Facts versus Feelings: Objective and subjective experiences of diversity differentially impact attitudes towards the European Union

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Abstract

This research used secondary data sources to examine how objective and subjective experiences of diversity and immigration are associated with voting and attitudes toward the European Union. Using objective measures of diversity and migration, England's electorate regions with the most diversity and highest levels of projected migration had the lowest proportion of Leave voters in the 2016 Brexit vote (Study 1). Using subjective assessments of intergroup contact and immigration attitudes (Study 2), higher perceived immigrant population size was associated with greater perceived competition with immigrants and Euroscepticism, whereas intergroup contact had the opposite effect. Surprisingly, the explicit desire to reduce immigration was not associated with anti-EU attitudes. This research highlights the importance of combining objective and subjective measures of diversity and immigration in analyzing political motivations, as objective measures suggested immigration did not adversely affect Brexit votes (Study 1), whereas some subjective perceptions of immigration led to greater anti-EU attitudes.

In one of the most surprising political upsets in recent memory, on June 23, 2016 the United Kingdom's EU Referendum concluded with a vote in favour of leaving the European Union. Despite former Prime Minister David Cameron's urgings to remain, 52% of UK citizens expressed their desire for an independent Britain in the largest voting turn-out since 1992 (Electoral Commission, 2016). The aftermath of the referendum left many reeling. The result, colloquially termed "Brexit", disrupted the UK government with Cameron's resignation in the wake of the results, sparked discussions of a second Scottish independence referendum, and rocked the global economy as the British pound fell to levels not seen since 1985 (Somerville, 2016). Cameron's successor, Prime Minister Theresa May, announced her intention to invoke Article 50 of the Treaty of the European Union – an action plan for member states intending to leave the EU – in a move to implement the UK's separation ("Article 50", 2017).

The referendum left many eager to understand who voted for Brexit, and what incited the desire to leave (i.e., Euroscepticism). While an EU member, the UK maintains access to its single market, allowing for the free trade of goods and services between member states and facilitating the cross-continent migration of EU citizens. The latter was a sticking point for many pro-Brexit ("Leave") voters. A key goal of the "Vote Leave" campaign was to wrest control of the UK's borders from the EU by imposing a bill ending the automatic right of intra-EU migrants to enter the nation ("EU Referendum: Vote Leave", 2016). Concerns about state sovereignty, disdain toward EU-imposed trade regulations, and scepticism of Britain's financial contributions to the EU were notable platform issues, but it is indisputable that the movement was fuelled in part by immigration-related worries – a salient concern for UK citizens over the past decade (Becker & Fetzer, 2016; Somerville, 2016; Springford, 2013; Stokes, 2016). Brexit campaigners thus employed anti-immigrant rhetoric to attract support for their cause, for example, by

attributing growing pressure on social services to an influx of foreign nationals (Becker, Fetzner, & Novy, 2016). This strategy is not exclusive to the Brexit campaign, as support for the UK Independence Party (UKIP), which has long campaigned on a British nationalist platform, has been demonstrably linked with Euroscepticism and anti-immigrant attitudes (Becker & Fetzner, 2016; Clarke, Whiteley, Borges, Sanders, & Stewart, 2016).

Immigration and Euroscepticism

Research suggests that negative attitudes toward immigrants are shaped in part by feelings of threat or perceived competition; these feelings of threat and competition can be based on *realistic* concerns, such as concerns about job and resource access, and/or *symbolic* concerns about threats to the sanctity of group values and norms (Esses, Jackson, Dovidio, & Hodson, 2005; Stephan & Renfro, 2002). The relations between attitudinal orientations such as right-wing authoritarianism (RWA) and social dominance orientation (SDO) with prejudicial or hostile attitudes towards immigrants have been shown to be facilitated by the perception of competition with the majority group, either as morally deviant and a disruption to the established social order (in the case of RWA) or as an economic burden (in the case of SDO; Duckitt & Sibley, 2010).

Euroscepticism in the UK may therefore be understood partially through the Unified Instrumental Model of Group Conflict (Unified IMGC; Esses, Jackson, & Abu Ayyash, 2010). The Unified IMGC suggests outgroup prejudice manifests from the combination of resource stress and salient potential out-groups. That is, when the economy is poor, people will look for others to blame. In the context of Britain, the economic recession of 2008 has had longstanding negative impacts on the economy (Reinhart & Rogoff, 2009; Bell, 2014). Although immigration positively impacts the economy (Springford, 2013), the Unified IMGC suggests that the overall increase in migration brings salience to immigrant groups, making them a target for people to

displace their economic anxieties. In line with this prediction, many British citizens have expressed fears that the flow of immigration from the EU has negatively impacted job access or that it has had deleterious effects on wages (Wadsworth, Dhingra, Ottaviano, & Van Reenen, 2016). Thus, in accordance with the Unified IMGC, the presence of a salient outgroup (i.e., immigrants) may have led to the displacement of economic anxieties stemming from resource stress (i.e., the aftermath of the 2008 recession), leading to prejudice towards these groups.

