. and Jason H. Windett. 2016. "Negative Advertising and the Dynamics of Candidate Support." *Political Behavior* 38:747–766.
- Bisgaard, Martin. 2015. "Bias Will Find a Way: Economic Perceptions, Attributions of Blame, and Partisan-Motivated Reasoning during Crisis." *Journal of Politics* 77(3):849–859.
- Bolsen, Toby, James N. Druckman and Fay Lomax Cook. 2014. "The Influence of Partisan Motivated Reasoning on Public Opinion." *Political Behavior* 36:235–262.
- Butler, Daniel M. and Eleanor Neff Powell. 2014. "Understanding the Party Brand: Experimental Evidence on the Role of Valence." *Journal of Politics* 76(2):492–505.
- Chong, Dennis and James N. Druckman. 2007. "Framing Public Opinion in Competitive Democracies." *American Political Science Review* 101(4):638–655.
- Clark, Michael. 2009. "Valence and Electoral Outcomes in Western Europe, 1976 -1998." *Electoral Studies* 28(1):111–122.
- Clark, Michael and Debra Leiter. 2014. "Does the Ideological Dispersion of Parties Mediate the Electoral Impact of Valence? A Cross-National Study of Party Support in Nine Western European Democracies." *Comparative Political Studies* 47(2):171–202.

- Costa, Jr, Paul T. and Robert R. McCrae. 1992. "Four Ways Five Factors are Basic." *Personality and Individual Differences* 13(6):653–665.
- Curini, Luigi and Paolo Martelli. 2010. "Ideological proximity and valence competition. Negative campaigning through allegation of corruption in the Italian legislative arena from 1946 to 1994." *Electoral Studies* 29:636–647.
- Curini, Luigi and Paolo Martelli. 2013. "A case of valence competition in elections: Parties' emphasis on corruption in electoral manifestos." *Party Politics* 21(5):686–698.
- Davies, Martin F. 1993. "Dogmatism and persistence of discredited beliefs." *Personality and Social Psychology Bulletin* 19(6):692–699.
- Debus, Marc, Zeynep Somer-Topcu and Margit Tavits. 2016. "Comparative Campaign Dynamics Dataset." Mannheim: Mannheim Centre for European Social Research, University of Mannheim.
- Driscoll, Denise M., David L. Hamilton and Richard M. Sorrentino. 1991. "Uncertainty Orientation and Recall of Person-Descriptive Information." *Personality and Social Psychology Bulletin* 17(5):494–500.
- Druckman, James N. and Arthur Lupia. 2016. "Preference Change in Competitive Political Environments." *Annual Review of Political Science* 19:13–31.
- Fridkin, Kim L. and Patrick J. Kenney. 2011. "Variability in Citizens' Reactions to Different Types of Negative Campaigns." *American Journal of Political Science* 55(2):307–325.
- Gerber, Alan S., Gregory A. Huber, David Doherty and Conor M. Dowling. 2011. "The Big Five Personality Traits in the Political Arena." *Annual Review of Political Science* 14:265–287.
- Gerber, Alan S., Gregory A. Huber, David Doherty, Conor M. Dowling and Costas Panagopoulos. 2013. "Big Five Personality Traits and Responses to Persuasive Appeals: Evidence from Voter Turnout Experiments." *Political Behavior* 35(4):687–728.
- Green, Jane and Will Jennings. 2012. "Valence as Macro-Competence: An Analysis of Mood in Party Competence Evaluations in Great Britain." *British Journal of Political Science* 42:311–343.
- Harrington, Joseph E. and Gregory D. Hess. 1996. "A Spatial Theory of Positive and Negative Campaigning." *Games and Economic Behavior* 17:209–229.
- Hibbing, Matthew V., Melinda Ritchie and Mary R. Anderson. 2011. "Personality and Political Discussion." *Political Behavior* 33:601–624.
- Homola, Jonathan and Margit Tavits. 2017. "Contact Reduces Immigration-Related Fears for Leftist but Not for Rightist Voters." *Comparative Political Studies* <https://doi.org/10.1177/0010414017740590>.

