

## Covered in stigma? The impact of differing levels of Islamic head-covering on explicit and implicit biases toward Muslim women

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### Abstract

Given the prominence of Muslim veils—in particular the hijab and full-face veil—in public discourse concerning the place of Muslims in Western society, we examined their impact on non-Muslims' responses at both explicit and implicit levels. Results revealed that responses were more negative toward any veil compared with no veil, and more negative toward the full-face veil relative to the hijab: for emotions felt toward veiled women (Study 1), for non-affective attitudinal responses (Study 2), and for implicit negative attitudes revealed through response latency measures (Studies 3a and 3b). Finally, we manipulated the perceived reasons for wearing a veil, finding that exposure to positive reasons for wearing a veil led to better predicted and imagined contact (Study 4). Practical and theoretical implications are discussed.

“It’s really nice to see you face to face, Mr Straw,” this pleasant lady said to me in a broad Lancashire accent. “The chance would be a fine thing,” I thought to myself. She was wearing a full veil.

Jack Straw, Former Home Secretary and Foreign Secretary of the United Kingdom (*Last man standing: Memoirs of a political survivor*. London: Macmillan, 2012, p. 481)

Prejudice and discrimination against Muslims has increased dramatically in the last decade. There is a growing body of evidence suggesting that Muslims are being subjected to various forms of mistreatment and hostility, and that this trend has risen sharply in the aftermath of the terrorist attacks of 9/11 in the United States and 7/7 in England (Pew Research Center, 2007; Sheridan, 2006; Singh, 2006). Strabac and Listhaug (2008) compared anti-minority prejudice in 30 European nations, and found a higher degree of prejudice toward Muslims than for other immigrant groups. Similarly, a report by Pew suggests that Muslims suffer more discrimination than any other religious group (Pew Forum on Religion and Public Life, 2009). A growing body of research has documented the worrying perception that “Islam” poses a

serious threat to “the West” and vice versa (Halliday, 1999; Jaspal & Cinnirella, 2010).

Not all Muslims experience mistreatment, or the same degree of it, as a result of their minority group status. Research suggests that “a major determinant of who is most vulnerable to anti-Islamic abuse may be the degree to which the individual is visibly identified as Muslim” (King & Ahmad, 2010, p. 886). For Muslim women, one such identifier is a veil. A veil can refer specifically to the *hijab* or headscarf, covering just the head but leaving the face exposed, or the *full-face veil*, which covers the head and face (see Figure 1). As Unkelbach, Schneider, Gode, and Senft (2010) point out, “traditional Muslim clothing such as the hijab . . . allows fast and easy categorization. Women wearing hijabs are easily [identified] as Muslim, thereby activating possible stereotypes and prejudices” in non-Muslim observers (p. 378). A recent report on the impact of Islamophobic attacks on Muslim women has reported that women are more likely to be subjected to such attacks than men, and that this likelihood is increased if they are wearing the full-face veil or other clothing associated with Islam (Allen, 2013).

Indeed, negativity toward Muslim veils and the women who wear them has been conspicuous in social and political



**Figure 1** Levels of veil coverage.

discourse on Islam. Former French President Nicolas Sarkozy has called face-covering veils “a sign of subservience” that “will not be welcome on the territory of the French republic” (Allen, 2009, 2010). British Member of Parliament Jack Straw, whose constituency in Blackburn has a large Asian-Muslim population, has suggested that face-covering veils impede communication with his constituents and promote interpersonal discomfort (Straw, 2006, 2012). As Straw stated, “the veil was bound to make better, positive relations between the [Muslim- and White-British] communities more difficult” (Straw, 2012, p. 481). A Harris Interactive Report (Blitz, 2010) showed that 70% of people in France, 65% in Spain, 63% in Italy, and 50% in Germany wanted the full-face veil banned, and indeed Muslim veils are now banned in certain settings in some of these countries (Joppke, 2013; McGoldrick, 2006; Welch, 2007).

The Muslim practice of *hijab*<sup>1</sup>—popularly referred to as “veiling” by Western commentators—is a contentious, gendered religious tradition associated with a complex array of symbolic meanings. To some, it is a sign of oppression and cultural separatism; to others, it is an exercise in modesty, pious devotion, and even self-expression (see Alvi, Hoodfar, & McDonough, 2003). Until recently, much of the scholarly focus has been on debating the symbolic meanings of *hijab* within the Muslim community. In this paper, however, we seek to examine the importance of Muslim veils in an intergroup context: how are veils perceived by non-Muslims, and what impact does this perception have on their attitudes, emotions, and biases? We hypothesize that a woman’s covering practices may have a strong effect on how she is perceived by others, and so play an important role in intergroup relations (see, e.g., Allen & Nielsen, 2002; El-Geledi & Bourhis, 2012; Saroglou, Lamkaddem, Van Pachterbeke, & Buxant, 2009; van Nieuwkerk, 2004).

<sup>1</sup>Note that “hijab” has both a general and a specific meaning. In general, it refers to modest styles of Islamic dress—regardless of the specific type of headdress worn—and in particular it refers to the common headscarf, covering the hair and shoulders but not the face. In the present paper, we use the term in reference to the specific type of Muslim veil.

There are different types of Islamic veils worn by women across Muslim countries and in some western countries (El-Geledi & Bourhis, 2012; Hoodfar, 2003). On the one hand “the veil” can refer to the hijab or headscarf, covering just the head but leaving the face exposed; while on the other, “the veil” can refer to a full-face veil—either the niqab, which covers the face and head but leaves the eyes exposed; or the burqa, which covers the whole body, including the head, face, and eyes. For clarity, in this study we use the term hijab to refer to a veil that covers the head while leaving the face exposed, while we use the term full-face veil to refer to either the niqab or the burqa (see Figure 1). In the present investigation we systematically distinguish between the hijab and the full-face veil to assess the differential impacts that these types of veil may have on downstream cognitive and emotional processes, at both explicit and implicit levels. Our particular focus is on effects that may follow from even short-term exposure to the veils, highlighting the importance of first impressions.