Majority-Minority Shift and Intergroup Contact

Though economic factors are important for understanding people's attitudes, another factor that contributes to anti-immigrant sentiments is demographic shift. Western societies, including the UK, are undergoing large demographic changes in racial and ethnic diversity due mainly to immigration; in fact, projections suggest that racial and ethnic minorities will overtake (in terms of population size) the local White populations in the UK by 2070 (Coleman, 2013). Recent research has suggested that this majority-minority shift could have detrimental effects on intergroup relations. Majorities, as the default or "prototypical" group, have a vested interest in maintaining their standing, and demonstrate resistance to the idea of increasing diversity. For example, White Americans who are exposed to information about this shift experience more racial bias, increased support for cultural assimilation, support for conservative policies (regardless of party affiliation), more anger for outgroups, and more sympathy for ingroups (Craig & Richeson, 2014a; Craig & Richeson, 2014b; Danbold & Huo, 2015; Outten, Schmitt, Miller, & Garcia, 2012). Crucially, it appears to be the *perception* of demographics that is integral. Individuals who overestimate the size of immigrant populations are more likely to support anti-immigration policies than those who underestimate them (Herda, 2013). As well, Hooghe and de Vroom (2015) found a relation between perceived – but not actual – immigrant

population size and anti-immigrant attitudes in a large Belgian sample. Taken together, the majority-minority literature paints a bleak outlook for intergroup relations, as increasing diversity may lead to greater intergroup tensions due to feelings of intergroup threat (Craig & Richeson, 2014b; Danbold & Huo, 2015).

Though perceptions of demographic change and increases in diversity can lead to intergroup anxiety, they also allow for positive contact that can buffer against prejudice. Allport's (1954) contact hypothesis proposes that positive intergroup contact improves intergroup relations. Whereas Allport proposed that the effects of positive intergroup contact can only occur upon meeting four pre-specified conditions (equal status, common goals, cooperation, support from authority), a meta-analysis of contact research suggests that positive contact on its own is sufficient (Pettigrew & Tropp, 2006). More recent work on the contact hypothesis has demonstrated that intergroup contact improves both implicit and explicit racial attitudes by reducing stereotypes, ameliorating intergroup anxiety, promoting more compassionate attitudes toward outgroups, and diminishing support for punitive immigration policies (Ellison, Shin, & Leal, 2011; Shook & Fazio, 2008; Vezzali & Giovannini, 2011). Additionally, MacInnis and Page-Gould (2015) suggest that while individual intergroup interactions are typically marked with tension, the aggregate of multiple interactions (i.e., one's contact history) should result in lower racial bias. Thus, this model of intergroup contact suggests that diversity should promote a reduction in bias to the extent that diversity allows for contact to occur. While the majority-minority literature suggests that people on average feel anxious in the face of increased diversity, these affective forecasts do not take into account the effects of positive intergroup contact. As such, individuals already living in diverse societies should have more positive attitudes towards immigrants, to the extent that they experience positive intergroup contact.

Whereas much of the American research on intergroup relations focuses on contact between different racial groups, the same theories can be applied to relations between ethnic groups in Britain. The UK census makes the distinction between White native Britons and non-British White individuals, reflecting socially relevant lines between these demographic groups. In fact, ethnicity, more so than race, is indicative of cultural heritage; the divisions between racial groups are malleable, varying by time and location (Richeson & Sommers, 2016). As Richeson and Sommers point out, many groups that are now broadly considered White in North America have not always been granted this label, such as people of Irish and Italian descent. The negative attitudes of some British citizens toward White immigrants, such as Eastern Europeans, strongly indicates that intergroup hostility exists not only along racial lines, but also along ethnic ones (Becker & Fetzer, 2016).

Study 1

Past research on the majority-minority shift has demonstrated that *perceived* shifts in diversity result in increased intergroup tension (Craig & Richeson, 2014a; Craig & Richeson, 2014b; Danbold & Huo, 2015; Outten, et al., 2012). This research, however, asks people how they feel about increases in diversity in the future, so it is unclear whether these results are indicative of how people would actually react in more diverse societies. As such, Study 1 sought to examine how demographic shift affects behaviour at the population level using objective measures of diversity and demographic change. Specifically, we compared the proportion of Leave votes in various electorate regions in the UK as a function of diversity (measured by the Gibbs-Martin Index), and changes in diversity (projected levels of diversity from the census). Consistent with the majority-minority shift literature, we expected that regions projected to undergo high levels of immigration would have higher proportions of Leave votes. In addition,

we were also interested in investigating whether high versus low diversity regions would differ in the proportion of Leave voters as a function of immigration levels. Diversity may influence people's reactions in two ways. First, non-White individuals may differ systematically in their attitudes towards Brexit. Second, diversity is an antecedent for intergroup contact. Though some of this contact may not be uniformly positive, multiple exposure may reduce intergroup anxiety over time (MacInnis & Page-Gould, 2015), and living in diverse societies may ameliorate the anxiety induced by demographic changes. As such, to the extent that diversity allows for greater exposure, we predicted that diversity attenuates the effects of high immigration levels such that high diversity regions would have the lowest proportion of Leave voters regardless of immigration levels. In contrast, low diversity regions experiencing the highest levels of immigration should have the highest proportion of Leave votes.

Methods

Data sources. The final dataset consisted of $n = 326$ regions in England. Data files were merged from three sources. The total electorate and number of Leave votes were taken from the Electoral Commission (2016), whereas the 2011 UK Census provided enumeration of the UK's population by race and ethnicity (ONS, 2011). Pre-calculated migration projections, which were based on past migration trends, were taken from an ONS statistical bulletin (Nash, 2016). The analysis is limited to England, as we had access only to projected net migration data for England's electorate regions, and lacked the microdata necessary to calculate projections for Scotland, Wales, and Northern Ireland. Despite restrictions on sample size, a power analysis using G*Power 3.1.9.2 (Faul, Erdfelder, Buchner, & Lang, 2009; Faul, Erdfelder, Lang, & Buchner, 2007) suggests that we had an adequate sample size for detecting a weak effect of $f^2 = 0.05$ at 95% power.