- Jost, Jonh T., Christopher M. Federico and Jaime L. Napier. 2009. "Political Ideology: Its Structure, Functions, and Elective Affinities." *Annual Review of Psychology* 60:307–333.
- Kinder, Donald R. 2003. Belief Systems after Converse. In *Electoral Democracy*, ed. Michael MacKuen and George Rabinowitz. Ann Arbor: University of Michigan Press pp. 13–47.
- Krupnikov, Yanna. 2011. "When Does Negativity Demobilize? Tracing the Conditional Effect of Negative Campaigning on Voter Turnout." *American Journal of Political Science* 55(4):796–812.
- Kunda, Ziva. 1990. "The Case for Motivated Reasoning." *Psychological Bulletin* 108(3):480–498.
- Lau, Richard R. and Ivy Brown Rovner. 2009. "Negative Campaigning." *Annual Review of Political Science* 12:285–306.
- Lau, Richard R., Lee Sigelman and Ivy Brown Rovner. 2007. "The Effects of Negative Political Campaigns: A Meta-Analytic Reassessment." *Journal of Politics* 69(4):1176–1209.
- McCrae, Robert R. 1996. "Social Consequences of Experiential Openness." *Psychological Bulletin* 120(3):323–337.
- McCrae, Robert R. and Paul T. Costa, Jr. 2008. The Five-Factor theory of personality. In *Handbook of Personality: Theory and Research*, ed. O. P. John, R. W. Robins and L.A. Pervin. New York: Guilford pp. 159–181.
- Mondak, Jeffrey J. and Karen D. Halperin. 2008. "A Framework for the Study of Personality and Political Behaviour." *British Journal of Political Science* 38:335–362.
- Nisbet, Erik C., P. S. Hart, Teresa Myers and Morgan Ellithorpe. 2013. "Attitude Change in Competitive Framing Environments? Open-/Closed-Mindedness, Framing Effects, and Climate Change." *Journal of Communication* 63:766–785.
- Nyhan, Brendan and Jason Reifler. 2010. "When Corrections Fail: The Persistence of Political Misperceptions." *Political Behavior* 32(2):303–330.
- Osborne, Danny, Yannick Dufresne, Gregory Eady, Jennifer Lees-Marshment and Cliff van der Linden. 2017. "Is the Personal Always Political?" *Journal of Individual Differences* 38(3):133–143.
- Palan, Stefan and Christian Schitter. 2017. "Prolific.ac—A subject pool for online experiments." *Journal of Behavioral and Experimental Finance* <https://doi.org/10.1016/j.jbef.2017.12.004>.
- Pattie, Charles, David Denver, Robert Johns and James Mitchell. 2011. "Raising the tone? The impact of 'positive' and 'negative' campaigning on voting in the 2007 Scottish Parliament election." *Electoral Studies* 30:333–343.

- Pliskin, Ruthie, Daniel Bar-Tal, Gal Sheppes and Eran Halperin. 2014. "Are Leftists More Emotion-Driven Than Rightists? The Interactive Influence of Ideology and Emotions on Support for Policies." *Personality and Social Psychology Bulletin* 40(12):1681–1697.
- Rammstedt, Beatrice and Oliver P. John. 2007. "Measuring personality in one minute or less: A 10-item short version of the Big Five Inventory in English and German." *Journal of Research in Personality* 41:203–212.
- Redlawsk, David P. 2002. "Hot Cognition or Cool Consideration? Testing the Effects of Motivated Reasoning on Political Decision Making." *Journal of Politics* 64(4):1021–1044.
- Rogowski, Jon C. 2016. "Voter Decision-Making with Polarized Choices." *British Journal of Political Science* 48(1):1–22.
- Rokeach, Milton. 1960. *The Open and Closed Mind: Investigations into the Nature of Belief Systems and Personality Systems*. Basic Books.
- Schmitt, David P., Jüri Allik, Robert R. McCrae and Verónica Benet-Martínez. 2007. "The Geographic Distribution of Big Five Personality Traits: Patterns and Profiles of Human Self-Description Across 56 Nations." *Journal of Cross-Cultural Psychology* 38(2):173–212.
- Schultz, P. Wesley and Alan Searleman. 2002. "Rigidity of Thought and Behavior: 100 Years of Research." *Genetic, Social, and General Psychology Monographs* 128(2):165–207.
- Sibley, Chris G., Danny Osborne and John Duckitt. 2012. "Personality and Political Orientation: Meta-Analysis and Test of a Threat-Constraint Model." *Journal of Research in Personality* 47:664–677.
- Skaperdas, Stergios and Bernard Grofman. 1995. "Modeling Negative Campaigning." *American Political Science Review* 89:49–61.
- Slothuus, Rune and Claes H. de Vreese. 2010. "Political Parties, Motivated Reasoning, and Issue Framing Effects." *Journal of Politics* 72(3):630–645.
- Stevens, Daniel, Barbara Allen, John Sullivan and Eric Lawrence. 2013. "Fair's Fair? Principles, Partisanship, and Perceptions of the Fairness of Campaign Rhetoric." *British Journal of Political Science* 45:195–213.
- Stokes, Donald E. 1992. Valence Politics. In *Electoral Politics*, ed. D. Kavanagh. Oxford: Clarendon Press pp. 141–162.
- Stone, Walter J. and Elizabeth N. Simas. 2010. "Candidate Valence and Ideological Positions in U.S. House Elections." *American Journal of Political Science* 54(2):371–388.
- Taber, Charles S. and Milton Lodge. 2006. "Motivated Skepticism in the Evaluation of Political Beliefs." *American Journal of Political Science* 50(3):755–769.
- Tetlock, Philip E. 1983. "Cognitive Style and Political Ideology." *Journal of Personality and Social Psychology* 45(1):118–126.