[Correction added on 9 January 2015, after first online publication: this paragraph has been changed].

## The psychological importance of the veil: shaping first impressions

Research has shown that first impressions “matter” in social contact (Rabin & Schrag, 1999, p. 37). Not only do they serve to frame and to anchor subsequent perceptions, attitudes, and expectations, but they can also be doggedly persistent—holding fast even in the face of contrary information (Nickerson, 1998; Nisbett & Ross, 1980). This so-called primacy effect in person perception (e.g., Anderson & Barrios, 1961) has been replicated and extended over decades of research (Jones & Goethals, 1971; Nickerson, 1998; Rabin & Schrag, 1999; Tetlock, 1983).

But how does one determine the personality traits of a stranger—or indeed form any sort of opinion about an unknown individual—on the basis of a first impression? In most cases, we have access to a person’s outward physical features as our initial source of information. Indeed “often a person’s physical appearance is *all* that is available to convey information about personal traits in a first impression situation” (Lennon & Miller, 1984, p. 2, emphasis added). Among other outwardly observable factors, items of clothing in particular can serve as powerful sculptors of first impressions (Conner, Peters, & Nagasawa, 1975; Davis, 1984; Douty, 1963). In intergroup contexts, clothing may serve as a marker of religious affiliation, gender, ethnic origin, social class, and so on (Hoodfar, 2001). In one study, even very subtle changes in the texture or color of a woman’s garment had a significant impact on, for example, the favorability of her hiring recommendation for a job in a company (Forsythe, Drake, & Cox,

1984). This result, and others like it, indicates that clothing-based first impressions may have real-world consequences of a potentially serious nature.

In one of the first empirical investigations of the effects of wearing a Muslim veil, Saroglou et al. (2009), using a sample of Belgian participants, investigated how people thought about “the veil”—meaning, in this case, the hijab. They found that participants’ subtle prejudice, self-enhancement values, security values (vs. universalism values), and religiosity were associated with more negative attitudes toward the hijab and the women who wear it. That is, those individuals who placed greater emphasis on values of power, achievement, reluctance to change, and conformity expressed more negativity toward the hijab. Due to the singular focus on the hijab in this study, it remains unclear whether attitudes toward full-face veils would show similar associations, or to what degree.

Unkelbach et al. (2010) investigated the effects of wearing a hijab in a job application situation. After establishing that hijabs are associated with the “typical” Muslim female in Germany (Experiment 1), Unkelbach et al. found that wearing a hijab negatively affects one’s chances of succeeding in a job application screening process (Experiment 2). In this experiment, participants were instructed to play the role of a hiring manager faced with 120 applications for an internship position. The “applications” were presented sequentially in an online database format, with each applicant’s academic information shown first, followed by a “headshot” style photograph. Participants then made a quick “accept” or “reject” decision by pressing the appropriate keys on a keyboard. Controlling for academic information, results showed a clear “hijab effect” with just 45% of hijab-wearing applicants surviving the triage procedure, compared with 53% of the same individuals with hijabs removed.

King and Ahmad (2010) expanded on these results with a field experiment. In their study, female confederates actually applied for a position in a retail store dressed in either Muslim garb or non-Muslim garb. Both costumes consisted of black shoes, black trousers, and a black top; the “Muslim” costume included a black hijab as well (not the full-face veil). They found that applicants were equally likely to be “greeted, recommended a position, thanked, and offered an interview or job” (p. 896) regardless of whether they appeared to be Muslim; however, according to confederates and independent coders, when applicants appeared to be Muslim, they encountered more negative interpersonal behavior such as rudeness and hostility. In addition, store managers spent less time interacting with confederate applicants when they were dressed in Muslim garb than when they were not. Finally, Mahmud and Swami (2010) have shown that women wearing a hijab are perceived by non-Muslim and Muslim men as less attractive and less intelligent than unveiled women. Overall,

these preliminary studies suggest that wearing a hijab may indeed have a detrimental impact upon initial person perception and subsequent treatment.

What about full-face veils? Work by Fischer, Gillebaart, Rotteveel, Becker, and Vliek (2012) provides evidence for biasing effects of facial coverage on emotion recognition: more negative and fewer positive emotions in a target were recognized when participants were presented with face stimuli that were covered in some way. Of most relevance to the present work, El-Geledi and Bourhis (2012) conducted what appears to be the only published empirical investigation that directly compares responses to wearers of the hijab and full-face veil. Using a within-subjects design, they found that Quebec Francophone students expressed the most negative attitudes toward women wearing a full-face veil, less negative attitudes for women wearing the hijab, and favorable attitudes toward women wearing Western-style clothes (Experiment 1). However, the single woman presented to participants was White, Western, and with light hair, with the image being digitally altered with different clothing. This may limit the implications of the study, as prior research has shown that White observers react more aversively to Caucasian, relative to non-Caucasian, wearers of the Muslim veil (Unkelbach et al., 2010). Thus, although their research provided a crucial first step in understanding how different Muslim veils are associated with different intergroup reactions, further investigation is clearly needed.

## The present research

Taken together, the studies reviewed provide initial empirical evidence for the effects of Muslim veils on appraisals of, and behavior toward, a target individual. Nearly all of the extant research, however, has employed a single type of religious garment—typically the hijab—or has measured attitudes toward a monolithic, nonspecific “Muslim veil.” Furthermore, it appears that most previous empirical work on Muslim veils focuses solely on explicit attitudes, and so it remains an open question how different types of veils may be associated with (a) other explicit measures, such as emotions, and (b) implicit attitudes and associations.

