

Does Terror Defeat Contact?
Intergroup Contact and Prejudice Toward Muslims Before and After the
London Bombings

Dominic Abrams^a, Julie Van de Vyver^{a, b}, Diane M. Houston^a, & Milica Vasiljevic^{a, c}

^aCentre for the Study of Group Processes, School of Psychology, University of Kent,

UK

^bSchool of Psychology, University of Lincoln, UK

^cBehaviour and Health Research Unit, University of Cambridge, UK

Corresponding Author: Dominic Abrams, Centre for the Study of Group Processes (CSGP), School of Psychology, University of Kent, UK. Email: D.Abrams@kent.ac.uk. Tel: +44 1227 827475.

Author Notes: This research was funded by the UK Government Women and Equality Unit, and analyses were further funded by ESRC grant ES/J500148/1.

This article may not exactly replicate the final version published in the APA journal. It is not the copy of record. <http://www.apa.org>.

Abstract

Allport (1954) proposed a series of preconditions that have subsequently been shown to facilitate effects of intergroup contact on attitudes toward outgroups (Pettigrew & Tropp, 2006). The present study examines whether objective threat, in the form of the 2005 London 7/7 terror attack, can inhibit the positive effects of contact. We tested hypotheses that contact would affect prejudice toward Muslims regardless of the bombings (contact prevails), or that the bombings would reduce or inhibit the effects of contact on prejudice (threat inhibits). Data were collected through representative national surveys one month before and again one month after the attacks in London on 7th July 2005 (pre7-7 $N = 931$; post7-7 $N = 1100$), which represent relatively low and relatively high salience of 'objective threat'. Prejudice against Muslims significantly increased following the bombings. Psychological (perceived) threat to safety and to customs (symbolic threat) mediated the impact of the bombings on prejudice, whereas perceived economic threat did not. All three types of psychological threat mediated between contact and prejudice. Multi-group structural equation modeling showed that, even though the objective threat did raise levels of psychological threats, the positive effects of contact on prejudice through perceived psychological threats persisted. Results therefore support a contact prevails hypothesis.

Key words: intergroup contact, intergroup conflict, threat, prejudice

Does Terror Defeat Contact? Intergroup Contact and Prejudice Toward Muslims Before and After the London Bombings

The present research examines evidence from a unique dataset involving nationally representative samples of the UK population. It examines how contact and psychological threat relate to prejudice toward Muslims in Britain before and after the 7/7 London bombings. Muslims are currently a prominent target of overtly hostile prejudice in Western societies (Brown et al., 2012). Evidence from different Pew Global surveys (<http://www.pewresearch.org>) illustrates this point well. In the year following 9/11, almost half of the US population (41%) reported unfavorable attitudes toward Muslims. In 2005, across European countries, there were also high levels of prejudice. For example, 51% of Dutch respondents and 36% of French respondents reported holding unfavorable attitudes toward Muslims. In Pew's telephone interviews in the UK 14% of respondents reported feeling unfavorable, and by 2008 the proportion had increased to 27% (though these figures include Muslim respondents). However, this evidence does not shed light on whether or how the 7/7 bombings affected prejudice toward Muslims.

Intergroup Contact

Intergroup contact theory proposes that contact between members of different groups can reduce outgroup prejudice and discrimination (Brown & Hewstone, 2005; Pettigrew, 1998). Ample experimental, cross-sectional, and longitudinal research, has confirmed this hypothesis (cf. Al Ramiah & Hewstone, 2013), and a meta-analysis of over 500 studies showed a significant negative relationship between direct contact and prejudice ($r = -.22, p < .0001$) (Pettigrew & Tropp, 2006).

Allport's original intergroup contact hypothesis proposed that contact between groups could only be successful if a number of conditions are met: equal status,

common goals, intergroup cooperation, and support by societal institutions (Allport, 1954). Recently however, researchers suggested that these conditions should be considered complementary, or facilitating, rather than essential (Pettigrew & Tropp, 2008). Indeed, Pettigrew and Tropp's (2006) meta-analyses of the effects of intergroup contact demonstrated that even when these conditions were not met, effects remained positive, albeit weaker.

Importantly, there is evidence that contact can promote positive intergroup relations even in contexts of intergroup conflict, such as Northern Ireland, Israel, Bosnia-Herzegovina, and Sri Lanka (see Cehajic, Brown, & Castano, 2008; Hewstone, Cairns, Voci, Hamberger, & Niens, 2006; Hewstone, Tausch, Hughes, & Cairns, 2008; Malhotra & Liyanage, 2005; Maoz & Ellis, 2008).

The Role of Threat

The current research extends our understanding of the effects of contact by exploring the efficacy of contact from a different starting point from the extant literature. Past research has shown that contact can be effective even when Allport's conditions are not present. However, very few studies have tested whether contact can be effective when the intergroup context changes suddenly for the worse (see Paolini et al., 2014). One reason for this gap in laboratory and field experiments may be ethical limits on deliberately inducing negative contexts for contact. Another reason is that, understandably, researchers have focused on the positive potential of contact despite unfavorable conditions rather than on the negative effects of unfavorable conditions despite contact. Yet, outside the laboratory, intergroup contexts frequently do change for the worse in unanticipated ways, and it is therefore valuable to turn to historical evidence to understand what role intergroup contact plays following such events.