- Vecchione, Michele, Harald Schoen, José Luis González Castro, Jan Cieciuch, Vassilis Pavlopoulos and Gian Vittorio Caprara. 2011. "Personality Correlates of Party Preference: The Big Five in Five Big European Countries." *Personality and Individual Differences* 51:737–742.
- Verhulst, Brad, Lindon J. Eaves and Peter K. Hatemi. 2012. "Correlation not Causation: The Relationship between Personality Traits and Political Ideologies." *American Journal of Political Science* 56(1):34–51.
- Volken, Andrea, Pola Lehmann, Theres Matthieß, Nicolas Merz, Sven Regel and Annika Werner. 2016. "The Manifesto Data Collection." Manifesto Project (MRG/CMP/MARPOR). Version 2016a. Berlin: Wissenschaftszentrum Berlin für Sozialforschung (WZB).
- Walter, Annemarie S., Wouter van der Brug and Philip van Praag. 2014. "When the Stakes are High: Party Competition and Negative Campaigning." *Comparative Political Studies* 47(4):550–573.
- Webster, Donna M. and Arie W. Kruglanski. 1994. "Individual Differences in Need for Cognitive Closure." *Journal of Personality and Social Psychology* 67(6):1049–1062.
- Zakharova, Maria and Paul V. Warwick. 2014. "The Sources of Valence Judgments: The Role of Policy Distance and the Structure of the Left-Right Spectrum." *Comparative Political Studies* 47(14):2000–2025.
- Zaller, John R. 1992. *The Nature and Origins of Mass Opinion*. New York: Cambridge University Press.

Online Appendix

Valence Attacks Harm the Electoral Performance of the Left but not the

Right

This Online Appendix (OA) file includes details of analyses estimating the effect of openness on ideology (OA1), examples of valence attack in the Comparative Campaign Dynamics Dataset (CCDD) (OA2), robustness tests for the party-level (OA3) and individual level (OA4) analyses, and additional information (including balance and randomization checks) for the experimental analysis (OA5).

OA1: Effect of Openness on Ideology and Partisan Preference

In this section, we report the results of our own analyses that confirm the negative effect of openness on rightist ideology and rightist partisan preference. As explained in the main text, we use the sixth wave of the World Values Survey (WVS) that contained the Big Five battery. The first dependent variable is *Rightist ideology*, with values ranging from one to ten. Higher values indicate a more rightist ideology, and it is measured using respondents' self-reported ideology. *Openness to experience* and the four other personality traits in the Big Five are measured on a continuous scale with values ranging from one to five. The 10-item Big Five Inventory in the WVS measures each personality trait using two questions. We averaged answers to the two questions to score each personality trait. Higher values indicate a higher score on the respective personality.