Given these considerations, we aimed to investigate how the Muslim veil in general, and different types of Muslim veil in particular, are associated with both implicit and explicit attitudes, emotions, and biases. In Study 1, we investigated in a within-subjects design whether there were differences in emotions felt by participants toward wearers of three different levels of veil coverage (no veil, hijab, and full-face veil). In Study 2, we assessed perspective taking, negative outcome expectancy, and expected fundamentalist–extremist religiosity across the same three levels of coverage, using a between-subjects design. In Study 3, we investigated implicit

attitudes toward wearers of the three different Muslim veils using response–latency measures. Across these studies, our main hypotheses were that (a) responses would be more negative for veiled women, compared with non-veiled women, and that (b) the full-face veil would elicit even more negative responses compared with the less concealing hijab. Finally, in Study 4 we explored a novel strategy to counteract people's negative bias against Muslim veils and the women who wear them. Specifically, we manipulated the perceived reasons for wearing a veil to investigate whether negative bias was stronger when a woman was described as being pressured into wearing a veil versus wearing a veil as a form of self-expression.

## Study 1

Our first study assessed the impact of different levels of coverage, or different types of veil, on the emotions reported by participants when thinking about women wearing different Muslim veils. Mackie, Smith, and colleagues (Mackie, Devos, & Smith, 2000; Mackie, Maitner, & Smith, 2009; Miller, Smith, & Mackie, 2004) have reported consistent evidence for the role of emotions in predicting both out-group attitudes and specific behavioral tendencies with respect to out-groups. Indeed, it has been argued that emotions, more so than stereotypes, consistently and strongly predict attitudes toward out-groups (Dijker, 1987), and that general affective reactions to out-groups can predict social distance better than stereotypes do (Stangor, Sullivan, & Ford, 1991). Our first study aimed to investigate the valence of emotions that participants reported when thinking about women wearing one of two different types of the Muslim veil: the hijab and the full-face veil. Specifically, we tested whether emotional responses would be less positive, and more negative, toward wearers of any Muslim veil compared with those wearing no veil (Hypothesis 1); and whether affective responses would differ between the different *types* of veil, such that responses would be less positive and more negative toward wearers of a full-face veil compared with wearers of the hijab (Hypothesis 2).

## Method

### Participants and design

Forty-two British students (13 female; mean age = 20 years, standard deviation [*SD*] = 0.72) were recruited via e-mail to participate in exchange for course credit or a chocolate gift.<sup>2</sup> All participants reported being White and non-Muslim. After giving consent, participants completed a brief, com-

<sup>2</sup>We tested for gender effects in all studies presented in this paper, but there were no systematic differences between male and female participants. We have therefore collapsed across gender in all reported analyses. Details of gender effects can be obtained from the first or second author.

puterized self-report questionnaire in the laboratory using a 3 (coverage: no veil vs. hijab vs. full-face veil)  $\times$  2 (emotion: positive vs. negative) within-subjects design.

### Measures

Participants were given labels of British Muslim women wearing no veil, the hijab, or the full-face veil, and asked to report how they felt toward each on slider scales from 0 (*not at all*) to 100 (*very much*). Participants were simply told to think about “Muslim women who wear [no veil; a hijab; a full-face veil],” with no further details about these women given. Debriefing procedures confirmed that all participants knew what these three labels referred to and had all seen hijabs and full-face veils before. To measure negative emotional reactions, participants indicated the extent to which they felt, in general, *angry*, *irritated*, and *annoyed* toward “British Muslim women who wear”: no veil ( $\alpha = .83$ ), the hijab ( $\alpha = .87$ ), or the full-face veil ( $\alpha = .94$ ). Positive emotions were assessed by asking participants to rate how strongly they felt, in general, *admiring*, *trusting*, and *warm* toward “British Muslim women who wear”: no veil ( $\alpha = .85$ ), the hijab ( $\alpha = .90$ ), or the full-face veil ( $\alpha = .86$ ). We controlled for order effects by counterbalancing the sequence in which participants rated wearers of the three different levels of head coverage.

## Results and discussion

We first performed a 3 (coverage: no veil vs. hijab vs. full-face veil)  $\times$  2 (emotion: positive vs. negative) repeated-measures analysis of variance (ANOVA). The assumption of sphericity was not violated for either coverage,  $\chi^2(2) = 1.19$ ,  $p = .552$ , or for the coverage  $\times$  emotion interaction,  $\chi^2(2) = 1.35$ ,  $p = .509$ . As expected, the ANOVA revealed a main effect of coverage,  $F(2, 34) = 5.36$ ,  $p = .01$ ,  $\eta_p^2 = .24$ , indicating that emotional reactions (both positive and negative) toward British Muslim women were significantly influenced by type of head coverage. There was also a main effect of emotion,  $F(1, 17) = 37.27$ ,  $p < .001$ ,  $\eta_p^2 = .69$ , such that participants generally reported higher ratings on positive ( $M = 32.69$ ,  $SD = 4.81$ ) than negative ( $M = 7.08$ ,  $SD = 1.21$ ) emotional items. Importantly, however, both main effects were qualified by a significant coverage  $\times$  emotion interaction,  $F(2, 34) = 31.01$ ,  $p < .001$ ,  $\eta_p^2 = .65$ .

Based on our theoretical predictions, the pattern of marginal means was then probed with planned Helmert contrasts, comparing emotional responses toward non-veiled women and women wearing any Muslim veil (Contrast 1, to test Hypothesis 1), and comparing emotional responses toward wearers of the hijab and the full-face veil (Contrast 2, to test Hypothesis 2). Means and test statistics of the Helmert contrasts are reported in Table 1. In line with Hypothesis 1, Contrast 1 revealed significantly less positive emotions toward women wearing any kind of Muslim veil ( $M = 30.97$ ,

**Table 1** Descriptive Statistics and Contrasts, Study 1

DV	Type of coverage			Helmert contrasts	
	No veil	Hijab	Full face	No veil vs. any veil	Hijab vs. full face
Positive	35.46 (20.71)	43.00 (22.16)	28.60 (21.88)	$p = .024$	$p = .009$
Negative	1.39 (2.77)	2.74 (5.46)	18.31 (10.58)	$p < .001$	$p < .001$

Note. Standard deviations in parentheses. Scores on a 0–100 scale. Helmert contrasts compare one level to the mean of subsequent levels. DV = strength of emotion.

