Journal of Social and Political Sciences

Bond, Julian R.P, and Tejeiro, Ricardo. (2019), Perceived Threat Had a Greater Impact Than Contact with Immigrants on Brexit Vote. In: *Journal of Social and Political Sciences*, Vol.2, No.2, 333-346.

ISSN 2615-3718

DOI: 10.31014/aior.1991.02.02.74

The online version of this article can be found at:
https://www.asianinstituteofresearch.org/

Published by:
The Asian Institute of Research

The Asian Institute of Research *Social and Political Sciences* is a peer-reviewed International Journal. The journal covers scholarly articles in the fields of Social and Political Sciences, which includes, but not limited to, Anthropology, Government Studies, Political Sciences, Sociology, International Relations, Public Administration, History, Philosophy, Arts, Education, Linguistics, and Cultural Studies. As the journal is Open Access, it ensures high visibility and the increase of citations for all research articles published. The *Journal of Social and Political Sciences* aims to facilitate scholarly work on recent theoretical and practical aspects of Social and Political Sciences.

Asian Institute of Research
Connecting Scholars Worldwide

ASIAN INSTITUTE OF RESEARCH
Connecting Scholars Worldwide

The Asian Institute of Research
Journal of Social and Political Sciences
Vol.2, No.2, 2019: 333-346
ISSN 2615-3718

DOI: 10.31014/aior.1991.02.02.74

Perceived Threat Had a Greater Impact Than Contact with Immigrants on Brexit Vote

Julian R.P. Bond[1], Ricardo Tejeiro[2]

[1] School of Psychology, The University of Liverpool, United Kingdom
[2] Laureate Online Education, Amsterdam, The Netherlands

Corresponding Author: Ricardo Tejeiro, School of Psychology, University of Liverpool, Eleanor Rathbone Building, South Bedford Street, L69 7ZA, Liverpool, United Kingdom. E-mail: r.tejeiro@liverpool.ac.uk

Abstract
In the early 21st century, the United Kingdom (UK) witnessed a significant rise in net immigration, partly caused by freedom of movement within the European Union (EU). In response to political pressures, a referendum on EU membership was held in June 2016, resulting in a narrow majority for leaving the EU. This paper analyses the relative impact of contact and perceived threat on prejudice and voting behaviour in the referendum based on a sample of 1127 UK adults. While racial prejudice was a significant predictor of stated voting behaviour in the referendum, the relationship of voting with perceived threat was greater. Both factors were around five times more predictive of voting behaviour than contact. Both prejudice towards and perceived threat from EU immigrants was significantly more predictive than the same measures across all immigrants, suggesting that the impact of these variables on voting behaviour was more nuanced than a general negativity towards immigrants. There was no evidence that any positive effect of contact in reducing prejudice cumulates over multiple touchpoints.

Keywords: Intergroup Threat, Contact Theory, Prejudice, Brexit, Immigration, Voting Behaviour

1. Introduction

In the last 20 years, there has been a large increase in immigration into the United Kingdom (UK) (Office for National Statistics 2017), with net immigration over four million – about 30% of them from the European Union (EU). During the parliament of 2010 – 2015, the United Kingdom Independence Party, who campaigned for a referendum on whether to leave the EU, became the third most popular party in the UK. In this parliament, the Prime Minister promised that following the 2015 UK general election, there would be a referendum on the UK's membership of the EU. In the referendum, held in June 2016, the UK voted to leave the EU. Although most immigration comes from outside the EU, the Leave campaign used EU immigration as a central plank of their strategy (Hall, 2016). Whilst there were many reasons for people's voting decisions, immediately after the announcement of the decision to leave the EU there was a 41% increase in crimes defined as being racially motivated (Forster, 2016), potentially suggesting that racial prejudice played a part (Khaleeli, 2016).

Whilst high levels of immigration can cause many varied effects, psychological theory highlights the potential for two opposing outcomes: improved racial attitudes from increased contact (Allport, 1954) and worsening racial attitudes arising from greater perceived intergroup threat (Cottrell and Neuberg, 2005). The objective of this study was to understand the extent to which contact with, and perceived threat from immigrants were factors in individuals' voting behaviour in the EU referendum.

Contact theory states that tensions between two groups can be reduced if people in one group have more contact with those in the other (Brown and Hewstone, 2005). Allport (1954) stated four conditions needed for contact to improve intergroup relations: equal status between groups, common goals, co-operation between groups, and external support for the contact. Whilst the theory was designed to apply to ingroups and outgroups in general, much of the early work focussed on race as the basis for group membership. In the present paper, the words race, racial and ethnic are used in their colloquial meaning (Kittles and Weiss, 2003), although even at the time of Allport's early work there was little support for a genetic definition of race (e.g. Montagu, 1941).

A focus of contact research was on the desegregation of schools. Bullock (1978) showed that whilst increased contact did improve intergroup relations, Allport's (1954) condition of equal status was important, and that the positive impact of contact was greater among whites (the majority group) than blacks (the minority group). Further evidence has been presented for (e.g. Wood and Sonleitner, 1996) and against (Schofield, 1979) the existence of long-term effects of contact.

Other work looked at contact effect within mixed neighbourhoods. Morris (1973) found that simply living in mixed racial areas didn't improve racial attitudes, but when there was actual contact by having both races visiting each other's houses, attitudes improved. This is similar to Pettigrew's (1967) distinction between desegregation of students, (e.g. busing black students to schools in predominantly white neighbourhoods) and integration, where students genuinely mix with a sense of equality. However, because integration requires a purposive decision to mix, there is an element of self-selection involved. Consequently, any correlation between contact and racial attitudes is potentially an effect of attitudes causing contact rather than contact changing attitudes.

More recent work has looked at a wider variety of ingroup / outgroup situations than simply racial, including sexual orientation (Heinze and Horn, 2009), disability (Slininger et al., 2000) and the elderly (Schwartz and Simmons, 2001). Another important change from the earlier work is that, particularly in the UK, minorities from a wider range of racial backgrounds have been included in the studies. A meta-analysis showed a very consistent positive contact effect size (average $r = -.21$) in terms of intergroup contact reducing prejudice (Pettigrew and Tropp, 2006) and that contact effects were greatest when Allport's conditions were satisfied – but they still occurred when there was no evidence that any of them had been met.

Opinions are divided on the mechanisms that cause contact effect. McClendon (1974) suggests that the mechanism is linked to Sheriff's (1975) theory of superordinate goals where individuals put aside differences to achieve a common goal. However, Pettigrew and Tropp (2006) found evidence for contact effect when there was no obvious superordinate goal. They proposed that the underlying mechanism for contact effects is linked to Zajonc's (1968) theory of mere exposure, where basic familiarity increases liking, reduces anxiety about the outgroup, increases empathy and (to a lesser extent) enhances knowledge. This mechanism of anxiety reduction is now commonly linked to the concept of intergroup threat theory.