Some recent research has considered the role of factors that may prevent intergroup contact from diminishing prejudice (e.g., Paolini et al., 2014; Pettigrew & Tropp, 2006). Specifically, consistent with the framing of the present research, Paolini et al. (2014) explored whether there were negative effects of unfavorable conditions despite prior positive contact. Specifically, Paolini et al. (2014) found that prior positive contact appeared to buffer against the effects of new experiences of negative contact (self-reported, imagined, or media-based) on group membership salience. Group membership salience is an important variable as individuals are more likely to generalize from individual contact experiences to more general group-based responses when groups are salient (cf. Brown & Hewstone, 2005). The current research adopts a comparable approach but rather than examining how a new negative experience of contact affects group salience, we examine the potentially opposing effects of elevated objective threat (negative) and contact (positive) on prejudice.

While prior research has shown that acts of terror may worsen people's attitudes toward Muslims (Coryn, Beale, & Myers, 2004; Echebarria-Echabe & Fernández-Guede, 2006), no research has examined whether such attitudinal changes may override the benefits of intergroup contact. The current research examines whether intergroup contact can continue to promote positive intergroup relations, even following a sudden assault on optimal conditions. A terror attack represents direct and salient evidence of an objective threat, which we regard as an example of a potential *inhibiting (rather than facilitating) condition* of contact. A highly salient terror threat could undermine positive effects of contact by highlighting dissimilarity and conflict rather than cooperation between Muslims and non-Muslims. It could therefore neutralize effects of contact by inhibiting generalization from positive personal experiences of positive contact with outgroup members to positive attitudes

towards the group as a whole. This idea is somewhat in line with past research which shows that negative contact induces greater attention to group memberships than positive contact (see Paolini, Harwood, & Rubini, 2010), and that individuals are more likely to generalize from personal contact experiences to whole group experiences when group memberships are salient (Brown & Hewstone, 2005). If this idea is correct, not only would Allport's facilitating conditions be sufficient to promote more positive effects of contact, inhibiting conditions may also be sufficient to prevent such effects.

To test these possibilities, using evidence from our Pre and Post 7/7 surveys we first consider how the objective threat of the London 7/7 terrorist attack by Islamic extremists affected psychological perceptions of threat and prejudice, specifically social distance from the wider group that was identified as the source of the attack, namely Muslims. Second, we consider whether the relationships between objective threat or contact on the one hand, and prejudice on the other, are mediated by different specific types of psychological threat. Third, we examine the interactive effects of contact and objective threat on psychological threats and prejudice.

The Current Research

Threat specificity. In general, a higher sense of threat should be related to greater prejudice because past research shows that perceptions of threat (*psychological threat*) are associated with negative outgroup attitudes and treatment (e.g., Doosje, Zimmermann, Küpper, Zick, & Meertens, 2009; Oswald, 2005). Integrated Threat Theory (ITT; Stephan & Stephan, 2000) distinguishes between realistic threats to the ingroup (including threats to the welfare, and economic and political power of the ingroup), and symbolic threats (pertaining to the ingroup's value system and way of life). The impact of different types of threat on attitudes

seems to vary by the intergroup context. For example, in Northern Ireland contact predicted Catholic/Protestant intergroup attitudes via symbolic threat, but not via realistic threat (Tausch, Tam, Hewstone, Kenworthy, & Cairns, 2007). Perhaps in that context realistic issues such as economic inequality had been addressed to some extent, and therefore did not pose such a salient threat for participants. In contrast, research in Israel showed that realistic, but not symbolic threats explained outgroup attitudes toward immigrants (Bizman & Yinon, 2001). In that context an immigrant political party had recently gained seats in the Israeli Parliament thus highlighting realistic threats to Israeli participants.

Of direct relevance for the present research, Stephan and colleagues (2002) examined predictive effects of negative contact and perceived intergroup conflict on prejudice through perceptions of realistic and symbolic threat. In line with a threat specific hypothesis, they found that perceptions of intergroup conflict predicted symbolic threat more strongly than it predicted realistic threat. Furthermore, realistic and symbolic threats predicted contact differently among White versus Black participants.

With these points in mind, we surmized that there should be a degree of specificity in the types of psychological threat that would be important in the intergroup context of pre- and post-7/7. A terror act might not have the same impact on two different types of realistic threat, namely safety threat and economic threat. Specifically, the attack should increase perceptions of threat to safety because of the increased salience of physical harm, but it seems less likely to affect perceptions of economic threat. A terror attack also poses a symbolic threat to the extent that it disrupts cultural activities, or prompts efforts to reinforce national values or standards (as followed the Charlie Hebdo attack in Paris). Thus, a terror attack should increase

levels of safety and symbolic but not economic threat. Moreover, the terror attack should increase prejudice and this effect should be mediated by safety and symbolic threats.

Previous research has shown that positive intergroup contact is associated with lower psychological threat. Psychological threat is often tested as a mediator between contact and outgroup attitudes (Myers, Abrams, Rosenthal & Christian, 2013; Pettigrew, Wagner, & Christ, 2010; Tausch, Tam, et al., 2007; Velasco González, Verkuyten, Weesie, & Poppe, 2008; Wagner, Christ, & Pettigrew, 2008; Wagner, Christ, Pettigrew, Stellmacher, & Wolf, 2006). Therefore, we hypothesize that all three types of psychological threat could mediate between contact and prejudice. Higher levels of contact should be associated with lower levels of psychological threat, which should reduce prejudice.

Contact, threat and prejudice. A novel question examined in this research is how objective threat and contact may interact to affect psychological threats and prejudice. Two different hypotheses are tested, which we can describe as the ‘contact prevails’ and the ‘threat inhibits’ hypotheses. Given that positive effects of intergroup contact on outgroup attitudes persist even in contexts of conflict (Hewstone et al., 2006, 2008; Maoz & Ellis, 2008) positive effects of intergroup contact on prejudice could also occur even in the aftermath of terror attacks. In other words, the *contact prevails* hypothesis is that, regardless of other conditions, intergroup contact should attenuate the level of prejudice.

