

**SUPPLEMENTARY INFORMATION**

**ONLINE APPENDICES A-D**

**A Research Note:**

**The Differential Impact of Threats on Ethnic Prejudice toward  
Three Minority Groups in Britain**

*Political Science and Research Methods*

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**Replication Materials:** The data, code, and any additional materials required to replicate all analyses in this article are available on the Political Science Research and Methods (PSRM) Dataverse within the Harvard Dataverse Network, at:  
<https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/AR8SLA>.

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## **ONLINE APPENDIX A: SURVEY DESIGN**

For this study, we conducted a large nationally representative web survey, executed by the polling organization YouGov. YouGov relies on a large volunteer opt-in panel of about 360,000 British adults in 2011 (YouGov 2011) and 800,000 British adults in 2016 (YouGov 2016, personal communication). Panel members are recruited from a variety of different sources. At the time of recruitment background demographics are collected for all panelists. These demographics are updated regularly.

Through *active sampling* (targeted quota sampling) a nationally representative sub-sample was drawn from the larger panel using the following demographic characteristics: age and gender; region; social grade; party identification; and newspaper readership (see Table A.1). The individuals in this sub-sample were sent an invitation email and received a small cash incentive for participating in the survey, ensuring that not only the most interested individuals participate in the survey (YouGov 2011). Only the individuals in this sub-sample had access to the questionnaire through the username and password they received in the invitation email, and these individuals were allowed to fill in the survey only once (*idem*).

Both surveys were part of YouGov's broader Omnibus project. In this survey respondents are asked a battery of questions about their political views – including their voting intention and history, their opinion on specific parties, policies and politicians, and their perception of economic conditions – as well as about their socio-demographic profile. In addition, the Omnibus project offers academics an opportunity to ask a set of additional questions, to a nationally representative sample of 1,000 respondents. We used these additional questions to ask respondents about their perceptions of threat, their attitudes toward different minority groups, a number of psychological characteristics, as well as about some additional socio-demographics.

A so-called ‘soft-launch’ of the first survey was done on Monday, July 11 2011 and included 115 respondents. As no major problems occurred during this initial phase, the survey was fully launched into the field from Wednesday, July 13 to Monday, July 18 2011. In total, including the 115 early-stage respondents, 1,097 individuals completed the survey. The survey was repeated in 2016 with decoupled measures of threat only. The survey was in the field from Monday, July 18 to Tuesday, July 19. A total of 1,688 individuals completed the 2016 survey.

The final data were weighted for age and gender; region; social grade; party identification; and newspaper readership (see Table A.1), to ensure that the data reflects the national population of 18 years and older (including people without internet access).<sup>2</sup> Also, respondents’ background demographics on ethnicity, education, work status, income, social grade, age, gender, and religion were made available, if they had not already been included in the survey itself. In the final analyses, we only include white British (85% in 2011 and 90% in 2016) respondents.

A common criticism of opt-in online surveys is that, despite targeted sub-sampling or weight-adjustments, panelists self-select into the initial panel and consequently the results cannot be considered representative of the general population. Yet an increasing body of research shows that potential biases introduced through the use of opt-in Internet panels, as compared to traditional stratified random samples and samples based on random digit-dial techniques, are offset by the larger sample sizes that internet surveys allow (Berrens et al. 2003; Chang and Krosnick 2009; Hill et al. 2007). Moreover, a validation study conducted by

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<sup>2</sup> In the UK only a minority of the population has no access to the internet. In September 2011 a study found that 41.6 (82.9%) out of a total of 50.1 million adults of 16 years and older in the UK has used internet at some point (Office for National Statistics 2011, the estimates in the report are derived from the Labour Force Survey). Although internet usage tends to be related with age, disability, location and earnings – in particular over 65 year olds are more likely to have never used the internet – (idem), the minority with no internet access has been shown to hold similar views to those who do have access to the internet (YouGov 2011).

Sanders et al. (2007) in the UK comparing results from the YouGov panel to those from a face-to-face national stratified random survey collected at the same time and using the same questionnaire shows that patterns of association can be estimated with a high degree of confidence in their equivalence across both surveys. There were few statistically significant differences between coefficients derived from the in-person and Internet data, and the relative explanatory power of the estimated models was virtually identical. An added advantage of an online survey is the degree of anonymity it provides, which is likely to reduce the impact of interviewer or social desirability effects that plagues responses to questions about immigration and race (Kreuter et al. 2008).

**Table A.1: Distribution (%) of Population Characteristics Used for YouGov’s Standard Sampling and Weighting Frame**

<b>Age and Gender</b>	<b>GB</b>	<b>Social Grade</b>	<b>GB</b>
Male 18-24	6.2	AB – higher non-manual	28.0
Male 25-39	12.8	C1 – lower non-manual	29.0
Male 40-59	16.9	C2 – skilled manual	21.0
Male 60+	12.7	DE – semi- and unskilled manual	22.0
Female 18-24	5.9		
Female 25-39	12.7		
Female 40-59	17.3		
Female 60+	15.5		
<b>Newspaper readership 2010</b>	<b>GB</b>	<b>(Government Office of the) Region</b>	<b>GB</b>
Express / Mail	15.0	North	24.6
Sun / Star	21.5	Midlands	16.4
Mirror/Record	15.5	East	9.6
Guardian / Indy	3.0	London	12.8
FT / Times / Teleg.	8.5	South	22.9
Other	11.5	Wales	5.0
No paper	25.0	Scotland	8.7
<b>Party Identification 2010</b>	<b>GB</b>		
Labour	32.5		
Conservative	28.5		
Liberal Democrats	12.0		
Other	3.0		
None / Don’t know	24.0		

*Source: YouGov (2011).*

## **A.1 Representativeness and Non-response**

As YouGov uses an opt-in panel, no so called *recruitment rate* can be calculated, as the probabilities of selection are unknown (Callegaro and DiSogra 2008). The response rate for the overall panel is 21%, with the average response time for a clicked email being 19 hours from the point of sending (YouGov 2011, personal communication). Due to YouGov's system through which respondents are sent a link to the system, connecting them to the particular survey that requires an individual with their particular demographics, and not to individual surveys, no per survey response rate is available. This also means that an invite can be in a respondent's email inbox for several days before he or she enters the system, removing the problem of fast responder bias. The break-off rate of the survey – i.e. the portion of specific survey questionnaires that were begun but never completed during the field period – was 5.3% in 2011 and 8.7% in 2016 (YouGov 2011 and 2016, personal communication).

## **A.2 Missing Data**

We impute values for missing data (the 'don't know' answer category) within the following variables: the three measures of self-esteem; the three measures of authoritarian values; and the eight measures of group hostility for each group. The chosen imputation model is a multivariate normal model and includes all the variables (and information) in the analysis models. We imputed 10 datasets for each survey wave. Once the 10 imputed datasets were created, the analyses were run on each and for each coefficient a single estimate (and standard error) was created from the 10 estimates following the rules set out by Rubin (1987).