Table OA1 shows the results of linear regression models that control for age, gender, income, and education, which are likely to affect rightist ideology as well. The first model

in the table is for all of the 25 countries in the sixth wave of the World Values Survey where the Big Five battery was administered. The second model subsets the data to European countries, which is the geographic region our main analysis focuses on.¹ The results reveal that there is a consistently negative effect of *Openness to experience* on *Rightist ideology*. We calculated predicted values of the dependent variable while holding all other variables at their mean or modal value. These results confirm that openness to experience has a negative effect on rightist ideology.

We also find evidence of the relationship when the dependent variable is partisan preference instead of ideology. In the WVS, there is a question asking which party the respondent would vote for if there is a national election tomorrow. We created a binary variable indicating ‘1’ if the party the respondent intends to vote for is rightist and ‘0’ if leftist. We determined the ideology of the party using the Chapel Hill Expert Survey (CHES) (Bakker et al. 2015). The dataset for this analysis includes Germany and the Netherlands because they are the European countries covered in both the WVS and the CHES. Table OA1.2 shows the results of logistic regression models. In the first model, the dependent variable, *Rightist partisan preference*, is based on party family, where Christian Democratic, liberal, radical right, and confessional parties are coded ‘1’ and socialist, green, and radical left parties are coded ‘0’. In the second model, *Rightist partisan preference* is based on the ideology score in the CHES that ranges from 0 to 10. We coded values larger than five as ‘1’ and all else as ‘0’.²

¹The countries included are Georgia, Germany, and the Netherlands.

²We also tried measuring the ideology of the preferred party using the majority ideology of its supporters in the WVS, and the results do not change.

Table OA1.1: Effect of Openness on Rightist Ideology

	All countries	European countries
Openness to experience	-0.15* (0.02)	-0.31* (0.04)
Conscientiousness	0.11* (0.02)	0.25* (0.04)
Extraversion	-0.06* (0.02)	-0.06 (0.04)
Agreeableness	-0.09* (0.02)	-0.14* (0.04)
Emotional Stability	0.00 (0.02)	0.06 (0.04)
Male	0.07* (0.03)	0.06 (0.06)
Age	0.00 (0.01)	-0.03* (0.01)
Age ²	-0.00 (0.00)	0.00* (0.00)
Education	-0.07* (0.01)	-0.03* (0.02)
Income	0.13* (0.01)	0.08* (0.02)
Intercept	6.18* (0.16)	6.19* (0.36)
R ²	0.02	0.04
N	22337	3961
RMSE	2.25	1.98

Note: The dependent variable is *Rightist ideology*, which ranges from one to ten. Table entries are linear regression coefficients with standard errors in parentheses. The first model includes all countries in the data. The second model includes only European countries. The values of *Openness to experience* range from one to five. * $p < 0.05$

Table OA1.2: Effect of Openness on Rightist Partisan Preference

	Model 1	Model 2
Openness to experience	-0.21* (0.04)	-0.21* (0.04)
Conscientiousness	0.22* (0.05)	0.24* (0.05)
Extraversion	-0.08 (0.05)	-0.08 (0.04)
Agreeableness	-0.08 (0.06)	-0.11* (0.06)
Emotional stability	0.09 (0.05)	0.11* (0.05)
Male	0.04 (0.08)	0.05 (0.08)
Age	-0.03* (0.01)	-0.02 (0.01)
Age ²	0.00* (0.00)	0.00* (0.00)
Education	-0.02 (0.02)	-0.01 (0.02)
Income	0.10* (0.02)	0.08* (0.02)
Intercept	0.35 (0.47)	0.22 (0.46)
Log Likelihood	-1712.20	-1781.62
<i>N</i>	2536	2653

Note: The dependent variable is *Rightist partisan preference*, which is coded '1' if the party the respondent intends to vote for is right-wing and '0' if left-wing. *Openness to experience* is a continuous variable ranging from one to five. Table entries are logistic regression coefficients with standard errors in parentheses. Model 1 uses party family from the CHES to code a party as right-wing or left-wing. Model 2 uses ideology scores from the CHES. * $p < 0.05$

OA2: Examples of Valence Attack in the CCDD

Here, we present examples of valence attacks made in the 2015 U.K. general election. We picked the U.K. in order to be able to show examples in English. However, these examples are more generally representative of the types of attacks that our data capture across all of the countries included in our analysis. Using the information in the CCDD, Table OA2.1 provides the direct quote from the newspaper based on which an attack was coded, the type of each valence attack (i.e., does it concern party honesty/integrity, party competence/performance, leader honesty/integrity/character, leader competence/performance, or leader charisma), and which party was the target of the attack.