The inhibiting conditions idea suggests that objective threat can reduce or inhibit the positive effects of intergroup contact because it undermines Allport’s facilitating conditions. Thus, according to the *threat inhibits* hypothesis, the potential

for intergroup contact to reduce prejudice, should be reduced or eliminated by the presence of a salient threat.

Method

Design

Two cross-sectional nationally representative surveys were conducted approximately one month before and one month after the July 7th attacks in London¹. The pre-7-7 survey ($N = 931$) was conducted between 20th May and 1st June 2005 and the post-7-7 ($N = 1100$) was conducted at the end of July 2005. The surveys were commissioned by the UK Equalities Review and steered by the UK government's Women and Equality Unit (Abrams & Houston, 2006).

Participants

Muslim participants were excluded from all analyses (4.6% across samples). Age ranged from 16 to 98 years ($M = 45.76$, $SD = 19.18$). The majority of participants (90.6%) were White, 4.3% were Black, 2.4% were Asian, and 1.5% were of mixed heritage. London residents made up 13.6% of respondents. Fifty-four point four percent were female. Social class was measured using the social grading system. Two point eight percent were classified as A (high managerial, administrative, or professional), 13.9% as B (intermediate managerial, administrative, or professional), 23.5% as C1 (supervisory, clerical and junior managerial, administrative or professional), 19.4% as C2 (skilled manual workers), 16.9% as D (semi and unskilled manual workers), and 23.4% as E (state pensioners, casual or lowest grade workers, unemployed with state benefits only).

Procedure

The pre-7-7 and post-7-7 surveys used identical sampling and interview methodology and were administered to nationally representative samples of 16+ year

olds from England, Scotland, and Wales by TNS/Omnimas as part of their omnibus face to face CAPI (computer assisted personal interviews) survey series (see Abrams & Houston, 2006 for details). To avoid response sets and biases, left and right scale anchor points were counterbalanced between participants and item orders were rotated within sections of the survey.

Measures

Intergroup contact. Contact with Muslims was measured hierarchically by asking participants whether they had never had any contact with a person who is a Muslim (0), or whether they had rarely or never met (1), had met (2), knew (3), were friends with (4), or close friends with (5) a Muslim.

Psychological Threat. Three types of psychological threat were measured: economic, safety, and symbolic threat. *Economic threat* was measured by asking participants: “People who live in this country generally work and pay taxes at some points in their lives. They also use health and welfare services. On balance, do you think that Muslims in Britain take out more from the economy than they put in, or not?” from 1 (*take out a lot more than they put in*) to 5 (*put a lot more in than they take out*). *Safety threat* was measured by asking participants “How do you think Muslims in this country affect things like the safety, security, or health of other people in Britain?” from 1 (*much worse*) to 5 (*much better*). *Symbolic threat* was measured by asking participants “How do you think Muslims affect the customs, traditions, or general way of life of other people in Britain?” from 1 (*much worse*) to 5 (*much better*). For clarity of presentation psychological threat items were reverse coded for analyses so that low values represent low threat and high values represent high threat.

Prejudice. Prejudice was operationalized through measures of social distance from/towards Muslims (see Bogardus, 1967). Participants were asked: “How

comfortable or uncomfortable do you think you would feel if a suitably qualified Muslim person was appointed as your boss?"; "How comfortable or uncomfortable do you think you would feel if a Muslim person married one of your close relatives (such as a brother, sister, child or re-married parent)?" and "How comfortable or uncomfortable do you think you would feel if a Muslim person moved in next door to you?" Participants responded from 1 (*very uncomfortable*) to 5 (*very comfortable*). A mean score was calculated and employed in the analyses (Cronbach's $\alpha = .88$). For clarity, social distance items were reverse coded for analysis so that low values represent low prejudice and high values represent high prejudice.

Results

Preliminary Analyses

Correlation analyses revealed some significant relationships between participants' intergroup contact, psychological threats, and prejudice with whether participants were White, whether they lived in London, their social class, their gender, and their age (Table 1). To adjust for these relationships in subsequent analyses these variables were included as covariates.

Analyses of variance tested whether the covariates and levels of contact changed from low objective threat (pre 7/7) to high objective threat (post 7/7). Results showed that contact and all covariates remained the same across both samples (p 's > .100), except for ethnicity. Specifically, there were more White participants post 7-7 ($M = 0.93$, $SE = 0.01$) than pre 7-7 ($M = 0.87$, $SE = 0.01$), $F(1, 1935) = 22.82$, $p < .001$, $\eta^2 = .01$.

ANCOVAs

Analyses of covariance (ANCOVAs) were conducted to test whether objective threat (pre 7/7 vs. post 7/7) affected psychological threat and/or prejudice. Results

showed that objective threat significantly increased safety threat, $F(1, 1930) = 60.72$, $p < .001$, $\eta^2 = .03$, symbolic threat, $F(1, 1930) = 24.13$, $p < .001$, $\eta^2 = .01$, and prejudice, $F(1, 1930) = 17.53$, $p < .001$, $\eta^2 = .01$. Objective threat did not affect economic threat, $F(1, 1930) = 2.56$, $p = .110$, $\eta^2 = .001$ (see Figure 1 for means and standard errors)². These findings are consistent with the idea of threat specificity.