Intergroup threat is an offshoot of the Social Identity Theory (Tajfel, 2010). Tajfel (1970) showed experimentally that even randomly dividing people into groups caused members of one group to discriminate against members of the other. This suggested that intergroup conflict and prejudice was not necessarily caused by existing predispositions among individuals in a group, but it could arise from group membership itself (Tajfel and Turner, 1979).

Intergroup threat theory (Stephan and Stephan, 2000) is specifically concerned with the perceived threat that one group feels from another, affecting their attitudes towards the outgroup. Riek et al. (2006) found a moderate relationship between five types of threat (realistic threats, symbolic threats, anxiety, negative stereotypes and group esteem) and outgroup attitudes. Later work by Stephan and Mealy (2011) concluded that intergroup threat could adequately be described on two dimensions: realistic threat such as taking people's jobs, burdening the welfare state etc. and symbolic threat which impact groups' system of meaning – such as religion and other culturally-based belief systems.

Shimoni and Schwarzwald (2003) showed that the type of threat varied depending on the different ingroups and outgroups and the circumstances of each group. Whilst Jews in Israel perceived the threat from Arabs as realistic, religious Jews perceived the threat from secular Jews as symbolic. Much recent work on intergroup threat shows realistic threat being significantly more important in driving prejudice than symbolic threat (e.g., Maher et al., 2017). In this line, Vasilopoulou (2016), using results of survey research, cites provision of education and health services, higher levels of crime among migrants and restriction of the right to work for immigrants as key factors affecting individuals' EU referendum voting intentions in the UK – consequently, the current study uses realistic threat as the measure of intergroup threat. This decision is also supported by recent work published after this study was conducted (van de Vyver et al., 2018) which showed a significant relationship between realistic threat, but not symbolic threat, and referendum voting behaviour.

Although there has been research on the role of contact in reducing both realistic and symbolic intergroup threat (e.g. Blascovich et al., 2001), there has been very little work on the relative impact of the two effects (contact and intergroup threat) on attitudes towards immigrants. Pettigrew and Hewstone (2017) discuss in detail the balance between contact and intergroup threats, but they only speculate on how this applied in the 2016 UK EU referendum. Whilst there were multiple reasons for individuals' voting behaviour in the referendum (with racial attitudes being just one possibility), by including stated voting behaviour as the dependent variable, this study provides quantitative values for the impact of each dimension.

Given the abovementioned arguments, we made the following hypotheses. H1: Contact effect is cumulative. Individuals having contact with other ethnic groups across multiple touchpoints are less negatively prejudiced towards these groups. H2: There is a positive relationship between levels of perceived threat from immigrants in the UK and racial prejudice. H3: The measured levels of perceived threat have a greater impact on racial prejudice than the measured levels of contact. H4: Racial prejudice is a statistically significant predictor of stated voting behaviour in the 2016 Brexit referendum. H5: The measured levels of perceived threat have a greater impact on stated voting behaviour in the 2016 EU referendum than the measured levels of contact.

2. Method

2.1 Participants

Participants in the study were UK citizens (n = 1127) aged 18+ at the time of the 2016 UK EU referendum (M = 46.6, SD = 14.1). Table 1 summarises the sample demographics, with the UK data as a reference.

Table 1. Sample and population demographics

	Sample	Population
Sex		
Female	58.7% (n = 661)	50.68%
Male	41.2% (n = 464)	49.32%
Other	0.2% (n = 2)	-
Age group		
19-24	5.1% (n = 57)	8.5%
25-34	20% (n = 225)	17.8%
35-44	22.4% (n = 253)	16.6%
45-54	22% (n = 248)	18.4%
55-64	20.5% (n = 231)	15.1%

65-74	8.5% (*n* = 96)	12.9%
+75	1.5% (*n* = 17)	10.6%
Country of residence		
England	82.2% (*n* = 926)	88.9%
Scotland	7.9% (*n* = 89)	8.2%
Wales	7.4% (*n* = 83)	4.7%
Northern Ireland	2.6% (*n* = 29)	2.8%
Ethnicity		
White	89.9% (n = 1013)	87.1%
Asian	5.8% (n = 65)	12.9%
Afro-Caribbean	1.9% (n=21)	
Non-UK EU	1.5% (n=17)	
Other	1.0% (n=11)	

Notes: (1) Sex, age and country populations in 2016 as per Office for National Statistics (2017); (2) Ethnicity as per Census 2011 (Office for National Statistics 2011); (3) Age group percentages in the population refer to adults; (4) The 19-24 years group in the population contains only 20-24 years old.

Three hundred and two participants (26.8%) claimed education at GCSE / O Levels / CSE, 27.9% (*n* = 314) claimed to have education at A level, 27.6% (*n* = 311) claimed a Bachelor's level degree, 11.2% (*n* = 126) said they had a postgraduate degree, 2.8% (*n* = 32) had a Doctorate, and 3.7% (*n* = 42) had other type of education.
Respondents were recruited via an invitation sent out on an access panel of individuals provided by Facts International, an independent sample provider – access panels contain a wide spread of individuals in terms of age, gender, region, education, etc., although not necessarily representative of the population under study. All respondents had previously agreed to take part in research interviews.

2.2 Procedure

After obtaining ethical approval from the University where this research was conducted, potential respondents were sent an email explaining that the study concerned social attitudes in the UK following Brexit. If they wished to take part, they were provided with a link for access to the online questionnaire, preceded by an information sheet and a consent form. Data were collected between 21 April and 1 May 2017.

2.3 Materials

An online questionnaire was developed addressing the five main elements in the research: demographics, prejudice, contact, intergroup threat and voting behaviour.

2.3.1 Demographics

Demographic questions included respondents' age group, sex, education level (from compulsory secondary to doctorate), citizenship status (British citizen / not British), and ethnicity (White UK, Asian, Afro-Caribbean, North/South American, other European).

