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The effect of ITGD sensitivity and contact on attitudes towards burqas

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Abstract

The presented research investigates whether intergroup disgust sensitivity (affect-laden construct reflecting individual differences to experience revulsion towards outgroups) predicts greater prejudicial attitudes towards burqas. In addition to investigating the effect of ITGD sensitivity on prejudicial attitudes, types of contact (no contact, imagined contact and physical contact) between participants and an outgroup member were investigated to assess the efficacy of reducing prejudice towards women who wear burqas. ITGD sensitivity along with attitude towards burqas was measured over two sessions. Results indicated that there was no statistically significant effect of ITGD sensitivity or contact type on attitudes towards burqas. However, mean score results indicated that there is some initial evidence suggesting an interaction between ITGD sensitivity and contact to predict prejudicial attitudes.

Introduction

This project examines the association between emotion and prejudice towards burqas. Disgust is a key emotion in this study and the effect it has on prejudiced attitudes is one of the core areas under investigation in this research. Outgroup contact, its interaction with disgust and the effect it has on prejudiced attitudes is the other main area of interest in this study. This research specifically investigates prejudicial attitudes towards burqas, the wearing of which has become a controversial issue and the subject of much debate after several countries implemented laws banning the wearing of a burqa in public.

The 'Burqa Ban': Who, What, Where and proposition for Why

There has been very little research on attitudes towards burqas, although the garment has received a lot of media attention following its ban in several countries in the last few years. The burqa is a garment which covers the face and body, worn by some women who follow certain Islamic traditions. Often they are worn more frequently in predominantly Islamic countries such as Afghanistan, parts of India and Pakistan. The term 'burqa' is often used interchangeably or misapplied to another Islamic garment called the 'niqab'. Although this is very similar to the burqa, the burqa traditionally has a mesh or net covering the eyes whereas the niqab does not (Campo, 2009). A primary reason for why some women wear this garment is derived from a reading in the Quran which implies that women should cloak their bodies in order to be more respectable. However, this interpretation is not taken literally by all (Hossain, 1988). Other reasons may be that women want to preserve their culture against more western infiltrations; the idea of maintaining privacy of their bodies and a sense of purity against the more western notion of sexualising women (Campo, 2009). Another reason, which is harder to confirm, is that some women may be forced to wear the garment as a sign of inferiority compared to men, where husbands oppress their wives by submitting them to this full face and body garment. This view has come to light more recently since there was an increase in the wearing of burqas by women in more extreme Islamic movements, such as the Taliban in Afghanistan (Rozario, 2006).

The first European country to ban the burqa and niqab was France, based on the belief that they oppress women and raises security issues surrounding the identification of the individual. The ban, which took effect on the 11th April 2011, results in women being fined €150 and mandated to attend a course in French citizenship, if they are seen wearing the garment outside of private homes. Belgium, Italy and the Netherlands followed the French example. Denmark, Germany and Turkey have also banned burqas under certain conditions, for example teachers or judges are not allowed to wear a burqa or headscarf while at work (BBC, 2011). Britain has not banned the burqa or head scarf in any context, although public polls have shown that up to two thirds of British people would like a ban implemented (Thompson, 2011).

Where there may be an issue of prejudice against burqas is primarily within the law itself and evidence on which the law might be implemented.

In France, The Bill Prohibiting Facial Dissimulation in a Public Place was put in place for the burqa ban. However, it has been argued that this was specifically enacted to only target burqas because the definitions used should also be applicable to Halloween costumes, carnival masks, motorcycle helmets, and ski masks (Groskop, 2011). A similar old public order law has been resurrected in Italy, again in theory banning all 'masks' in public. However, like France it seems to only focus on those wearing burqas or niqabs (Groskop, 2011). Approximately 1,900 people in France are estimated to wear the full burqa or niqab, which is 0.1% of the adult Muslim women in the country, many of whom are French born (Lichfield, 2011). Similar figures are found in Belgium where only 29 women in recent years are known to wear the burqa, and Denmark where there is estimated to be only a handful of people wearing the full burqa and perhaps 200 wearing the niqab in a population of 5.5million (Fox News, 2010).

The propaganda that has surrounded the implementation of the ban in France has been criticised for being prejudiced towards Muslims particularly considering the small population of those actually wearing a burqa or niqab. The anti-burqa propaganda was immense with over 100,000 posters and 400,000 leaflets printed with the slogan "the republic lives with its face uncovered" (Groskop, 2011). Australia has also been considering the ban, particularly after an armed robbery took place by a man wearing a burqa. South Australia Senator Cory Bernardi described the Islamic garment as "un-Australian" and "the preferred disguise of bandits and ne'er-do-wells" (BBC, 2010), while in New South Wales laws were passed in July 2011 allowing police officers to remove a burqa or niqab worn by criminal suspects regardless of the offense caused (Saddique, 2011).

Potential prejudice towards women wearing burqas may be influenced by emotion, particularly the emotion of disgust.

Emotion and attitude

Emotions can inform and shape our attitudes. For example, inducing positive emotions in an individual or putting them in a "good mood" can result in positive (and better) evaluations of objects (Yeung & Wyer, 2004), and a more positive perception of attitudes (Sechrist, Swim, & Mark, 2003). This can have important effects on our behaviour, for example research has found that different types of induced emotions can affect our support for and likelihood to vote (Englis, 1994). Increasingly emotions are being researched with respect to their relationship to prejudiced attitudes. Beliefs about a group of people can arouse emotions within us that affect our view of that specific group. Cottrell & Neuberg (2005) found that emotions such as fear, anxiety, anger and pity can influence prejudiced attitudes while Choma, Hodson and Costello (2012) found that emotions such as fear and sadness play a modulating role in prejudice towards Muslims. The emotion of

disgust is fairly under researched in its role in prejudiced attitudes. However, research has shown that there is a link between disgust and prejudice (Choma et al., 2012; Hodson, Choma, Boisvert, Hafer, MacInnis & Costello, 2011; Hodson & Costello, 2007; Inbar, Pizarro & Bloom, 2009; Navarrete & Fessler, 2006; Olatunji, 2008; Terrizzi, Shook & Ventis, 2010).