Because we use a structural equation modeling approach for the remaining analyses it is also useful to consider the relationships between objective threat and measured variables in terms of correlation. Correlations between contact, the different types of threat, and prejudice within each level of objective threat are depicted in Table 1. Point-biserial partial correlations (echoing the ANCOVA results above) indicate significant positive relationships between objective threat and safety threat ($r = .18$, $p < .001$), symbolic threat ($r = .11$, $p < .001$), and prejudice ($r = .10$, $p < .001$), but not with contact ($r = -.02$, *ns*) or economic threat ($r = .04$, *ns*).

Mediation Analyses

Mediation analyses were conducted to test whether objective threat (pre 7-7 vs. post 7-7) and contact each predict prejudice, and whether they do so through psychological threats (economic, safety, and symbolic).

To test our mediation hypotheses, we conducted structural equation modeling (SEM) in AMOS using observed variables (see Figure 2). The model fit the data well, $X^2(13) = 36.35$, $p = .001$; RMSEA = .03; CFI = 0.99. The indirect effects of objective threat ($\beta = .04$, $SE = .01$, $p = .002$, 95CI 0.05/ 0.11) and of contact ($\beta = -.06$, $SE = .01$, $p = .002$, 95CI -0.04/-0.02) on prejudice were both significant.

Specifically, results showed that objective threat predicted symbolic threat, $\beta = .11$, $SE = .04$, $p < .001$ and safety threat, $\beta = .17$, $SE = .04$, $p < .001$, but not economic threat, $\beta = .03$, $SE = .05$, $p = .139$. Furthermore, contact predicted symbolic threat, β

= $-.14$, $SE = .01$, $p < .001$, safety threat, $\beta = -.09$, $SE = .01$, $p < .001$, and economic threat, $\beta = -.12$, $SE = .01$, $p < .001$. Finally, symbolic threat, $\beta = .23$, $SE = .03$, $p < .001$, economic threat, $\beta = .19$, $SE = .02$, $p < .001$, and safety threat, $\beta = .05$, $SE = .03$, $p = .05$ each predicted prejudice.

Moderated Mediation Analysis

To examine whether contact and objective threat (pre 7-7 vs. post 7-7) interact to predict psychological threats and in turn prejudice, we conducted a multi-group structural equation model. Specifically, the multi-group SEM allows us to examine whether contact predicts psychological threats and in turn prejudice differently at low (pre 7-7) versus high (post 7-7) levels of objective threat.

Results showed that the mediation model fit the data equally well at low and at high objective threat (the model was not improved by unconstraining any paths from being equal). No paths significantly varied between pre-7/7 and post 7/7. In other words, objective threat and contact did not interact to predict psychological threats or prejudice. In other words, objective threat and contact did not interact to predict psychological threats or prejudice. However, we noted that safety threat did not predict prejudice in the pre 7-7 sample (low objective threat: $\beta = .02$, $SE = .05$, $p = .602$), but it did significantly predict prejudice in the post 7-7 sample (high objective threat: $\beta = .07$, $SE = .04$, $p = .050$). Nevertheless, these two paths do not differ significantly ($Z = 0.93$, ns).

Discussion

Substantial research on intergroup contact shows that contact can reduce prejudice (Pettigrew & Tropp, 2006). However, much of the original theory behind this research was conceived in an era when the most pressing concerns of researchers were tackling majority (White) attitudes toward a particular racial minority (Blacks),

subsequently applying it to other majority/minority contexts. As both psychological research and intergroup relations have become more globalized there are new questions about the way that intergroup contact can bear on intergroup relations. One of the new pressing issues is the global capacity to prevent the escalation of intergroup conflicts in the face of challenges such as countering Islamic extremism without generating islamophobia. A particular feature of this landscape is the presence of terrorist attacks, something that intergroup contact theory did not include in its original scope. Such attacks raise new theoretical and methodological problems.

Intergroup Contact

Allport's (1954) original statement of contact theory, and the focus of subsequent reviews (Brown & Hewstone, 2005; Pettigrew, 1998), have tended to characterize the four conditions set out in the theory as ones that may involve gradual change. The focus is often on planning long-term strategies and carefully planned intervention through new laws, policies or practices. Furthermore, the theory was largely concerned with factors that facilitate the capacity of contact to reduce prejudice, rather than with factors that could actively disrupt that capacity. Sudden unplanned and potentially transformative counter events were not an explicit part of the original theory.

Although dramatic acts of terrorism or intergroup aggression are not a modern phenomenon, the availability of rapid and extensive sharing of experiences and views through modern communications and hence the potential for very fast and widespread opinion formation has arguably transformed the way people experience and make sense of such acts. Therefore it is important to reconsider, adapt, and develop new theory to accommodate and reflect effects of both facilitative and disruptive influences. In that vein, the present article provides an effort to consider whether

terrorist acts can create an inhibiting condition that might militate against the benefits of contact, at least for some people.

Intergroup contact research has established that contact between members of different groups can reduce outgroup prejudice and discrimination even when Allport's conditions are not met (Pettigrew & Tropp, 2006) and even under conditions of intergroup conflict (Hewstone et al., 2008; Maoz & Ellis, 2008). However, research has not addressed directly whether contact continues to have similarly positive effects even after acts of terror. Given that such acts are known to have detrimental effects on people's attitudes toward Muslims (Coryn et al., 2004; Echebarria-Echabe & Fernández-Guede, 2006) it is at least plausible that this may be because positive effects of contact are neutralized.