$SD = 20.64$ ) than toward women wearing no veil ( $M = 35.46$ ,  $SD = 20.71$ ),  $t(37) = 2.36$ ,  $p = .024$ , as well as significantly more negative emotions toward veiled women ( $M = 11.60$ ,  $SD = 8.45$ ) than toward non-veiled women ( $M = 1.39$ ,  $SD = 2.77$ ),  $t(17) = 6.19$ ,  $p < .001$ . Results of Contrast 2 were also in line with Hypothesis 2, such that emotional responses were significantly less positive toward women wearing a full-face veil ( $M = 28.60$ ,  $SD = 21.88$ ) than toward women wearing a hijab ( $M = 43.00$ ,  $SD = 22.16$ ),  $t(37) = 2.75$ ,  $p = .009$ , as well as significantly more negative toward wearers of the full-face veil ( $M = 18.31$ ,  $SD = 10.58$ ) than toward wearers of the hijab ( $M = 2.74$ ,  $SD = 5.46$ ),  $t(17) = 7.65$ ,  $p < .001$ .

In sum, results confirmed Hypotheses 1 and 2, such that wearers of any Muslim veil elicited less positive and more negative reactions than those wearing no veil, and that wearers of the full-face veil elicited less positive and more negative reactions than wearers of the hijab. Two limitations of this study, however, merit consideration. First, the within-subjects design in Study 1 may mean that the findings reflect demand characteristics: participants may have believed that because they were presented with different types of veils, the experimenters were expecting them to respond differently to each. Second, in this study, participants responded to verbal labels of different veils, which may not accurately reflect first impressions upon meeting a Muslim woman in real life—which typically involves a visual experience. Given these considerations, in Study 2 we extended our research results by exploring attitudinal responses to *images* of women wearing the different types of veil coverage (no veil; hijab; full-face veil) in a between-subjects design.

## Study 2

Study 1 found that participants responded not only less favorably to veiled than unveiled Muslim women, but also that responses were even more unfavorable toward women wearing the full-face veil, relative to those wearing the hijab. Although Study 1 focused on emotional responses, Study 2 attempted to replicate these differences using three different, non-affective types of response.

First, we assessed perspective taking as the cognitive component of empathy, reflecting the thoughtful consideration of the perspective of others (Davis, 1994). Perspective taking is

an important predictor of reduced prejudice (Stephan & Finlay, 1999; Vescio, Sechrist, & Paolucci, 2003) and reduced reliance on out-group stereotypes (Galinsky & Moskowitz, 2000), as well as a key mediator of the contact–prejudice relationship (Pettigrew & Tropp, 2008). Indeed, the perceived problem of constrained perspective taking goes to the core of some criticisms of Muslim veils: in his discussion on the problematic nature of the full-face veil, British politician Jack Straw specifically argued that they impede communication and promote interpersonal discomfort (Straw, 2006). If people cannot see another person's full face, it seems likely that they might feel less able, or even unable, to take their perspective.

Second, given the controversy surrounding the veil, we thought it likely that participants might approach any judgment of, or interaction with, someone wearing a veil with negative expectations. Specifically, we assessed negative outcome expectancy toward cross-group encounters, which is a crucial factor for intergroup relations. Negative outcome expectancies promote intergroup anxiety (Plant & Devine, 2003; Stephan & Stephan, 1985), which can undermine the effects of cross-group contact for improving intergroup relations (e.g., Van Zomeren, Fischer, & Spears, 2007; Wilder & Simon, 2001), and can lead to contact avoidance. Given that full-face veils are the least common form of veil worn in the Western world—with hijab more common, and not wearing any veil most common—it seems likely that participants would have greater negative outcome expectancies when considering an interaction with someone wearing a full-face veil, due to their lack of prior experience. Further, given that negative outcome expectancies also arise from beliefs about group members, it is likely that the negative social discourse on Muslim veils would also lead to more negative outcome expectancies with greater levels of veil coverage.

Third, as noted above, Muslim veils are, in some people's minds, associated with perceptions that the wearer endorses fundamentalist–extremist religious beliefs. This notion was made explicit by French MP Jacques Myard, a senior member of former President Sarkozy's ruling party, when he argued that relaxed UK policies on Muslim veils had “opened the door to terrorism” and that “Allowing women to exclude themselves from society by wearing the full Islamic veil makes radicals extremely comfortable, and Britain should realise

this" (Allen, 2010, p. 1). We therefore assessed expected fundamentalist–extremist religiosity as an additional indicator of negative explicit attitudes toward Muslim women who wear a veil.

As in Study 1, we tested whether the hypothesized differences between responding to no veil and to any Muslim veil, as well as between responding to the hijab and full-face veil would emerge on the three new, explicit dependent measures.

## Method

### Participants and design

Eighty-three students at a British university participated in the study for course credit or £5 under conditions of informed consent (63 female; mean age = 19 years,  $SD = 1.12$ ). All participants reported being White and non-Muslim.

Upon arrival at the laboratory, participants were randomly allocated to one of three conditions (no veil vs. hijab vs. full-face veil).<sup>3</sup> In each condition participants viewed an image of the same Middle Eastern-looking woman with the same neutral facial expression, who was wearing either no religious clothing or one of two types of headdress: hijab and full-face veil (see Figure 1). Participants were told that we were investigating social attitudes to and perceptions of individuals from a number of minority groups, and were led to believe that they would be assigned an individual from any number of possible groups within British society, about which they would be asked to answer some questions. Participants completed this survey in a private cubicle in the laboratory.