Disgust: types, theories and the precursor for prejudice

Disgust is a basic emotion in humans characterised by withdrawal, revulsion and avoiding shared commonalities (Rozin, Haidt & McCauley, 2009). The emotion of disgust itself can be broken down into subdomains. 'Core' disgust is recognised as principally a food rejection emotion (Rozin & Fallon, 1987). This may be the disgust at a rotten piece of meat or mouldy bread. 'Sex' disgust may manifest itself as repulsion to incest or sordid sexual behaviour. 'Death' disgust could be elicited when seeing a dead body or perhaps human organs. Disgust surrounding sex and death may be a way of protecting ourselves from reminders that we are all animals with a finite life span (Rozin, Haidt & McCauley, 2000). Disgust can also be extended to other, more ideological targets such as social groups, or types of people. For example interpersonal disgust may manifest itself as repulsion towards wearing clothes (even if sterilised) from morally corrupt individuals (Rozin, Markwith & McCauley, 1994).

Disgust may arise from basic evolutionary instincts such as protecting our bodies from food that may have made us sick or ill. It also may have protected us physically from disease and contamination from other people. Our "behavioural immune system" (Schaller & park, 2011) may lead us to distance ourselves from others in order to avoid disease. This psychological function of avoidance may be aimed at those who are from foreign countries, possibly due to a fear that these people are carrying novel diseases which may physically contaminate us or our group. This perceived vulnerability to disease (PVD) varies with individuals; some may feel more vulnerable to contamination by foreigners than others (Duncan, Schaller & Park, 2009). In the evolutionary approach to disgust, this attempt at avoiding all potentially contaminating individuals results in a 'trigger happy' response where all individuals who do not fit into our ingroup are potential disease carriers and considered a threat (Schaller & park, 2011). Complementing the evolutionary approach is abstract-ideation and its association with disgust. These two theories are considered complimentary as they both consider disgust to be a protective emotion that initiates a withdrawal response to avoid contamination (Oaten, Stevenson & Case, 2009). Abstract-ideation focuses on the law of similarity and the law of contagion. The similarity of a substance to something that is thought of as disgusting immediately makes that substance disgusting too e.g. chocolate shaped as dog excrement (Rozin et al., 2000). The law of contagion is the belief that people can psychologically feel tainted by something even though there has been no physical transference, for example some people may feel disgust at the thought of wearing the same (sterilised) jumper as Hitler (Rozin et al., 1994). Rozin and colleagues (2009) propose that these feelings of being tainted or contaminated can be applied in a more abstract

way to other people or other social groups. The idea that “once stimuli have contact they are always in contact” can apply to fear of contamination from other social groups (Rozin et al., 2009). As mentioned previously in the evolutionary approach, this fear of contamination may be the physical concern of becoming diseased, but there may also be concern that the beliefs, practices and values of an outgroup may contaminate those of the ingroup. This concern may lead to disgust acting as an outgroup marker (Rozin, Haidt, McCauley & Imada, 1997) protecting the ingroup from contamination.

Intergroup disgust sensitivity

Intergroup disgust (ITGD) is a specialised type of disgust which is aimed at outgroups or outgroup members. We tend to view our own ingroup much more favourably than other group, which is reflected in our attitudes towards them. ITGD is a negative affective reaction to ethnic groups (outgroups) characterised by an experience of disgust and revulsion (Hodson et al., 2011). For example, “It would repulse me to swim in a chlorinated swimming pool with people who belong to a different ethnic group”. ITGD is a construct that reflects individual differences; some people may be more sensitive to this type of disgust than others. Research has shown that those who are highly sensitive to this type of disgust are more likely to feel repulsed and disgusted by an outgroup, leading to greater discrimination and ethnic prejudice (Hodson et al., 2011, Study 1, Samples 1-5). Research by has also shown that negative emotions, especially fear and sadness, interacts with ITGD sensitivity to strengthen relations between this type of disgust and prejudiced attitudes (Choma et al., 2012), in order to preserve their ingroup superiority and purity (Rozin et al., 2009).

ITGD sensitivity and burqa prejudice

As mentioned above, research has linked ITGD sensitivity to prejudice, for example Islamophobia (Choma et al., 2012). In this current research the prejudice attitude focused solely on women wearing burqas. The French nationalistic undertone of “the republic lives with its face uncovered” while justifying to the passage of the law to ‘re-state secular traditions of French society’ and counter ‘the advance of radical and intolerant strains of Islam’ (Lichfield, 2011), are echoed in other European countries that have implemented measures to restrict the wearing of burqas. These reasons and statements hint at a fear of Islam and the infiltration of Islamic beliefs, values and traditions into western and individual country’s society. The burqa and niqab represent Islamic tradition, and although often the beliefs behind wearing them are mixed, they still confront many western norms and values. As mentioned previously, the fear of social contamination by an outgroup’s practices, beliefs and values can lead to disgust at that outgroup (Faulkner, Schaller, Park & Duncan, 2004; Navarette & Fessler, 2006). Banning the burqa may simply be a way of marking the outgroups in order to preserve social hierarchy and superiority of the majority society or ingroup (Rozin et al., 2009). This disgust towards the outgroup (women wearing burqas) may then result in a prejudiced attitude from the ingroup (e.g. the majority of the French public) towards the outgroup - women wearing burqas

(Hodson & Costello, 2007). As the burqa is very different to the majority of dress western countries, and there is only a small population of women that actually wear it, the majority group in these countries may struggle to find similarities between themselves and this outgroup of burqa veiled women.