Threat Specificity

Prior research has shown that the impact of different types of threat on intergroup attitudes may vary depending on the intergroup context. In principle, symbolic and realistic threat can both play a role (Bizman & Yinon, 2001; Tausch, Tam, et al., 2007). We proposed that safety threat and symbolic threat should be affected by a terror attack but there should be a weaker or no effect on economic threat. This hypothesis was supported. We also tested two potential mediating roles of psychological threats. First, we tested the possible mediation of the objective threat (terror attack) on prejudice. This showed that safety threat and symbolic threat together mediated between objective threat and prejudice. As economic threat was not affected by objective threat, it could not play a mediating role. Note, however, that all three types of psychological threat were significantly related to prejudice, consistent with the premise that these threats would also have causes and potential impacts arising from sources that were independent of the terror attack. Indeed, when we

tested the possible mediation of the effects of contact we found that all three types of psychological threat mediated between contact and prejudice. Thus, the findings show clear support for two important hypotheses. First, that the effects of the terror attack on prejudice operate via quite specific types of psychological threat, and second that psychological threat does mediate between contact and prejudice, in line with prior evidence.

Contact Prevails or Threat Inhibits?

We tested two different hypotheses which we characterized as the ‘contact prevails’ and the ‘threat inhibits’ hypotheses. While these were posed as alternatives, we retained an open mind about whether the evidence would support either more than the other. The *contact prevails* hypothesis was that, regardless of other conditions, intergroup contact should attenuate the level of prejudice. The *threat inhibits* hypothesis was that the potential for intergroup contact to reduce prejudice, should be reduced or eliminated by the presence of a salient (objective) threat. The results provide real-world support for the contact prevails hypothesis. Specifically, effects of contact on prejudice were equivalent across low and high levels of objective threat. In other words, contact reduced prejudice, through psychological threats, regardless of the bombings. Moreover, while the effect of safety threat on prejudice became stronger following the bombings, the effect of contact on prejudice did not reduce.

Limitations and Implications

The present research has several limitations but also significant strengths. First, the data are cross-sectional rather than longitudinal. Methodologically, sudden events pose a significant challenge. Aside from fortuitously timed longitudinal surveys that happen to include all relevant measures of contact and prejudice, the impact of these events can only rarely be captured. Researchers are generally limited

to the serendipitous availability of data collected prior to such events and reactive studies conducted soon afterwards. Although longitudinal evidence would be ideal, the availability of completely comparable cross-sectional evidence a few weeks either side of such an event is a rarity, and even more so with a representative sample of the general population. Compared with cross-sectional studies which use opportunity samples or student samples that may not match across time, we are highly confident that the two samples in the present research are similarly representative and that the survey methodology is identical so that it is meaningful to compare them directly.

The present research is also unique because the pre-event measures were explicitly designed to measure contact with and prejudice toward Muslims, and the UK government was in a position to sponsor the post 7/7 survey. It was not possible to report this evidence publicly at the time but 10 years on we are able to use it to examine important hypotheses from contact theory, integrated threat theory and new hypotheses regarding the interaction between contact and objective threat. Given the growing levels of prejudice against Muslims in Western societies (Brown et al., 2012; Lean, 2012; Velasco González, et al., 2008), such evidence offers not only theoretical insight but also has practical implications.

A second limitation is that we did not have very extensive measures of the variables of interest. Although multi-item measures are certainly desirable and are often viable in experimental research, survey research is constrained more by cost, and the willingness of respondents to answer lengthy sets of questions. The measures used in the present research were drawn from prior studies and we have no reason to question their validity. To some extent, limitations in reliability (i.e. error variance) are compensated by the large sample size, so it is unlikely that important relationships or effects would be missed.

Caveats are clearly necessary about any causal interpretation in the absence of longitudinal data, but we believe there is a good case for treating prejudice as an outcome relative to other variables. There is a logical and temporal basis for assuming that objective threat was a true exogenous variable. There is a strong theoretical and empirical argument (from previous meta-analytic evidence) for regarding contact as having a stronger causal impact on prejudice than vice versa (Pettigrew & Tropp, 2006). There is also a methodological case because the measures directly tapped *prior* contact and *anticipated* social distance.

A further limitation is that the data are no longer contemporary. However, we believe that the benefit of hindsight has allowed us to use the data in a more informed way. First, since the data were collected, not only have there been advances in intergroup contact research and theory, but arguably terrorist events have increased in number, the 'war on terror' has been perpetuated and widened, and there is increased salience of international Islamic terrorism (ranging from the Charlie Hebdo attack in Paris, to attacks in Belgium and Australia, Afghanistan and Nigeria, and the impact of Islamic State in the Middle East). Therefore, it is increasingly important to understand how and why prejudice may be affected by such events. It is rare that data such as those in the present research have been collected prior to and directly following such an attack so the present evidence offered rare empirical insight as well as opportunities to test and develop theory.

A potentially important practical implication of the evidence is that strategies to minimize the potentially prejudice-raising effects of terror attacks may need to address directly the relevant psychological threats (e.g. allay safety fears and symbolic fears) and not just confront or condemn the prejudice without attending to those threats. A second implication is that intergroup contact may be sufficient to deal

with some forms of threat (e.g., economic threat) but it may not prevent continued impact of other forms of threat. Understanding when and how contact offers the most potent avenue for intervention and understanding how other factors may inhibit its effects is key to addressing the potential for increased intergroup conflict following terror attacks.

In conclusion, the unique evidence in the present research underlines that intergroup contact can play an important role in reducing prejudice even following an objective threat posed by a terrorist attack. We hope that this evidence provides new insights for those who are interested in the implications of terrorism for peace and conflict, raises interesting questions for research on intergroup contact, and is of value to policy makers and practitioners who have to anticipate or deal with the aftermath of terror attacks.