Variables. *Proportion of Leave Voters* was calculated by dividing the total number of Leave votes by the total number of electorates. We used the proportion of leave voters as we were interested in measuring the proportion of people dissatisfied enough with the EU to vote for separation, not whether a specific region voted to “Leave”. In addition, by using the proportion of leave voters rather than the raw number of leave votes, we controlled for different population sizes across England’s electoral regions. *Net Migration* was taken directly from Nash (2016), and measures migration flow as a ratio between immigration and emigration. That is, positive values indicate greater immigration whereas negative values indicate greater emigration. Of the 326 regions in the sample, only 32 experienced out-migration. Diversity was calculated using the Gibbs-Martin Index (GMI), which is a common measure of diversity in the social sciences (Gibbs & Martin, 1962). This index is also known by other names like the Simpson’s Diversity Index or Ethnic Fractionalization. The GMI is calculated using the equation $GMI = 1 - \sum_i p_i^2$ where p is the proportion of individuals in sub-group i . The GMI was calculated based on the 18 racial and ethnic sub-groups enumerated in the 2011 UK Census (ONS, 2011) and takes a value from 0 to 1, where 0 represents a population that belongs to a single ethnic group while 1 represents a population where every single individual belongs to a separate group.

Results

The data were analyzed using regression analysis with the results summarized in Table 1. Because net migration and demographic diversity tend to be intrinsically related, we assessed the variance inflation factor and found no evidence for multicollinearity, $VIF = 1.93$. The interaction term was calculated by centering *net immigration* and *diversity* and multiplying them together and was not found to be a significant predictor of PLV, $\beta_{interaction} = -0.13$, 95% CI[-0.27, 0.01], $t(324) = -1.83$, $p = .069$. Because the interaction was not significant, a second regression model

was run without the interaction term to investigate the main effects. There was a main effect of diversity, $\beta_{\text{diversity}} = -0.60$, 95% CI[-0.71, -0.50], $t(324) = -11.305$, $p < .001$ and net immigration, $\beta_{\text{immigration}} = -0.12$, 95% CI[-0.23, -0.02], $t(324) = -2.28$, $p = 0.023$. That is, more racially and ethnically diverse electorate regions in England had proportionately fewer “Leave” voters relative to less diverse regions. Similarly, regions undergoing demographic shifts toward diversity, as measured by the Office of National Statistics net migration projections (Nash, 2016), also had proportionately fewer “Leave” voters.

Table 1.

Results for regression model examining the effect of immigration and demographic diversity on the proportion of Leave voters to the entire electorate

Predictor	β	β 95% CI	sr^2	sr^2 95% CI	r
<i>Model 1: Regression Model with Interaction and Conditional Effects of NIM and GMI</i>					
Net Immigration	-0.02	[-0.17, 0.14]	.00	[-.00, .00]	-.52**
Diversity	-0.60**	[-0.70, -0.50]	.20	[.14, .27]	-.68**
Interaction	-0.13	[-0.27, 0.01]	.01	[-.01, .02]	-.48**
Fit	$R^2 = .482^{**}$ 95% CI[.40,.54]				
<i>Model 2: Regression Model for Main Effects of NIM and GMI</i>					
Net Immigration	-0.12*	[-0.23, -0.02]	.01	[-.01, .02]	-.52**
Diversity	-0.60**	[-0.71, -0.50]	.21	[.14, .27]	-.68**
Fit	$R^2 = .477^{**}$ 95% CI[.40,.54]				

Note. * indicates $p < .05$; ** indicates $p < .01$. Significant β -weights indicate that the semi-partial correlations are also significant. Due to the variable's scales, standardized regression weights (β) are reported for ease of interpretation. sr^2 represents the semi-partial correlation squared; r represents the zero-order correlation between single predictors and the outcome. Although net immigration and demographic diversity are intrinsically linked, multicollinearity was not an issue for either model ($VIF_{\text{Model 1}} = 1.93$, $VIF_{\text{Model 2}} = 1.91$).

Discussion

Contrary to our predictions, regions projected to experience the highest levels of immigration proportionately had fewer Leave voters, relative to regions projected to experience the least immigration, and these effects were not moderated by diversity. Our analysis found that more diverse regions had proportionately fewer Leave voters relative to less diverse regions. It is unclear the exact mechanism for this, however. These effects could be driven by pro-immigration attitudes induced by contact, though our measure only assesses contact indirectly through diversity. Alternatively, non-White voters may be systemically more likely to vote Remain. While there were popular reports of Birmingham, one of England's most diverse cities, voting Leave (e.g., Bengali, 2016), more detailed analysis of the wards in Birmingham found an inverse relationship between the non-White population and Leave votes (Rosenbaum, 2016). We caution, however, against the simplistic interpretation that belonging to an ethnic minority group necessarily means pro-immigrant attitudes. Past research has found that ethnic minorities may hold negative attitudes towards immigrants to the extent that immigrants are viewed as economic competitors (e.g., Diamond, 1998) or as a means to reaffirm minorities' national identity (e.g., Pyke & Dang, 2003, Shin, 2016). In addition, there are also instances in which the "diversity = remain" trend was reversed in Brexit, such as the west London boroughs of Ealing and Hounslow, where the proportion of Asian voters was positively correlated with Leave votes (Rosenbaum, 2017).