### Materials

In contrast to Study 1, in this study we used pictorial images instead of verbal labels to represent British Muslim women wearing no veil, the hijab, or a full-face veil. We did this to generalize our findings across different methods, to enhance external validity, and to ensure that responses were not due to some specific characteristics of verbal descriptions used. The stimuli used in this task were real photographs of the same woman wearing no veil, a hijab, or a full-face veil, and can be seen in Figure 1. The images were taken against a white screen, under constant lighting and brightness conditions, with a Canon EOS 1000 D (Canon Inc., Tokyo, Japan) stand-

<sup>3</sup>This study was originally designed with four experimental conditions ("no veil," "hijab," "niqab," and "burqa") to permit comparison of responses to the two different full-face veils. However, we aggregated the "niqab" and "burqa" conditions into a single "full-face veil" condition, because these veils are typically seen as identical by non-Muslims, and because the conditions did not significantly differ on any of the dependent variables (all  $ps > .530$ ). Moreover, the reported pattern of results for ANOVA and Helmert contrasts persisted when only the "niqab" condition or only the "burqa" condition was retained as the "full-face veil" condition. The exact statistics for these tests are available upon request from the second author.

ing 3 m from the individual. The camera was set to manual mode, with a stabilizer and zoom at 44 mm. Photographs were then transferred to Adobe Photoshop CS3 Portable (Adobe Systems Incorporated, San Jose, CA, USA), where the background was colored grey with an RGB value of  $123 \times 123 \times 123$ .

## Measures

### Perspective taking

To measure perspective taking, six items adopted from Davis (1994) asked participants to indicate their level of agreement with items including, "I think I would be able to see the world through this person's eyes" and "I believe I could understand what it is like to be this person" (1 = *strongly disagree*, 7 = *strongly agree*;  $\alpha = .88$ ).

### Negative outcome expectancy

To measure negative outcome expectancy, we used a 7-item scale of negative outcome expectancy adapted from Plant and Devine (2003), asking participants to indicate their level of agreement with items including, "If I were interacting with the person in this photograph, regardless of my behavior he or she would interpret my behavior as prejudiced" and "When I imagine interacting with the person, stereotypes sometimes come to my mind even though I wish they wouldn't" (1 = *strongly disagree*, 7 = *strongly agree*;  $\alpha = .80$ ).

### Expected fundamentalist–extremist religiosity

This measure was developed for this study and consisted of three items measuring the expected religiosity of the target (1 = *not at all religious*, 7 = *strongly religious*), religious extremism of the target (1 = *not at all religiously extremist*, 7 = *very religiously extremist*), and religious fundamentalism of the target (1 = *not at all religiously fundamentalist*, 7 = *very religiously fundamentalist*). The items were aggregated to form a reliable index of expected fundamentalist–extremist religion ( $\alpha = .85$ ).

## Results and discussion

Our analytic strategy mirrored that used in Study 1. We first investigated the effect of the three veil conditions (no veil vs. hijab vs. full-face veil) on each of the dependent measures using a series of one-way ANOVAs. We then further probed the means against our theoretical predictions using Helmert contrasts, comparing responses in the no veil condition to those in the veil conditions (Contrast 1), as well as responses in the hijab condition to those in the full-face veil condition (Contrast 2). Descriptives and contrast statistics are reported in Table 2.

**Table 2** Descriptive Statistics and Contrasts, Study 2

DV	Type of coverage			Helmert contrasts	
	No veil	Hijab	Full face	No veil vs. any veil	Hijab vs. full face
Perspective taking	4.30 (1.17)	3.45 (1.22)	3.06 (1.19)	$p < .001$	$p = .195$
Negative outcome expectancy	2.90 (1.11)	4.17 (0.79)	4.17 (0.79)	$p < .001$	$p = .998$
Extremist–fundamentalist religiosity	2.36 (1.47)	2.92 (1.04)	3.67 (1.70)	$p = .018$	$p = .078$

Note. Standard deviations in parentheses. Scores on a 1–7 scale. Helmert contrasts compare one level to the mean of subsequent levels. DV = strength of emotion.

First, results revealed a significant effect of the veil condition on perspective taking,  $F(2, 80) = 9.55, p < .001, \eta^2_p = .19$ . In line with predictions, Contrast 1 revealed that participants in the veil conditions reported, on average, significantly less perspective taking ( $M = 3.18, SD = 1.06$ ) than those in the no veil condition ( $M = 4.30, SD = 1.17$ ),  $t(80) = 3.81, p < .001$ . In contrast to predictions, however, Contrast 2 indicated no significant difference in perspective taking between participants in the hijab condition and the full-face veil condition,  $t(80) = -1.31, p = .195$ .

Second, the veil conditions also yielded a significant effect on negative outcome expectancy,  $F(2, 80) = 16.51, p < .001, \eta^2_p = .29$ . Again in line with predictions, results from Contrast 1 suggested that participants in the veil conditions anticipated on average significantly more negative outcomes ( $M = 4.17, SD = 0.79$ ) than those in the no veil condition ( $M = 2.90, SD = 1.11$ ),  $t(80) = -5.62, p < .001$ . However, results from Contrast 2 provided no evidence for the predicted differences in negative outcome expectancy between the hijab condition and the full-face veil condition,  $t(80) < 0.01, p = .998$ .

Finally, there was a significant effect of veil condition on expected extremist–fundamentalist religiosity,  $F(2, 80) = 5.64, p = .005, \eta^2_p = .12$ . Contrast 1 showed, in line with predictions, that participants in the veil conditions attributed on average significantly more extremist–fundamentalist religiosity to the target ( $M = 3.43, SD = 1.55$ ) than those in the no veil condition ( $M = 2.36, SD = 1.47$ ),  $t(80) = -2.42, p = .018$ . Moreover, in line with predictions, Contrast 2 indicated that the expectation of fundamentalist–extremist religiosity was marginally more pronounced among participants in the full-face veil condition ( $M = 3.67, SD = 1.70$ ) than among those in the hijab condition ( $M = 2.92, SD = 1.04$ ),  $t(80) = 1.78, p = .078$ .

To summarize, in Study 2, we found differential responses to a target woman, depending on whether she wore no Muslim head-covering, the hijab, or a full-face veil. Across all three dependent variables, we found significantly less favorable responses for participants in the veil conditions, relative to those of participants in the no veil condition, replicating the pattern of effects demonstrated with affective measures in Study 1. In contrast to the previous study,

however, we were not able to demonstrate robust differences in the way people responded to wearers of the full-face veil, relative to wearers of the burqa.

