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Leavers and Remainers After Brexit: More United Than Divided After All?

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Abstract

Since the British "Brexit referendum" in 2016, tensions between 'leave' and 'remain' voters have been growing. Using a novel analytical approach based on the full distribution of responses rather than their arithmetic means, Study 1 ($N=1,506$) showed on average 90% of overlap among Leavers and Remainers across a range of important variables. Even on the variables that are commonly used to illustrate how Leavers and Remainers differ (e.g., prejudice against immigrants), the amount of overlap was larger than 50%. In Study 2 ($N=206$), we demonstrate the importance of focusing on similarities between groups: Presenting the full distribution of responses from Leavers and Remainers rather than their mean differences caused more accurate perceptions of the actual differences and similarities between both groups and higher perceived intergroup harmony. We conclude that similarities between Leavers and Remainers are substantial and that our proposed approach may help to de-escalate tensions between these and other groups.

Keywords: Brexit, Euroscepticism, similarity, human values, prejudice, national identity

Leavers and Remainers After the Brexit Referendum: More United Than

Divided After All?

In the "Brexit referendum" of June 2016, 52% of the British electorate voted

that the United Kingdom (UK) should leave the European Union (EU). Since then,

the tensions between those who voted leave ('Leavers') and those who voted remain

('Remainers') have been growing. Three years after the referendum, Brexit was still

by far the single most important topic to British voters (YouGov, 2019). These

tensions are exemplified within political parties and British society. The two largest

parties in the UK, the Conservative Party and the Labour Party, are quarrelling both

between and within their parties about whether the UK should leave the EU and, if

so, how (Adonis, 2019; Smith, 2017; Withers, 2019). Further, it has also been

reported that Leavers and Remainers descend "into hyperbole and emotional

invective against those they disagree with" (The Guardian, 2017; see also Gillett,

2019). For example, Leavers see the need to defend themselves of not being racists

(Hannan, 2016; Hill, 2016).

Because of these tensions, politicians (e.g., Lucas, 2019; May, 2018) and

NGOs (e.g., Amnesty International, 2016) have called "to focus on what unites us

rather than what divides us" (Amnesty International, 2016). However, previous

psychological research has usually tested for mean differences between Leavers and

Remainers, making it unclear to what extent the groups actually *share or do not*

share broad psychological tendencies such as values, needs, and attitudes. This

neglect is problematic, because a better understanding of the psychological

perspectives that Leavers and Remainers share would be an important starting point

to reducing tensions between them. Further, it is unclear whether highlighting groups

similarities would in fact help to overcome the "Brexit divide".

The present research had three aims to address these issues. First, we aimed to replicate previous research examining *mean* differences among Leavers and Remainers on a range of important psychological variables. To test this aim, we used the default way of investigating mean differences between two groups (i.e., *t*-tests). This was important to get a better understanding of why people voted for leave or remain. Second, to provide a more balanced and detailed psychological profile of the groups, we used a novel approach to examine the amount of overlap between Leavers and Remainers on the same set of variables. Specifically, we tested whether the groups are more similar to each other than different. A final aim was to examine the practical implications of presenting information about the amount of actual overlap between groups. To achieve this aim, an experimental study tested whether a balanced portrayal of intergroup effects, rather than accentuating differences, is beneficial for perceptions of the research findings and for social cohesion in the general public, thus potentially informing social scientists about strategies to present their findings. To the best of our knowledge, the present research provides first evidence on the extent to which Leavers and Remainers are similar or different on a range of important psychological variables. The present research also provides evidence on broad practical implications by shedding more light onto whether presenting information about the actual overlap between groups improves intergroup attitudes.

Previous Comparisons of Leavers and Remainers

Despite the relatively short time frame since the Brexit referendum, researchers have already devoted considerable research attention to comparing Leavers and Remainers on a range of psychological and demographic variables. This research has mainly focused on the predictors of people's voting decision. The findings revealed that the decision to vote 'leave' is associated with higher concerns

about immigration and multi-culturalism, British collective narcissism, Islamophobia, political conservatism, authoritarianism, distrust in the government, stronger British identity, social change insecurities, conspiracy beliefs, negative contact with EU immigrants, lower tolerance towards ambiguity, cognitive flexibility, agreeableness and openness personality traits, education, income, and increased age (Abrams & Travaglino, 2018; Becker, Fetzer, & Novy, 2017; Garretsen, Stoker, Soudis, Martin, & Rentfrow, 2018; Golec de Zavala, Guerra, & Simão, 2017; Harper & Hogue, 2019; Hobolt, 2016; Lee, Morris, & Kemeny, 2018; Matti & Zhou, 2017; Meleady, Seger, & Vermue, 2017; Swami, Barron, Weis, & Furnham, 2018; Zmigrod, Rentfrow, & Robbins, 2018). In short, these findings suggest that Leavers are more likely to express negative views of immigrants, to be higher in conservatism and distrust in politicians, and to be older and less educated. For example, Meleady et al. (2017) found that negative contact with immigrants predicts having voted 'leave' and that prejudice against immigrants mediates this relation. In other words, people who have made negative experiences with immigrants and are prejudiced against them may have voted 'leave' to see fewer immigrants coming to the UK. Also, distrust in politicians predicts having voted 'leave'. This might also be the case because distrust in politicians was presumably intentionally been amplified by the leave campaign (Abrams & Travaglino, 2018).

These findings on Brexit and psychological variables predicting people's voting behaviour are consistent with the literature on Euroscepticism across the EU (de Vreese & Boomgaarden, 2005; Schuck & Vreese, 2008; Serricchio, Tsakatika, & Quaglia, 2013; Vasilopoulou & Wagner, 2017). For example, stronger concerns about immigration, stronger national identity, higher distrust in national institutions, and lower education predict both Euroscepticism across a range of European countries and having voted 'leave' in the Brexit referendum.

Similarities Between Groups are Large

The research described above is important because it allows us to better understand the underlying motivations of the average person to vote 'leave' or 'remain.' However, most of the time research findings generalise from statistically significant *mean differences* to *group differences*. For example, if the mean differences between two groups (e.g., Leavers vs Remainers), as established with *t*-tests, reach conventional levels of statistical significance, the conclusion is commonly that group A is different from group B. However, this is often an oversimplification. If we examine the distribution of responses of all participants (e.g., in a histogram) rather than comparing the groups' means, even variables showing large statistical mean differences reveal considerable levels of overlap or similarity between groups. While we assume that researchers are aware that groups may still overlap despite a significant *t*-test, this overlap is unmentioned in most cases. This neglect may be particularly problematic for the communication of research findings to the public. Statements such as "women are more susceptible to the side effects than men" may be understood by the public as implying that women and men "constitute different groups" (Maney, 2016, p. 2; see also Cimpian, Brandone, & Gelman, 2010). Indeed, research shows that lay people overestimate differences between groups when presented textually (e.g., "women are more anxious than men"; Hanel & Mehler, 2019) or graphically (e.g., barplots with restricted y-axes; Hanel, Maio, & Manstead, 2019).