2.3.2 Prejudice

We considered prejudice as "an antipathy based upon a faulty and inflexible generalization" (Allport, 1954, p. 9), which "tend(s) to form ideological beliefs that justify discrimination" (Pettigrew and Meertens, 1995, p. 58). Racial prejudice was measured using an adaptation of the Subtle Prejudice Scale by Pettigrew and Meertens (1995). This is a 10-item scale addressing traditional values (4 items; e.g. "Immigrants from the EU living here teach their children values and skills different to those required to be successful in the UK"), cultural differences (4 items; e.g., "How different do you think that immigrants from the EU are to the rest of the UK population in their religious beliefs and practices?") and positive emotions "sympathy" and "admiration" (2 items), with 4-point Likert response format from strongly disagree to strongly agree, and reported alphas in the original study from .73 to .82. We modified the answer format to include a middle point (neither agree nor disagree) for traditional values, and to measure both existence and valence of perceived differences – different in a positive way (1), not really different (2), different but neither better nor worse (2), different in a negative way (4). Also, we excluded one of the items for traditional values ("[outgroup] should not push themselves where they are not wanted") because we considered

it a blatant rather than a subtle item. To account for the differences in racial attitudes towards different ethnic groups (Hammersley and Woods, 1993; Pettigrew, 1997), the 9 items in the scale were repeated three times – in relation to persons with Asian origins, with Afro-Caribbean origins, and in relation to non-UK European immigrants. In addition, respondents were also asked a similar set of questions looking at social class to reduce the focus on race (these items were not scored or included in the analyses). The order of asking about each group was randomised for each participant.

A factor analysis using direct oblimin rotation was conducted to determine whether the 27 items could be considered as a single scale. A parallel analysis with 999 iterations revealed a solution with six factors, three of which were driven by a single outgroup. In contrast, further factor analyses revealed that, when the items addressing each of the three outgroups were considered as sub-scales, a single factor solution accounted for roughly a third of the total variance in each case (see Table 2). The KMO statistic was between .70 and .75 for each solution, which is adequate (Kaiser, 1974); and Bartlett's Test for sphericity was highly significant for each analysis. The sub-scales' Cronbach's alphas were acceptable between .71 and .75, and no alpha would increase if any item were removed. In consequence, multiple linear regression was utilised to create three separate prejudice scores for each participant – one for each of the racial groups–, and the three results were averaged to create an overall prejudice score. Thus calculated, overall scores ranged from 3.37 (most prejudiced) to -2.57 (least prejudiced) (M = -.06, SD = 0.87).

Table 2. Properties of the prejudice scale by racial group

	% variance in 1st factor	KMO test	Bartlett's sphericity test	Cronbach's α	Max. α if item deleted
Asian	29.0%	.751	.000	.752	.740
Afro-Caribbean	33.3%	.702	.000	.707	.695
Non-UK EU immigrants	32.8%	.746	.000	.742	.725

2.3.3 Contact

We measured contact across four touchpoints – current local neighbourhood, current or most recent work environment, school and online social media. We excluded contact with friends because the potential for self-selection was felt to be too great (e.g. Binder et al., 2009). The same self-selection argument could potentially be applied to social media, although to a lesser extent as social media contacts can be friends, followers or just contacts (Kietzmann et al., 2011).

For each of the touchpoints, participants indicated whether 'I am the only person of my racial group', 'I am one of just a few of my racial group', 'There are roughly equal numbers of people of different racial groups', 'Most of the people are of my racial group', or 'All of the people are of my racial group' (scores 1-5). In addition, where contact had taken place, respondents were asked whether this included contact with Asians, Afro-Caribbeans and/or non-UK Europeans. A total contact score was calculated by adding the score for each touchpoint.

2.3.4 Intergroup Threat

Realistic intergroup threat was measured using five items taken from scales developed by Stephan et al. (1998). Participants were asked to indicate their degree of agreement with "[outgroup] are taking jobs away from UK citizens", "are contributing to the increase in crime in the UK", "should not have immediate access to the National Health System", "are putting too big a burden on the school system", and "are contributing to an increase in drug usage". The items were rated in a 5-point Likert-type scale from "Strongly disagree" to "Strongly agree". As with contact, the four questions were asked repeatedly for Asians, Afro-Caribbeans and non-UK Europeans.

A factor analysis using a direct oblimin rotation revealed that the 12-item scale was one-dimensional – the first factor accounts for nearly 60% of the total variance and is spread consistently across all racial groups. Cronbach's alpha was high at .95. As a result, an overall threat variable was created from the responses across all racial groups

using a regression on the first factor. However, sub-scales associated with each racial group did also present good psychometric properties and were used in some analyses (see Table 3).

Table 3. Properties of the intergroup threat scale

	% variance in 1st factor	KMO test	Bartlett's sphericity test	Cronbach's α	Max. α if item deleted
Total perceived threat	58.9%	.916	.000	.950	.948
Asian threat	63.2%	.853	.000	.866	.858
Afro-Caribbean threat	62.3%	.822	.000	.847	.825
Non-UK EU threat	65.6%	.855	.000	.866	.861

2.3.5 Voting Behaviour

Respondents were asked how they voted in the EU referendum (not vote, Leave, Remain, rather not say). In addition, a second question was asked about the intensity of their conviction about the selected option (a little better, much stronger, extremely strongly). The result was a classification in six groups ranging with values from –3 (extremely strongly Remain) to +3 (extremely strongly Leave).

2.4 Pilot Study

The questionnaire was piloted between 10 and 13 April 2017. As the analysis suggested that the questionnaire was too long, a section of the study dealing with gender issues (not included in this report) was removed.

2.5 Analysis

Data analysis was conducted with SPSS v.21. The data consisted of continuous variables, ordinal variables and simple binary variables. Consequently, a range of analyses were used including Pearson product-moment correlations, simple and multiple linear regression for continuous variables and Spearman's rank correlations and binary logistic regression for ordinal and binary data.

3. Results

H1: Contact effect is cumulative. Individuals having contact with other ethnic groups across multiple touchpoints are less negatively prejudiced towards these groups.

As we measured racial prejudice towards Asian, Afro-Caribbean and non-UK EU individuals, this hypothesis was only tested on the white population – for non-white UK residents, contact with other racial groups would include white residents. Significant negative Spearman correlations were found between prejudice score and contact through social media (r = -.15, p < .001), school (r = -.10, p = .002), neighbourhood (r = -.07, p = .024), and total contact score (r = -.12, p < .001). Correlation through work failed to reach significance (r = -.05, p = .104).

It can be argued that age may affect the correlations above, as, for example, younger individuals tend to use more social media than older ones – and young age has been found to be associated with lower racial prejudice. In the present study, there was indeed a positive correlation between age and prejudice (r = .14, p (1-tailed) < .001). Therefore, a mediation analysis using regression was conducted to control for the effect of age on the correlation between dichotomous contact and prejudice. Results are shown in Table 4, with the r values approximately 80% of the initial value. The correlation with prejudice for the sum of contacts was the highest, although the difference compared to the correlation with social media was not significant; z = .40, p (1 tailed) = .343. This again does not support H1.