## **ONLINE APPENDIX B: QUESTION WORDING**

Only the question on economic conditions was included in the core questionnaire of the Omnibus Survey. The remaining questions were included in our add-on questionnaire. Respondents were required to answer a question before being able to move on to the next question – i.e. questions were mandatory – and they were not allowed to return to a previously answered question. The questions are shown in the order in which they appeared on the survey.

### **Economic Conditions (2011 only)**

‘Now, a few questions about economic conditions. How does the *financial situation of your household* now compare with what it was 12 months ago? Has it?’

<1> Get a lot worse <2> Get a little worse <3> Stay the same <4> Get a little better

<5> Get a lot better <6> Don't know

‘How do you think the *general economic situation in this country* has changed over the *last 12 months*? Has it?’

<1> Get a lot worse <2> Get a little worse <3> Stay the same <4> Get a little better

<5> Get a lot better <6> Don't know

### **Perceived Threat**

‘To what extent do you agree or disagree with the following statements?’

- ‘I am afraid of increasing violence and vandalism in my neighbourhood [by ethnic minorities]’
- ‘I am afraid that my own economic prospects will get worse [because of ethnic minorities]’

- ‘I am afraid of increasing violence and vandalism in British society [by ethnic minorities]’
- ‘These days, I am afraid that the British culture is threatened [by ethnic minorities]’
- ‘I am afraid that the economic prospects of British society will get worse [because of ethnic minorities]’
- ‘I feel that Britain is now a much better place to live [because of ethnic minorities]’
- ‘I feel that my neighbourhood is becoming a much nicer place to live [because of ethnic minorities]’

<1> Strongly agree <2> Tend to agree <3> Tend to disagree <4> Strongly disagree

<5> Don’t know

*Note: For this item only, 60% of the 2011 sample (671 respondents) was randomly selected into the second experimental condition which omitted the reference to ethnic minorities. In 2016, all respondents were only shown the items that omitted the reference to ethnic minorities. The ordering of the statements was randomized. To balance the questions, two positively phrased statements were included together with the negatively phrased threat statements.*

### **Group Hostility (eight-item additive index, averaged)**

‘Now we will talk about some of the different groups present in our country. For each of the characteristics mentioned, please state whether or not you think it applies to the majority of persons belonging to that group? Thinking now about [Black Britons/Muslims/East Europeans/White Britons], to what extent do you agree or disagree that most [Black Britons/Muslims/East Europeans/White Britons] are ...?’

- ‘**Trustworthy** - they behave properly and act honestly’

- ‘**Selfish** - they think only about themselves, without concerning themselves very much about others’
- ‘**Law-abiding** - they behave like good citizens, observing the regulation and laws of the state’
- ‘**Intrusive** - they press themselves on you in an annoying and insistent way’
- ‘**Slackers** - they try to avoid working or in any case they avoid to do tiring heavy work’
- ‘**Violent** - they often use physical force or threaten to use it, in order to impose their will in their relations with others’
- ‘**Complainers** - they try to make others feel sorry for them’
- ‘**By nature inferior** to [ordinary British people/people of other ethnic backgrounds]’

<1> Strongly agree <2> Tend to agree <3> Tend to disagree <4> Strongly disagree

<5> Don’t know

*Note: All statements for a given ethnic group were asked before moving onto the next ethnic group. Both the ordering of the statements within an ethnic group and the ordering of the ethnic groups was randomized, ensuring that the ordering of the statements remained constant across the ethnic groups for a given respondent. The phrase ‘people of other ethnic backgrounds’ in the last item was only used when describing white Britons.*

#### **Authoritarianism (three-item additive index, averaged)**

‘To what extent do you agree or disagree with the following statements?’

- ‘Whenever a private or public employer finds it necessary to reduce the number of employees, the first to be let go should be women who have a husband who is working’
- ‘Only the elderly, children and handicapped should receive public assistance’
- ‘It is better to live in an orderly society in which the laws are vigorously enforced than to give people too much freedom’



<1> Strongly agree <2> Tend to agree <3> Tend to disagree <4> Strongly disagree

<5> Don't know

*Note: The ordering of the statements was randomized.*

### **Self-Esteem (five-item additive index, averaged)**

'Do you believe the following statements are true or false?'

- 'When in a group of people, I usually do what others want, rather than make suggestions'
- 'I would have been more successful if people had given me a fair chance'
- 'I certainly feel useless at times'
- 'Teachers often expect too much work from their students'
- 'I commonly wonder what hidden reason another person may have for doing something nice for me'

<1> True <2> False <3> Don't know

*Note: The ordering of the statements was randomized.*

### **Identification with British Identity (four-item additive index, averaged; 2011 only)**

'To what extent do you agree or disagree with the following statements?'

- 'I often think of myself as British'
- 'I consider myself a typical British person'
- 'I am proud that I am British'
- 'If someone said something bad about British people, I feel almost as if they said something bad about me'

<1> Strongly agree <2> Tend to agree <3> Tend to disagree <4> Strongly disagree

<5> Don't know

*Note: The ordering of the statements was randomized.*

## **Socio-demographics**

YouGov provides background demographics for each panelist on ethnicity, education, work status, income, social grade, age, gender and religion. Most of these are updated regularly; however, the Academic Omnibus Survey specifically asked about work status, education, and ethnicity in order to ensure this data was up-to-date. Education was measured as the terminal age of education, with age substituted for individuals still in education. Social grade distinguishes 'higher non-manual', 'lower non-manual', 'skilled manual' and 'semi-skilled and unskilled manual' workers. Finally, work status distinguishes those who are 'working full-time', 'working part-time', 'full-time students', 'retired', 'unemployed', or those who are 'not working' or have an 'other' status.

**Table A.2A. Descriptive Statistics of Independent Variables, 2011**

	N	Mean	Std. Dev.	Minimum	Maximum
<b>Decoupled Threats:</b>					
Neighborhood safety	539	2.43	0.85	1	4
Individual economic	536	2.99	0.73	1	4
Collective safety	539	2.86	0.83	1	4
Cultural	542	3.04	0.91	1	4
Collective economic	547	3.14	0.67	1	4
<b>Coupled Threats:</b>					
Neighborhood safety	320	2.18	0.99	1	4
Individual economic	311	2.36	1.02	1	4
Collective safety	318	2.51	1.01	1	4
Cultural	324	2.81	1.09	1	4
Collective economic	315	2.61	1.04	1	4
Gender (female)	929	0.55	0.50	0	1
Age	929	47.79	16.54	18	84
Education	926	17.88	1.90	15	20
<b>Social Grade:</b>					
Higher non-manual	929	0.38	0.49	0	1
Lower non-manual	929	0.29	0.46	0	1
Skilled manual	929	0.13	0.34	0	1
Semi- and unskil. man.	929	0.20	0.40	0	1
<b>Work Status:</b>					
Full-time employment	907	0.41	0.49	0	1
Part-time employment	907	0.14	0.35	0	1
Full-time student	907	0.05	0.22	0	1
Retired	907	0.26	0.44	0	1
Unemployed	907	0.04	0.20	0	1
Not working/other	907	0.09	0.29	0	1
UK born	928	0.98	0.12	0	1
British identity	907	3.13	0.63	1	4
Retrospective economy	900	2.03	0.94	1	5
Retrospective finance	914	2.27	0.89	1	5