We next considered whether such explicit measures might be limited in their ability to reflect the full pattern of responses to varying levels of veil coverage, and whether this might explain the inconsistent pattern of results shown for negativity toward the full-face veil compared with the hijab in Studies 1 and 2. That is, despite the advantages of self-report measures in terms of ease of assessment, they may be subject to various reporting biases, including errors in retrospective memory, socially desirable responding, or response sets (Kelly & Agnew, 2012). Of particular relevance to research on intergroup prejudice, social expectations may lead individuals to publicly endorse egalitarian values that they do not personally endorse (Devine, Plant, Amodio, Harmon-Jones, & Vance, 2002). Given such considerations, in Study 3 we extended our findings using the more sensitive Implicit Association Test (IAT: Greenwald, McGhee, & Schwartz, 1998).

### Study 3

In Studies 3a and 3b, we extended our work on self-reported emotions and toward women who wore different types of Muslim veil by utilizing implicit measures. Due to concerns about social desirability biases, in Study 3 we utilized a method that would help to reduce such biases: the IAT (Greenwald et al., 1998). The IAT is a computer-based task requiring users to rapidly categorize two target concepts with an attribute (e.g., the concepts “male” and “female” with the attribute “logical”), such that easier pairings, represented as faster responses, are interpreted as more strongly associated in memory than more difficult pairings, represented as slower responses. Given that the IAT requires that users make a series of rapid judgments, it has been suggested that IAT scores can reflect associations that people are unconscious of or unwilling to reveal publicly, allowing researchers to help eliminate social desirability response bias. Because only two categories can be used in an IAT, in Study 3 we conducted two separate IATs to replicate the comparisons from Studies 1 and 2: in Study 3a, we examined whether any type of veil was associated with more negative associations compared with a no veil

baseline, and in Study 3b we examined whether the full-face veil was associated with more negative associations compared with the hijab. Our main hypotheses were again that any Muslim veil would elicit less favorable implicit associations than no veil (Study 3a), and that the full-face veil would elicit less favorable implicit associations than the hijab (Study 3b).

## Study 3a

### Method

#### Participants and design

Sixty students at a British university participated in the study for course credit or £5 and under conditions of informed consent (36 female; mean age = 20 years,  $SD = 1.14$ ). All participants reported being White and non-Muslim.

An IAT was conducted to investigate the associations of positive and negative words with images of women wearing any Muslim veil (i.e., hijab or full-face veil) and with images of women wearing no veil. The attitudinal stimuli consisted of 10 positive words commonly used in the IAT (cheer, freedom, friend, happy, health, honest, love, loyal, peace, pleasure) and 10 negative words (bomb, crash, death, disaster, evil, grief, hatred, kill, prison, tragedy) (Bellezza, Greenwald, & Banaji, 1986). The pictorial stimuli were created using the same procedure as that described in Study 2 and consisted of images of 11 female models each wearing no veil, a hijab, or a full-face veil.

In the IAT there were seven blocks of trials, in which participants were required to categorize the 20 images (veil vs. no veil). The same number of hijab and full-face veil images were presented, such that 10 were no veil images, whereas there were five each of the hijab and the full-face veil images. The first two blocks were practice trials, with the first block constituting the evaluative attribute discrimination trial (Greenwald et al., 1998), followed by combined practice trials, where categories were grouped in pairs (e.g., veil and negative words vs. no veil and positive words). The fourth block was the first block of critical trials, which was a combined sorting task with 40 stimuli and the same grouping of categories as in the third trial. The fifth and sixth blocks were practice trials again, and identical to the first and third blocks but the mapping of the categories was switched. The final block was the second critical block of 40 trials (again, identical to the fourth block, but with opposite groupings of categories). The order of presentation of words and images was randomized in each block. Combined trials in which a veil was associated with negative words were defined as “compatible trials.” Trials in which a veil was associated with positive words were defined as “incompatible trials.”

Instructions were presented at the start of each block, asking participants to respond as quickly as possible and to

correct any mistakes they made, which would be identified by a red cross (i.e., a built-in penalty; Greenwald, Nosek, & Banaji, 2003). There was an interstimulus interval of 400 ms, with each stimulus presented until a response was made, and the reaction time was measured from the onset of presentation. The task was presented to participants on a 14 × 10.5” color laptop screen, in the laboratory, with the laptop placed 5 cm from the edge of the desk, and 60 cm distance from the eye to the screen.

### Results and discussion

To correct for outliers on the IAT, incorrect responses and response times (RTs) below 300 ms and above 3,000 ms were deleted (Greenwald et al., 1998). In line with Greenwald et al.’s (2003) improved scoring algorithm, a  $D$  score (“IAT effect”) was calculated by computing the difference in mean response latencies between compatible and incompatible trials, divided by an inclusive standard deviation of response latencies in the compatible and incompatible trials (see also Lane, Banaji, Nosek, & Greenwald, 2007). As such, a positive  $D$  score indicates faster RT in compatible trials, suggesting an implicit bias against a veil. Conversely, a negative  $D$  score suggests faster RTs in incompatible trials and thus an implicit preference for a veil. Finally, a score of zero indicates absence of implicit bias.

$D$  scores (i.e., response latency differences) were computed for each participant. A one-sample  $t$  test was computed to assess whether this value was significantly different from zero. Results confirmed that across participants, the  $D$  score ( $M = 0.21$ ,  $SD = 0.55$ ) was significantly greater than zero,  $t(59) = 2.94$ ,  $p = 0.04$ ,  $d = 0.38$ , indicating implicit negative associations for any Muslim veil compared with no veil.

In this study, we expanded on findings from previous research (e.g., El-Geledi & Bourhis, 2012; Saroglou et al., 2009) and our own results from Studies 1 and 2, finding that any Muslim veil was associated with less favorable implicit associations than no veil. Due to the fact that only two categories can be used in an IAT, however, this procedure could not tell us whether participants exhibited an implicit preference for women wearing the hijab over those wearing a full-face veil (or vice versa). Given the inconsistency found using explicit measures between Studies 1 and 2, after establishing in Study 3a an implicit bias against the Muslim veil in general, in Study 3b we used a second IAT to directly compare the implicit associations with the hijab and full-face veil.