Table 4. Correlation of dichotomous contact and prejudice, controlling for age

	Direct effect r value	Sign. (2-tailed)	Indirect effect r value	Direct effect as proportion of total
School	-.11	.001	-.04	73%
Neighbourhood	-.05	.108	-.01	80%
Work	-.06	.055	-.01	89%

Social media	-.14	< .001	-.03	80%
Sum of 4 contacts	-.15	< .001	-.03	82%

H2: There is a positive relationship between levels of perceived threat from immigrants in the UK and racial prejudice.

To test this hypothesis, Spearman's correlation was calculated between threat score and prejudice score, with a highly significant result at $r = .64$, $p < .001$. As before, H2 was only tested on the white population.

H3: The measured levels of perceived threat have a greater impact on racial prejudice than the measured levels of contact.

A regression analysis was conducted with prejudice as the dependent variable and threat and dichotomous contact score as the independent variables. Both predictors are highly significant (standardised beta = .625 for threat and -.106 for contact, both p (2-tailed) < .001), but the effect of threat is significantly higher than the effect of contact ($z = 13.13$, $p < .001$). The model has a total R value of .646.

Due to the significant correlations between age and prejudice ($r = .14$, $p < .001$), and education and prejudice ($r = -.19$, $p < .001$), both were included as potential mediating variables in the regression analysis, though only the latter reached a significant beta coefficient. The inclusion of education marginally increased the R value to .652, with all beta coefficients (.615 for threat, -.093 for contact, and -.088 for education) significant at p (2-tailed) < .001. The overall pattern of results is similar to the unmediated regression, with threat still significantly more predictive of prejudice than contact ($z = 13.08$, $p < .001$).

H4: Racial prejudice is a statistically significant predictor of stated voting behaviour in the 2016 Brexit referendum.

About equal numbers of respondents indicated they had voted Remain (42.9%) and Leave (42.6%), with 11.5% who did not vote, and an additional 3% who refused to answer the question. The intensity of conviction about the selected option was similar for 'Leavers' and 'Remainers' – approximately half of each group felt extremely strongly that their decision was the right one, whilst the other half had some reservations; see Table 5.

Table 5. Intensity of conviction about the selected voting option

	Leave	Remain
There were reasons for voting either way, but in the end, I thought that [the option] was a little better	25.8%	20.9%
While there were arguments for both sides, I felt that [the option] had a much stronger case overall	22.9%	28.8%
I felt extremely strongly that [the option] was the right thing for the UK	51.3%	50.3%

To test H4, a binary logistic regression analysis was first conducted with dichotomous voting behaviour (Remain/Leave) as the dependent variable and prejudice as the predictor variable. The results revealed a highly significant relationship between prejudice and voting Leave; r (Wald) = .32, p (1-tailed) < .001, 66.4% correctly predicted. Due to the significant correlations between age and voting Leave ($r = .12$, p (1-tailed) < .001), and education and voting Leave ($r = -.20$, p (1-tailed) < .001), both were included as potential mediating variables in the regression analysis. Only education showed a significant effect. The result of the regression including education increased the correct prediction to 68%, but the change in r value, from .32 to .30, was not significant ($z = .45$, $p = .657$). Thus, although the level of education does help to predict voting behaviour, it is not significantly changing the impact of racial prejudice.

The level of prejudice presents a clear monotonic pattern across the six groups formed by the combination of type of vote (Remain/Leave) and intensity of conviction (a little better, much stronger, extremely strongly); see Figure 1. An ANOVA revealed that differences are significant (F (5,957) = 41.70, p < .001), and post-hoc Tukey's HSD tests showed a greater level of differentiation in terms of prejudice between the different intensities of voting Leave than of voting Remain (Table 6). In addition, the correlation between prejudice and intensity of voting Leave was significant (r = .42, p (1-tailed) < .001) and higher than the correlation between prejudice and just voting Leave or Remain; z = 3.80, p = 0.001.

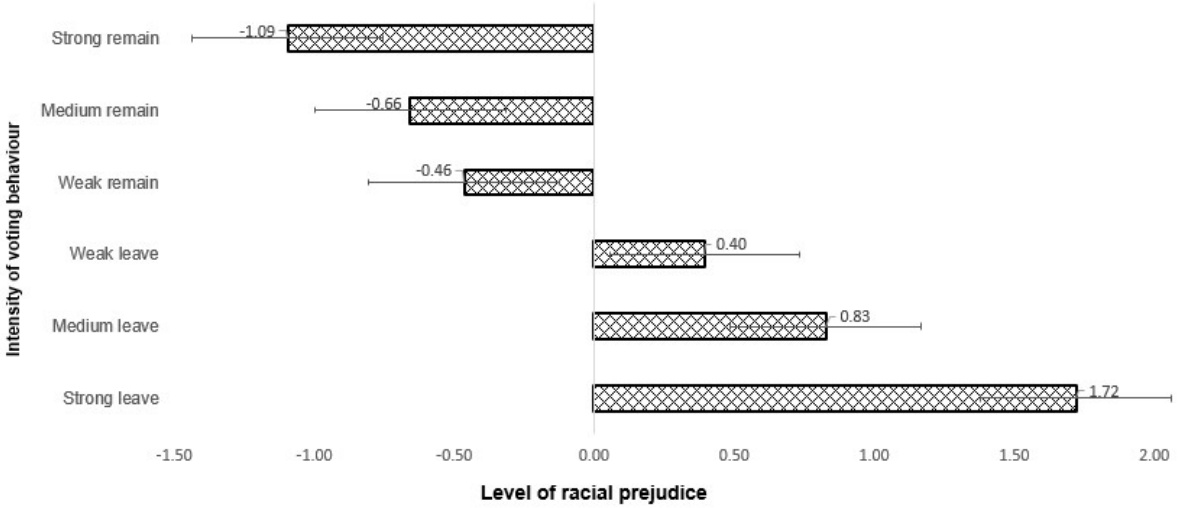

Figure 1. Prejudice by intensity of voting

Table 6. Post-hoc Tukey's HSD tests for differences in prejudice between voting groups

		Remain		Leave		
		Medium	Strong	Weak	Medium	Strong
Remain	Weak	$t_{(960)}$ = 063, p = .495	$t_{(960)}$ = 2.25, p = .108	$t_{(960)}$ = 2.70, p = .038	$t_{(960)}$ = 3.95, p = .001	$t_{(960)}$ = 7.80 ***
	Medium		$t_{(960)}$ = 1.73, p = .254	$t_{(960)}$ = 3.60, p = .002	$t_{(960)}$ = 4.91 ***	$t_{(960)}$ = 9.46 ***
	Strong			$t_{(960)}$ = 5.70 ***	$t_{(960)}$ = 7.06 ***	$t_{(960)}$ = 13.14 ***
Leave	Weak				$t_{(960)}$ = 3.26 ***	$t_{(960)}$ = 5.08 ***
	Medium					$t_{(960)}$ = 3.29, p = .007