Fiske, Cuddy, Glick and Xu (2002) found that groups perceived as dissimilar to the reference group are more likely to be viewed with disgust and contempt. This disgust and associated prejudice may manifest itself in the form of banning the burqa or limiting its wear to only certain contexts. Research from Haslam (2006) may provide reasons for the enforced removal of burqas in general and under specific circumstances (such as the law to remove the burqa following any suspected criminal activity in New South Wales or when teaching) other than for 'security measures'. Haslam (2006) suggested that disgust is the emotional reaction associated with dehumanisation. By enforcing the removal of the burqa, the outgroup may feel dehumanised by denial of what they consider is a personal characteristic and a way to express their religious beliefs. In general a burqa ban may be considered a prejudiced behaviour at an outgroup that is caused by inter-group disgust and the need to maintain the superiority and purity of one's (or the country in reference) own ingroup.

Contact theory and the effect of contact on prejudiced attitudes

As discussed, ITGD sensitivity plays a role in prejudiced attitudes. Another important variable associated with prejudiced attitudes is that of contact. Contact theory was initially formed from a review of several studies which looked at the effect of ingroup contact with outgroups, for instance, observations that White sailors who worked with Black seamen had an increasingly positive attitude towards Blacks (Brophy, 1946). These types of studies contributed to Allport's (1954) formulation of contact theory. Allport suggested that prejudiced attitudes towards outgroups could be reduced if the ingroup and the outgroup were to have contact under certain contact conditions. These comprised of instituting equal status between the groups, common goals, intergroup cooperation and the support of authorities/the law. A meta-analysis of inter-group contact literature by Pettigrew and Tropp (2006) found that overall, inter-group contact reduces intergroup prejudice towards outgroups. Aberson (2011) defined intergroup contact as referring "to experiences of personal interaction with members of other groups (outgroups)" (Ch8, p.2).

Turner, Crisp and Lambert (2007) expanded the intergroup contact theory further by investigating whether imagined contact by an inter-group member about an outgroup member would be effective enough to reduce prejudiced attitudes about that outgroup. In their study they ran three experiments measuring the effectiveness of imagined contact on improving inter-group attitudes towards specified outgroups. The results from the first experiment showed that young people who imagined contact with an elderly person showed lower inter-group bias than if they simply imagined an outdoor scene. Experiment two focused on whether it was just thinking about elderly people in general that had this effect or

was it imagining contact with an elderly person that reduced inter-group bias. They found that young people who imagined actually talking to an elderly person had lower levels of intergroup bias than those simply imagining an elderly person. In experiment three, heterosexual men were asked to imagine contact with homosexual men. After this imagined contact, heterosexual men rated homosexual men much more favourably than a control group (who had not imagined contact with a homosexual man). Overall this research indicates that imagined contact can be successful in reducing inter-group bias and improving positive attitudes towards outgroups.

Research predictions and hypotheses

The first hypotheses for this study will be that individuals higher in ITGD sensitivity will express a more prejudiced attitude towards burqas than those lower in ITGD sensitivity. This prediction is made based on research by Hodson et al. (2011) and Choma et al. (2012) which found that greater ITGD sensitivity scores were correlated with stronger outgroup discrimination and the prediction of ethnic prejudice.

The second hypothesis focused on the role of contact in reducing prejudiced towards burqas. One of the areas of further research suggested by Turner et al. (2007) focused on the effectiveness of imagined contact in comparison to physical contact and any order effects of this contact. I predicted that the level of contact would affect prejudiced attitudes. Specifically imagined contact would be more successful than no contact, and physical contact would be more successful than imagined contact or no contact, in reducing prejudiced attitudes towards burqas. This prediction was made based on research from Turner et al. (2007) and Pettigrew & Tropp (2006) which showed imagined and physical contact with an outgroup member reduces prejudiced attitudes towards outgroups.

The final hypothesis is based on the prediction that there will be an interaction between contact and ITGD sensitivity. This hypothesis was that imagined and physical contact will have a greater effect in reducing prejudiced attitudes towards burqas in individuals with higher ITGD sensitivity compared to those lower in ITGD sensitivity. All of the hypotheses stated were tested across two study sessions which spanned over two weeks.

Method

Participants

Forty-five (17 men, 24 women) members of the community recruited by the University of Plymouth School of psychology participated in the study. The mean age of the participants was 33.02 ($SD = 14.15$). They were paid £4 per half hour for their participation in the study. None of the participants were currently studying psychology and all the participants were Caucasian with English as their first language. This study was part of a larger study by Dr. Becky Choma involving 60 participants.

Design and materials

A between-subjects design was used for the study in which the participants were randomly allocated to a control, imagined or physical contact condition prior to the study. The participants were asked to complete two sessions as part of the study, which were told was about first impressions of people. The first session took place when the participant first arrived at the psychology laboratory and the second session took place approximately two weeks after the first session. The precise timing of these sessions varied between 9.00am and 5.00pm on working week days as this provided the participants and research facilitators greater flexibility. Only one participant at a time could take part in a study session, with each session lasting approximately one hour. Two small rooms were used for the majority of the study (only one room was needed for those participants in the control condition in session 1). These rooms contained a table, chairs and a computer, although the computer was not used by the participant at any point in the study. Instructions were provided verbally or in written form in given surveys. Responses were also written and a stopwatch was used to record timings. All data recorded from the surveys was entered into SPSS Statistics 19 in order to carry out data analysis.