Notes

1. Data from the pre 7-7 survey were from a larger survey that assessed a range of societal perceptions and attitudes to a range of different groups (see Abrams & Houston, 2006, for details and descriptive statistics). The pre 7-7 comprised of 435 men (46.7%) and 496 women (53.3%). Age ranged from 16 to 92 years ($M = 44.85$, $SD = 19.05$). The majority of participants (82.5%) were White, 6% were Black, 8.3% were Asian, and 1.8% were of mixed heritage. The majority of participants (93.3%) were non-Muslim. London residents made up 15.3% of respondents.

The post 7-7 survey was commissioned by the Women and Equality Unit immediately following the 7/7 bombings. It comprised 497 men (45.2%) and 603 women (54.8%). Age ranged from 16 to 98 years ($M = 46.54$, $SD = 19.27$). The majority of participants (90.9%) were White, 3.1% were Black, 3.5% were Asian, and 1.4% were of mixed heritage. The majority of participants (97.1%) were non-Muslim. London residents made up 13.6% of respondents.

2. The effects of objective threat (pre 7/7 vs. post 7/7) on psychological threats and prejudice do not vary depending on whether the covariates are included or excluded from the analyses of variance. Specifically, objective threat significantly affects symbolic threat, safety threat and prejudice (p 's $< .001$), but does not significantly affect economic threat ($p = .052$).

References

- Abrams, D., & Houston, D. M. (2006). *Equality, diversity and prejudice in Britain: Results from the 2005 national survey*. Report for the Cabinet Office Equalities Review October 2006. Retrieved from http://kar.kent.ac.uk/4106/1/Abrams_KentEquality_Oct_2006.pdf
- Allport, G.W. (1954). *The nature of prejudice*. Reading, MA: Addison- Wesley.
- Al Ramiah, A., & Hewstone, M. (2013). Intergroup contact as a tool for reducing, resolving, and preventing intergroup conflict: evidence, limitations, and potential. *American Psychologist*, 68, 527-542. doi:10.1037/a0032603
- Bizman, A., & Yinon, Y. (2001). Perceived threat and Israeli Jews' evaluations of Russian immigrants: The moderating role of Jewish and Israeli identity. *International Journal of Intercultural Relations*, 25, 691-704. doi:10.1016/S0147-1767(01)00033-5
- Bogardus, E. S. (1967). *A forty-year racial distance study*. Los Angeles: University of Southern California Press.
- Brown, R., de Visser, R., Dittmar, H., Drury, J., Farsides, T., Jessop, D., & Sparks, P. (2012). Social psychology and policymaking: Past neglect, future promise. *Public Policy Research*, 18, 227-234. doi:10.1111/j.1744-540X.2012.00670.x
- Brown, R., & Hewstone, M. (2005). An integrative theory of intergroup contact. *Advances in Experimental Social Psychology*, 37, 255-343. doi:10.1016/S0065-2601(05)37005-5
- Cehajic, S., Brown, R., & Castano, E. (2008). Forgive and forget? Antecedents and consequences of intergroup forgiveness in Bosnia and Herzegovina. *Political Psychology*, 29, 351-367. doi:10.1111/j.1467- 9221.2008.00634.x

- Coryn, C. L., Beale, J. M., & Myers, K. M. (2004). Response to September 11: anxiety, patriotism, and prejudice in the aftermath of terror. *Current Research in Social Psychology*, 9, 165–184. Retrieved from <http://www.uiowa.edu/crisp/>
- Doosje, B., Zimmermann, A., Küpper, B., Zick, A., & Meertens, R. (2010). Terrorist threat and perceived Islamic support for terrorist attacks as predictors of personal and institutional out-group discrimination and support for anti-immigration policies—evidence from 9 European countries. *Revue internationale de psychologie sociale*, 22, 203-233. Retrieved from http://www.cairn.info/resume.php?ID_ARTICLE=RIPSO_223_0203
- Echebarria-Echabe, A., & Fernández-Guede, E. (2006). Effects of terrorism on attitudes and ideological orientation. *European Journal of Social Psychology*, 36, 259-265. doi:10.1002/ejsp.294
- Hayes, A. F. (2013). *An introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York: Guilford Press.
- Hewstone, M., Cairns, E., Voci, A., Hamberger, J., & Niens, U. (2006). Intergroup contact, forgiveness, and experience of “The Troubles” in Northern Ireland. *Journal of Social Issues*, 62, 99-120. doi:10.1111/j.1540-4560.2006.00441.x
- Hewstone, M., Tausch, N., Hughes, J., & Cairns, E. (2008). *Can contact promote better relations? Evidence from mixed and segregated areas of Belfast* (Report to the Community Relations Unit, Northern Ireland). Retrieved from <http://www.ofmdfmi.gov.uk/grpubs>
- Kambouropoulos, N., Egan, S., O’Connor, E. J., & Staiger, P. K. (2014). Escaping threat: Understanding the importance of threat sensitivity in social anxiety. *Journal of Individual Differences*, 35, 47-53. doi:10.1027/1614-0001/a000126