Thus, examining the overlap between two groups in the distribution of participant responses allows for a more balanced portrayal of research findings. This approach is more balanced because it provides information on both the amount of similarities (i.e., overlapping responses) and the amount of differences (i.e., non-overlap) between the groups. In line with other researchers (Hanel et al., 2019; Hyde,

2005; Maney, 2016), we believe that it is important to balance the reporting of differences and similarities to provide a better understanding of scientific findings.

Fortunately, commonly used effect sizes for mean differences such as Cohen's *d* can be transformed into an "overlapping coefficient," which is a measure of the overlap of two normal distributions (Inman & Bradley, 1989). More recently, Hanel, Maio, and Manstead (2019) argued that the overlapping coefficient can be understood as a measure of similarity and they relabelled it *Percentages of Common Responses* (PCR). The PCR expresses similarities and differences simultaneously. For example, a medium effect size of Cohen's $d = 0.50$ translates into a PCR = 80, reflecting an 80% overlap of participants responses, whereas a low effect size of $d = 0.20$ translates into a PCR of 92, reflecting a 92% overlap. Even a so-called large effect size of $d = 0.80$ (Cohen, 1992) still reflects a substantial amount of between-group similarity (PCR = 69).

To illustrate two ways of presenting a statistically significant mean difference, Figure 1 shows a significant meta-analytical mean difference between women and men on anxiety with an effect size of $d = 0.29$ ($N > 100,000$): Women are on average more anxious than men (Feingold, 1994). The top graph shows superimposed normal distributions, whereas the lower graph shows a typical barplot with standard errors. The normal distributions reflect the similarities and differences between the two groups. The barplots show only the means and the mean distributions (i.e., standard errors) that emphases the differences between the groups.

---FIGURE 1 AROUND HERE---

Striking a Balance Between Examining Group Overlap and Mean Differences

While we aim to show that it is important to highlight the amount of overlap between groups – particularly when highly polarised groups are considered – we also believe that examining mean differences is useful. This is because mean differences

shed more light on the underlying mechanism of why people decided to vote 'leave' or 'remain'. In other words, mean differences allow us to understand what predicts people's voting decision. Hence, in the present research we wish to advocate a simultaneous focus on overlap indices and mean differences between Leavers and Remainers. This approach may provide a more balanced portrayal of the findings. For example, the statement "Leavers value security more than Remainers" is likely to be an oversimplification based on group mean comparisons: Not all Leavers will value security more than Remainers, thereby masking the similarities between groups (cf. Maney, 2016). Instead, we suggest that presenting effect sizes that reflect overlap in addition to effect sizes that reflect mean differences improve comprehension (Hanel et al., 2019). To the best of our knowledge, the present research is the first empirical attempt to balance this simultaneous interpretation of the group distribution and the mean distribution.

Previous research has recognised the importance of examining similarities between opposing groups (e.g., van Prooijen, Krouwel, Boiten, & Eendebak, 2015; Zmigrod, Rentfrow, & Robbins, 2019). However, these studies operationalised similarities as a lack of significant mean differences, often supplemented by Bayesian analysis, or by U-shaped relations between political attitudes and various dependent variables such as negative emotions. While Bayesian analysis or equivalence testing (Hauck & Anderson, 1984) focus, to put it simply, on the difference between means, our approach considers the overlap and non-overlap between all responses.

Aims of the Present Research

The present research had three broad aims. First, Study 1 aimed to replicate previous evidence examining why people may decided to vote 'leave' or 'remain' (e.g., prejudice, identity), and extend this evidence by considering novel links with a

broader range of psychological variables. To do so, we tested the groups' mean differences on a range of variables (see Tables 2-4). Based on previous evidence, we expected that Leavers and Remainers would reveal *mean differences* on prejudice, British identity, and need for cognition. Specifically, we hypothesised that Leavers would on average show higher levels of prejudice against immigrants than Remainers (e.g., Hobolt, 2016; Matti & Zhou, 2017; Meleady et al., 2017; Swami et al., 2018). Given that prejudice against immigrants is closely related to perceived competition for resources (i.e., zero-sum beliefs; Esses, Dovidio, Jackson, & Armstrong, 2001; Esses, Jackson, & Armstrong, 1998), we further predict that Leavers hold higher zero-sum beliefs on average than Remainers. Leavers should also on average show higher levels of British identification than Remainers because national identity is linked with lower support for multiculturalism (Verkuyten, 2009) and staying in the EU would imply more multiculturalism. We also hypothesised that Remainers would on average score higher on need for cognition than Leavers. Need for cognition is defined as the tendency to seek out and enjoy thinking, which is conceptually related to cognitive flexibility (Cacioppo & Petty, 1982). Previous research has found that Remainers score higher on measures of cognitive flexibility (Zmigrod et al., 2018).

In addition to replicating previous evidence, we aimed to expand it by examining the underlying motivations of Leavers and Remainers. Specifically, we aimed to test the role of human values. Human values are among the most fundamental psychological constructs because of their function as trans-situational life-guiding principles (Maio, 2016; Rokeach, 1973; Schwartz, 1992). Examining human values is particularly important in the context of the Brexit referendum. This is because their abstract nature enables them to be used as markers of common, shared ideals facilitating intergroup relations. A better understanding of the extent to

which Leavers and Remainers share certain values may hence be an important first step towards focusing on what unites rather than divides them. More specifically, values have also been shown to predict voting decisions beyond influences of personality traits (Caprara, Schwartz, Capanna, Vecchione, & Barbaranelli, 2006) and considerations of economic inequality (Kaufmann, 2016). The present research extends this literature in important ways by comparing Leavers and Remainers on human values.