*** p < .001

The overall prejudice score utilised in the analyses above was the result of averaging the three separate prejudice scores – one for each racial group – obtained for each participant, as explained before. However, when looking at a decision to leave the EU, the most critical factor would likely be the prejudice towards non-UK EU immigrants. To test this, additional binary logistic regression analyses were conducted with dichotomous voting behaviour (Remain/Leave) as the dependent variable and the prejudice score associated with each racial group as the predictor variable. Table 7 summarises the results. The r value found for prejudice towards non-UK EU immigrants was significantly higher than towards Asians (z = 1.76, p = .039) and Afro-Caribbeans (z = 3.75, p < .001), but not than the total prejudice result (z = .66, p = .511).

Table 7. Binary logistic regression of race-specific prejudice on dichotomous voting Leave behaviour

	% correctly predicted	*r* (Wald)	*p* value
Asian	63.9%	.28	< .001
Afro-Caribbean	61.7%	.23	< .001
Non-UK EU	66.7%	.33	< .001

H5: The measured levels of perceived threat have a greater impact on stated voting behaviour in the 2016 EU referendum than the measured levels of contact.

To test H5, a binary logistic regression was conducted with dichotomous voting behaviour as the dependent variable and total threat and total contact as the independent variables. The results were significant for threat (*r* (Wald) = .35, *p* (1-tailed) < .001), but not for contact (*r* (Wald) = -.03, *p* (1-tailed) = .071); 67.4% correctly predicted. Another regression analysis with intensity of voting as the dependent variable found significant effect of both total threat (standard beta = .46, *p* (2-tailed) < .001) and total contact (standard beta = -.09, *p* (2-tailed) = .002), with the former significantly more relevant than the latter ($z = 8.56$, $p < .001$); total R = .480.

Three additional regression analyses were conducted with dichotomous voting behaviour as the dependent variable; IV1 consisted of the scores in the race-specific threat subscales, and IV2 was the dichotomous total contact score associated with that racial group. The results are shown in table 8; the differences between the total and EU models is significant ($z = 2.44$, $p = .027$). For non-UK EU, the *r* value for perceived threat is significantly greater than for contact ($z = 6.81$, $p < .001$). Finally, the *r* value for the relationship of perceived threat and voting behaviour was significantly greater than the *r* value for the relationship of prejudice and voting behaviour. The test was conducted using an asymptotic *z*-test (Steigher, 1980) and software developed by Lee and Preacher (2013). The *z* value and probability are $z = 3.050$, *p* (2 tailed) = .002.

Table 8. Binary logistic regression of race-specific perceived threat and race-specific contact score on dichotomous voting Leave behaviour

	% correctly predicted	*r* (Wald) (threat)	*p* value (threat)	*r* (Wald) (contact)	*p* value (contact)
Total	67.4%	.35	< .001	-.03	.071
Asian	66.0%	.32	< .001	-.04	.195
Afro-Caribbean	65.8%	.31	< .001	-.00	.906
Non-UK EU	69.2%	.37	< .001	-.06	.019

4. Discussion

H1

The first factor analysis provides evidence that in the UK, people have different prejudices towards the three groups (Asians, Afro-Caribbeans and non-UK EU nationals). This is consistent with the work of Hammersley and Woods (1993) and different to the findings of Pettigrew (1997) who concluded that Asians and Afro-Caribbeans could be grouped together. The latter analysis was conducted across Europe and it is possible that the historic mix of immigrants would lead to greater discrimination between Asians and Afro-Caribbeans in the UK.

The correlation results indicate that the first hypothesis is not supported as the effect of contact combined across all four touchpoints was smaller than the largest single effect (social media contact). Clearly this could reflect a genuine lack of accumulation. Other factors though could potentially have influenced the result. Social media contact is more susceptible to self-selection bias than school, work or neighbourhood contact. Also, in the line with the proposals on superordinate grouping (Gaertner et al., 1993), some of the more obvious identifiers of group differences (e.g. colour, accent, language etc.) are not necessarily present in social media – which could heighten the importance of the superordinate group membership such as Facebook friends, mothers on Mumsnet, etc.

The second highest relationship between contact and lower prejudice comes from school contact. This is the most long-term of the four contact effects and our result is consistent with the work of Wood and Sonleitner (1996) in showing that contact effects can be long lasting. However, with the significant recent increase in immigration, contact might increasingly be with first generation immigrants, which has been shown to have a less positive effect than contact with second generation at schools (Janmaat, 2014).

This study shows a statistically significant positive effect on racial prejudice from neighbourhood contact, although the correlation was quite low. This is different to the findings of Morris (1973) who could not establish a significant relationship between neighbourhood contact and prejudice at an overall level; only when he took mixed race *visiting* into account was the effect significant. It is possible that, for many people in the present study, contact was merely desegregation rather than integration – and we did not assess the extent to which any of Allport's four conditions for positive effects of contact (Allport, 1954) were met.

H2

Unlike prejudice, perceived realistic threat forms a single factor across all three racial groups. Thus, whilst there are quite high correlations between the three individual racial prejudice measures (average r = .65), this is significantly lower than the average correlation between the three individual racial threat measures (average r = .87). This might indicate that whilst people hold different stereotypes of different racial groups, leading to varying levels of prejudice across them; perceived realistic threat is more homogeneous for all immigrants, regardless of ethnicity

The observed correlation between perceived realistic threat and prejudice (r = .64) is higher than in previous literature and supports hypothesis 2. With the same variables, correlations of r = *.31* (Stephan and Stephan, 1996) and r =.46 (Stephan et al., 1998) have been reported, and McLaren (2003) found r = *.42* between perceived realistic threat and desire for expulsion. Contrarily, Velasco González et al. (2008) found no significant relationship between perceived threat and prejudice among Muslims in the Netherlands.

H3

In this study, perceived threat had about six times the impact of intergroup contact on racial prejudice, which provides support to H3. This is broadly consistent with the findings of Schlueter and Scheepers (2010) who calculated that perceived threat was about five times stronger than contact in predicting prejudice; however, they found a much stronger effect of contact reducing perception of threat. Fossett and Kiecolt (1989) also discussed the variation in outcomes resulting from different social contexts, implying that there is unlikely to be a simple ratio between the different impacts of threat and contact on prejudice. Also, they argued against a consistent percentage, because when the size of the outgroup starts to increase, the rise in perceived threat outweighs the decrease in prejudice associated with higher contact.