*Note: Descriptive statistics are shown before imputation of values for missing data.*

**Table A.2B. Descriptive Statistics of Independent Variables, 2016**

	N	Mean	Std. Dev.	Minimum	Maximum
<b>Decoupled Threats:</b>					
Neighborhood safety	1,361	2.22	0.85	1	4
Individual economic	1,272	2.70	0.85	1	4
Collective safety	1,382	2.84	0.81	1	4
Cultural	1,381	2.75	0.98	1	4
Collective economic	1,312	2.73	0.90	1	4
Gender (female)	1,514	0.57	0.50	0	1
Age	1,514	49.98	17.41	18	101
Education	1,504	17.82	1.85	15	20
<b>Social Grade:</b>					
Higher non-manual	1,514	0.32	0.47	0	1
Lower non-manual	1,514	0.29	0.45	0	1
Skilled manual	1,514	0.18	0.38	0	1
Semi- and unskil. man.	1,514	0.21	0.41	0	1
<b>Work Status:</b>					
Full-time employment	1,514	0.38	0.48	0	1
Part-time employment	1,514	0.15	0.35	0	1
Full-time student	1,514	0.06	0.23	0	1
Retired	1,514	0.29	0.45	0	1
Unemployed	1,514	0.03	0.17	0	1
Not working/other	1,514	0.10	0.30	0	1
UK born	1,500	0.98	0.13	0	1

*Note: Descriptive statistics are shown before imputation of values for missing data.*

**Table A.3A. Estimated Mean and Standard Error of Imputed Variables, 2011**

	N	Mean	Std. Err.	Minimum	Maximum
Authoritarianism	811	2.19	0.02	0.91	4.22
Low self-esteem	760	0.30	0.01	-0.31	1.04
<b>Group Hostility:</b>					
Black British	732	2.14	0.03	0.62	4.33
Muslims	723	2.26	0.03	0.32	4.48
East Europeans	710	2.17	0.03	-0.33	4.34
White British	770	2.66	0.06	-1.88	6.34

**Table A.3B. Estimated Mean and Standard Error of Imputed Variables, 2016**

	N	Mean	Std. Err.	Minimum	Maximum
Authoritarianism	1,280	2.07	0.02	0.72	4.00
Low self-esteem	1,150	0.35	0.01	-0.37	1.23
<b>Group Hostility:</b>					
Black British	1,150	1.99	0.02	0.56	4.37
Muslims	1,133	2.10	0.03	0.59	4.22
East Europeans	1,130	2.05	0.02	0.48	4.02
White British	1,178	2.05	0.02	0.31	3.88

## **ONLINE APPENDIX C: COUPLED AND DECOUPLED THREAT MEASURES**

In a pioneering study, Sniderman et al. (2004) revealed how much of the research that investigates the role of threat in motivating prejudice toward minorities conflates perceptions of threat with attitudes toward minorities by ‘coupling’ threats and minority groups in the same question (e.g. Velasco González et al. 2008; McLaren 2003; Schlueter et al. 2008). In their study, they set out to ‘decouple’ threat items such as ‘I am afraid that my economic prospects will get worse because of ethnic minorities’ by omitting the reference to ethnic minorities before assessing their impact on prejudice.

To gauge the relative importance of economic, cultural and safety threats Sniderman et al. (2004) first gave one half of a randomly selected sample traditional threat questions that ‘coupled’ objects at risk (i.e. the economic situation, national culture and safety) with minorities. Survey respondents were asked the extent to which they agreed or disagreed with statements that directly associated minorities with threats to economic prospects, neighborhood safety and national identity. Next, for the remaining half of the sample, the objects at risk from minority groups were ‘decoupled’ by modifying the wording of the question and omitting any reference to minorities. The results demonstrated that in contrast to research that couples objects at risk with minorities, decoupled questions allow for a more robust assessment of the impact of distinct threats on measures of prejudice. Sniderman et al. (2004) thus ensured that the estimates of the effect of threat on prejudice were no longer a consequence of the measures of threat and prejudice being tautologous.

In the paper, we utilize similar decoupled threat measures to examine the role of distinct threats in motivating prejudice toward three minorities in Britain: Black British, Muslims, and East Europeans. Here, we follow Sniderman et al. (2004) and first validate our decoupled threat measures. We start by exploring how the different threat items are interrelated (idem: 37-8). We would expect respondents, when asked about their perception

of threat in combination with a reference to minorities, who claim they feel threatened along one dimension to be substantially more likely to feel threatened along other dimensions. In contrast, when references to minorities are omitted, the distinctions between different types of threat should become more evident. Table A.4A, which shows the correlation coefficients for the different threats in the coupled and decoupled conditions using the 2011 data, confirms these expectations. In the coupled condition, the different threats are highly correlated with an average correlation of 0.69. In the decoupled condition the different threats are substantially less correlated, with a mean correlation of 0.39. Moreover, the magnitude of the correlation coefficients differs substantially depending on the type of threats. In the decoupled condition, the strongest correlations are between perceptions of individual (neighborhood) and collective safety threat (0.67) and between perceptions of individual and collective economic threat (0.53); whereas the weakest correlations are between the perception of cultural threat and perceptions of either individual or collective economic threat (0.24 and 0.18, respectively). The range of magnitudes of the correlation coefficients is much smaller under the coupled condition, ranging between 0.61 and 0.79.

The difference between the coupled and decoupled threat items is also reflected in the difference in the total correlation for coupled items and the total correlation for decoupled items. We measure the total correlation with the Kullback-Leiber divergence measure. This measure reflects the fact that fewer nats (natural units) are required to convey the information in a set of random variables when those random variables share information (are mutually dependent), compared to when those random variables are entirely independent. The coupled threat items require 2.62 fewer nats than would be necessary if the items were all independent. The decoupled threat items require 1.29 fewer nats than would be necessary. Clearly, there is more mutual information in the coupled than in the decoupled items.