The predominant value model in psychology distinguishes between ten types (Schwartz, 1992): Security, conformity, tradition, benevolence, universalism, self-direction, stimulation, hedonism, achievement, and power. Based on the literature, we hypothesised that security, conformity, and tradition would *on average* be valued more by Leavers. This is because these values have been linked with conservatism (Meleady et al., 2017; Schwartz, 1992), authoritarianism (Cohrs, Moschner, Maes, & Kielmann, 2005), negative attitudes towards immigrants (Davidov, Meulemann, Schwartz, & Schmidt, 2014), and voting for right-wing parties (Caprara et al., 2006, 2017). In contrast, Remain voters may *on average* place higher importance on universalism because the motivational goal of universalism is to be understanding and tolerant towards all people (Schwartz, 1992). Therefore it is not surprising that universalism predicts voting for left-wing parties (Caprara et al., 2006, 2017). We did not make any predictions about the other six value types of Schwartz's (1992) model. This may seem surprising for self-direction because it is (weakly) associated with voting for left-wing parties (Caprara et al., 2006). Further, remaining in the EU would allow British citizens to travel and work more freely, thus serving the need for autonomy that underlies self-direction. However, the leave campaign was built explicitly on self-direction with slogans such as "taking back control." Further, the moral foundation "personal liberty" was on average higher among Leavers and is

conceptually relevant to self-direction (Harper & Hogue, 2019). Given these conflicting associations, we were agnostic about the role of self-direction in predicting people's voting decision.

We also investigated mean differences in perceptions of the values of people from their city or country. Previous research has shown an interesting discrepancy between people's own values and their perceptions of others' values (Hanel et al., 2018). For example, while around 75% of people attached greater importance to universalism (e.g., equality) and benevolence (e.g., helpfulness) than to power (e.g., wealth) and achievement (e.g., success), 75% of people also believed that others value power and achievement more than universalism and benevolence. The perception of other people's values can have important implications. For example, perceiving other people to value more benevolence and universalism is positively correlated with various measures of civic engagement such as voting (Sanderson et al., 2019). Previous research suggested that perception asymmetries exist across the political spectrum (Ditto et al., 2019). We therefore did not expect significant mean differences for perceived values.

Beyond values, we also hypothesised that Remainers are on average more likely to support devolution (decentralisation). Previous research found that conservatism was on average higher among Leavers (e.g., Meleady et al., 2017) and devolution challenges the conservative idea of a powerful national state with an influential national parliament in London.

Second, to provide a more balanced and detailed picture of how Leavers and Remainers compare, Study 1 tested the degree of *overlap* between these groups on the same set of variables. We expected the amount of similarities on all variables to be larger than the amount of differences (i.e., similarities > 50%), because we considered it unlikely that for many variables the mean difference would exceed $d =$

1.34. This translates into PCR = 50 (i.e., 50% or less similarities); the average effect size in social psychology is $d = 0.43$ (Richard, Bond Jr., & Stokes-Zoota, 2003). We first considered variables for which larger mean differences among Leavers and Remainers can be expected based on past evidence, including prejudice against immigrants, British identity, and potentially human values. Including these variables provided a stringent test for our hypothesis that the two groups are more similar to each other than different. In addition, we explored the amount of overlap between Leavers and Remainers for all additional variables which have not previously been linked with the decision to vote leave or remain. These variables were included because of their relevance to important societal and personal outcomes such as social cohesion (e.g., civic engagement) and well-being (e.g., life satisfaction). We also included this large range of variables without a priori links to the decision to vote 'leave' or 'remain' to avoid a specific form of publication bias: Fiedler (2011) argued that only including variables in (quasi-) experimental designs for which mean differences are expected, is a form of publication bias towards differences that is not often acknowledged. Despite their exploratory nature, the relevance of these variables to social cohesion and well-being makes it important to test whether Leavers and Remainers show relatively high or low levels of overlap on them. For example, if both groups showed high overlap in civic engagement, this would indicate that both groups care about the thriving of their community to the same extent (Doolittle & Faul, 2013).

Finally, Study 2 tested the practical implications of displaying the actual degree of overlap between Leavers and Remainers rather than simplifying how these groups compare by reporting only the mean differences. To do so, we presented key findings from Study 1 in an experimental design by either highlighting the overlap between groups in superimposed normal distributions or the mean differences

between groups in standard barplots. Subsequently, we assessed participants'
perceptions of the findings and of the other respective group.

Highlighting how Leavers and Remainers overlap may have a range of
positive outcomes on intergroup harmony: While a focus on only the mean
differences between groups may inadvertently increase tensions, emphasising
similarities could promote intergroup harmony. This is because it may be more
difficult to discriminate against an out-group when the similarities between the
groups are apparent. Indeed, there is an extensive body of literature showing that
similarity fosters more positive attitudes and behavioural intentions (Byrne, 1961;
Montoya, Horton, & Kirchner, 2008; Pilkington & Lydon, 1997). For example,
Brown and Abrams (1986) found that pupils liked and intended to cooperate with
children from another school more when they were described as more similar. The
notion that similarity fosters higher *intergroup* attitudes may be derived from social
identity theory (Tajfel & Turner, 1986) and the common ingroup identity model
(Gaertner & Dovidio, 2000). Social identity theory assumes that people categorise
others into in- and outgroups to attain a positive identity. If the distinction between
the in- and outgroup is recategorised and people start to see themselves more as one
group rather than two separate groups due to the expectedly high degrees of overlap,
prejudice may be reduced (Gaertner & Dovidio, 2000; see also social identity
complexity theory, Roccas & Brewer, 2002). In other words, by highlighting
similarities, the distinction between the in- and outgroup may become blurred,
resulting in more positive intergroup attitudes.

However, to the best of our knowledge, previously employed manipulations
of similarity (vs differences) involved providing different information to participants.
For instance, Brown and Abrams (1986) manipulated the favourite school subjects of
the outgroup to be either congruent or incongruent with the favourite subjects of the

pupils. In contrast, our approach uses the same variables and the same information. Specifically, we either highlighted similarities or differences to test whether there are costs of the currently predominant way of presenting research findings which highlights mean differences. We expected that presenting the actual overlap among groups would improve intergroup attitudes. While Study 2 focuses on Leavers and Remainers, we expect that the practical implications of using a balanced portrayal of research findings should generalise to other polarised groups (e.g., Republicans vs Democrats in the US).

All materials as well as the datasets for samples 2 and 3 of Study 1 (the authors do not own the data of sample 1 but are allowed to publish summary statistics), and Study 2 can be found on https://osf.io/q97mv/. Ethical approval was obtained from the respective psychology ethics committee at the two British universities where the research was conducted.

Study 1

Study 1 tested mean differences between Leavers and Remainers and the amount of overlap among them on a wide range of psychological variables across three samples. To provide a clear structure, we primarily focused on the broad picture of mean differences and overlap across all variables and described only the variables that we expected to be relevant in the context of Brexit in more detail (see Online Supplemental Materials for details).