Participants were asked to complete a survey which measured intergroup disgust (ITGD) sensitivity and attitudes towards burqas. The ITGD scale (Hodson et al., 2011) measures the participant's disgust sensitivity for questions specifically focused on outgroups. The scale used consists of eight items from the ITGD scale measuring ITGD sensitivity and an example of this would be "After shaking hands with someone from another ethnic group, even if their hands were clean, I would want to wash my hands". The participant had to rate their response using a seven point Likert scale, with one being "strongly disagree" to seven being "strongly agree". The reliability of this scale was acceptable ($\alpha = .64$). The Burqa Scale, which was designed for this study, measures the participant's attitude towards burqas using the seven point Likert scale, as mentioned above, to respond to 10 statements. An example of the type of statements included in the scale is "By allowing the wearing of Burqas in the UK, we are abandoning our country's heritage". The Burqa Scale was used in both session 1 and session 2 of the study, it showed high reliability across both sessions; session 1 ($\alpha = .90$) and session 2 ($\alpha = .89$).

The survey was part of a larger research project, and although other areas of disgust and prejudice were explored, the subdomain of ITGD along with attitudes towards burqas was used specifically for this study. Previous research has shown that ITGD is a separate domain of disgust and therefore can be measured independently from the more general measurement of disgust sensitivity (Hodson et al., 2011).

All the participants had contact with a confederate in the second session. This confederate acted and was treated as another participant in the study, his name being "Matak" – a fake name given to the confederate for the duration of the

study. The name “Matak” along with the description he gave to the participant of where he originally came from, was used to encourage the participant to think about an out group member. The confederate who played the role of “Matak” was a black male in his late twenties. “Matak” is a person who lives in London but whose family hails from Algeria, a predominantly Muslim country in North Africa. This information was given to the participant in order to encourage them to think about “Matak” as an outgroup member (Black male or more likely Muslim male). Hodson, Choma & Costello (2009) found evidence that attitudes towards one type of outgroup can be generalised to other types of outgroups. Therefore although “Matak” is not a Muslim woman wearing a burqa, attitudes towards “Matak” should generalise to the outgroup of burqas. Some of the participants were also required to imagine “Matak” with the description given, and some participants met him for an activity in the first session.

Procedure

Session 1

When the participants arrived for their first session they were asked to read through an information sheet about the study and sign a consent form. The participant was then given the appropriate payment for the session and asked to sign a receipt as a record of payment. Participants in the control condition were then asked to complete the entire survey (without any manipulation). Before these participants left, they were asked to choose a number from an envelope which they were told would be used for their random allocation to a partner in session 2. In reality this task had no effect on the allocation to a partner as all participants regardless of their condition met the same confederate in the second session. This task was in the study so that participants perceived that they were being randomly allocated, which would help prevent them from guessing the true nature of the study. This task is more relevant for those participants in the imagined and physical contact condition which will be explained later in the procedure. After the control participants completed the task, they were thanked for their time and reminded of their second session.

Participants in the imagined contact condition also completed the survey, however, this was completed in two parts: one half of the survey was completed at the beginning of session 1 and the other half completed at the end of session 1. Four items from the eight item ITGD sensitivity scale appeared in the first half of the survey with the remaining four items appearing in the second half. The 10 item Burqa Scale only appeared in the second half of the survey.

After completing the first half of the survey, the participants in the imagined condition were once again informed that the study was about first impressions. They were then asked to close their eyes and imagine meeting someone for the first time. They were asked to imagine meeting “Matak” for the first time. The research facilitator then read through a script of what they wished the participant to imagine about Matak. The script focused on the initial meeting with Matak as well as further imagined contact with Matak in the form of thumb wrestling. The

rules of thumb wrestling were explained to the participant and the participant was asked to imagine taking part in a thumb wrestling competition with Matak. After this, the participant was asked to open their eyes and complete the second half of the survey, the first part of which required the participant to record the different things they saw in the scene they had just imagined.

Once the second half of the survey was completed by the participant, they were asked to take a number out of an envelope in order to randomly allocate them to a partner in the second session. As mentioned before this task had no effect on who they would meet in the second session as it was the same confederate each time ("Matak"), however, if the participant believed they are being randomly allocated by the chosen number, it would help to reduce suspicion and identification of the true nature of the study, in turn reducing potential demand characteristics in the second session. Again these participants were thanked for their participation and reminded about their second session.

Participants in the physical contact condition also filled out the survey in two parts. Once the participant filled in the first half of the survey, they were reminded that the study was about first impressions. They were then told that they had been randomly assigned to meet another person in the next room. The person they met was "Matak". "Matak" then mirrored the imagined contact script, with the same greeting and conversation topics, e.g. where he lives, where his family is from etc. The facilitator then announced that she was ready to start and asked "Matak" and the participant to have a thumb wrestle together. The thumb wrestle rules were explained to both "Matak" and the participant by the facilitator before the actual thumb wrestle. "Matak" and the participant thumb wrestled for 30 seconds, over two trials. For each trial the participant and "Matak" had to report how many pins they managed to achieve. Before the second trial "Matak" spoke with the participant about how they could get more pins if they worked together and took turn. After the thumb wrestling, "Matak" and the participant were separated into different rooms. The participant was asked to complete the second half of the survey, the beginning of which asked the participant to list the different things they saw in the scene they had just participated in. Whilst the participant was filling in the survey, the facilitator left the room to go and see "Matak". The facilitator made notes and observations with the confederate about the cooperation of the participant in the thumb wrestling activity. The facilitator then went back to the room where the participant was. The participant was then asked to pick a number out of an envelope to randomly allocate them with a partner in session 2. After this the participant was thanked for their participation and reminded about their second session.