H4

The data also confirmed that racial prejudice was a significant predictor of voting behaviour in the 2016 referendum. It is important to consider this result in a wider context. Using data from the European Values Study, Evans and Kelley (2017) showed that levels of prejudice in the UK towards people of other religions and immigrants in general are among the lowest in Europe, and very similar to those observed in Germany. This is important as there is little evidence to indicate that Germany would vote to leave the EU (Mansfield, 2016). The corollary of this would be that other factors pertaining to the role of the EU itself, e.g. social, economic, situational etc., are weaker in the UK and these were important drivers of the Leave majority. In fact, prejudice against EU immigrants specifically was more predictive of the Leave vote than general racial prejudice. The Leave results may reflect an increased desire for "Englishness" following the imposition of austerity measures after the major global financial crisis in the early part of the century (Virdee and McGeever, 2018).

Looking at the intensity with which individuals voted also highlights valuable findings. There is a strictly monotonic reduction in prejudice from committed Leavers at one end to committed Remainers at the other.

However, whilst the variation between the level of prejudice among the three Remainer groups is non-significant, there is a greater level of variance among the Leave groups, with a group of individuals who were totally committed to Brexit linked to very strong racial prejudice.

H5

The final hypothesis was also strongly supported. In the regression on actual voting behaviour, the ratio of the effect of perceived threat is about four and a half times greater than that for contact. The ratio for intensity of voting is about four to one. These numbers are similar to the ratio that is found when regressing prejudice against perceived threat and contact. Again, threat from non-UK EU immigrants produces a better model than that achieved from total threat, and also produces a statistically better model than using prejudice towards non-UK EU immigrants.

A key difference though is that, although prejudice towards non-UK EU immigrants is lower than towards the other groups, the perceived threat is significantly higher. As discussed earlier, this indicates clear discrimination in individuals' minds between their prejudice towards non-UK EU immigrants, and their perceived realistic threat from the same group.

Wagner et al. (2006) argued that the impact of perceived threat is much stronger when threat is higher up the political agenda – and during campaigning for the referendum, the Leave group focussed heavily on the realistic threat posed by non-UK EU immigrants both to people's job security and to institutions such as schools and the National Health Service (Koch, 2017). However, whilst across the variables measured in this study, perceived realistic threat from non-UK EU immigrants is the greatest predictor of voting behaviour in the 2016 EU referendum, it should be noted that it accounts for just under 20% of the variance, so more than 80% of the decision to vote Leave comes from other sources. In this line, Abrams and Travaglino (2018) found that threat had an especially strong link to intentions to vote Leave when it was combined with a lack of trust in politicians – and it has been suggested that the referendum might have become a vote against the establishment, "a popular uprising against Britain's own ruling elites" (Kagarlitsky, 2017, p.112).

5. Conclusions

Our results highlight the complexities involved with both intergroup threat and contact theories. As hypothesised, racial prejudice is a significant predictor of stated voting behaviour in the 2016 Brexit referendum, and perceived threat had a greater impact on that behaviour than contact. Similarly, the impact of perceived threat on racial prejudice is significantly greater than the impact of contact. However, contrary to our expectations, there was no evidence that any positive effect of contact in reducing prejudice cumulates over different touchpoints.

It is possible that the effects of contact on perceived threat and hence on voting behaviour were moderated by where voters looked to for guidance. This contact-cue interaction (Dyck and Pearson-Merkowitz, 2014) posits that the effect that contact has on behaviour is linked to cues derived from a trusted political elite. Although this couldn't be tested in this research, the data did show a significantly lower tendency for contact to reduce perceived threat among the committed Leave voters than among other groups.

Interestingly, prejudice towards non-UK EU immigrants was significantly lower than towards immigrants from other countries, but perceived realistic threat from this group was significantly higher. This suggests some individuals could perceive a threat from non-UK EU immigrants without it directly leading to prejudice.

The study was conducted almost a year after the referendum. It is possible therefore that the views expressed in the study reflect a *post-hoc* attempt by individuals to justify their voting behaviour. Asking the prejudice and threat questions before questions on voting behaviour should have reduced this effect (Kahneman, 2011), but it cannot be ruled out as a potential bias.

There would also be a benefit in conducting additional work to understand why, although perceived threat appears to be a homogeneous concept across all ethnic groups, racial prejudices are much more distinct between them. This could be a genuine effect, with people holding different stereotypes about different racial groups, but with all of them capable of threatening the indigenous population. Alternatively, it could be a function of the wording of the measuring instrument. The fact that there was less prejudice against non-UK EU immigrants but more perceived threat from them is also worth investigating in more detail. This might have been influenced by the language used in the Brexit campaign, so measuring the linkages between the two measures and whether this has changed in the intervening time period would be valuable in understanding the influences on public perceptions.

It is arguable that comparing threat and contact is a false comparison. Contact is an input, an element in people's lives that has potential to change attitudes. Perceived threat on the other hand is an output, the result of what individuals have read, seen, been told, etc. Consequently, threat is inherently more likely to link to other attitudes and even behaviours than contact. Nonetheless, the analysis indicates that simple contact is a fairly blunt instrument without taking valence into consideration. In their analysis of claimed voting intentions for the referendum, Meleady et al. (2017) looked at the impact of positive versus negative contact on the decision, and Barlow et al. (2012) found that negative contact had more power to increase prejudice than positive contact had to reduce it. It would therefore be valuable to extend this work to try and measure a more nuanced indicator of contact, allowing for social context including Allport's (1954) four conditions. This could enable the research to define the optimum conditions for achieving positive contact, and the extent to which this can be an antidote to the high impact of perceived threat on increasing prejudice.

References

Abrams, D., & Travaglino, G. A. (2018). Immigration, political trust, and Brexit – Testing an aversion amplification hypothesis. *British Journal of Social Psychology, 57*, 310–326. https://doi.org/10.1111/bjso.12233

Allport, G.W. (1954). *The Nature of Prejudice*. Cambridge, MA: Perseus Books.