### Study 3b

Study 3a showed that any type of Muslim veil elicits less favorable implicit associations than a no veil baseline, replicating the findings from Studies 1 and 2. In this study, we sought to test whether there are differences in such biases between the hijab and full-face veil, as measured by the asso-



ciation of positive and negative words with images of women wearing either one of the two forms of Muslim headdress.

## Method

### *Participants and design*

Sixty-two students at a British university participated in the study for course credit or £5 and under conditions of informed consent (46 female; mean age = 19 years,  $SD = 2.07$ ). All participants reported being White and non-Muslim. The images used were created by following the same procedure as that used in Study 2, and the structural design of the IAT was identical to that used in Study 3a.

## Results and discussion

This IAT compared the ease with which participants associated the hijab and full-face veil with positive and negative words, and used the same coding scheme and analytic procedure as in Study 3a. First, a one-sample  $t$  test was used to test whether the mean  $D$  score differed significantly from zero. Results showed that the  $D$  score ( $M = 0.32$ ,  $SD = 0.34$ ) was significantly greater than zero,  $t(61) = 7.37$ ,  $p < .001$ ,  $d = 1.89$ , indicating implicit bias against the full-face veil, relative to the hijab.

In Studies 3a and 3b, we extended our investigation from explicit attitudes, judgments, and emotions to implicit associations activated by different types of Islamic veil. Because the IAT can test only two categories against each other at a time, we repeated the contrasts used in Studies 1 and 2 by comparing the effects of any type of veil versus no veil with implicit positive versus negative associations, before then differentiating and comparing the hijab and the full-face veil for the same implicit positive versus negative associations. In contrast to the studies using explicit measures—in which we only found robust differences between these two types of veils in Study 1—in this implicit investigation, more negative associations were seen for the full-face veil compared with the hijab. This suggests that some of the differences in response to varying veil types may be better detectable at the implicit level.

Thus far, we have focused on the impact of *what* Muslim women were wearing, and have found results across a range of measures and paradigms that indicate that type of coverage has systematic effects. In Study 4, we investigated the impact of *why* Muslim women are perceived to be wearing the headdresses that they do: that is, how different construals of Muslim veils relate to perceptions of Muslim women. Specifically, we aimed to extend our previous findings on the distinct responses to different veil types by investigating whether manipulating the apparent reason for wearing a veil could moderate the previously demonstrated bias against veiled women.

## Study 4

Research among majority non-Muslims in Western societies has shown that veils are typically construed in a negative way, as symbols of patriarchal oppression and female subservience (Haddad, 2007; Williamson & Khiabany, 2010). By contrast, Muslim women in non-Muslim societies typically appraise veils positively, conceptualizing them as expressions of autonomy and affirmations of identity, and thus as reflections of female agency rather than female subordination (e.g., Droogsma, 2007; Hopkins & Greenwood, 2013; Wagner, Sen, Permanadeli, & Howarth, 2012; Williams & Vashi, 2007). These discrepant construals raise the question whether modifying the construals of non-Muslim perceivers could affect their aversion to veils and improve their attitudes toward Muslim women. Our main hypothesis for Study 4 was that priming non-Muslim observers to interpret the full-face veil positively as a symbol of personal expression, rather than negatively as a symbol of oppression, would improve their evaluative responses to those who wear it. We tested this hypothesis by assessing the quality of imagined contact with the woman depicted, and by asking participants to make ratings of the kind of communication they thought they might have with the woman. In Study 4, we performed the most conservative test of this hypothesis by manipulating how perceivers construe wearing the full-face veil (i.e., the type of veil associated with the least positive and most aversive reactions throughout Studies 1–3) and investigating whether this could improve non-Muslims' reactions.

## Method

### *Participants and design*

Forty students at a British university participated in the study for course credit and a chocolate reward under conditions of informed consent (18 female; mean age = 20,  $SD = 1.12$ ). All participants reported being White and non-Muslim.

Participants were randomly allocated to one of two conditions (oppression vs. expression) in a between-subjects design. In each condition, the participant read a fictitious news article presenting the full-face veil as either a symbol of oppression or as a symbol of personal choice and religious expression. After reading the article, all participants were presented with a photograph of a woman wearing a full-face veil (the same image used in Study 1) and engaged in a short imagination exercise to investigate quality of imagined contact, before answering some short questionnaire items.

### *Manipulation*

We created the experimental primes by adapting existing media articles on the full-face veil. The first part of the article

in both conditions was identical and gave a background to the full-face veil and its reference in the Qur'an. In the *oppression* condition, the article then went on to discuss leading politicians' and commentators' opposition to the full-face veil, suggesting it is a "mark of separation," how it "symbolizes a woman's submission to men," and it "limits freedom." In the *expression* condition, after the initial identical section discussing the background of the veil, the article noted that "a number of young women who choose to wear the veil do it as a personal choice, independently of any family pressure," and that those who wear the full-face veil see it as "an outward and conscious expression of their freely chosen beliefs and values," and that for many women it "is a symbol of expression, not oppression." The two articles were approximately 600 words in length and were matched for number and political party of the commentators referred to. To indicate that the article referred to the participants' own country (Britain), both articles contained a photograph of two Muslim women wearing a full-face veil in an obviously British setting, carrying shopping bags from a well-known British supermarket.

## Measures

### Quality of imagined contact

Participants took part in an "imagined contact" exercise in which they were asked to imagine meeting the pictured female individual for the first time (Crisp & Turner, 2009). Participants read the following instructions:

Please read the article. Now, imagine yourself meeting the individual depicted in the image for the first time. Please type, in the box below, whatever springs to mind—images, thoughts, reactions, emotions, etc. Please also try to keep your eyes closed while you imagine.

These responses formed the free response measure of "quality of imagined contact." Participants were not given instructions to write a specific amount, but merely told to spend a few minutes on this section. All participants wrote at least one paragraph, with most participants writing between 100 and 200 words.