**Table A.4A. Associations between Threats under Coupled and Decoupled Conditions, 2011**

Threat	Threat				
	Neighborhood safety	Individual economic	Collective safety	Cultural	Collective economic
Neighborhood safety		0.61**	0.69**	0.61**	0.66**
<i>N</i>		301	310	311	303
Individual economic	0.37**		0.67**	0.66**	0.77**
<i>N</i>	523		300	304	301
Collective safety	0.67**	0.41**		0.71**	0.70**
<i>N</i>	527	525		310	306
Cultural	0.37**	0.24**	0.46**		0.79**
<i>N</i>	527	524	528		308
Collective economic	0.33**	0.53**	0.37**	0.18**	
<i>N</i>	532	530	533	535	

*\*p-value ≤ 0.10; \*\*p-value ≤ 0.05. Note: Pearson's correlation coefficients shown (above the diagonal for the coupled condition; below the diagonal for the decoupled condition), before imputation of values for missing data and with survey weights.*

**Table A.4B. Associations between Threats under Decoupled Conditions, 2016**

Threat	Threat			
	Neighborhood safety	Individual economic	Collective safety	Cultural
Neighborhood safety				
<i>N</i>				
Individual economic	0.24**			
<i>N</i>	1,200			
Collective safety	0.55**	0.25**		
<i>N</i>	1,313	1,230		
Cultural	0.29**	-0.07**	0.31**	
<i>N</i>	1,292	1,206	1,317	
Collective economic	0.17**	0.64**	0.20**	-0.25**
<i>N</i>	1,236	1,208	1,258	1,246

*\*p-value ≤ 0.10; \*\*p-value ≤ 0.05. Note: Pearson's correlation coefficients shown, before imputation of values for missing data and with survey weights.*

Table A.4B shows the correlation coefficients for the different (decoupled) threats using the 2016 data. The average correlation between the threats is 0.23. Again, this hides substantial differences. The correlation coefficients between cultural threat on the one hand and individual and collective threat on the other are now negative at -0.07 and -0.25, respectively. In contrast, the strongest correlation coefficients are again those between

perceptions of individual and collective safety threat (0.55) and between perceptions of individual and collective economic threat (0.64).

Next, we present the results of an examination of the predictors of threat. We would expect that when the objects at risk (i.e. economic situation, culture or safety) and the allegedly threatening ethnic minorities are coupled, the different threats share similar predictors, whereas when the reference to ethnic minorities is omitted under the decoupled condition economic threats are more closely connected to judgments about the economy and one's own personal finances, whereas cultural threat is more closely associated with measures of identity. Because perceived threats to safety may stem from either fears of becoming a victim of crime or from a more symbolic concern over the compatibility of minorities with the fundamental law-abiding values of the native population, we expect such threats to be a function of both identity, as well as national economic assessments (collective safety) or personal financial assessments (neighborhood safety).

Using the 2011 data, we estimate the effects on each of the different types of threat in both the coupled and decoupled conditions using an ordered probit regression model, as the responses to the threat items indicate (dis)agreement ranging from 1 to 4 on an ordered scale. The model maps a latent outcome variable – individual or collective safety or economic threat, or cultural threat – ranging from  $-\infty$  to  $\infty$  onto the observed threat measure by estimating both coefficient estimates for the predictor variables as well as for a set of cutpoints  $\tau$  (Long 1997: Chapter 5). As predictors of threat we include relevant socio-demographic controls – gender, age, education, social grade, work status and UK born – as well as a measure of the strength of British identity and retrospective judgments of an individual's personal financial situation and of the general economic situation in the country. Our measure of British identity is taken from Sniderman et al. (2004) and adapted to the British context. For our economic evaluations, we relied on questions included in the core



questionnaire of the Omnibus Survey. For the wording of both questions, we refer to Appendix B. Finally, we also include our measures of authoritarianism and of low self-esteem.

Our results, presented in Table A.5, show that when the reference to ethnic minorities is included in the coupled threat condition, British identity, authoritarianism and the individual's personal financial situation are strong and significant predictors of all but one threat and the magnitude of the effects do not vary a great deal across the threats. The exception is threat to neighborhood safety, which is not predicted by an individual's personal financial situation, although it is still predicted by British identity.

When the reference to ethnic minorities is omitted in the decoupled threat condition, however, the results are far more nuanced. British identity is a significant predictor only of collective safety threat and of cultural threat, and by far the strongest predictor of the latter. Moreover, whereas in the coupled condition the retrospective evaluation of the country's economy is not significantly related to threat perceptions, in the decoupled condition individuals who hold a more positive outlook are significantly less likely to perceive collective economic threat, and to a lesser extent individual economic threat and collective safety threat. In contrast to Sniderman et al.'s findings, though, we find no effect of the retrospective evaluation of the country's economy on perceptions of cultural threat. A possible explanation of this discrepancy is that 'the strong symbolic component' (2004: 42) that the authors speculate might characterize perceived threats to the national economy may be overridden by more realistic concerns during worsened economic conditions.

Similarly, under the decoupled condition, individuals who hold a more positive evaluation of their past personal financial situation are, above all, less likely to experience individual economic threat. To a lesser extent, they are also less likely to experience collective economic threat or neighborhood or collective safety threat.

Finally, in the decoupled condition, authoritarianism is now only a significant predictor of cultural threat and collective safety threat, whereas low self-esteem – not a significant predictor of threat in the coupled condition – significantly predicts all types of threats except collective safety threat.

In sum, under the decoupled condition the predictors vary depending on the type of threat, with economic threats being more closely connected to judgments about the economy and one's own personal finances, and cultural threat most strongly associated with strength of British identity. Collective safety threat is associated with both identity and economic assessments, while neighborhood safety threat is associated with personal financial assessments. These results are consistent with Sniderman et al. (2004) and reinforce the idea that when we omit a reference to ethnic minorities in our formulation of threats, we are able to measure distinct threats.