Session 2

Participants were paid the appropriate amount for the second session, and again asked to sign a receipt. All participants regardless of condition were asked to fill in half of the survey before taking part in the activity. The first half of the survey again contained half of the items from the ITGD scale, and the second half

contained the remaining half of the ITGD scale items as well as the full 10 item burqa scale. In the second session all participants took part in the same activity regardless of their contact condition. The participants were reminded that the study was looking at first impressions and that they would be taking part in an activity called wrist loops. The participants were told that they would meet the individual they were randomly allocated to through the number picking task in the previous session. The participant was then taken to a room where "Matak" was waiting for them. "Matak" appropriately greeted the participants depending on their condition; those in the control condition would not have heard about/met "Matak" before, whereas those in the imagined condition would have imagined a person called "Matak" in the previous session. Participants in the physical condition would have actually met "Matak" in the previous session, therefore the greeting towards these participants would be different again. The facilitator explained the procedure behind the activity to "Matak" and the participant, they were then paired together to carry out the wrist loop activity. The participant and "Matak" initially had 30 seconds to solve the wrist loop puzzle. After this the facilitator gave them a clue about how to solve it. "Matak" (being a confederate) already knows the solution to the activity and during the next attempt at separating the wrist loops he aids the participant (discreetly) in solving the puzzle. The time taken for "Matak" and the participant to complete the second attempt of the wrist loop activity was recorded.

The activities of wrist loops and thumb wrestling (physical and imagined in session 1) were chosen as they were considered fun, interactive activities which enabled the participants and "Matak" to have close contact physically. It was also important to have this type of fun, successful interaction with an outgroup member, scripted for the participants in the imagined contact condition in session 1. Research has shown that by imagining successful interactions we actively access concepts which associate feelings of comfort and reduced anxiety. These would influence how they would perceive the member of that outgroup; positive feelings would lead to a more positive evaluation of the outgroup (Turner, Crisp & Lambert, 2007). Similar findings to these have been extended to physical (face-to-face) contact (Paolini, Hewstone, Cairns & Voci, 2004), hence why it is important to have a fun, positive activity for session 2.

The participant was then taken to a separate room and asked to fill in the second half of the survey. Whilst the participant was filling in the survey, the facilitator left the room to go and see "Matak". The facilitator made notes and observations with the confederate about the cooperation of the participant in the wrist loop activity. The facilitator then went back to the room where the participant was. Once the second half of the survey was completed, the participant was verbally debriefed about the study, reminded of their right to withdraw the data at any time, and who they could contact if they wished to ask any questions. A written version of the debrief, which included the above information, was also given to the participants to take away with them.

Results

Descriptive analysis of the data was checked along with the Z-scores of the computed variables in order to find any impossible values or outlying results, of which there were none that caused a significant effect on the data. Several scales were also recoded in order for them to be used effectively in primary analysis. New variables ITGDS ($M = 1.90$, $SD = 0.82$), Burqa session 1 ($M = 3.20$, $SD = 1.35$) and Burqa session 2 ($M = 3.19$, $SD = 1.34$) were computed from the original, including recoded, scales. All three variables met normality assumptions – histograms for each variable were normally distributed and measures of Skewness and Kurtosis were acceptable across the variables (all Kurtosis values between +2.00 and -1.00, all Skewness values between 0 and +2.00). A median split was performed on the ITGDS variable such that participants scoring below 1.75 (median of the scale) were classified as low in ITGD sensitivity, those scoring equal to or above 1.75 were classified as high in ITGD sensitivity.

Primary analysis

To determine the effect of ITGD sensitivity and contact on attitudes towards burqas, two two-way ANOVAs were performed as the primary analysis. Separate two-way ANOVAs were performed for each session that measured attitudes towards burqas. Assumptions were met for the session 1 ANOVA (Levene's = .146), however the Levene's test was significant for the session 2 ANOVA and therefore cannot assume homogeneity of variance (Levene's = .024).

Both of the two way ANOVAs were used to test the first prior hypothesis. There was no statistically significant effect of ITGD sensitivity on attitudes towards burqas in either session 1, $F(1, 34) = 1.06$, $p = .310$, or for session 2, $F(1, 34) = 2.25$, $p = .267$, which refutes our predictions. However, the means for those low in ITGD sensitivity and for those high in ITGD sensitivity in both Burqa session 1 and 2 showed the pattern of effect on attitudes towards burqas as predicted. This can be seen in Table 1.

Table 1: Mean and standard deviation for each ITGD sensitivity in both burqa attitude measuring sessions (n = 40 for each session)

	ITDG sensitivity	<i>M</i>	<i>SD</i>
Burqa session 1	Low	3.02	1.55
	High	3.36	1.21
Burqa session 2	Low	2.94	1.39
	High	3.39	1.32

In the second hypothesis, there was no statistically significant effect of contact condition (either control, imagined or elaborated/physical contact) on attitudes towards burqas in session 1, $F(2, 34) = .66$, $p = .521$, or session 2, $F(2, 34) = .70$, $p = .506$. This did not support our predictions. In fact the patterns of means

for each contact condition across the two sessions show evidence of an opposite effect compared to that which was predicted. This can be seen in Table 2.