Study 1 collapsed three independent cross-sectional studies (from now onwards: Samples 1-3). Across the three samples, we included variables which past evidence has found to be relevant to the Brexit vote (e.g., prejudice), novel variables that we expected to be relevant (e.g., human values), and variables that are relevant to important societal and personal outcomes (e.g., civic engagement). Specifically, given the novelty and relevance of human values in a Brexit context, all three

samples examined human values, allowing us to examine whether the findings replicate across three samples. See Table 1 for an overview of the variables included in Study 1. All data were collected in spring 2017, roughly around one year after the Brexit referendum.

--- Table 1 around here ---

Method

Participants. We recruited three samples online. We aimed to recruit at least 150 participants per sample to obtain fairly accurate estimates of effect sizes. Sensitivity analysis revealed that our sample sizes in Study 1 were sufficient to detect with a power of .80 effects of $d = 0.16$ (sample 1, $N = 960$), $d = 0.24$ (sample 2, $N = 440$), and $d = 0.46$ (sample 3, $N = 126$). Sample 1 consisted of 1,184 participants, of which 461 participants identified as Leavers, 479 as Remainers (452 women, 486 men, two preferred not to say) from the Greater Manchester area and who were selected to be representative. Eighty-nine participants were aged 18-24, 164 were aged 25-34, 159 were aged 35-44, 165 were aged 45-54, 144 were aged 55-64, 193 were aged 65-74, 26 were aged 75+, and two preferred not to say. The data was collected in May 2017.

Sample 2 consisted of 482 participants, of which 183 identified as Leavers and 257 as Remainers (239 women, 200 men, one preferred not to say; $M_{age} = 39.43$, $SD = 12.33$). Sample 2 completed two parts of the survey. The first part was completed within three days before the UK general election (8 June 2017) and the second part was completed within three days after the election. The second part was completed by 434 participants.

Sample 3 consisted of 143 participants, of which 50 identified as Leavers and 76 as Remainers (66 women, 60 men; $M_{age} = 39.01$, $SD = 14.30$). Sample 3

completed two parts of the survey. The study was conducted approximately 2 weeks before the UK general election in June 2017.

Sample 1 materials.

Brexit vote. We asked participants how they voted in the Brexit referendum (i.e., "*remain*", "*leave*", "*prefer not to say*").

Values. Participants completed the 21-item Portrait Values Questionnaire (PVQ; Schwartz et al., 2001). This questionnaire presents participants with 21 brief descriptions, each portraying a person as giving importance to one of Schwartz's ten values (Schwartz, 1992). For instance, the description "It is important to him/her to be rich. He/She wants to have a lot of money and expensive things" reflects the value power. Participants answered on a scale from 1 (not like me at all) to 6 (very much like me) how similar the person described is to themselves. Subsequently, participants completed a similar 21-item PVQ, with the difference that they indicated to what extent a described person is like a typical person living in Greater Manchester. For instance, the description "It is important to him/her to be rich. He/she wants to have a lot of money and expensive things" was answered on a scale from 1 (*not at all like a typical person living in Greater Manchester*) to 6 (*very much like a typical person living in Greater Manchester*).

Devolution. We assessed participants' views on devolution to a local government in Greater Manchester by asking "Do you think that having a mayor of Greater Manchester will be a good thing or a bad thing for Greater Manchester?" and "Do you think that giving more decision-making powers on issues such as tax, education, and policing is a good thing or a bad thing for local areas more generally?" which they answered on a scale from 1 (*a very bad thing*) to 5 (*a very good thing*). The items on devolution correlated highly with each other, $r(1184)=.66$, and were hence combined to a composite score.

Sample 2 materials (pre-election).

Brexit vote. We asked participants how they voted in the Brexit referendum (i.e., "*remain*", "*leave*", "*not eligible to vote*", "decided not to vote", "*don't remember*", "*prefer not to say*").

Values. Own and perceived values were again measured with the PVQ-21, as in sample 1. We measured own and perceived human values again after the election, but we will only report the responses of time 1 because of the larger sample (using the values data from time 2 did not change the pattern of results, given the high correlation between both measure moments, rs > .62, and previous evidence for the stability of values, see Schwartz et al., 2001).

Need for cognition. Need for cognition was measured with the 18-item need for cognition scale (Cacioppo, Petty, & Kao, 1984). Example items include "The notion of thinking abstractly is appealing to me" and "Thinking is not my idea of fun" (reversed coded). Responses were given on a response scale ranging from 1 (*extremely uncharacteristic of me*) to 5 (*extremely characteristic of me*; α = .91).

British identity. British identity was measured with the 4-item satisfaction subscale of the in-group identification scale of Leach et al. (2008b). Example items include "I am glad to be British" and "It is pleasant to be British". Responses were given on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*; α = .95).

Sample 2 materials (post-election).

Brexit attitudes. Specific attitudes towards Brexit were measured by asking how much participants supported each of the following scenarios: "Leave the EU, leave the single market and stop free movement of labour" (recoded), "Leave the EU, but stay in the single market and keep free movement of labour", "Stay in the EU". Responses were given on a scale from 1 (*don't support this option at all*) to 7 (*support this option very much*; α = .79). We used this measure to confirm that the

Brexit vote (i.e., leave vs remain) was still a meaningful distinction approximately one year after the referendum. That is, we wished to test whether Leavers are still clearly more in favour of Brexit than Remainers.

Sample 3 materials.

Brexit vote. We asked participants how they voted in the Brexit referendum (i.e., "*remain*", "*leave*", "*not eligible to vote*", "*prefer not to say*").

Human values. We assessed participants' values using the 10-item TiVi measure (Sandy, Gosling, Schwartz, & Koelkebeck, 2017). This measure presents ten personal statements about the importance of each of Schwartz's ten value types (Schwartz, 1992), and we asked participants to indicate how strongly they agree with each statement on a scale from 1 (*strongly disagree*) to 6 (*strongly agree*).

Identification with being British. Participants completed the In-group Identification scale (Leach et al., 2008a). The scale contains 14 statements including "I feel a bond with British people" and "The fact that I am British is an important part of my identity" and participants indicated to what extent they agreed with these statements from 1 (*strongly disagree*) to 7 (*strongly agree*). The data favoured a single-factor solution and averaging across all 14 items yielded a reliable identification score ($\alpha = .91$).

Political orientation. Next, we asked how attached they consider themselves to the Labour party, the Conservative party, and the Liberal Democrats. Further, we asked how interested they are in British politics on scales from 1 (*not at all*) to 5 (*very much*). Additionally, participants indicated how they would describe their political views on a scale from 1 (*liberal*) to 10 (*conservative*).