**Table A.5. Predictors of Threat under Coupled (C) and Decoupled (D) Conditions, 2011**

	Neighborhood Safety		Individual Economic		Collective Safety		Cultural		Collective Economic	
	C	D	C	D	C	D	C	D	C	D
Female	-0.25*	0.26**	-0.03	0.23*	-0.13	0.41**	-0.04	0.13	0.22	0.17
	(0.15)	(0.12)	(0.16)	(0.12)	(0.15)	(0.12)	(0.15)	(0.12)	(0.15)	(0.13)
Age	0.003	-0.006	0.003	-0.005	0.004	0.002	-0.001	0.006	0.002	-0.002
	(0.007)	(0.005)	(0.008)	(0.006)	(0.007)	(0.006)	(0.008)	(0.006)	(0.008)	(0.006)
Education	-0.0001	-0.07**	-0.07	-0.07*	-0.11**	-0.09**	-0.11**	-0.10**	-0.10**	-0.03
	(0.05)	(0.04)	(0.05)	(0.04)	(0.05)	(0.04)	(0.05)	(0.04)	(0.05)	(0.04)
Social Grade (Ref.: higher non-manual)										
Lower non-manual	0.10	-0.05	0.04	0.003	-0.09	-0.006	0.02	0.27*	-0.02	-0.05
	(0.18)	(0.13)	(0.18)	(0.14)	(0.19)	(0.13)	(0.17)	(0.14)	(0.18)	(0.16)
Skilled manual	0.13	0.11	0.13	0.07	-0.13	0.15	0.05	0.02	0.11	0.13
	(0.25)	(0.20)	(0.34)	(0.18)	(0.25)	(0.17)	(0.28)	(0.20)	(0.28)	(0.17)
Semi- and unskil. man.	0.32	0.28	0.30	0.27	0.22	0.10	0.20	0.36**	0.08	0.18
	(0.25)	(0.18)	(0.20)	(0.19)	(0.21)	(0.18)	(0.24)	(0.17)	(0.23)	(0.17)
Work Status (Ref.: full-time employment)										
Part-time employment	0.05	-0.29	0.23	-0.30*	0.11	-0.43**	0.31	-0.11	0.21	-0.32*
	(0.27)	(0.19)	(0.27)	(0.18)	(0.27)	(0.19)	(0.25)	(0.18)	(0.26)	(0.17)
Full-time student	0.24	-0.37	0.11	0.17	0.45	-0.27	-0.15	-0.58	0.23	0.04
	(0.33)	(0.39)	(0.47)	(0.33)	(0.33)	(0.38)	(0.32)	(0.35)	(0.34)	(0.36)
Retired	-0.17	-0.09	-0.53*	-0.48**	-0.20	-0.17	0.09	-0.11	0.02	-0.51**
	(0.25)	(0.18)	(0.29)	(0.21)	(0.23)	(0.19)	(0.25)	(0.19)	(0.27)	(0.19)
Unemployed	-0.08	-0.91**	-0.12	-0.37	-0.18	-0.52	-0.40	-0.41	-0.28	0.004
	(0.42)	(0.38)	(0.33)	(0.35)	(0.39)	(0.40)	(0.35)	(0.27)	(0.35)	(0.38)
Not working/other	0.40	-0.16	0.17	0.01	0.09	-0.30	0.08	-0.09	0.23	-0.54**
	(0.29)	(0.19)	(0.24)	(0.22)	(0.26)	(0.21)	(0.41)	(0.22)	(0.29)	(0.20)
UK born	0.64	-0.32	0.57	0.31	0.79*	-0.85**	0.38	1.63**	0.72	0.16
	(0.40)	(0.25)	(0.68)	(0.32)	(0.45)	(0.41)	(0.84)	(0.33)	(0.63)	(0.30)
British identity	0.37**	0.11	0.37**	0.01	0.32**	0.18*	0.48**	0.47**	0.37**	-0.06
	(0.13)	(0.10)	(0.13)	(0.11)	(0.12)	(0.10)	(0.13)	(0.11)	(0.12)	(0.11)
Retro. economy	-0.11	-0.11	-0.06	-0.27**	-0.02	-0.18**	0.02	0.008	0.04	-0.58**
	(0.08)	(0.07)	(0.08)	(0.08)	(0.07)	(0.07)	(0.09)	(0.07)	(0.08)	(0.09)
Retro. finance	-0.07	-0.17**	-0.33**	-0.60**	-0.21**	-0.14*	-0.28**	-0.04	-0.25**	-0.23**
	(0.10)	(0.08)	(0.09)	(0.08)	(0.09)	(0.08)	(0.09)	(0.08)	(0.09)	(0.07)

**Table A.5. Continued**

Authoritarianism	0.64** (0.15)	0.15 (0.10)	0.61** (0.14)	-0.07 (0.11)	0.52** (0.14)	0.21** (0.10)	0.45** (0.13)	0.26** (0.12)	0.60** (0.14)	0.15 (0.11)
Low self-esteem	0.34 (0.31)	0.56** (0.23)	0.56* (0.32)	0.47* (0.26)	0.06 (0.29)	0.29 (0.23)	0.34 (0.32)	0.57** (0.24)	0.33 (0.33)	0.63** (0.30)
/cut1	2.42** (1.19)	-2.94** (1.00)	0.47 (1.42)	-5.55** (1.12)	-0.45 (1.32)	-3.65** (1.05)	-0.61 (1.49)	0.56 (1.13)	0.16 (1.38)	-4.50** (1.21)
/cut2	3.56** (1.20)	-1.55 (1.00)	1.47 (1.43)	-4.02** (1.13)	0.50 (1.32)	-2.52** (1.06)	0.01 (1.50)	1.52 (1.14)	1.17 (1.39)	-3.35** (1.16)
/cut3	4.42** (1.22)	-0.40 (1.00)	2.50* (1.45)	-2.17* (1.12)	1.59 (1.33)	-1.08 (1.06)	0.90 (1.51)	2.68** (1.14)	2.14 (1.40)	-1.31 (1.15)
<i>N</i>	252	437	248	437	254	439	252	437	252	441

\*  $p$ -value  $\leq 0.10$ ; \*\* $p$ -value  $\leq 0.05$ . Note: Ordered probit coefficients and standard errors between brackets shown.

## ONLINE APPENDIX D: PREDICTING GROUP HOSTILITY

Table A.6 presents the correlations between group hostility scores in 2011 and 2016. In 2011, the correlations between out-group scores (Black British, Muslims and East Europeans) are moderately high, ranging between 0.60 and 0.72, suggesting a degree of generalized hostility. The correlations between white British and out-group scores are substantially smaller, ranging between 0.16 and 0.24, and suggesting this generalized hostility does not necessarily include hostility toward the in-group. All correlations increased between 2011 and 2016, such that in 2016 even the correlations between white British hostility scores and out-group hostility scores are no smaller than 0.38 and as large as 0.48. This suggests a greater degree of generalized hostility in 2016.

**Table A.6. Correlations between Group Hostility Scores, 2011 and 2016**

Group Hostility	Group Hostility			
	Black British	Muslims	East Europeans	White British
Black British		0.82	0.79	0.48
Muslims	0.60		0.81	0.38
East Europeans	0.64	0.72		0.38
White British	0.23	0.24	0.16	

*Note: 2011 correlations reported below the diagonal; 2016 correlations reported above the diagonal.*

Table A.7A presents the results of a series of Ordinary Least Squares (OLS) regressions of prejudice on each threat (entered individually) for threats in the coupled and decoupled conditions. If  $Y_i$  is individual  $i$ 's expressed group hostility – either toward Black British, Muslims, East Europeans or white British –  $T_i$  is the individual's perceived level of (coupled or decoupled) threat – individual or collective safety or economic threat, or cultural threat – and  $\beta_1$  is its coefficient,  $X$  is a  $n$ -by- $k$  covariate matrix and  $B$  is a  $k$ -by-1 vector of coefficients, then the models we estimate can be formally written as:

$$Y_i = \beta_0 + \beta_1 T_i + X * B + \varepsilon_i.$$

In this model  $\beta_0$  is the intercept of the model and  $\varepsilon_i$  the error term for observation  $i$ . The covariates included in this model are: gender, age, education, social grade, work status, UK born, authoritarianism and low self-esteem.

The results for the coupled condition reveal how each type of threat is estimated to have a highly significant and positive effect on hostility toward all minorities. Moreover, none of the threats are significantly related to hostility toward the white British in-group. Using the decoupled items allows us to identify the differential impact of each type of threat. In contrast to the results found under the coupled condition, in this case only some types of threat emerge as having statistically significant effects on hostility and, furthermore, the effect sizes vary across each of the minorities. We discuss the results for the decoupled condition reported in Table A.7A and A.7B further in the paper.