Table 2: Mean and standard deviation for each contact condition in both burqa attitude measuring sessions. (n = 40 for each session)

	Contact Condition	<i>M</i>	<i>SD</i>
Burqa session 1	Control	3.04	1.59
	Imagined	3.12	1.15
	Physical	3.53	1.29
Burqa session 2	Control	2.86	1.62
	Imagined	3.30	1.31
	Physical	3.42	1.10

The final prediction (third hypothesis) was not supported, there was no statistically significant interaction between ITGD and contact affecting attitudes towards burqas in either session 1, $F(2, 34) = 1.18, p = .319$, or session 2, $F(2, 34) = 1.99, p = .153$. However, the means do indicate that there is some level of interaction, and in fact the pattern of means for those low in ITGD sensitivity follow the second hypothesis and the predictions made. The opposite effect is seen in the mean scores for those high in ITGD sensitivity. This can be seen in Table 3.

Table 3: Mean and standard deviation for each contact condition at low and high ITGD sensitivity (n = 40 for each session)

	Contact Condition	Low ITGD sensitivity		High ITGD sensitivity	
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Burqa session 1	Control	3.29	1.94	2.83	1.31
	Imagined	2.38	0.49	3.46	1.23
	Physical	3.15	1.60	3.92	0.87
Burqa session 2	Control	3.17	1.98	2.56	1.25
	Imagined	2.83	1.02	3.51	1.42
	Physical	2.77	0.98	4.17	0.67

As the hypotheses stated were all priori predictions, a pairwise comparison was carried out following the two way ANOVAs. There were no statistically significant mean differences for individual interactions between ITGD sensitivity and contact condition in the pairwise comparison for burqa session 1. However, there was a statistically significant mean difference ($p = .037$) between the control and physical contact condition for those high in ITGD sensitivity in burqa session 2. There also appeared to be a marginally significant mean difference ($p = .068$) between those high and low in ITGD sensitivity in the physical contact condition in session 2.

Discussion

This study researches the effect of ITGD sensitivity and contact on attitudes towards burqas. Disgust is a relatively under researched emotion compared to fear, anxiety and happiness (Rozin et al., 2009). ITGD, a subdomain of disgust, has only been studied recently (Hodson et al., 2011) with new links between this type of disgust and prejudiced attitudes identified (Choma et al., 2012; Hodson et al., 2011). Individual differences in ITGD sensitivity have been analysed in several studies, along with the effect that higher or lower sensitivity has on attitudes (Choma et al., 2012; Hodson et al., 2011). This study aims to carry out similar research on the effect of ITGD sensitivity on prejudiced attitudes, specifically prejudiced attitudes towards burqas.

I found no statistically significant effect of ITGD sensitivity on attitudes towards burqas. However, the means for those lower in ITGD sensitivity and the means for those higher in ITGD sensitivity in both session 1 and 2 showed the pattern of effect on prejudiced attitude towards burqas as predicted. The results consequently show that those higher in ITGD sensitivity are more anti-burqa (prejudiced towards burqas) than those lower in ITGD sensitivity. This pattern of results mirrors previous findings which also showed that people higher (vs. lower) in ITGD sensitivity report greater prejudiced attitudes (Choma et al., 2012; Hodson et al., 2011).

I also tested the prediction that increased contact would lead to decreased prejudiced attitudes towards burqas. I found no statistically significant results to support this. However, between session 1 and session 2, the means across the control and physical condition decreased. This indicates that after meeting "Matak" in session 2 the participants in the control and physical contact condition had a less prejudiced attitude towards burqas which supports part of the prediction made and research by Pettigrew & Tropp (2006).

However, within each of the sessions the patterns of means show evidence of an opposite effect compared to that which was predicted. The means within both session 1 and 2 increased as the level of contact increased, from control, to imagined, to physical contact. This indicates that as contact increases, anti-burqa attitudes also increase. This result is contradictory to previous research into intergroup contact which found that contact (imagined and physical) reduced prejudiced attitudes of outgroups (Pettigrew & Tropp, 2006; Turner et al., 2007). There may be several reasons for these findings. One of the main issues is transference. The outgroup member that the participants met was a Black Muslim male, not a women wearing a burqa. Research by Hodson, Choma & Costello (2009) found that imagined contact with one type of outgroup could produce significantly more perspective taking, empathy and favourable attitudes for other outgroups. This ability for people to transfer attitudes from one outgroup to another was relied upon in this study; participants (in the imagined and physical contact condition) would transfer attitudes about "Matak" to the other

outgroup of women wearing burqas. Perhaps this transference from Black Muslim male to women wearing burqas was too difficult for the participants due to gender and ethnic differences between the outgroups. The addition of the burqa garment to essentially what would be an outgroup consisting of Muslim women, may hinder the transference of attitudes from meeting "Matak" to the burqa outgroup.