Prejudice. We measured participants' prejudice towards immigrants with the blatant and subtle prejudice scale (Pettigrew & Meertens, 1995). Participants responded to 20 statements including "Immigrants have jobs that British people

should have" in a random order on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*). Although the items are usually combined to form the two factors blatant and subtle prejudice, the data favoured a one-factor structure which showed very good internal consistency ($\alpha = .94$). We therefore combined all items to a single prejudice score.

Zero-sum beliefs. In addition, we assessed perceived competition with each group using Esses et al.'s (1998) zero-sum beliefs measure. This measure presents 14 items (e.g., "when immigrants make economic gains, British people already living here lose out economically") which were answered on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*). The items loaded on one common factor and showed high internal reliability ($\alpha = .98$).

Demographics. Finally, we asked participants what their gross household income was, ranging from 1 (*under £5,000 per year*) to 15 (*more than £150,000 per year*), and we asked participants for the highest level of completed education, ranging from 1 (*no schooling completed*) to 7 (*postgraduate education*).

Results

To analyse the data, we first performed several "manipulation checks", tested for mean differences, and finally computed the similarities between Leavers and Remainers across all variables (e.g., values, British identity, prejudice).

First, we tested whether the distinction between Leavers and Remainers was still politically meaningful approximately one year after the Brexit referendum. Leavers were still more favourable towards Brexit than Remainers ($t[302.50] = 26.29$, $p < .001$, PCR = 17, $d = 2.77$, see Table 3), and Leavers on average indicated to be more conservative, more attached to the Conservative Party, and less attached to the Labour Party and the Liberal Democrats than Remainers (Table 4).

Next, we performed a series of analyses of covariance with the Brexit vote as between-subject factor, age and gender as covariates, and the constructs listed in Tables 2-4 as dependent variables. As controlling for age and gender did not change the pattern of results, we focused on pairwise comparisons and Welsh's t-tests without covariates because this allowed us to compute the PCR. The results are listed in Tables 2-4 for each of the three samples. To reduce the likelihood of false-positive findings because of the large number of dependent variables, we only interpreted findings with $p < .001$.

Mean differences. There were several mean differences between Leavers and Remainers. Consistent with past evidence, Leavers scored higher on British identity, prejudice, and zero-sum beliefs, and reported a lower need for cognition and a lower level of education than Remainers (see Tables 3 and 4).

In addition, we extended this evidence by showing that Leavers valued security and tradition more, and universalism less than Remainers in samples 1 and 2. In sample 3, the mean differences for human values were in the same direction but only reached statistical significance for universalism (Tables 2-4). Remainers reported on average higher civic engagement, more support for devolution, and higher active coping (i.e., political engagement; Tables 2 and 3). In addition, Remainers reported higher voting intention in the Greater Manchester election, and higher social and environmental concerns (Tables S1-S3).

Overlap. However, as predicted, the amount of similarities was substantial. The average PCR across all variables was 94.54 (*range* = 86-100) in sample 1, 89.41 (*range* = 17-100) in sample 2, and 83.36 (*range* = 51-100) in sample 3. Attitudes towards Brexit (PCR = 17) in sample 2, and prejudice (PCR = 51) and zero-sum beliefs (PCR = 52) in sample 3 showed the lowest amounts of similarity between Leavers and Remainers.

---TABLEs 2-4 AROUND HERE---

Study 2

Study 1 has consistently shown that while there are significant mean differences between Leavers and Remainers on a range of psychological outcomes including human values, British identity, and prejudice against immigrants, Leavers and Remainers are more similar to each other than they are different. In Study 2, we aimed to test the practical importance of highlighting these actual similarities compared to highlighting mean differences. To do so, we presented key findings from Study 1 and either highlighted the similarities between Leavers and Remainers in superimposed normal distributions or the mean differences in barplots. Consistent with our advocated balanced approach, we use effect sizes that reflect mean differences between conditions (i.e., Cohen's *d*) and effect sizes that reflect overlap (i.e., PCR) when presenting our findings. We focused on four variables that revealed reliable mean differences. We consider these variables as highly relevant to the public discussions surrounding the Brexit vote: Security values, universalism values, British identity, and prejudice against immigrants. Subsequently, we assessed perception of intergroup harmony and motivations and attitudes towards the other respective group (i.e., Leavers or Remainers).

As discussed before, to the best of our knowledge previous research examining similarity effects on attitudes has presented different information to participants that either emphasised similarities or differences (e.g., Brewer & Silver, 1978; Brown & Abrams, 1986; Roccas & Schwartz, 1993; for an exception see Hanel et al., 2019). In contrast, our approach uses the same variables and the same information, but it either highlights the overlap or mean differences among Leavers and Remainers.

Method

Participants. Based on relevant previous research (Hanel et al., 2019), we expected a medium-to-large effect size of $d = 0.65$ for the effect of highlighting either the overlap or mean differences between Leavers and Remainers. A power analysis revealed that a sample size of 52 participants for each cell would be required for a power of .95 (directed hypothesis). In total, 206 people completed the survey ($M_{age} = 37.53$, $SD = 12.17$, 146 women). Sixty-six participants voted 'leave' in the 2016 Brexit referendum, 113 'remain', and 26 decided not to vote (one missing value). Participants were recruited via a paid online platform, Prolific Academic. The data was collected in September 2017.

Materials and Procedure. Participants were randomly allocated to an overlap or mean differences condition. In the overlap condition, participants were presented with four superimposed normal distributions, whereas in the mean differences condition, participants saw four barplots which included standard errors and a restricted y-axis range (Figure 2). These plots showed how Leavers and Remainers compared on four variables that revealed reliable mean differences in Study 1: Security values, universalism values, British identity, and prejudice (which was rephrased and recoded as feelings towards immigrants to avoid the more socially sensitive term "prejudice"). We chose superimposed normal distributions to display overlap between Leavers and Remainers because they were rated as more comprehensible compared to superimposed histograms (Hanel et al., 2019). To display mean differences, we used barplots because we consider them among the most common ways psychological researchers display their findings. In both conditions, all four graphs were presented together. To create the graphs, we used Study 1 data from sample 1 for security and universalism, and from sample 3 for British identity and prejudice.