**Table A.7A. Predictors of Group Hostility under Coupled (C) and Decoupled (D) Conditions, 2011; Threats Entered Individually**

Threat	Black British		Muslims		East Europeans		White British	
	C	D	C	D	C	D	C	D
Neighborhood safety	0.32** (0.04)	0.13** (0.04)	0.32** (0.05)	0.16** (0.05)	0.32** (0.05)	0.09** (0.04)	-0.03 (0.08)	0.14 (0.10)
	<i>N</i> 230	416	229	412	224	410	226	404
Individual economic	0.24** (0.05)	0.06 (0.04)	0.30** (0.05)	0.09* (0.05)	0.29** (0.05)	0.07 (0.04)	-0.03 (0.09)	0.09 (0.10)
	<i>N</i> 231	418	230	414	225	412	222	403
Collective safety	0.21** (0.05)	0.11** (0.04)	0.34** (0.05)	0.17** (0.04)	0.29** (0.05)	0.14** (0.04)	-0.01 (0.08)	0.22** (0.09)
	<i>N</i> 232	418	231	414	226	412	226	402
Cultural	0.16** (0.04)	0.20** (0.03)	0.26** (0.05)	0.31** (0.04)	0.23** (0.04)	0.20** (0.03)	-0.08 (0.08)	0.13 (0.08)
	<i>N</i> 230	418	231	415	226	413	224	403
Collective economic	0.24** (0.05)	0.03 (0.04)	0.34** (0.05)	0.01 (0.06)	0.31** (0.04)	0.05 (0.04)	-0.01 (0.08)	0.16 (0.10)
	<i>N</i> 231	419	231	416	226	413	224	405

\**p*-value  $\leq 0.10$ ; \*\**p*-value  $\leq 0.05$ . Note: Unstandardized OLS coefficients and standard errors between brackets shown; controlling for gender, age, education, social grade, work status, UK born, authoritarianism and low self-esteem.

**Table A.7B. Predictors of Group Hostility under Decoupled Condition, 2016; Threats Entered Individually**

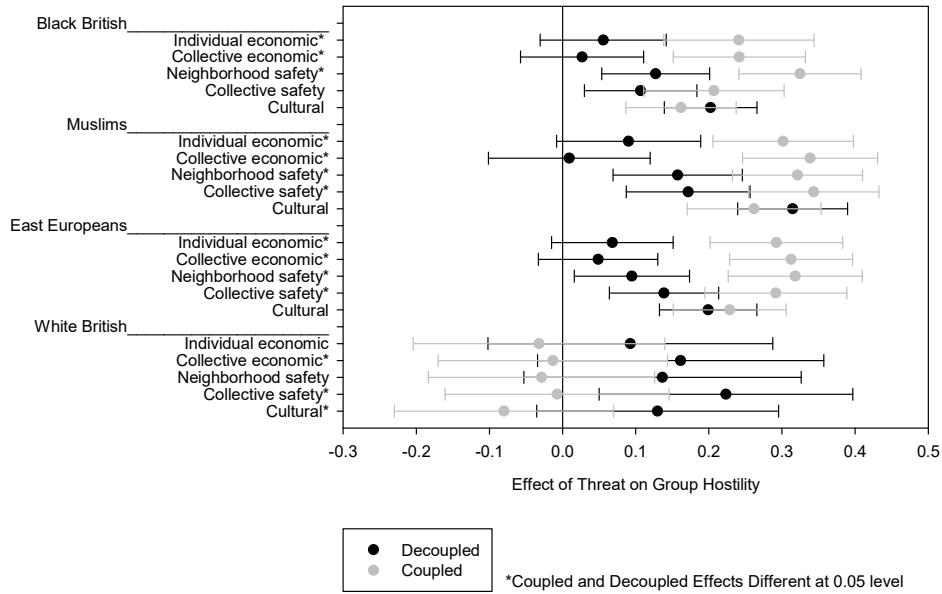
Threat	Black British	Muslims	East Europeans	White British
Neighborhood safety	0.08** (0.03)	0.09** (0.03)	0.07** (0.03)	0.09** (0.02)
	<i>N</i> 967	966	964	981
Individual economic	-0.01 (0.03)	-0.06* (0.03)	-0.07** (0.03)	0.07** (0.02)
	<i>N</i> 952	950	946	965
Collective safety	0.09** (0.03)	0.06** (0.03)	0.05* (0.03)	0.08** (0.02)
	<i>N</i> 970	967	969	987
Cultural	0.21** (0.02)	0.25** (0.03)	0.21** (0.03)	0.04** (0.02)
	<i>N</i> 964	961	962	981
Collective economic	-0.04 (0.03)	-0.10** (0.03)	-0.11** (0.03)	0.05** (0.02)
	<i>N</i> 954	953	959	969

\**p*-value  $\leq 0.10$ ; \*\**p*-value  $\leq 0.05$ . Note: Unstandardized OLS coefficients and standard errors between brackets shown; controlling for gender, age, education, social grade, work status, UK born, authoritarianism and low self-esteem.

Figure A.1A shows the coupled and decoupled estimates from Table A.7A and their 95% confidence intervals. It also indicates which estimates have a significantly different impact on group hostility across the experimental conditions. Figure A.1B shows the estimates of this difference in the impact on group hostility across the experimental conditions. The impact of individual and collective economic threat, as well as neighborhood safety threat, on hostility toward the three minority groups is significantly smaller when the threat items omit the reference to ethnic minorities. The same applies to the impact of collective safety threat on hostility toward Muslim and East European minorities. There is no significant difference in the impact of cultural threat on hostility towards minorities, nor of collective safety threat on hostility toward Black British minorities when the reference to ethnic minorities is omitted from the threat items. Finally, the decoupled collective economic, collective safety and cultural threat items have a significantly stronger effect on hostility toward the white British in-group than the same coupled threats, whereas we find no such difference for individual economic and neighborhood safety threats.

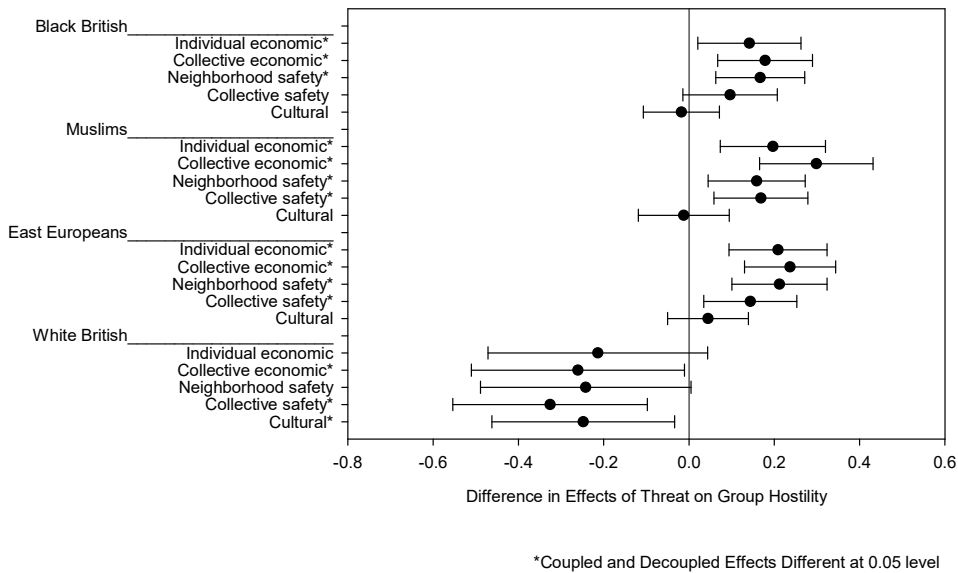


**Figure A.1A. Unstandardized OLS Coefficient Estimates and 95% Confidence Intervals of the Impact of Coupled (C) and Decoupled (D) Threats on Group Hostility, 2011; Threats Entered Individually**