In addition, there may be a selection bias in regions that experience the highest levels of migration. Specifically, immigrants may be drawn to move to regions in England that are particularly receptive to outsiders. As such, it would not be surprising that an increase in international migration would be inversely proportional to "Leave" votes as people in these regions may be more open to international travel. Similarly, regions with the highest levels of

diversity and projected migration tend to be more urban areas such as London. Compared to more rural areas, these regions may not be experiencing as much economic hardship that would lead to anti-immigrant prejudices.

Regardless of the specific mechanisms by which diversity affected the proportion of Leave votes, this study brings novel insights into the relations among diversity, immigration, and voting to leave the EU. While perceptions of demographic increases in diversity generally lead to negative intergroup emotions and conservative shifts in political attitudes, these patterns did not extend to effects of actual demographic diversity and immigration on voting in the context of the EU. Specifically, we found opposite, albeit weak, associations in predicting Brexit voting, where higher levels of migration were associated with a lower proportion of Leave voters. In addition, we did not find we did not find that low diversity regions that were projected to experience high levels of migration had more “Leave” voters. However, this may be due to the low proportion of low-diversity, high migration regions in the sample, making it difficult to detect an interaction effect. The present work did not have data on people’s perceptions of demographic change, so we are unable to compare whether people’s perceptions of demographic change matched projected levels of immigration. Additionally, we are unable to examine people’s attitudes towards immigration directly. Despite this, Study 1 provides a novel contribution to the social psychological study of Brexit, by examining how objective indices of diversity and immigration are associated with political phenomenon like Brexit. Future research should endeavor to combine both objective measures and subjective impressions of demographic change to paint a better picture of the effects of diversity on political outcomes.

Study 2

The purpose of Study 2 was to complement Study 1 by using the European Social Survey (ESS; 2014) to examine how immigration-related attitudes, such as perceived competition with immigrants and desire to reduce immigration, relate to support for the European Union. The ESS (2014) is an ideal survey for this research as it contains many questions assessing attitudes toward immigrants, numerical perception of immigrant population size, as well as a single item assessing attitudes toward the European Union. Although Study 1 found weak evidence that projected immigration affected political outcomes, there is strong evidence that subjective perceptions of demographic change elicit shifts in political and immigration-related attitudes (Craig & Richeson, 2014b; Herda, 2013). Additionally, the ESS (2014) assesses intergroup contact, thus allowing us to examine how diverse social networks influence people's attitudes toward immigration, in conjunction with numerical perceptions of diversity. Given that Euroscepticism may be fuelled in part by perceived competition with immigrants, and that intergroup contact reduces bias, our hypotheses were as follows.

Hypothesis 1: Contact and Desire to Reduce Immigration

Consistent with the literature, we hypothesized that intergroup contact would be associated with lower perceived competition with immigrants, which would be associated with less desire to restrict immigration. Though the ESS only assesses contact with racial/ethnic outgroup members and not immigrants, we did not consider this a significant limitation of the measure. Past research has shown that people tend to conflate ethnic minorities with immigrants (e.g., Devos & Banaji, 2005; Semenza, 2001) and that the effects of contact generalize between groups (Pettigrew, 1997). Thus, we expected positive intergroup contact to be associated with more positive attitudes (i.e., less perceived competition and desire to reduce immigration) toward immigrants and immigration.

Hypothesis 2: Competition and Euroscepticism

Given the claimed importance of immigration to Euroscepticism (Becker & Fetzer, 2016; Somerville, 2016; Springford, 2013; Stokes, 2016), we proposed that perceived competition with immigrants would be associated with decreased support for the expansion of the EU. This relation in turn was expected to be mediated by one's desire to reduce immigration. That is, perceived competition should lead to decreased support for the European Union due to individuals' desires to stem the flow of immigrants.

Hypothesis 3: Perceived Immigrant Population Size

Integrating the Unified Instrumental Model of Group Conflict (Esses et al., 2010) with research on numerical perceptions of outgroups (e.g., Hooghe & de Vroome, 2015; Outten et al., 2011), we hypothesized that numerical perception is a proxy for outgroup salience. As such, perceiving immigrant populations to be large should be associated with greater perceived competition with immigrants, which in turn should be associated with a greater desire to reduce immigration. That is, individuals who perceive immigrant populations to be large should also perceive immigrants to be competitive and want to reduce immigration.

Additionally, the majority-minority shift literature suggests that subjective perceptions of population change lead to greater support for conservative policies (Craig & Richeson, 2014b). Given that anti-EU and anti-immigration sentiments during Brexit were pushed forward primarily by conservative politicians, we hypothesized that increased perceptions of the number of immigrants would be associated with decreased support for the European Union. We expected this relationship to be mediated such that individuals who perceive a greater number of immigrants would also perceive more competition. This increased competition, in turn, would be

associated with an increased desire to reduce immigration and therefore lower support for expanding the European Union.

Methods

Data Source. Our data consisted of the sample of citizens whose families were in the United Kingdom for three generations or higher from the European Social Survey Round 7(2014), $n = 1,712$ (770 male, 942 female). Individuals were classified as “third-generation and higher” if they reported being born in the United Kingdom and both their parents were born in the United Kingdom. Respondent ages ranged from 15 to 94 years ($M_{\text{age}} = 54.02$, $SD_{\text{age}} = 18.32$). The ESS is a biennial survey with core questions and a set of rotating themed questions. The 2014 survey was the most recent publicly available version with a set of questions focusing on immigration and attitudes toward the EU. Given the survey’s timing, researchers were afforded a unique opportunity to examine how the longstanding effects of the recession (Bell, 2014; Reinhart & Rogoff, 2009) affected people’s attitudes toward immigrants and the EU.