Table OA2.1: Examples of Valence Attack

Quote	Valence Content	Target
Her Tory rival, Mike Freer, dismisses this succinctly: ‘If you can find a bandwagon you will find her on it.’	Party honesty / integrity	Labour Party
‘the Liberal Democrats said the Nationalists were threatening public services’	Party competence / performance	Liberal Democratic Party
This is a desperation ploy from Scottish Labour after Jim Murphy got a smack down from his London colleagues yesterday.	Party unity	Labour Party
Mr Miliband attempted to take on Mr Farage over immigration, accusing his party of ‘disgusting slurs’. he criticised Mr Farage: ‘You want to exploit people’s fears rather than address them.’	Leader honesty / integrity / character	UKIP
It seems time after time we are told one thing by the SNP when the facts stand to the contrary.	Leader competence / performance	Scottish National Party
‘The Tories are now the irresponsible party in British politics,’ he declared. ‘They’re making the Green Party look fiscally credible!’	Leader charisma	Conservative Party

OA3: Party-Level Observational Analysis

Table OA3.1: Effect of Valence Attack on Change in Vote Share (using the CHES to measure ideology)

	Model 1	Model 2
Valence attack	5.14 (3.75)	-14.78* (7.00)
Leftist	7.71 (4.52)	2.18 (1.11)
Valence attack \times Leftist	-11.36* (5.23)	-2.84* (1.27)
Media attention	-0.00 (0.00)	-0.00 (0.00)
Intercept	-3.28 (3.15)	11.66 (6.05)
R ²	0.09	0.08
<i>N</i>	102	102
RMSE	5.69	5.72

Note: The dependent variable is Δ *Vote share*. Table entries are linear regression coefficients with standard errors in parentheses. Model 1 uses a binary and Model 2 a continuous measure of party ideology. * $p < 0.05$

Table OA3.2: Effect of Valence Attack on Change in Vote Share (controlling for previous vote share)

	Model 1	Model 2
Valence attack	4.75 (3.31)	-0.04 (3.13)
Leftist	9.13 (4.75)	0.31 (0.16)
Valence attack \times Leftist	-12.38* (5.44)	-0.42* (0.20)
Vote share _{t-1}	-0.11* (0.04)	-0.11* (0.05)
Intercept	-1.73 (2.78)	1.69 (2.63)
R ²	0.12	0.13
N	108	93
RMSE	5.69	5.90

Note: The dependent variable is Δ *Vote share*. Table entries are linear regression coefficients with standard errors in parentheses. Model 1 uses a binary and Model 2 a continuous measure of party ideology.* $p < 0.05$

Table OA3.3: Effect of Valence Attack on Change in Vote Share (including ethno-regional and special-issue parties)

	Model 1	Model 2
Valence attack	4.71 (3.37)	0.78 (3.01)
Leftist	9.86* (4.85)	0.33* (0.16)
Valence attack \times Leftist	-13.51* (5.54)	-0.44* (0.19)
Media attention	-0.00 (0.00)	-0.00 (0.00)
Intercept	-2.64 (2.81)	0.06 (2.48)
R ²	0.09	0.09
N	110	97
RMSE	5.82	6.01

Note: The dependent variable is Δ *Vote share*. Table entries are linear regression coefficients with standard errors in parentheses. Model 1 uses a binary and Model 2 a continuous measure of party ideology.* $p < 0.05$

Table OA3.4: Effect of Valence Attack on Change in Vote Share (using the CHES to measure ideology and including ethno-regional and special-issue parties)

	Model 1	Model 2
Valence attack	4.88 (3.58)	-12.08* (6.07)
Leftist	6.15 (3.90)	1.76 (1.01)
Valence attack \times Leftist	-9.57* (4.55)	-2.36* (1.16)
Media attention	-0.00 (0.00)	-0.00 (0.00)
Intercept	-3.15 (3.03)	9.20 (5.23)
R ²	0.08	0.07
N	108	108
RMSE	5.55	5.59