Stangor, Sullivan & Ford (1991) found that direct experiences are more likely to produce stronger attitudes than indirect experiences. This may have been the case for those in the physical contact condition who met "Matak". They may have formed a stronger attitude towards Black Muslim males making it more difficult to generalise these attitudes to other outgroups (i.e. women wearing burqas) due to the overriding presence of the outgroup member in the study. After imagining "Matak", those in the imagined contact condition may similarly have struggled with taking the focus directly off Black Muslim males as an outgroup in order to generalise their attitudes towards the outgroup of women wearing burqas. There is always the possibility that increased contact did in fact cause the participants to have a more prejudiced attitude towards outgroups. However, results from the testing of the third (interaction) hypothesis provide evidence that limits this possibility. Although there was no statistically significant interaction between ITGD sensitivity and contact (which refutes the hypothesis), the means do indicate that there is some level of interaction. In fact the pattern of means for those low in ITGD sensitivity follow the second hypothesis and the predictions made, in that as the contact increases, prejudiced attitudes towards burqas decrease. The opposite effect is seen in the mean scores for those high in ITGD sensitivity. In relation to the second hypothesis, these results show that increased contact can reduce prejudiced attitudes, but only in individuals who are low in ITGD sensitivity. The results also indicate that physical contact was stronger at reducing prejudiced attitudes towards burqas than imagined contact. In turn, imagined contact was better at reducing prejudiced attitudes than no contact (control condition), but again only in participants with low ITGD sensitivity.

In the participants with higher ITGD sensitivity, prejudiced attitudes towards burqas increased as the level of contact increased, similarly to the results seen from testing the second hypothesis. People higher in ITGD sensitivity were more prejudiced towards burqas (mean results from first hypothesis). Research has shown that people who are more prejudiced need more disconfirming evidence of their stereotypes about the outgroup in order to reduce their prejudiced attitude (Ybarra, Stephan, Schaberg & Lawrence, 2003). Potentially the participants with higher ITGD sensitivity may have been able to reduce their prejudiced attitudes towards burqas if they had more/repeated contact with an outgroup member. However, the participants with higher ITGD sensitivity in the imagined contact condition show a lower increase in anti-burqa attitudes from session 1 to session 2 when compared with participants in the physical contact condition. This indicates that having imagined contact before the physical contact of session 2

(meeting “Matak”) may act as a buffer to moderate the attitude formed at the end of session 2. Those participants who only had physical contact with the outgroup member did not have the opportunity to imagine this contact first. The imagined contact could prepare the participant for what they think the outgroup member is like, or how they would act in a contact situation with them, making it less of an anxious or confronting experience when they did have contact with “Matak”. By reducing the anxiety in the physical contact meeting by imagining contact first would then lead to the formation of a more positive attitude of the outgroup member. This positive attitude could then transfer to the outgroup of women in burqas. This reasoning is consistent with research findings that the effect of intergroup contact on reduction in prejudiced attitudes is mediated by intergroup anxiety (Voci & Hewstone, 2003).

Intergroup anxiety, fear and anger may moderate the success of outgroup contact on reducing prejudiced attitudes (Turner et al., 2007). Participants who are high in ITGD sensitivity and have stronger prejudiced attitudes may find themselves more anxious when in contact with an outgroup member, particularly in physical contact. This increased intergroup anxiety may lead to feelings of hostility (Plant & Devine, 2003), unwillingness to engage in contact with the member (Esses & Dovidio, 2002) and desire to move away or distance themselves from the outgroup member (Mackie, Devos & Smith, 2000). Research has found that experiencing these negative intergroup emotions (particularly whilst in contact) with the outgroup member, can result in the participant developing a further prejudiced attitude towards the outgroup (Choma et al., 2012; Voci & Hewstone, 2003), which can then extend to other outgroups i.e. women wearing burqas (Hodson et al., 2009). This may explain the increased burqa prejudice found in the participants high in ITGD sensitivity when they experienced increased contact with the outgroup member.

There was a statistically significant difference between the control contact condition and the physical contact condition’s attitude towards burqas in session 2 (participants higher in ITGD sensitivity). This indicates that prejudiced attitudes towards burqas were significantly greater in the physical condition than the control contact condition. However, it should be noted that the control contact condition participants had a very low initial mean score of anti-burqa attitude, lower than that of the participants in the same condition who were low in ITGD sensitivity. This group mean seems to be skewed in both session 1 and 2; the actual difference between the physical and control contact condition may not be as significant or large as the results indicate.

It is also evident from the results that in the control and physical contact condition for those low in ITGD sensitivity, the means (and therefore prejudicial attitudes towards burqas) are lower in session 2 than in session 1. The opposite effect can be seen in all conditions for those high in ITGD sensitivity, where prejudicial attitudes have increased from session 1 to session 2. The imagined condition for those low in ITGD sensitivity in session 1 does not appear to follow the

decreasing pattern found in the means within each burqa session i.e. not falling between the control and physical means. This observation has two areas of focus; the first being that the prejudiced attitudes of those low in ITGD sensitivity reduced over the two sessions. The second focus is on why the mean score for those in the imagined contact condition (for participants low in ITGD sensitivity, in session 1) did not fit the pattern of reducing prejudiced attitudes.

For those low in ITGD sensitivity in the control and physical condition, after meeting “Matak” (physical contact) in the second session, their prejudiced attitudes reduced, supporting the second and third hypothesis (and in line with research by Pettigrew & Tropp, 2006). For those in the physical contact group perhaps the second meeting of “Matak” further reduced their prejudiced attitudes by repeating contact with him. It is a well-known phenomenon that the more we see something, the more we tend to like it – the mere exposure effect (Zajonc, 1968). The effect of repeated contact, either physical or imagined, in relation to ITGD sensitivity could then be a potential line of future research.

The mean score for those low in ITGD sensitivity in the imagined contact condition (in session 1), did not follow the pattern of means seen in session 2 or the pattern of means for the physical and control contact condition in session 1. The mean score for those in the imagined contact condition was expected to be in-between the mean scores for the control and physical conditions. However, the imagined contact mean is in fact lower than the physical contact mean, which does not follow the linear pattern of means seen in session 2. This may be due to the unequal amount of participants in the condition; there were only four participants in the imagined contact condition who were low in ITGD sensitivity compared to nine in the same condition for higher ITGD sensitivity. Repetition of this study, or extended research following this study, should ensure equal numbers of participants across conditions in order to hopefully eliminate this outlying result.