- Kimrel, N. A. (2008). A model of the development and maintenance of generalized social phobia. *Clinical Psychology Review, 28*, 592–612.
doi:10.1016/j.cpr.2007.08.003
- Lean, N. (2012). *The Islamophobia Industry: how the right manufactures fear of Muslims*. New York: Palgrave Macmillan.
- Malhotra, D., & Liyanage, S. (2005). Long-term effects of peace workshops in protracted conflicts. *Journal of Conflict Resolution, 49*, 908– 924.
doi:10.1177/0022002705281153
- Maoz, I., & Ellis, D. G. (2008). Intergroup communication as a predictor of Jewish-Israeli agreement with integrative solutions to the Israeli-Palestinian conflict: The mediating effects of out-group trust and guilt. *Journal of Communication, 58*, 490–507. doi:10.1111/j.1460-2466 .2008.00396.x
- Myers, C., Abrams, D., Rosenthal, H. E., & Christian, J. (2013). Threat, prejudice and stereotyping in the context of Japanese, North Korean, and South Korean intergroup relations. *Current Research in Social Psychology, 20*, 76-85.
Retrieved from <http://www.uiowa.edu/crisp/>
- Oswald, D. L. (2005). Understanding anti-Arab reactions post-9/11: The role of threats, social categories, and personal ideologies. *Journal of Applied Social Psychology, 35*, 1775-1799. doi:10.1111/j.1559-1816.2005.tb02195.x
- Paolini, S., Harwood, J., & Rubin, M. (2010). Negative intergroup contact makes group memberships salient: Explaining why intergroup conflict endures. *Personality and Social Psychology Bulletin, 36*, 1723–1738.
doi:10.1177/0146167210388667
- Paolini, S., Harwood, J., Rubin, M., Husnu, S., Joyce, N., & Hewstone, M. (2014). Positive and extensive intergroup contact in the past buffers against the

disproportionate impact of negative contact in the present. *European Journal of Social Psychology*, 44, 548-562. doi:10.1002/ejsp.2029

Perkins, A. M., Cooper, A., Abdelall, M., Smillie, L. D., & Corr, P. J. (2010).

Personality and defensive reactions: Fear, trait anxiety, and threat magnification. *Journal of Personality*, 78, 1071-1090. doi:10.1111/j.1467-6494.2010.00643.x

Pettigrew, T. F. (1998). Intergroup contact theory. *Annual Review of Psychology*, 49, 65-85. doi:10.1146/annurev.psych.49.1.65

Pettigrew, T. F., & Tropp, L. R. (2006). A meta-analytic test of intergroup contact theory. *Journal of Personality and Social Psychology*, 90, 751-783. doi:10.1037/0022-3514.90.5.751

Pettigrew, T. F., & Tropp, L. R. (2008). How does intergroup contact reduce prejudice? Meta-analytic tests of three mediators. *European Journal of Social Psychology*, 38, 922-934. doi:10.1002/ejsp.504

Pettigrew, T. F., Wagner, U., & Christ, O. (2010). Population ratios and prejudice: Modelling both contact and threat effects. *Journal of Ethnic and Migration Studies*, 36, 635-650. doi:10.1080/13691830903516034

Stephan, W. G., Boniecki, K. A., Ybarra, O., Bettencourt, A., Ervin, K. S., Jackson, L. A., ... & Renfro, C. L. (2002). The role of threats in the racial attitudes of Blacks and Whites. *Personality and Social Psychology Bulletin*, 28, 1242-1254. doi:10.1177/01461672022812009

Stephan, W. G., & Stephan, C. W. (2000). An integrated threat theory of prejudice. In S. Oskamp (Ed.), *Reducing prejudice and discrimination* (pp. 23-45). Mahwah, NJ: Erlbaum.

- Tausch, N., Tam, T., Hewstone, M., Kenworthy, J., & Cairns, E. (2007). Individual-level and group-level mediators of contact effects in Northern Ireland: The moderating role of social identification. *British Journal of Social Psychology*, *46*, 541-556. doi:10.1348/014466606X155150
- Velasco González, K., Verkuyten, M., Weesie, J., and Poppe, E. (2008). Prejudice towards Muslims in the Netherlands: testing integrated threat theory. *British Journal of Social Psychology*, *47*, 667-685. doi:10.1348/014466608X284443
- Wagner, U., Christ, O., & Pettigrew, T. F. (2008). Prejudice and group-related behavior in Germany. *Journal of Social Issues*, *64*, 403-416.
doi:10.1111/j.1540-4560.2008.00568.x
- 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*, 380-390. doi:10.1177/019027250606900406.

Table 1

Bivariate correlation coefficients depicting the relationships among variables.

	1	2	3	4	5	6	7	8	9	10
1.Contact	-----	-.15***	-.10***	-.16***	-.33***	-.22***	.12***	-.24***	-.06†	-.12***
2.Economic threat	-.14***	-----	.51***	.46***	.37***	.13***	-.06†	.03	.03	.10**
3.Safety threat	-.12***	.50***	-----	.66***	.30***	.13***	-.08*	.07*	-.08*	.04
4.Symbolic threat	-.15***	.49***	.66***	-----	.37***	.11**	-.12**	.08*	-.02	.05
5.Social distance	-.29***	.35***	.33***	.40***	-----	.07†	-.11**	.08*	-.05	.09**
6. White	-.17***	-.07*	.13***	.08**	.02	-----	-.26***	.23***	.04	-.01
7. London	.12***	-.08*	-.11***	-.06†	-.07*	-.18***	-----	-.10**	.02	.01
8.Age	-.23***	.04	.04	.05	.05	.14***	-.06†	-----	.02	-.01
9.Sex	-.10**	.01	.02	.01	-.02	.08**	-.04	-.03	-----	.09**
10.Class	-.13***	.09**	.03	.10**	.15***	.01	.02	.02	.05	-----

Note. Pre 7/7 correlations ($N = 869$) are provided above the diagonal and post 7/7 correlations ($N = 1068$) are provided below the diagonal.