We limited the dataset to this sample as our main focus of interest concerned people’s attitudes towards immigrants as outgroup members.¹ Though there was a single item assessing whether a person belonged “to a minority ethnic group in [country]” we did not use this item to separate responses because of its ambiguity. Specifically, the United Kingdom comprises England, Wales, Scotland, and Northern Ireland. As such, this question cannot disentangle whether people who identified as an ethnic minority were from the latter three regions or whether their family were from outside the United Kingdom.

Table 2. Latent variables and their indicators

Latent Variable	Loading
<i>Perceived Competition with Immigrants</i>	
<i>Economic Competition</i>	.977
gvtrimg : Compared to yourself government treats new immigrants better or worse (1 = much worse, 5 = much better)	.643
gvrfgap : Government should be generous judging applications for refugee status (1 = agree strongly, 5 = disagree strongly)	.593
imbleco : Taxes and services: immigrants take out more than they put in or less (0 = put in more, 10 = take out more)	.744
imbgeco : Immigration bad or good for country's economy (0 = good for economy, 10 = bad for economy)	.799
qfimwsk : Qualification for immigration: work skills needed in country (0 = extremely unimportant, 10 = extremely important)	.406
imtejob : Immigrants take jobs away in country or create new jobs (0 = creates new jobs, 10 = takes jobs away)	.659
<i>Cultural Competition</i>	.948
imueclt : Country's cultural life undermined or enriched by immigrants (0 = enriched, 10 = undermined)	.863
qfimcm : Qualification for immigration: committed to way of life in country (0 = extremely unimportant, 10 = extremely important)	.470
pplstrd : Better for a country if almost everyone shares customs and traditions (1 = disagree strongly, 5 = agree strongly)	.514
rlgueim : Religious beliefs and practices undermined or enriched by immigrants (0 = enriched, 10 = undermined)	.663
<i>Desire to Reduce Immigration</i>	
almuslv : Allow many or few Muslims to come and live in country (1 = allow many, 4 = allow none)	.830
aljewlv : Allow many or few Jewish people to come and live in country (1 = allow many, 4 = allow none)	.658
imsmetn : Allow many/few immigrants of same race/ethnic group as majority (1 = allow many, 4 = allow none)	.747
imdftn : Allow many/few immigrants of different race/ethnic group from majority (1 = allow many, 4 = allow none)	.826
<i>Intergroup Contact</i>	
dfegcf : Different race or ethnic group: have any close friends (1 = none, 3 = several)	.466
acetalv : People of minority race/ethnic group in current living area (1 = almost nobody, 3 = many)	.209
dfegcon : Different race or ethnic group: contact, how often (1 = never, 7 = every day)	.472
imdetr : Immigrant different race/ethnic group majority: married close relative (0 = not mind at all, 10 = mind a lot)	.570
quality (dfeghbg): Different race or ethnic group: contact, how bad or good (0 = none to moderate, 1 = moderate to extremely good)	.496

Note. Indicator variables are identified as they appear on the ESS .sav files. Higher values coded to indicate more perceived competition, greater desire to reduce immigration, and better intergroup contact, respectively.

Measurement Model. Latent variables were constructed from immigration-themed questions (perceived competition with immigrants; desire to reduce immigration)² and questions assessing intergroup contact,³ using confirmatory factor analysis in lavaan (Rosseel, 2012). Intergroup contact was recoded such that 0 = “no contact to moderately good contact” and 1 = “good to excellent contact”. The final model had good fit across multiple indices (CFI = .928, TLI = .914; RMSEA = .062, 90% CI [.059, .065], $p < .001$; SRMR = .057). The χ^2 test for model fit was not used, as it is almost always statistically significant in models with large sample sizes (see Kenny, 2015). Details of the final latent variables and their indicators can be found in *Table 2*.

Variables. *Support for the European Union* was assessed using a single item asking participants: “Now thinking about the European Union, some say European unification should go further. Others say it has already gone too far. Using this card, what number on the scale best describes your position?” (0 = gone too far; 10 = can go further). *Perceived number of immigrants* was assessed with an open-ended question asking participants “Out of every 100 people living in [country], how many do you think were born outside [country]?” *Perceived competition* with immigrants was created as a higher-order latent variable from two highly correlated ($r = .922$) latent variables (perceived economic and cultural competition). Indicators of these two variables assessed the degree to which immigrants were seen as competing economically and culturally with the host culture. *Desire to reduce immigration* was assessed with a latent variable consisting of four indicators that assessed the extent to which respondents wished to reduce immigration across multiple social groups. Finally, *intergroup contact* was assessed with a latent variable consisting of five indicators assessing quantity and quality of

intergroup contact, as well as diversity in one's social network (e.g., friends, family, and neighbourhood).