*Note: Models include control variables (see Table A.7A).*

**Figure A.1B. Difference in Unstandardized OLS Coefficient Estimates and 95% Confidence Intervals of the Impact of Coupled (C) and Decoupled (D) Threats on Group Hostility, 2011; Threats Entered Individually**



*Note: Models include control variables.*

In Table A.8A and A.8B we present the OLS coefficient estimates from models that include all threats simultaneously to investigate their independent impact on hostility using data from 2011 and 2016, respectively. In this case, the models estimated predicting hostility toward each of the different groups are as follows:

$$Y_i = \beta_0 + \beta_1 \text{Neighbourhood safety threat}_i + \beta_2 \text{Individual economic threat}_i + \beta_3 \text{Collective safety threat}_i + \beta_4 \text{Cultural threat}_i + \beta_5 \text{Collective economic threat}_i + X * B + \varepsilon_i,$$

in which  $\beta_1$  to  $\beta_5$  are the coefficients for each of the threats. As the estimates of the impact of the different threats on hostility toward minorities and their standard errors remain essentially unaffected when we include hostility toward the white British in-group in the models (see below), we refer to the paper for the discussion of the results. Furthermore, Figure A.2 shows how none of the threats differ significantly in their impact on hostility toward minorities between 2011 and 2016.

**Table A.8A. Predictors of Group Hostility under Decoupled Condition, 2011; with Covariates Shown**

	<b>Black British</b>	<b>Muslims</b>	<b>East Europeans</b>	<b>White British</b>
Neighborhood safety threat	0.09** (0.04)	0.06 (0.05)	0.001 (0.04)	0.07 (0.11)
Individual economic threat	-0.02 (0.05)	0.01 (0.06)	-0.01 (0.05)	-0.07 (0.12)
Collective safety threat	0.01 (0.04)	0.05 (0.06)	0.09** (0.04)	0.16 (0.11)
Cultural threat	0.17** (0.03)	0.28** (0.04)	0.17** (0.03)	0.05 (0.09)
Collective economic threat	-0.02 (0.05)	-0.08 (0.06)	-0.01 (0.04)	0.11 (0.11)
Female	-0.08 (0.05)	-0.06 (0.07)	-0.05 (0.06)	0.23* (0.14)
Age	-0.004 (0.003)	-0.004 (0.003)	-0.005 (0.003)	-0.01** (0.01)
Education	-0.01 (0.02)	-0.04* (0.02)	-0.05** (0.02)	-0.01 (0.05)
Social Grade (Reference: higher non-manual)				
Lower non-manual	-0.02 (0.06)	-0.22** (0.08)	-0.09 (0.06)	-0.04 (0.17)
Skilled manual	-0.01 (0.09)	-0.03 (0.10)	0.05 (0.10)	-0.04 (0.25)
Semi- and unskilled manual	-0.07 (0.09)	-0.13 (0.11)	-0.06 (0.09)	0.04 (0.24)
Work Status (Reference: full-time employment)				
Part-time employment	-0.10 (0.09)	-0.11 (0.10)	-0.11 (0.09)	-0.10 (0.17)
Full-time student	-0.05 (0.14)	0.05 (0.21)	-0.15 (0.20)	0.66* (0.39)
Retired	0.11 (0.10)	0.09 (0.10)	0.10 (0.09)	0.26 (0.23)
Unemployed	0.22 (0.20)	0.04 (0.20)	-0.001 (0.21)	0.17 (0.23)
Not working/other	0.004 (0.13)	-0.03 (0.14)	0.01 (0.14)	0.42 (0.35)
UK born	-0.40 (0.35)	-0.14 (0.59)	-0.43** (0.13)	-0.02 (0.40)
Authoritarianism	0.31** (0.05)	0.18** (0.06)	0.16** (0.06)	0.24* (0.14)
Low self-esteem	0.17 (0.12)	0.29** (0.13)	0.19 (0.12)	-0.05 (0.28)
Constant	1.52** (0.59)	2.00** (0.75)	2.67** (0.50)	1.65 (1.30)
<i>N</i>	409	405	404	395

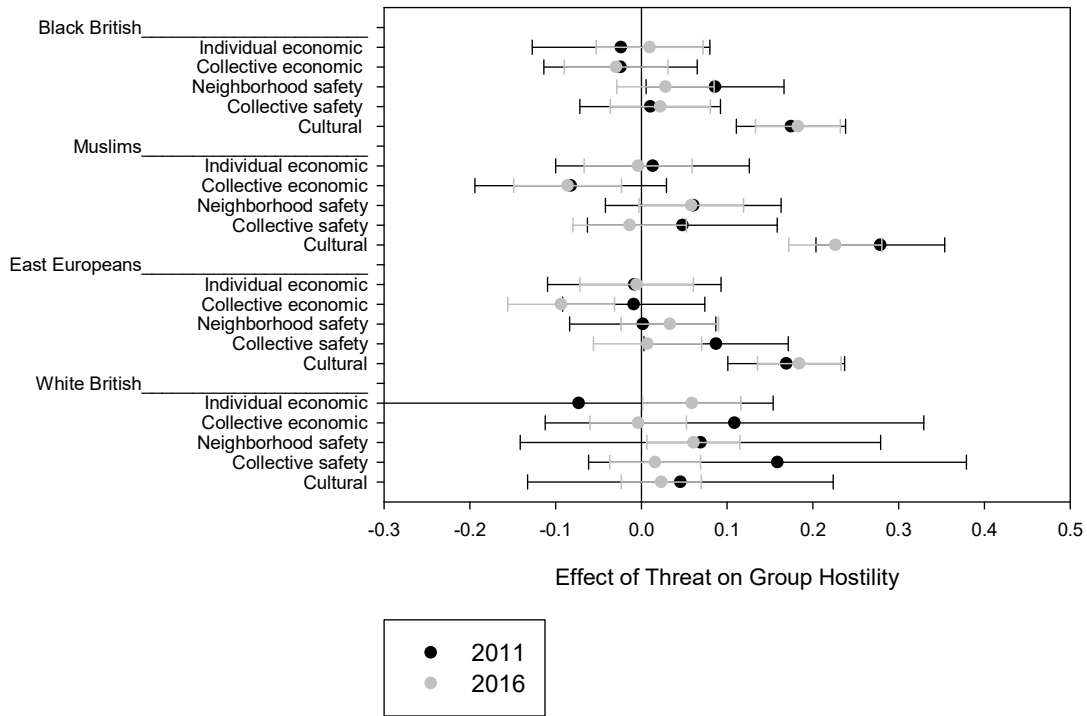
\*  $p$ -value  $\leq 0.10$ ; \*\* $p$ -value  $\leq 0.05$ . Note: Unstandardized OLS coefficients and standard errors between brackets shown.