Barlow, F. K., Paolini, S., Pedersen, A., Hornsey, M. J., Radke, H. R., Harwood, J., ... & Sibley, C. G. (2012). The contact caveat: Negative contact predicts increased prejudice more than positive contact predicts reduced prejudice. *Personality and Social Psychology Bulletin*, *38*(12), 1629-1643. https://doi.org/10.1177/0146167212457953

Binder, J., Zagefka, H., Brown, R., Funke, F., Kessler, T., Mummendey, A., ... & Leyens, J. P. (2009). Does contact reduce prejudice or does prejudice reduce contact? A longitudinal test of the contact hypothesis among majority and minority groups in three European countries. *Journal of Personality and Social Psychology*, *96*(4), 843 - 856. https://doi.org/10.1037/a0013470

Blascovich, J., Mendes, W. B., Hunter, S. B., Lickel, B., & Kowai-Bell, N. (2001). Perceived threat in social interactions with stigmatized others. *Journal of Personality and Social Psychology*, *80*(2), 253 - 267. https://doi.org/10.1037//0022-3514.80.2.253

Brown, R., & Hewstone, M. (2005). An integrative theory of intergroup contact. *Advances in Experimental Social Psychology*, *37*, 255-343. https://doi.org/10.1016/s0065-2601(05)37005-5

Bullock III, C. S. (1978). Contact theory and racial tolerance among high school students. *The School Review*, *86*(2), 187-216. https://doi.org/10.1086/443405

Cottrell, C. A., & Neuberg, S. L. (2005). Different emotional reactions to different groups: a sociofunctional threat-based approach to" prejudice". *Journal of Personality and Social Psychology*, *88*(5), 770 - 789. http://dx.doi.org/10.1037/0022-3514.88.5.770

Dyck, J. J., & Pearson-Merkowitz, S. (2014). To know you is not necessarily to love you: The partisan mediators of intergroup contact. *Political Behavior*, *36*(3), 553-580. https://doi.org/10.1007/s11109-013-9240-6

Evans, M. D. R., & Kelley, J. (2017). Brexit and prejudice against immigrants: the UK is not unique. Under Submission, http://dx.doi.org/10.13140/RG.2.2.25973.99048 Retrieved June 27, 2018 from https://www.researchgate.net/publication/312057251_BREXIT_AND_PREJUDICE_AGAINST_IMMIGRANTS_THE_UK_IS_NOT_UNIQUE

Forster, K (2016, October 13). Hate crimes soared by 41% after Brexit vote, official figures reveal. *The Independent.* Retrieved 3 March 2017. http://www.independent.co.uk/news/uk/crime/brexit-hate-crimes-racism-eu-referendum-vote-attacks-increase-police-figures-official-a7358866.html

Fossett, M. A., & Kiecolt, K. J. (1989). The relative size of minority populations and white racial attitudes. *Social Science Quarterly*, *70*(4), 820 - 835.

Gaertner, S. L., Dovidio, J. F., Anastasio, P. A., Bachman, B. A., & Rust, M. C. (1993). The common ingroup identity model: Recategorization and the reduction of intergroup bias. *European Review of Social Psychology*, *4*(1), 1-26. https://doi.org/10.1080/14792779343000004

Hall, M. (2016, June 14). Proof we CAN'T stop migrants: 5 million new EU citizens given right to enter Britain. *The Express*. Retrieved March 28, 2017 from http://www.express.co.uk/news/world/679531/migrant-crisis-five-million-new-EU-citizens-given-right-enter-Britain

Hammersley M. & Woods P. (1993). *Gender and Ethnicity in Schools: Ethnographic Accounts*. Abingdon UK: Routledge.

Heinze, J. E., & Horn, S. S. (2009). Intergroup contact and beliefs about homosexuality in adolescence. *Journal of Youth and Adolescence*, *38*(7), 937-951. https://doi.org/10.1007/s10964-009-9408-x

Janmaat, J. G. (2014). Do ethnically mixed classrooms promote inclusive attitudes towards immigrants everywhere? A study among native adolescents in 14 countries. *European Sociological Review*, 30(6) 810 – 822. https://doi.org/10.1093/esr/jcu075

Kagarlitsky, B. (2017). Brexit and the Future of the Left. *Globalizations*, *14*(1), 110-117. https://doi.org/10.1080/14747731.2016.1228800

Kahneman, D. (2011). *Thinking, Fast and Slow*. London: Penguin.

Kaiser, H.F. (1974). An index of factorial simplicity. *Psychometrika*, 39, 31 – 36. https://doi.org/10.1007/BF02291575

Khaleeli, H. (2016, June 29). 'A frenzy of hatred': How to understand Brexit racism. *The Guardian*. Retrieved February 15, 2017 from https://www.theguardian.com/politics/2016/jun/29/frenzy-hatred-brexit-racism-abuse-referendum-celebratory-lasting-damage

Kietzmann, J. H., Hermkens, K., McCarthy, I. P., & Silvestre, B. S. (2011). Social media? Get serious! Understanding the functional building blocks of social media. *Business Horizons*, *54*(3), 241-251. https://doi.org/10.1016/j.bushor.2011.01.005

Kittles, R. A., & Weiss, K. M. (2003). Race, ancestry, and genes: implications for defining disease risk. *Annual Review of Genomics and Human Genetics*, *4*(1), 33-67. https://doi.org/10.1146/annurev.genom.4.070802.110356

Koch, I. (2017). What's in a vote? Brexit beyond culture wars. *American Ethnologist*, *44*(2), 225-230. https://doi.org/10.1111/amet.12472

Lee, I. A., & Preacher, K. J. (2013) Calculation for the test of the difference between two dependent correlations with one variable in common [Computer software]. Retrieved from http://quantpsy.org.

Maher, A. A., Aljafari, A. M., & Maher, A. (2017). The Perceived Threats from Migrants and their Effects on Government Service Equality. *Journal of Global Marketing, 1-17.* https://doi.org/10.1080/08911762.2017.1279701

Mansfield, K (2016, December 12). One in six Germans want to leave the EU, new survey finds. *The Express*. Retrieved June 28, 2017 from http://www.express.co.uk/news/world/742432/germany-leave-eu-one-in-six-angela-merkel-exit-demos-survey

McLaren, L. M. (2003). Anti-immigrant prejudice in Europe: Contact, threat perception, and preferences for the exclusion of migrants. *Social Forces*, *81*(3), 909-936. https://doi.org/10.1353/sof.2003.0038

McClendon, M. J. (1974). Interracial contact and the reduction of prejudice. *Sociological Focus*, *7*(4), 47-65. https://doi.org/10.1080/00380237.1974.10571409

Meleady, R., Seger, C., & Vermue, M. (2017). Examining the role of positive and negative intergroup contact and anti-immigrant prejudice in Brexit. *British Journal of Social Psychology, 56*(4), 799-808. https://doi.org/10.1111/bjso.12203

Montagu, M. A. (1941). The concept of race in the human species in the light of genetics. *Journal of Heredity*, *32*(8), 243-248. https://doi.org/10.1093/oxfordjournals.jhered.a105051

Morris, D. C. (1973). Racial attitudes of White residents in integrated and segregated neighborhoods. *Sociological Focus*, *6*(2), 74-94. https://doi.org/10.1080/00380237.1973.10570845

Office for National Statistics (2017*). Migration statistics quarterly report: Feb 2017*. Retrieved March 28, 2017 from https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/internationalmigration/bulletins/migrationstatisticsquarterlyreport/feb2017

Pettigrew, T. F. (1967). Social evaluation theory: convergences and applications. In D. Levine (ed.) *Nebraska Symposium on Motivation, Vol. 15*. Lincoln, Nebraska, University of Nebraska Press.