† $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$

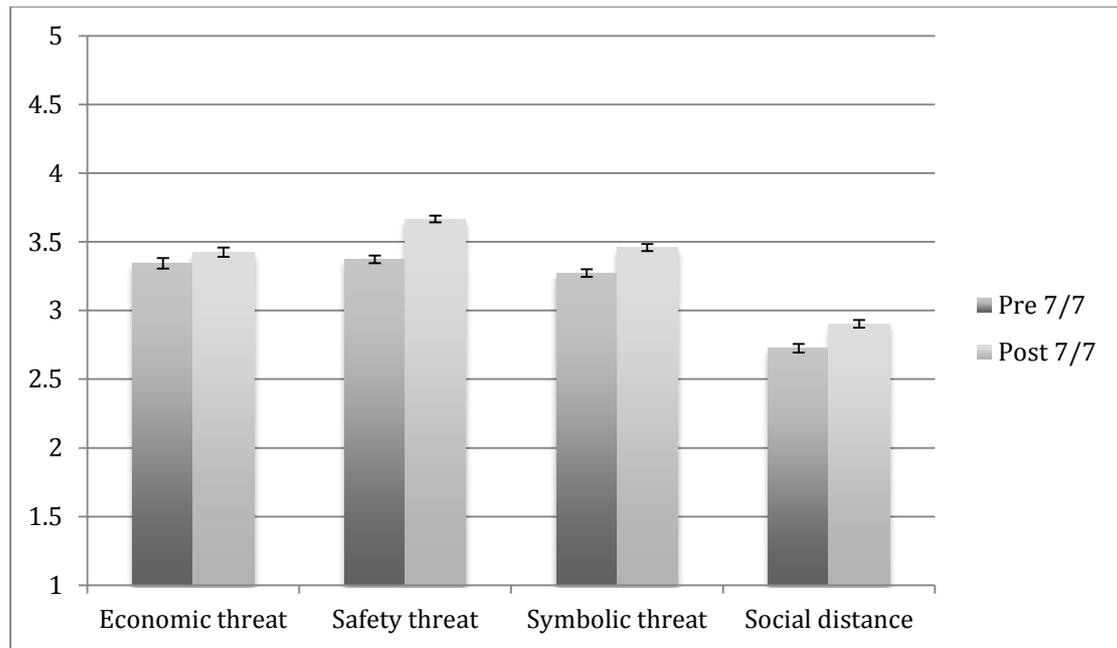


Figure 1. Means and standards errors for the effects of objective threat (pre 7/7 vs. post 7/7) on psychological threat (economic and safety) and social distance.

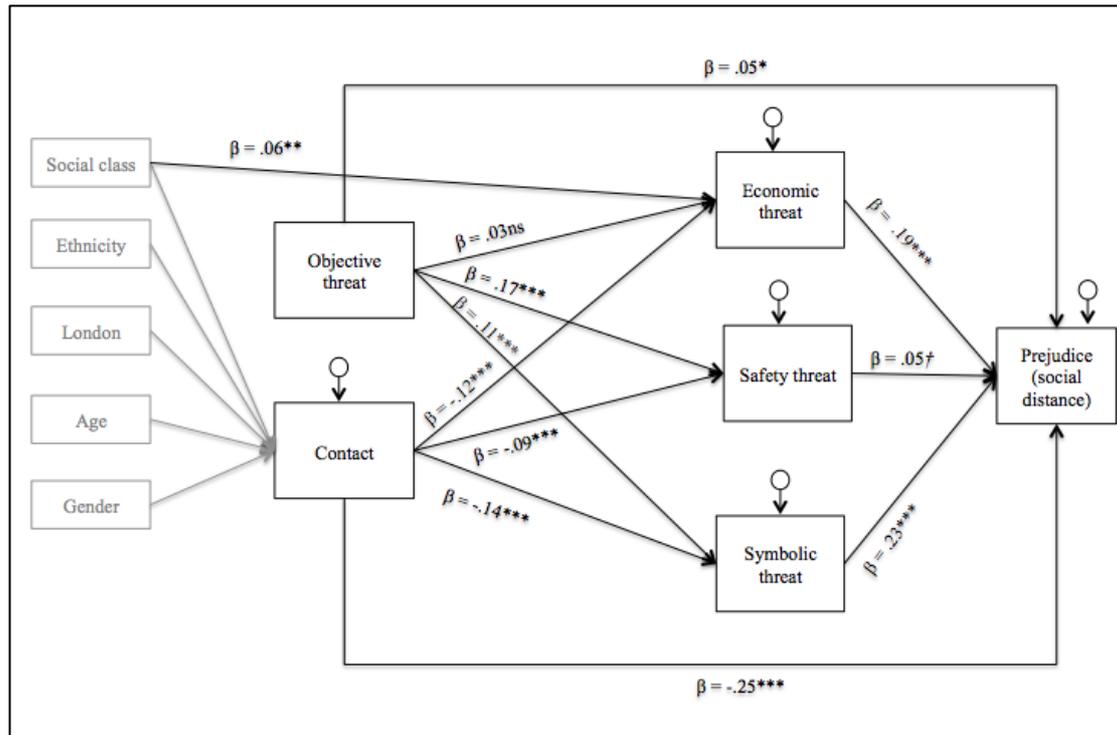


Figure 2. Standardized path coefficients for mediation analyses using structural equation modeling.

Note. All exogeneous variables (social class, ethnicity, London, age, gender, and objective threat) were allowed to covary.

$\dagger < .10$. $*p < .05$. $**p < .01$. $***p < .001$.