---FIGURE 2 AROUND HERE---

Participants in both conditions were informed that they would "be asked to rate the extent to which graphical information reflects differences and similarities between groups of people." Then, we informed them that all the figures we presented were based on actual data from previous scientific studies - that is, "*the data you will see is [sic!] real*" (emphasis was in bold). Specifically, participants were informed that they "will see the responses of people who voted leave ("Leavers") and remain ("Remainers") in the Brexit referendum in June 2016. Please take a close look at the figure(s) before responding to questions." Next, we shortly described the graphs and variables (e.g., "All respondents were asked to rate the importance of security (e.g., family security, social order) and universalism (e.g., broad-mindedness, equality) on a scale from 1 (unimportant) to 6 (very important)."

After the four graphs were presented, all participants responded to the same five items on a slider measure ranging from 0 (not at all) to 100 (very much). The five items were (1) "How similar are Leavers and Remainers overall?"; (2) "How easily do you think Leavers and Remainers can get along with each other?"; (3) "How motivated are you to engage in a discussion with someone who voted in the Brexit referendum for the opposite outcome than you did?"; (4) "How favourable do you evaluate the people in general who voted for the opposite outcome than you did in the Brexit referendum?"; and (5) "How similar are Leavers and Remainers in terms of human values, British identity, and feelings towards immigrants?" This study was collected together with other data unrelated to the present project (participants completed around 150 items concerning their attitudes towards babies, toddlers, children, and teenagers).

Results

To analyse the data, we first tested for potential moderators before we performed a series of between-subject comparisons to test whether the presentation mode of Study 1 findings influenced intergroup perceptions and attitudes.

Moderators. First, we tested whether the Brexit vote (leave vs remain) would interact with the presentation mode (overlap vs mean differences) on the five dependent variables. None of the interactions of the two-way ANOVAs were significant (all Fs < 1.41; ps > .24). Also, including age and gender as covariates did not affect the pattern of results. We therefore collapsed across the Brexit vote, age, and gender, and focused on the pairwise comparisons between presentation modes in the next step.

Mode of presentation. The means of highlighting overlap or mean differences were all in the expected direction, with three of the five mean comparisons reaching significance (Table 5, see also Figure S2 in the Online Supplemental Materials). Participants in the overlap condition perceived Leavers and Remainers to be more similar compared to participants in the mean differences condition. Additionally, participants in the overlap condition were more likely than participants in the mean differences condition to believe that both groups could easily get along. However, the motivation to engage in direct contact with members of the other group and favourability towards the other group did not differ significantly between conditions.

---TABLE 5 AROUND HERE---

General Discussion

It has been claimed that the Brexit referendum of June 2016 has revealed a divided, rather than a United Kingdom (e.g., Gillett, 2019; Hobolt, 2016; Vasilopoulou & Talving, 2019), with tensions growing among those who voted

'leave' ('Leavers') and those who voted 'remain' ('Remainers') (Fieldhouse & Prosser, 2017). The present research supports this claim by showing that one year after the referendum, Leavers and Remainers are still split over the Brexit vote and their general political orientation. Consistent with the literature (Hobolt, 2016; Matti & Zhou, 2017; Meleady et al., 2017; Swami et al., 2018), we found that Leavers on average have a stronger in-group identification and are more sceptical towards immigrants. In addition, Leavers valued security and tradition more and universalism less than Remainers. Finally, we also presented novel evidence that Remainers are on average more concerned about various social and environmental issues. Remainers find it more important to contribute to their community, are more motivated to engage in and enjoy thinking than Leavers. Together, these mean differences may help explain people's voting decisions. Leavers attach on average greater importance to conservative principles such as security and tradition, which they may believe are better promoted outside of the European Union. In contrast, Remainers attach on average greater importance to the welfare of all people, social and environmental issues, and to their community. These findings suggest that Remainers are more likely to believe that both their own community and society at large benefit from close cooperation within the European Union. Further, it may be suggested that Remainers gave their vote more thought based on the finding that Remainers reported to enjoy thinking more. This is a provocative finding and it would be fruitful for future research to examine this mechanism in greater detail.

Despite these reliable mean differences, the average similarity between Leavers and Remainers was approximately 90% across all variables. Even for prejudice towards immigrants, the variable that showed by far the largest mean difference, the amount of similarity between both groups was still substantial with 51%. The similarities for other variables that are often mentioned as showcasing

important differences between Leavers and Remainers such as tradition values, were with close to 90% even more substantial. Hence, anecdotal evidence as reported in the Introduction that "Leavers are racists" or "Leavers are very traditional" is clearly exaggerated. Although Leavers had on average a higher level of prejudice towards immigrants, more than half of the Remainers had a comparable level of prejudice. Similarly, statements that Leavers are more traditional need to be handled with caution. Almost nine in ten Remainers valued tradition as much as Leavers. In contrast to our balanced approach, the common approach of focusing on mean differences between groups ignores these relatively large similarities. This may indirectly contribute to social tensions and polarisations between groups (e.g., through hypothetical claims such as "even research shows that Leavers are more racist"). This is likely to be the case not only for Leavers and Remainers but may be true in various contexts that involve polarised groups, such as Republicans and Democrats in the US (Iyengar & Krupenkin, 2018), unionists and separatists in Catalonia (Muro & Vlaskamp, 2016), and East Germans and West Germans (Jiménez, 2015). Given the social and political importance such research findings, we recommend a more balanced approach of reporting differences and similarities between groups.

In fact, Study 2 found that presenting mean differences – the default way how scientific findings are reported – leads to an underestimation of similarities between groups and to lower perceived harmony between Leavers and Remainers, compared to presenting the actual degree of overlap between groups. This finding is broadly consistent with the common ingroup identity model (Gaertner & Dovidio, 2000). The model suggests that highlighting the actual overlap between groups may lead participants to recategorise their own group and the outgroup as a superordinate common ingroup, thereby disbanding intergroup boundaries and increasing perceived

intergroup harmony. The finding is also broadly consistent with previous research showing that highlighting similarities improves attitudes (e.g., Brown & Abrams, 1986). Importantly, however, the present research demonstrates this effect by presenting the same information in different ways, either highlighting mean differences or highlighting overlap between the groups.

However, contrary to our expectations, we did not find significant mean differences in Study 2 on attitudes and the motivation to engage with the other group. This might be because our manipulation was only presented once. Attitudes and motivation towards another group may be too robust to be overridden by a one-shot informational manipulation. This may be particularly the case in the context of a hot topic such as Brexit, where people's stance towards the other group may be based on strong feelings, beliefs, and resistance. Future research may benefit from using a more extensive manipulation. For instance, participants could debate either similarities or differences between Leavers and Remainers. Future research could also examine the benefits of a balanced portrayal of findings for other polarised groups (e.g., Republicans vs Democrats in the US).