**Table A.8B. Predictors of Group Hostility under Decoupled Condition, 2016; with Covariates Shown**

	<b>Black British</b>	<b>Muslims</b>	<b>East Europeans</b>	<b>White British</b>
Neighborhood safety threat	0.03 (0.03)	0.06* (0.03)	0.03 (0.03)	0.06** (0.03)
Individual economic threat	0.01 (0.03)	-0.004 (0.03)	-0.01 (0.03)	0.06** (0.03)
Collective safety threat	0.02 (0.03)	-0.01 (0.03)	0.007 (0.03)	0.02 (0.03)
Cultural threat	0.18** (0.03)	0.23** (0.03)	0.18** (0.02)	0.02 (0.02)
Collective economic threat	-0.03 (0.03)	-0.09** (0.03)	-0.09** (0.03)	-0.004 (0.03)
Female	-0.10** (0.04)	-0.11** (0.04)	-0.02 (0.04)	-0.04 (0.04)
Age	0.001 (0.002)	0.001 (0.002)	-0.001 (0.002)	-0.002 (0.002)
Education	-0.001 (0.01)	-0.03* (0.01)	-0.05** (0.01)	0.002 (0.01)
Social Grade (Reference: higher non-manual)				
Lower non-manual	-0.03 (0.05)	-0.01 (0.05)	-0.02 (0.05)	0.03 (0.05)
Skilled manual	0.06 (0.05)	0.11* (0.06)	0.02 (0.07)	0.08 (0.05)
Semi- and unskilled manual	-0.004 (0.06)	0.01 (0.07)	0.10 (0.06)	0.09* (0.06)
Work Status (Reference: full-time employment)				
Part-time employment	0.04 (0.07)	0.02 (0.07)	-0.08 (0.07)	-0.05 (0.07)
Full-time student	-0.25** (0.08)	-0.24** (0.09)	-0.29** (0.08)	-0.18** (0.09)
Retired	0.03 (0.07)	-0.03 (0.07)	0.07 (0.07)	-0.03 (0.06)
Unemployed	-0.08 (0.16)	0.28* (0.15)	0.32* (0.17)	-0.27 (0.19)
Not working/other	-0.008 (0.07)	0.10 (0.09)	0.02 (0.08)	-0.05 (0.07)
UK born	-0.08 (0.18)	-0.27 (0.17)	-0.28 (0.22)	0.39** (0.19)
Authoritarianism	0.39** (0.04)	0.34** (0.05)	0.35** (0.04)	0.16*** (0.04)
Low self-esteem	0.06 (0.09)	0.15* (0.09)	0.19** (0.08)	0.11 (0.08)
Constant	0.71* (0.38)	1.57** (0.40)	2.10** (0.39)	0.95** (0.34)
<i>N</i>	913	912	911	918

\*  $p$ -value  $\leq 0.10$ ; \*\* $p$ -value  $\leq 0.05$ . Note: Unstandardized OLS coefficients and standard errors between brackets shown.

**Figure A.2. Unstandardized OLS Coefficient Estimates and 95% Confidence Intervals of the Impact of Threats on Group Hostility; Threats Entered Simultaneously**



Note: Models include control variables (see Appendix Tables A.8A and B). None of the effects differ significantly between 2011 and 2016 at .05 level.

As a final test, we examine whether the magnitudes of the estimated effect of different threats on hostility toward minority groups are reduced when we take hostility toward the own, white British, in-group into account. The models estimated predicting hostility toward each of the different minority groups are as follows:

$$Y_i = \beta_0 + \beta_1 \text{Hostility toward white British}_i + \beta_2 \text{Neighbourhood safety threat}_i + \beta_3 \text{Individual economic threat}_i + \beta_4 \text{Collective safety threat}_i + \beta_5 \text{Cultural threat}_i + \beta_6 \text{Collective economic threat}_i + X * B + \varepsilon_i,$$

in which  $\beta_1$  is the coefficient for hostility toward white British and  $\beta_2$  to  $\beta_6$  are the coefficients for each of the threats. The results are shown in Tables A.9A (2011) and A.9B (2016) and the results are discussed in the paper.

**Table A.9A. Predictors of Group Hostility under Decoupled Condition, 2011; with Hostility toward White British**

	<b>Black British</b>	<b>Muslims</b>	<b>East Europeans</b>
Hostility toward white British	0.09** (0.04)	0.07* (0.04)	0.07* (0.04)
Neighborhood safety threat	0.09** (0.04)	0.05 (0.05)	0.002 (0.05)
Individual economic threat	-0.03 (0.05)	0.01 (0.06)	-0.002 (0.05)
Collective safety threat	0.004 (0.05)	0.05 (0.06)	0.07 (0.05)
Cultural threat	0.16** (0.04)	0.28** (0.04)	0.15** (0.04)
Collective economic threat	-0.04 (0.04)	-0.09 (0.06)	-0.02 (0.04)
Authoritarianism	0.29** (0.05)	0.16** (0.06)	0.14** (0.06)
Low self-esteem	0.15 (0.12)	0.25* (0.13)	0.19 (0.12)
Constant	1.21** (0.56)	1.63** (0.73)	2.60** (0.50)
<i>N</i>	383	380	381

\*  $p$ -value  $\leq 0.10$ ; \*\* $p$ -value  $\leq 0.05$ . Note: Unstandardized OLS coefficients and standard errors between brackets shown; also controlling for gender, age, education, social grade, work status and UK born.

**Table A.9B. Predictors of Group Hostility under Decoupled Condition, 2016; with Hostility toward White British**

	<b>Black British</b>	<b>Muslims</b>	<b>East Europeans</b>
Hostility toward white British	0.35** (0.05)	0.25** (0.05)	0.18** (0.05)
Neighborhood safety threat	0.01 (0.03)	0.04 (0.03)	0.02 (0.03)
Individual economic threat	-0.01 (0.03)	-0.02 (0.03)	-0.01 (0.03)
Collective safety threat	0.01 (0.03)	-0.02 (0.03)	0.002 (0.03)
Cultural threat	0.17** (0.02)	0.22** (0.03)	0.18** (0.02)
Collective economic threat	-0.03 (0.03)	-0.09** (0.03)	-0.09** (0.03)
Authoritarianism	0.33** (0.04)	0.31** (0.05)	0.32** (0.05)
Low self-esteem	0.02 (0.08)	0.12 (0.09)	0.16* (0.08)
Constant	0.38 (0.38)	1.32** (0.40)	1.91** (0.40)
<i>N</i>	904	904	905

\*  $p$ -value  $\leq 0.10$ ; \*\* $p$ -value  $\leq 0.05$ . Note: Unstandardized OLS coefficients and standard errors between brackets shown; also controlling for gender, age, education, social grade, work status and UK born.

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