Limitations of the study

Our sample size of 45 participants may not have been big enough in order to produce statistically significant results. The age range was also fairly varied, from aged 18 to 65 years old, with the mean age of 33. Generational effects may have played a part in people’s attitudes towards burqas, with research showing a positive relationship between age and ethnic prejudice (Franssen, Dhont & Hiel, 2012). Those from an older generation may have had less exposure to women wearing the burqa whereas younger generations may have been exposed at a younger age. Likewise, older people may have witnessed discrimination of ethnic groups, or may have been part of a generation where this sort of abuse was more tolerable. They may also be unable to express their attitudes in terms of contemporary prejudice, perhaps coming across as more blatant and old fashioned in their discrimination (Franssen et al., 2012). Research has also shown that older people tend to embrace right-wing beliefs (Cornelis, Hiel, Roets & Kossowska, 2009) which have been linked with prejudicial attitudes (Henry &

Sears, 2009) and disgust (Hodson & Costello, 2007). The older participants may not have responded positively to contact with the outgroup member. For example, Tropp & Prenovost (2008) found that the intergroup contact effect of reducing outgroup prejudice was significantly stronger in college students than older adults.

Age effects were not taken into account in this study and it would be interesting in future research to investigate whether age plays a moderating role on ITGD sensitivity and intergroup contact in relation to prejudiced attitudes.

In the study I asked participants to report their religious views. This was so I could exclude Muslim participants from the study (as this would have affected the results). However, during the debrief several participants revealed that they had previous contact with someone from an Islamic background; one participant had even been married to a Muslim man from Algeria, a predominantly Muslim country. It was therefore difficult to assess the participants' pre-existing knowledge of the outgroup (women wearing burqas) which may have directly affected their attitude towards burqas rather than through their ITGD sensitivity. This factor of pre-existing contact or knowledge about the outgroup member should have been taken into account when measuring participants attitudes towards burqas.

Education and Social Economic Status (SES) may have also played an indirect role in reported attitudes towards burqas. Although all the participants were aged 18 years old or above, no information about the level of education received, or measurements of SES, was recorded or taken account of in the study. Farley (2000) argued that those who are better educated are more likely to be less prejudiced since they can reason with logic and empathy in order to breakdown oversimplified stereotypical thinking. Farley (2000) also argued that people of higher SES are more likely to be better educated. An international comparison of studies that research the link between education and prejudice attitudes found support for the negative correlation between education and ethnic prejudice (Coenders & Scheepers, 2003). Farley (2000) also suggested that another aspect of this link might be that people who are better educated may simply know how to respond to questions measuring prejudice with politically correct or socially desirable terms, thus masking any true prejudicial attitudes. However, research by Wagner and Zick (1995) found that there were still significant education-related differences in expressed prejudice when the need to give a socially desirable response was controlled. Research has also found that people of a higher SES are less likely to be prejudiced than those of a lower SES (Brown, 1965; Simpson & Yinger, 1972). Thus the level of education and SES of our participants may have affected the results found in the study. In further research this confounding variable should be taken into account and controlled. The results may also have been subject to gender effects because study participants were not evenly split between males and females. Recent research has linked prejudice attitudes to intergroup emotions which are different for men

and for women (McDonald, Navarrete & Vugt, 2012). These differences between genders may therefore have had an indirect effect on the results, which is worth taking consideration of in the interpretation of results.

Implications and future research

Imagined contact has been shown in this study to help reduce people's prejudiced attitudes, supporting the research by Turner et al. (2007). Physical contact has been shown as a more effective type of contact in reducing prejudiced attitudes (supporting research by Pettigrew & Tropp, 2006). These findings are particularly relevant to individuals lower in ITGD sensitivity. For those individuals with higher ITGD sensitivity, contact with an outgroup member increased prejudiced attitudes. However, the study found that imagined contact before physical contact with an outgroup member for these individuals with higher ITGD sensitivity, acted as a buffer or moderator in the prejudiced attitudes they reported. This implies that intergroup contact can help to reduce prejudiced attitudes, but that the results seen for people with lower or higher ITGD sensitivity varies. Also, different strategies of intergroup contact may be needed for people higher in ITGD sensitivity compared to those with lower ITGD sensitivity. For example, those who have higher ITGD sensitivity may need imagined contact before physical contact with the outgroup member in order to effectively reduce prejudiced attitudes. These individuals may also benefit from repeated contact with the outgroup member - either imagined or physical - in order to have a significant effect on their prejudiced attitudes. Future research could focus on strategies of intergroup contact which provide the most effective reduction in prejudiced attitudes, taking into account individual differences in ITGD sensitivity. The study is the first to research the link between ITGD sensitivity and prejudice towards women wearing burqas. The ban of the burqa in several countries, and people's attitudes towards the garment itself (and the women wearing it), is a very current and heated issue which has been under researched. Reasons behind the prejudice seen towards the burqa should be considered in future research. As seen in this study, ITGD sensitivity may be a variable amongst many which form prejudiced attitudes towards burqas. Further research into the relationship between ITGD sensitivity and prejudice may help to increase further understanding of many people's negative attitude towards the burqa. Importantly, by increasing our knowledge about what contributes to a prejudiced attitude, we can work on a plan to help expel these attitudes and their related prejudicial behaviours.

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