The relatively large amount of similarities might seem uncommon and surprising at a first glance because most published research findings in psychology focus on differences (Fanelli, 2010; Open Science Collaboration, 2015). However, large similarities between groups of individuals are well-supported throughout the social sciences. For example, almost all countries signed the universal declaration of human rights and are part of the international police organisation. This reflects a shared understanding of what is right and wrong (Bobbio, 1996). Further, data from more than 50 countries suggests that the hierarchy of human values is universal (Schwartz & Bardi, 2001): Benevolence values are most important in nearly all countries, whereas power values are generally least important.

Conclusion. Across three samples we found reliable mean differences between Leavers and Remainers, but also that for most psychological variables the similarities were substantial and strongly outweighed the differences. By highlighting these similarities, the present research fostered a more accurate perception of the research findings and higher perceived intergroup harmony. We therefore recommend that researchers report effect sizes that express similarities to allow for a more balanced portrayal of research findings, especially if polarised groups are compared.

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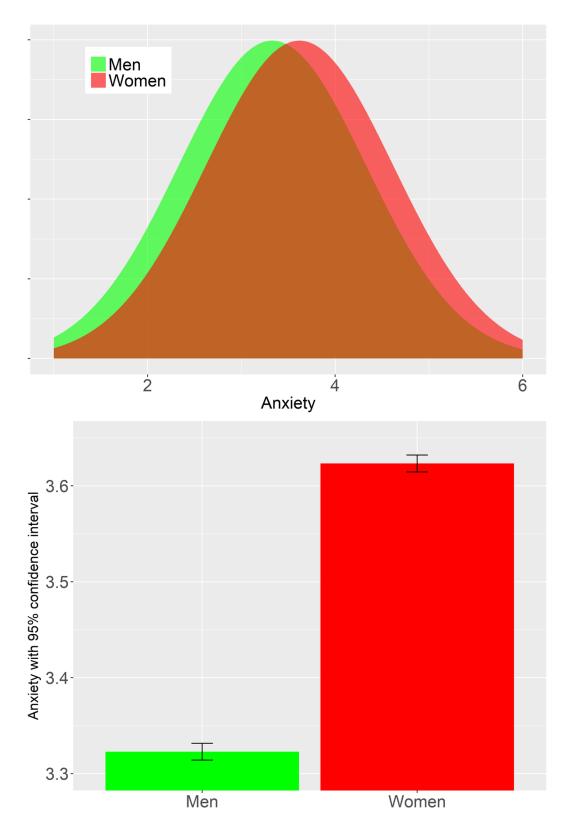
Figure 1. Anxiety levels of women and men. The top graph highlights the

similarity between both distributions, the lower graph the differences.

Note: To create the graphs, we used a scale ranging from 1 to 6 and a SD of 1 for both
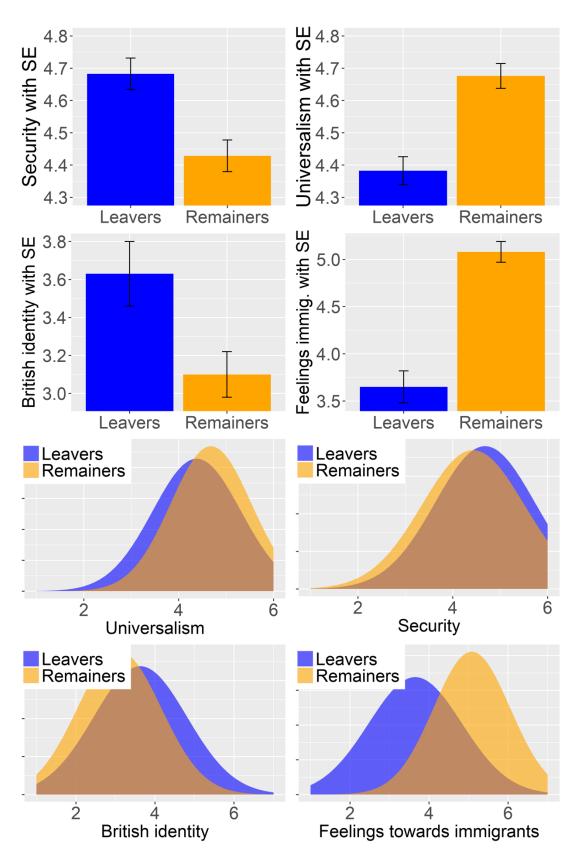
groups.

Figure 2. Stimuli used in Study 2.

Note. SE: Standard Error, Feelings immigr.: Feelings towards immigrants. Both was spelled out in the graphs displayed to the participants.

Table 1

Variables used in Study 1

	Sample 1	Sample 2	Sample 3
Human values (own)	X	X	X
Human values (perceived)	X	X	
Devolution	X		
Need for Cognition		X	
British identity		X	X
Attitudes towards Brexit ('manipulation check')		X	
Income			X
Education			X
Prejudice			X
Zero-sum beliefs			X
Party Attachment Conservatives			X
Party Attachment Labour			X
Party Attachment Liberal Democrats			X
Political interest			X
Political views			X
Sample size	940	440	126
Sample type	Representative	General public (online)	General public (online)
Percentage of Leavers (absolute number of Leavers/Remainers in brackets)	49.0% (461/479)	41.6% (183/257)	39.7% (50/76)

Percentage of women (absolute number of women/men in brackets)	48.2% (452/486)	54.4% (239/200)	52.4% (66/60)
Date of data collection	April 2017	June 2017	May 2017

Table 2

Descriptive and inferential statistics along with effect sizes for Leavers vs

Remainers comparisons in sample 1

	Leave		Remain					
	M	*SD*	*M*	*SD*	*t*	*p*	*d*	PCR
Security	4.68	1.05	4.43	1.08	3.66	<.001	0.24	91
Tradition	4.17	1.03	3.91	1.13	3.65	<.001	0.24	91
Conformity	4.02	1.15	3.80	1.19	2.85	.005	0.19	93
Benevolence	4.67	0.97	4.75	0.94	-1.30	.195	-0.08	97
Universalism	4.38	0.93	4.68	0.85	-5.06	<.001	-0.33	87
Self-direction	4.30	1.00	4.24	1.02	0.79	.430	0.05	98
Stimulation	3.31	1.22	3.51	1.24	-2.50	.013	-0.16	94
Hedonism	3.54	1.12	3.71	1.15	-2.25	.025	-0.15	94
Achievement	3.37	1.20	3.50	1.23	-1.65	.099	-0.11	96
Power	2.74	1.11	2.78	1.10	-0.58	.561	-0.04	98
Security_o	4.23	1.07	4.19	1.01	0.62	.534	0.04	98
Tradition_o	3.43	1.09	3.37	1.03	0.76	.450	0.05	98
Conformity_o	3.25	1.15	3.17	1.07	1.16	.245	0.08	97
Benevolence_o	4.02	1.11	4.11	1.03	-1.36	.175	-0.09	96
Universalism_o	3.55	1.06	3.61	1.07	-0.81	.418	-0.05	98
Self_direction_o	3.96	1.02	3.98	1.01	-0.33	.743	-0.02	99
Stimulation_o	3.76	1.03	3.82	1.06	-0.96	.337	-0.06	98
Hedonism_o	4.23	1.06	4.35	0.98	-1.73	.084	-0.11	96
Achievement_o	3.80	1.01	3.89	0.99	-1.36	.173	-0.09	96
Power_o	3.49	1.12	3.58	1.02	-1.22	.224	-0.08	97
Devolution	3.46	0.94	3.76	0.82	-5.24	<.001	-0.34	86