Table 3. Direct and indirect associations between contact, perceived competition, desire to reduce immigration, and support for EU. Values represent standardized coefficients [95% CI]

Direct and Indirect Paths	Model 1 ^a	Model 2 ^a	Model 3 ^a
<i>Intergroup Contact →</i>			
<i>Desire to Reduce Immigration</i>			
Total Effect: Path c	-.507 [-.604, -.410]***	-.535 [-.631, -.438]***	-.315 [-.394, -.236]***
Direct Effect: Path c'	-.187 [-.254, -.120]***	-.210 [-.278, -.142]***	-.083 [-.152, -.015]*
Indirect Effect: Path ab ^b	-.320 [-.391, -.250]***	-.325 [-.278, -.142]***	-.231 [-.295, -.168]***
<i>Perceived Competition →</i>			
<i>Support for the European Union</i>			
Total Effect: Path e	-.511 [-.567, -.455]***	-.516 [-.574, -.459]***	-.496 [-.549, -.443]***
Direct Effect: Path e'	-.611 [-.748, -.473]***	-.628 [-.777, -.478]***	-.512 [-.582, -.442]***
Indirect Effect: Path bd ^c	.100 [-.004, .203]	.112 [-.002, .226]	.016 [-.021, .053]
<i>Perceived Number of Immigrants →</i>			
<i>Desire to Reduce Immigration</i>			
Total Effect: Path g	.269 [.215, .323]***	.278 [.223, .332]***	.204 [.154, .254]***
Direct Effect: Path g'	.019 [-.026, .064]	.029 [-.016, .074]	.008 [-.041, .056]
Indirect Effect: Path fb ^a	.250 [.204, .296]***	.249 [.202, .295]***	.197 [.161, .232]***
<i>Perceived Number of Immigrants →</i>			
<i>Support for the European Union</i>			
Total Effect: Path h	-.043 [-.095, .008]	-.043 [-.095, .008]	-.045 [-.096, .007]
Direct Effect: Path h'	.125 [.074, .117]***	.124 [.073, .116]***	.125 [.074, .175]***
Indirect Effect: Path g'd ^c	.003 [-.005, .010]	.004 [-.004, .013]	.000 [-.002, .002]
Indirect Effect: Path fe ^b	-.204 [-.260, -.149]***	-.209 [-.268, -.150]***	-.175 [-.211, -.139]***
Indirect Effect: Path fbd ^d	.033 [-.002, .069]	.037 [-.001, .076]	.005 [-.007, .018]
Model Fit indices			
CFI / TLI	.920 / .905	.911 / .894	.903 / .883
RMSEA	.060 [.057, .063]	.062 [.058, .065]	.063 [.059, .067]
SRMR	.060	.062	.065

Notes.

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

a. Models differ by the target group referenced in the *desire to reduce immigration* variable where Model 1 includes same/different race/ethnicity, Muslim, and Jewish groups, Model 2 includes Muslim and different race/ethnic groups, and Model 3 includes same race/ethnic groups

b. Paths ab, fb, and fe represents mediated paths through perceived competition

c. Path bd and g'd is represents mediation through desire to reduce immigration attitudes

d. Path fbd represents the mediated path through perceived competition and desire to reduce immigration

Figure 1. The structural equation model (Model 1) of the effect of perceived number of immigrants, perceived competition, and intergroup contact on the desire to reduce immigration and support for the European Union. Values represent standardized values with bootstrapped standard errors. Paths c' , g' , e' , and h' indicate direct relationships accounting for the indirect effects of the mediators. Indicators have been omitted in the figure (see Table 2 for details).

Results

Structural Equation Model. We were interested in examining the relation between perceived number of immigrants and intergroup contact, perceived competition, the desire to reduce immigration, and support for the EU. A structural equation model to test the hypothesized mediation was constructed with bootstrapping (10,000) in MPlus version 7.2 (Muthén & Muthén, 2015) and was found to have good model fit across multiple indices: CFI = .920, TLI = .905; RMSEA = .060, 90% CI [.057, .063], $p < .001$; SRMR = .060. We did not use chi-squared to assess model fit given that it is biased towards significance with large sample sizes. The structural model and the direct and indirect effects of each variable can be found in *Figure 1* and *Table 3*, respectively.

Contact and Desire to Reduce Immigration. The total effect of intergroup contact on desire to reduce immigration was significant such that positive intergroup contact was associated with a decreased desire to reduce immigration, $c = -.507$, $SE = .049$, 95% CI[-.604, -.410], $p < .001$. The strength of this association was reduced to $c' = -.187$, $SE = .034$, 95% CI[-.254, -.120], $p < .001$ after taking into account the indirect effect of perceived competition ($ab = -.320$, $SE =$

.036, 95% CI[-.391, -.250], $p < .001$).

Perceived Competition and Euroscepticism. The total effect of perceived competition on Euroscepticism was significant such that greater perceived competition was associated with decreased support for the EU, $e = -.511$, $SE = .029$, 95% CI[-.567, -.455], $p < .001$. Contrary to our hypothesis, the desire to reduce immigration did not account for a significant proportion of this relationship ($bd = .100$, $SE = .053$, 95% CI[-.004, .203], $p = .060$).

Perceived Immigrant Population Size, Desire to Reduce Immigration, and Euroscepticism. There was a weak total effect of perceived immigrant population size on desire to reduce immigration, such that perceiving a high immigrant population was associated with a greater desire to reduce immigration, $g = .269$, $SE = .027$, 95% CI[.215, .323], $p < .001$. This relation appeared to be explained primarily through perceived competition with immigrants, $fb = .250$, $SE = .023$, 95% CI[.215, .323], $p < .001$, as the association between immigrant population size and desire to reduce immigration dissipated, $g' = .019$, $SE = .023$, 95% CI[-.026, .064], $p = .411$ when perceived competition with immigrants was taken into account.

There appeared to be no association between immigrant population size and support for the European Union, $h = -.043$, $SE = .026$, 95% CI [-.095, .008], $p = .099$. Only the indirect association through perceived competition accounted for a substantial portion of the variance in the immigrant size—EU association, $SE = .028$, 95% CI [-.260, -.149], $p < .001$. After taking the variance explained by all the indirect associations into account, a positive association between the perceived number of immigrants and support for the European Union manifested to $h' = .125$, $SE = .026$, 95% CI[.074, .117], $p < .001$.