Pettigrew, T. F. (1997). Generalized intergroup contact effects on prejudice. *Personality and Social Psychology Bulletin*, *23*(2), 173-185. https://doi.org/10.1177/0146167297232006

Pettigrew, T. F., & Hewstone, M. (2017). The Single Factor Fallacy: Implications of Missing Critical Variables from an Analysis of Intergroup Contact Theory. *Social Issues and Policy Review*, *11*(1), 8-37. https://doi.org/10.1111/sipr.12026

Pettigrew, T. F., & Meertens, R. W. (1995). Subtle and blatant prejudice in Western Europe. *European Journal of Social Psychology*, *25*(1), 57-75. https://doi.org/10.1002/ejsp.2420250106

Pettigrew, T. F., & Tropp, L. R. (2006). A meta-analytic test of intergroup contact theory. *Journal of personality and social psychology*, *90*(5), 751 - 783. https://doi.org/10.1037/0022-3514.90.5.751

Riek, B. M., Mania, E. W., & Gaertner, S. L. (2006). Intergroup threat and outgroup attitudes: A meta-analytic review. *Personality and Social Psychology Review*, *10*(4), 336-353. https://doi.org/10.1207/s15327957pspr1004_

Schlueter, E., & Scheepers, P. (2010). The relationship between outgroup size and anti-outgroup attitudes: A theoretical synthesis and empirical test of group threat-and intergroup contact theory. *Social Science Research*, *39*(2), 285-295. https://doi.org/10.1016/j.ssresearch.2009.07.006

Schofield, J. W. (1979). The impact of positively structured contact on intergroup behavior: Does it last under adverse conditions? *Social Psychology Quarterly*, *42*(3), 280-284. https://doi.org/10.2307/3033772

Schwartz, L.K., & Simmons, J.P. (2001). Contact quality and attitudes toward the elderly. *Educational Gerontology*, *27*(2), 127-137. https://doi.org/10.1080/03601270151075525

Sherif, M. (1975). On the application of superordinate goals theory. *Social Science Quarterly, 56*(3), 510-512.

Shimoni, M. T. K., & Schwarzwald, J. (2003). Perceived threat and prejudice in three domains of inter-group tension in Israeli society. *Megamot*, *42*(4), 549-584.

Slininger, D., Sherrill, C., & Jankowski, C. M. (2000). Children's attitudes toward peers with severe disabilities: Revisiting contact theory. *Adapted Physical Activity Quarterly*, *17*(2), 176-196. https://doi.org/10.1123/apaq.17.2.176

Steiger, J. H. (1980). Tests for comparing elements of a correlation matrix. *Psychological Bulletin*, *87*, 245-251. https://doi.org/10.1037//0033-2909.87.2.245

Stephan, W. G., & Mealy, M. D. (2011). Intergroup threat theory. In D. J. Christie (Ed.), *The Encyclopedia of Peace Psychology* (pp. 561-565). Hoboken, NY: John Wiley & Sons. https://doi.org/10.1002/9780470672532.wbepp139

Stephan, W. G., & Stephan, C. W. (1996). Predicting prejudice. *International Journal of Intercultural Relations*, *20*(3-4), 409-426. https://doi.org/10.1016/0147-1767(96)00026-0

Stephan, W.G. & Stephan, C. W. (2000). An integrated theory of prejudice. In S. Oskamp, (Ed.) *Reducing Prejudice and Discrimination*. Mahwah, NJ: Lawrence Erlbaum Associates.

Stephan, W. G., Ybarra, O., Martnez, C. M., Schwarzwald, J., & Tur-Kaspa, M. (1998). Prejudice toward immigrants to Spain and Israel: An integrated threat theory analysis. *Journal of Cross-Cultural Psychology*, *29*(4), 559-576. https://doi.org/10.1177/0022022198294004

Tajfel, H. (1970). Experiments in intergroup discrimination. *Scientific American*, *223*(5), 96-102. https://doi.org/10.1038/scientificamerican1170-96

Tajfel, H. (2010). *Social identity and intergroup relations*. Cambridge: Cambridge University Press.

Tajfel, H., & Turner, J. C. (1979). An integrative theory of intergroup conflict. In W. G. Austin and S. Worchel (Eds.), *The social psychology of intergroup relations* (pp. 33-47). Monterrey, CA: Brooks-Cole.

Van de Vyver, J., Leite, A.C., Abrams, D., & Palmer, S.B. (2018). Brexit or Bremain? A personal and social analysis of voting decisions in the EU referendum. *Journal of Community and Applied Social Psychology, 28*, 65-79. https://doi.org/10.1002/casp.2341

Vasilopoulou, S. (2016). UK Euroscepticism and the Brexit Referendum. *The Political Quarterly*, *87*(2), 219-227. https://doi.org/10.1111/1467-923X.12258

Velasco González, K., Verkuyten, M., Weesie, J., & Poppe, E. (2008). Prejudice towards Muslims in the Netherlands: Testing integrated threat theory. *British Journal of Social Psychology*, *47*(4), 667-685. https://doi.org/10.1348/014466608X284443

Virdee, S., & McGeever, B. (2018). Racism, Crisis, Brexit. *Ethnic and Racial Studies, 41 (10)*, 1802-1819. https://doi.org/10.1080/01419870.2017.1361544

Wagner, U., Christ, O., Pettigrew, T. F., Stellmacher, J., & Wolf, C. (2006). Prejudice and minority proportion: Contact instead of threat effects. *Social Psychology Quarterly*, *69*(4), 380-390. https://doi.org/10.1177/019027250606900406

Wood, P. B., & Sonleitner, N. (1996). The effect of childhood interracial contact on adult antiblack prejudice. *International Journal of Intercultural Relations*, *20*(1), 1-17. https://doi.org/10.1016/0147-1767(96)00038-7

Zajonc, R. B. (1968). Attitudinal effects of mere exposure. *Journal of Personality and Social Psychology*, *9*(2p2), 1 – 27. https://doi.org/10.1037/h0025848