Note: The dependent variable is Δ *Vote share*. Table entries are linear regression coefficients with standard errors in parentheses. Model 1 uses a binary and Model 2 a continuous measure of party ideology.* $p < 0.05$

OA4: Individual Level Observational Analysis

Table OA4.1: Effect of Valence Attack on Vote Loyalty (controlling for previous vote share)

	Model 1
Valence attack	1.66* (0.77)
Leftist	2.94* (1.13)
Valence attack \times Leftist	-3.31* (1.45)
Age	-0.00 (0.01)
Age ²	0.00 (0.00)
Male	0.07 (0.06)
Income	0.08 (0.16)
Education	-0.13 (0.14)
Vote share _{<i>t</i>-1}	0.01 (0.01)
Intercept	-1.59* (0.68)
<i>N</i>	13429
Likelihood ratio	393.45

Note: The dependent variable is *Vote loyalty*, which is coded '1' if the voter votes for the same party again and '0' otherwise. Table entries are logistic regression coefficients with party-election clustered standard errors in parentheses. * $p < 0.05$

Table OA4.2: Effect of Valence Attack on Vote Loyalty (using multilevel model)

	Model 1
Valence attack	0.39 (0.34)
Leftist	1.89* (0.47)
Valence attack \times Leftist	-2.46* (0.54)
Age	0.00 (0.01)
Age ²	0.00* (0.00)
Male	0.05 (0.04)
Income	0.08 (0.06)
Education	-0.15* (0.07)
Media attention	0.00* (0.00)
Intercept	-0.53 (0.37)
Log Likelihood	-8595.26
N	13978
N : Country	8
σ : Country (Intercept)	0.20

Note: The dependent variable is *Vote loyalty*, which is coded '1' if the voter votes for the same party again and '0' otherwise. The model is a logistic multilevel model with country varying intercepts. Table entries are logistic regression coefficients with standard errors in parentheses.
* $p < 0.05$

Table OA4.3: Effect of Valence Attack on Vote Loyalty (including abstentions)

	Model 1
Valence attack	2.66 (1.59)
Leftist	4.39* (1.93)
Valence attack \times Leftist	-4.72* (2.22)
Age	0.02* (0.01)
Age ²	-0.00 (0.00)
Male	0.10 (0.06)
Income	0.24 (0.15)
Education	0.19 (0.22)
Media attention	0.00* (0.00)
Intercept	-4.16* (1.65)
<i>N</i>	14501
Likelihood ratio	1149.39

Note: The dependent variable is *Vote loyalty*, which is coded '1' when the voter votes for the same party again and '0' otherwise. Table entries are logistic regression coefficients with party-election clustered standard errors in parentheses. * $p < 0.05$

OA5: Survey Experiment

Table OA5.1: Balance Checks (Conservative sample)

	Range	Control	Treatment	T-test	Chi-square test
Age	[17, 74]	41.66	40.49	$t = 1.16$ $p = 0.25$	$\chi^2(4) = 2.56$ $p = 0.63$
Male	[0, 1]	0.32	0.28	$t = 1.25$ $p = 0.21$	
Age at highest level of education	[0, 55]	19.56	19.89	$t = -0.90$ $p = 0.37$	
Education level (simplified)	[1, 3]	2.23	2.20	$t = 0.35$ $p = 0.73$	
Education level	[2, 8]	5.83	5.85	$t = -0.12$ $p = 0.90$	
Ethnicity					

Table OA5.2: Distribution of Ethnicity in Proportions (Conservative Sample)

	Asian	Black/African/Caribbean	Mixed	Other	White
Treatment	0.02	0.01	0.01	0.00	0.95
Control	0.03	0.02	0.01	0.00	0.94

Table OA5.3: Effect of Pre-Treatment Covariates on Treatment Assignment (Conservative Sample)

	Model 1
Age	-0.01 (0.01)
Male	-0.20 (0.18)
Education	0.00 (0.05)
Black	-0.71 (0.98)
Mixed	0.18 (0.87)
White	0.26 (0.52)
Other	13.68 (535.41)
Intercept	0.13 (0.66)
Log Likelihood	-413.01
<i>N</i>	600

Note: The dependent variable is a binary variable coded '1' if voter is assigned to treatment and '0' if control. We ran a logistic regression model. None of the sociodemographic variables predict assignment to treatment. According to the likelihood ratio test, we cannot reject the null hypothesis that the coefficients are jointly zero ($\chi^2(7) = 5.76$, Prob $\chi^2(7) > 5.76 = 0.57$).