Alternative models. Contrary to our hypothesis, we found a near-negligible association between the desire to reduce immigration and support for the European Union (path d in Figure 1: $d = .133$ [.004, .270]). In addition, desire to reduce immigration did not significantly account for the association between perceived immigrant population size and support for expanding the EU ($g'd = .003$, $SE = .004$, 95% CI[-.005, .010], $p = .488$; $fb'd = .033$, $SE = .017$, 95% CI[-.002, .069], $p = .064$), while perceived competition did. This may be due to the items that comprised our latent variable of desire to reduce immigration as it incorporated ethnic and religious minority immigrants, as well as ethnically similar immigrants. As such, two alternative models

were analyzed, and the results are summarized in the last two columns of *Table 3* for comparison, with the total and direct effects visualized in *Figure 2* and *3*. Model 2 limited *desire to reduce immigration* to only encompass Muslim and ethnically dissimilar target groups to represent the characteristics of salient non-Western immigrants. Model 3 limited *desire to reduce immigration* to ethnically similar groups. As seen in *Table 3*, the pattern of results remained relatively the same across all three models. The only difference is that for Models 2 and 3, the direct association between *desire to reduce immigration* and *support for EU* became non-significant as the 95% confidence intervals overlapped with 0. This was to be expected as the lower bound value of the 95% confidence interval for Model 1 was almost 0.

Figure 2. The structural equation model (Model 2) of the effect of perceived number of immigrants, perceived competition, and intergroup contact on the desire to reduce immigration of ethnically dissimilar and Muslim targets and support for the European Union. Values represent standardized values with bootstrapped standard errors. Paths c' , g' , e' , and h' indicate direct relationships accounting for the indirect effects of the mediators. Indicators have been omitted in the figure (see Table 2 for details).

Figure 3. The structural equation model (Model 3) of the effect of perceived number of immigrants, perceived competition, and intergroup contact on the desire to reduce immigration of ethnically similar targets and support for the European Union. Values represent standardized values with bootstrapped standard errors. Paths c' , g' , e' , and h' indicate direct relationships accounting for the indirect effects of the mediators. Indicators have been omitted in the figure (see Table 2 for details).

Discussion

The present analysis found an inverse association between perceived competition with immigrants and support for the expansion of the European Union such that those who perceived immigrants to be competitive also exhibited less support for the EU. We also found that more positive intergroup contact leads to decreased perceived competition with immigrants, which subsequently leads to more support for the EU. While Euroscepticism is not the only factor that accounts for Brexit votes, these findings are consistent with Meleady, Seger, and Vermue (2018), who found that negative intergroup contact was associated with more anti-immigrant attitudes, and greater intention to vote “Leave”. On the other hand, positive intergroup contact was associated with greater intention to vote “Remain” (Meleady et al., 2018).

Interestingly, there were two unexpected findings. First, desire to reduce immigration was weakly associated with support for the EU in Model 1, and not at all associated with support for

the EU in Models 2 and 3, despite the fact that high perceived competition with immigrants was associated with decreased support for the EU. This difference may stem from how support for the EU was assessed. Specifically, respondents were asked whether they thought EU expansion has “gone too far” or “not enough”. Expanding the EU means that more immigrants would be allowed to enter Britain and thus feelings of competition may directly relate to EU expansion. The desire to restrict immigration, however, may not be a question of supporting EU expansion, but of desiring to *leave* the union, as was the case with Brexit. As such, perceived competition and desire to reduce immigration may tap into different attitudes towards the EU that are not adequately assessed with the question used to assess people’s support for the EU. Second, contrary to our hypothesis, we did not find a negative association between the perceived number of immigrants and support for the EU. In contrast, there was a positive association between the two which was suppressed largely by perceived competition. That is, in the absence of perceived competition and desire to restrict immigration, perceiving a high number of immigrants is associated with greater support for the EU. Given the lack of direct effects, this highlights the importance of measuring specific immigration concerns, rather than inferring attitudes from people’s perceptions of the number of immigrants, as people showed greater support for the EU in the absence of competition. Indeed, the research of Abrams and Travaglino (2018) further highlights the importance of measuring immigration concerns along with other variables when trying to understand political behavior. Testing the aversion amplification hypothesis, Abrams and Travaglino (2018) found that political trust was an important moderator of the effects of immigration concerns on various factors like feelings of threat, European identification, and voting behavior. Specifically, individuals in Kent and Scotland who expressed a high level of

immigration concerns were more likely to feel threatened by immigration, feel less identified with Europe, and more likely to vote “Leave” (Abrams & Travaglino, 2018).

General Discussion

Across two studies, we examined the relationship between diversity and immigration on voting outcomes in Brexit and attitudes towards the European Union more broadly. In Study 1, we found that projected increases in immigration and regional diversity were associated with fewer proportional “Leave” voters. This is in contrast to the majority-minority shift literature, which suggests that increases in diversity should lead to more restrictive immigrant attitudes, which in the case of Brexit, corresponds to voting “Leave”. In Study 2, we found that greater intergroup contact was associated with perceiving immigrants as less competitive. In contrast, perceptions of immigrant population size were associated with perceived competition such that people who overestimated immigrant population size also perceived immigrants to be more (culturally and economically) competitive. Interestingly, while perceived competition was associated with less support for the EU, the desire to reduce immigration was not. Additionally, perceived competition appeared to act as a suppressor of the relationship between perceived number of immigrants and support for the EU. That is, when the effects of competition are taken into account, there seems to be a positive, albeit weak, association between perceiving a high immigrant population and supporting the European Union.