Note. *d*: Cohen's *d*, PCR: Percentage of Common Responses, _o: others (perceived values).

Table 3

Descriptive and inferential statistics along with effect sizes for Leavers vs

Remainers comparisons in sample 2

	Leave		Remain					
	M	*SD*	*M*	*SD*	*t*	*p*	*d*	PCR
Security	4.55	1.01	4.14	1.10	3.99	<.001	0.38	85
Tradition	4.00	0.95	3.56	1.07	4.54	<.001	0.43	83
Conformity	3.73	1.11	3.47	1.27	2.32	.021	0.22	91
Benevolence	4.38	1.00	4.54	0.96	-1.68	.094	-0.16	93
Universalism	4.14	0.95	4.63	0.90	-5.48	<.001	-0.54	79
Self-direction	4.45	0.99	4.49	0.99	-0.42	.673	-0.04	98
Stimulation	3.32	1.28	3.53	1.23	-1.70	.091	-0.17	93
Hedonism	3.49	1.25	3.61	1.17	-0.97	.332	-0.10	96
Achievement	3.53	1.25	3.64	1.22	-0.88	.381	-0.09	97
Power	2.84	1.17	2.66	1.06	1.62	.107	0.16	94
Security_o	4.71	0.92	4.72	0.91	-0.09	.930	-0.01	100
Tradition_o	3.92	1.05	3.93	0.92	-0.06	.952	-0.01	100
Conformity_o	3.85	1.03	3.97	0.99	-1.18	.239	-0.12	95
Benevolence_o	4.24	0.99	4.21	0.81	0.33	.742	0.03	99
Universalism_o	3.77	0.89	3.48	0.94	3.25	.001	0.31	88
Self_direction_o	3.92	0.95	3.68	0.97	2.66	.008	0.26	90
Stimulation_o	3.59	1.06	3.26	0.98	3.34	.001	0.33	87
Hedonism_o	4.04	1.03	4.02	0.94	0.18	.859	0.02	99
Achievement_o	4.07	0.97	4.09	0.90	-0.23	.819	-0.02	99
Power_o	3.69	1.04	3.81	0.97	-1.21	.229	-0.12	95
NFC	3.29	0.71	3.53	0.65	-3.68	<.001	-0.36	86
British identity	5.58	1.27	4.97	1.36	4.81	<.001	0.46	82
Brexit attitudes	2.30	1.39	5.69	1.09	-26.29	<.001	-2.77	17

Note. *d*: Cohen's *d*, PCR: Percentage of Common Responses, _o: others (perceived values), NFC:

Need for Cognition.

Table 4

Descriptive and inferential statistics along with effect sizes for Leavers vs Remainers comparisons in sample 3

	Leave		Remain					
	M	*SD*	*M*	*SD*	*t*	*p*	*d*	*PCR*
Security	4.46	1.22	4.25	1.18	0.97	.34	0.18	93
Tradition	2.22	1.48	1.93	1.36	1.12	.27	0.20	92
Conformity	4.38	1.37	3.97	1.41	1.61	.11	0.29	88
Benevolence	4.36	1.19	4.82	0.98	-2.35	.020	-0.42	83
Universalism	4.56	1.43	5.28	0.89	-3.47	.001	-0.62	76
Self-direction	4.92	0.94	5.16	0.85	-1.47	.14	-0.27	89
Stimulation	3.38	1.47	3.32	1.30	0.26	.80	0.04	98
Hedonism	4.20	1.14	4.18	0.88	0.09	.93	0.02	99
Achievement	3.34	1.36	3.32	1.42	0.10	.92	0.01	100
Power	2.53	1.34	2.62	1.36	-0.36	.72	-0.07	97
Income	6.79	2.96	7.40	3.38	-0.97	.33	-0.19	92
Education	4.98	1.06	5.64	0.94	-3.66	<.001	-0.66	74
British Identity	3.63	1.18	3.10	1.06	2.62	.010	0.47	81
Prejudice	4.35	1.18	2.92	0.97	7.47	<.001	1.33	51
Zero-sum beliefs	3.20	1.28	1.74	0.95	7.34	<.001	1.31	51
Party Attachment Conservatives	2.34	1.33	1.57	1.02	-3.68	<.001	0.66	74
Party Attachment Labour	1.80	1.16	2.61	1.28	-3.59	<.001	-0.66	74
Party Attachment Liberal Democrats	1.38	0.75	1.92	0.95	-3.39	<.001	-0.64	75
Political interest	3.26	1.26	3.22	1.28	0.16	.88	0.03	99
Political views	6.10	2.48	3.80	2.02	5.71	<.001	1.02	61

Note. Higher scores on political views reflect more conservative than liberal views. Higher scores on emotions to election outcome reflect more positive emotions. *d*: Cohen's *d*, PCR: Percentage of common responses.

Table 5

Descriptive and inferential statistics along with effect sizes for similarity vs difference comparisons

	Similarity		Difference					
	M	*SD*	*M*	*SD*	*t*	*p*	*d*	PCR
Overall similarity	57.56	20.27	28.98	24.90	8.99	.0000	1.26	52.74
Getting along	55.93	20.50	45.33	21.43	3.62	.0002	0.51	80.03
Motivation to engage	55.22	30.58	50.11	27.75	1.26	.1049	0.17	93.04
Evaluation of other group	45.74	23.03	41.31	21.28	1.43	.0767	0.20	92.06
Specific similarity	43.96	21.15	29.59	24.27	4.52	.0000	0.63	75.15

Note. *d*: Cohen's *d*, PCR: Percentage of common responses. *p*-values are based on directed hypotheses.