Table OA5.4: Balance Checks (Labour sample)

	Range	Control	Treatment	T-test	Chi-square test
Age	[15, 64]	35.75	35.28	$t = 0.56$ $p = 0.58$	$\chi^2(4) = 2.18$ $p = 0.70$
Male	[0, 1]	0.25	0.24	$t = 0.09$ $p = 0.92$	
Age at highest level of education	[0, 50]	20.65	20.18	$t = 1.13$ $p = 0.26$	
Education level (simplified)	[1, 3]	2.14	2.13	$t = 0.15$ $p = 0.88$	
Education level	[2, 8]	5.63	5.64	$t = -0.05$ $p = 0.96$	
Ethnicity					

Table OA5.5: Distribution of Ethnicity in Proportions (Labour sample)

	Asian	Black/African/Caribbean	Mixed	Other	White
Treatment	0.03	0.03	0.04	0.00	0.90
Control	0.04	0.02	0.02	0.00	0.92

Table OA5.6: Effect of Pre-Treatment Covariates on Treatment Assignment (Labour sample)

	Model 1
Age	-0.00 (0.01)
Male	-0.02 (0.19)
Education	-0.00 (0.05)
Black	0.23 (0.68)
Mixed	0.78 (0.67)
Other	0.06 (1.49)
White	0.08 (0.45)
Intercept	0.04 (0.59)
Log Likelihood	-414.67
<i>N</i>	600

Note: The dependent variable is a binary variable coded '1' if voter is assigned to treatment and '0' if control. We ran a logistic regression model. None of the sociodemographic variables predict assignment to treatment. According to the likelihood ratio test, we cannot reject the null hypothesis that the coefficients are jointly zero ($\chi^2(7) = 2.45$, Prob $\chi^2(7) > 2.45 = 0.93$).

Table OA5.7: Effect of Valence Attack on Vote Loyalty, Controlling for Pre-Treatment Covariates

	Model 1	Model 2	Model 3
Treatment	-0.16 (0.23)	-0.98* (0.41)	-0.14 (0.23)
Labour identifier			1.79* (0.38)
Treatment \times Labour			-0.81 [†] (0.47)
Age	-0.04 (0.06)	0.13 (0.11)	0.01 (0.05)
Age ²	0.00 (0.00)	-0.00 (0.00)	0.00 (0.00)
Male	-0.16 (0.25)	0.57 (0.50)	-0.00 (0.22)
Education	0.09 (0.07)	0.05 (0.11)	0.08 (0.06)
Black	-0.11 (1.33)	0.87 (1.26)	0.29 (0.91)
Mixed	0.01 (1.31)	16.07 (903.17)	1.35 (1.14)
White	-0.25 (0.78)	1.20 (0.70)	0.39 (0.51)
Other	11.66 (535.41)	16.32 (2780.86)	12.79 (497.18)
Intercept	1.89 (1.54)	-0.95 (2.07)	0.18 (1.17)
Log Likelihood	-246.43	-113.41	-363.32
<i>N</i>	600	600	1200

Note: The dependent variable is a binary variable coded ‘1’ if voter votes for the party one identifies with and ‘0’ otherwise. Table entries are logistic regression coefficients with standard errors in parentheses. The first model is for the Conservative sample, while the second model is for the Labour sample. The third model includes both samples with an interaction term. * $p < 0.05$, [†] $p < 0.1$.

References

Bakker, Ryan, Erica Edwards, Liesbet Hooghe, Seth Jolly, Jelle Koedam, Filip Kostelka, Gary Marks, Jonathan Polk, Jan Rovny, Gijs Schumacher, Marco Steenergen, Milada Vachudova and Marko Zilovic. 2015. "1999-2014 Chapel Hill Expert Survey Trend File." Version 1.1 Available on chesdata.eu. Chapel Hill, NC: University of North Carolina, Chapel Hill.