Limitations and Future Directions

Due to the secondary nature of the data set, we were unable to further investigate the unanticipated positive association between people’s numerical perceptions of immigrants and support for the European Union. One explanation may be that perceived immigrant population size is a proxy for people’s perception of the non-Western minority population, as objective non-

Western immigrant population size may predict negative attitudes towards immigrants (Schneider, 2008). As such, in the absence of competition with intra-EU migrants, people may support the idea of a ‘coalition of European nations’ to the extent that being European is associated with being White, and to the extent that diversity facilitate ethnocentrism (Munniksma et al., 2017). As such, future research should investigate the extent to which diversity promotes the desire for pro-White coalitions among White individuals, and how feelings of economic and cultural threat play into these attitudes. In addition, future research should also disentangle the targets of perceived competition. While it is counterintuitive to expect perceived competition with non-Western migrants to suppress this association between perceived number of immigrants and support for EU, competition with intra-EU migrants, which was a focal issue in Brexit, may affect this association differently than competition with non-EU migrants.

Selection issues and the lack of longitudinal designs are problems in most research on intergroup contact. While positive contact may lead to more positive outgroup attitudes, people who hold negative outgroup attitudes may avoid contact. However, there is evidence that these effects are bidirectional. A longitudinal cross-lagged analysis of contact and intergroup attitudes amongst European school children found that while outgroup prejudice predicted less contact, positive contact also led to less negative intergroup attitudes and decreased social distancing (Binder et al., 2009). That is, contact at an earlier time point not only promoted more positive emotions towards outgroups, but also facilitated greater contact.

In addition, we did not manipulate projected migration flows nor people’s numerical perceptions of immigrants in either of our studies. While people’s attitudes do not affect migration flows, they may affect their numerical perceptions of outgroups. That is, people who perceive outgroups to be more competitive may also over-estimate their population. While this is

a possibility, we are confident in our model in proposing that perceived competition stems from numerical perceptions of immigrant populations. Past research using earlier iterations of the ESS used similar questions to those used in this study and found that objective immigrant population size predicted perceived competition/threat with immigrants (Schneider, 2008). Though the current data are cross-sectional, we are confident that both intergroup contact and perceived immigrant population size affect attitudes towards immigrants in light of previous research.

While it would have been interesting to investigate the effects of contact and perceived immigrant population size on perceptions of cultural and economic competition with immigrants, these two attitudes were so highly correlated in this sample that we could not consider them as independent predictors. Analysis of the measurement properties of past iterations of the ESS containing similar economic and cultural attitudes have found the factor structure for these items to be unidimensional (Coenders, Lubers, & Scheepers, 2005). Given that this trend has been found across two waves of the ESS over a decade apart, future research should investigate why ostensibly distinct attitudes manifest as a unidimensional structure. While it may simply be a property of the ESS questionnaire, and alternative measures may be able to disentangle these attitudes, it may be possible that they cannot be distinguished because they are caused by the same underlying process. For instance, despite Schneider's (2008) measure of 'ethnic threat' consisting of both economic and cultural oriented items, only the proportion of a country's non-Western immigrants, but not the proportion of low-skilled immigrants, predicted threat. This suggests that while people may report cultural and economic concerns towards immigration, these attitudes may be caused by the same underlying factor and people simply rationalize their attitudes as being concerned about their country's culture or economy after-the-fact.

In addition, while the final study focused on people's attitudes towards the EU, Euroscepticism is not a direct measure of Brexit votes and there are other factors that can contribute to wanting to leave the European Union. For instance, recent research has demonstrated the importance of intergroup contact (Meleady et al., 2018), political trust (Abrams & Travaglino, 2018), and European identification (Abrams & Travaglino, 2018; Van de Vyver, Leite, Abrams, & Palmer, 2018) on voting behavior and intention during Brexit. Similarly, while the present research examined perceived competition more broadly, there is evidence to suggest that Brexit votes are driven primarily by perceived *realistic* competition, and not symbolic competition or intergroup anxiety.

Conclusions

The present research sought to investigate the relationships among diversity, migration, and people's attitudes towards Brexit and the European Union. While perceived competition with immigrants was inversely associated with support for the EU, we also found preliminary evidence that diversity is associated with greater support. That is, in Study 1, both increased regional diversity and projected immigration was associated with a lower proportion of "Leave" voters within subnational regions in England. Interestingly, once the effects of perceived competition are removed, perceiving immigrant populations to be large was associated with support for the EU. Taken together, this suggests that the relationship between diversity, immigration, and political institutions is complex. While changes in demographic diversity may influence people's political attitudes, it is important to investigate the many intervening factors that influence these associations.

End Notes

¹ The analysis was originally conducted with respondents who were second-generation and above, but we restricted the sample further to address issues raised by the reviewers. The overall pattern of results remained the same.

² Four questions assessing people's attitudes towards skilled/unskilled immigrants from European/non-European countries were only presented to a random subset of participants and were not included in the analysis.

³ One item that assessed the quality of intergroup contact was not shown to participants who indicated they had no intergroup contact.

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Supplementary material

Data for Study 1 contain public sector information licensed under the Open Government Licence v3.0, and data for Study 2 is made available through the European Social Survey (<http://www.europeansocialsurvey.org/>). Supplementary materials can be found on the project page for the Open Science Framework for Study 1 (<https://osf.io/khrvu/>) and Study 2 (<https://osf.io/khrvu/>).

Declaration of conflicting interests

The Author(s) declare(s) that there is no conflict of interest.

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