### Communication

This 15-item scale was developed by the present researchers and asked participants to indicate their level of agreement with items including, "How easy do you think you would find it to communicate with this person?" "I feel that if I disagreed with the individual, they would take it as a personal attack," and "How much would you struggle to think of what to say?" (1 = *not at all*, 7 = *very much*;  $\alpha = .80$ ) (see Appendix for the full scale).

### Islamophobia

This scale was adapted from Leibold and Kühnel (2006) and required participants to rate how much they agreed or disagreed with 14 statements including "Equality of men and women is compatible with Islam" (reverse scored) and "I am distrustful of people of the Muslim religion" (1 = *not at all*, 7 = *very much*;  $\alpha = .89$ ) (see Appendix for the full scale).

## Results and discussion

To assess the overall quality of the imagined interactions described in the free response paragraphs, we used a procedure described by West, Holmes, and Hewstone (2011). Two independent raters (blind to experimental conditions and unaware of hypotheses) reported on a 7-point scale, how "pleasant", "friendly", "negative" (reverse scored), "enjoyable", "difficult" (reverse scored), "cooperative", "natural", and "superficial" (reverse scored) they felt the participants' descriptions of the imagined contact experience had been (1 = *not at all*, 7 = *very much*). Reliability analyses revealed good consistency for these items for each rater (Rater 1,  $\alpha = .95$ ; Rater 2,  $\alpha = .96$ ). Scores were highly correlated between the two raters ( $r = .75$ ;  $p < .001$ ), and thus the mean of their ratings was used as an index of overall quality of imagined contact in this study. A one-way between-subjects ANOVA (condition: oppression vs. expression) revealed a significant effect of condition on overall quality of imagined contact,  $F(1, 37) = 6.03$ ,  $p = .02$ ,  $\eta^2_p = .14$ , with lower quality of contact in the oppression ( $M = 2.72$ ,  $SD = 0.91$ ) than in the expression ( $M = 3.58$ ,  $SD = 1.26$ ) condition.

There was also a significant effect of condition on the communication scale,  $F(1, 37) = 8.14$ ,  $p = .01$ ,  $\eta^2_p = .18$ , with lower scores in the oppression ( $M = 3.43$ ,  $SD = 0.66$ ) than the expression ( $M = 4.05$ ,  $SD = 0.68$ ) condition, indicating that participants felt that they would be more comfortable communicating, and predicted more positive communication, when the full-face veil was presented as being a symbol of personal choice and religious expression.

Finally, no significant effect of condition was found on Islamophobia,  $t(37) = 0.46$ ,  $p = .65$ , with scores below the midpoint in both conditions (oppression:  $M = 3.05$ ,  $SD = 1.09$ ; expression:  $M = 2.91$ ,  $SD = 0.89$ ). As such, in contrast to the effects found on predicted contact and communication, participants' views concerning Muslims overall did not change as a function of the presentation of information concerning why Muslim women may wear a veil. This lack of effect helps to confirm that the observed effects are not merely a function of demand characteristics. If demand characteristics were playing an important role, one would expect participants to respond in a way they thought the experimenter would expect to respond negatively to Muslims after reading the oppression prime, and to respond positively to

Muslims after reading the expression prime. However, we observed a more nuanced pattern: predicted contact and communication toward Muslim women who wear a veil seemed to vary as a function of the prime, whereas negativity toward Muslims in general did not. This suggests the two are at least to some degree dissociable.

To summarize, in Study 4, we found that when participants were exposed to an article that focused on the reasons that Muslim women often give for choosing to wear a full-face veil they subsequently had a more positive imagined contact experience and gave more positive ratings of how they felt they would communicate with the Muslim woman wearing such a veil. Hence, by priming participants' construal of *why* the full-face veil may be worn, such that half the non-Muslim participants saw the veil more positively as a symbol of personal expression, rather than negatively as a symbol of oppression, we were able to improve their evaluative responses of the woman wearing it.

There are some outstanding issues specific to Study 4 that do require further discussion. As described earlier, it seems that demand characteristics—while possible—did not play a major role in explaining these findings. Nevertheless, we cannot say with certainty that demand characteristics played no role at all, and in future research we plan to explore these findings in ways that will allow us to rule out such concerns. Alongside these considerations, however, it is important to highlight one noteworthy strength of the method used, namely, the similarity of the presentation of information to how the public receives information on issues like Muslim veils in naturalistic settings. Although undergraduate students taking part in this experiment may have had knowledge or motivation to detect experimental manipulations and predict the experimenter's hypotheses, in the naturalistic materials from which this prime was derived—and in which our research could be used in an applied setting—such issues are less likely to factor in. In other words, the public does not generally, actively question the journalist's intention or motivations when being exposed to news articles, but rather assumes a degree of impartiality. Therefore, even if demand characteristics do play an important role in explaining these findings (which we have suggested is unlikely), it is not clear that demand characteristics would be as important in the real-life settings in which this work could plausibly be applied.

## General discussion

In this series of studies we explored the effects of Muslim veils on intergroup attitudes, emotions, and biases across four experimental studies. Prejudice against Muslims—and particularly those individuals who are visibly identified as Muslim—has increased dramatically in the last decade (King & Ahmad, 2010; Pew Research Center, 2007; Unkelbach et al., 2010). Given the prominence of Muslim veils—both the

hijab and, to a lesser extent, the full-face veil—in public discourse concerning Muslims' place in Western society (Watson, 1994), we sought to examine the importance of Muslim veils in an intergroup context: how are different types of Islamic veils perceived by non-Muslims, and what impact does this perception have on their attitudes, emotions, and biases?

In Study 1, we conducted a within-subjects design to investigate if there were differences in emotions felt by participants toward women wearing different types of veil. We found that participants responded not only less favorably toward veiled than unveiled Muslim women, but also that responses were even more unfavorable toward women wearing the full-face veil, relative to those wearing the hijab. Study 2 partially replicated these differences using three different, non-affective types of response, assessing perspective taking, negative outcome expectancy, and expected fundamentalist–extremist religiosity across the same three levels of coverage (i.e., no veil, hijab, and full-face veil) in a between-subjects design. Results matched those in Study 1, whereby for all three dependent variables we found significantly less favorable responses for participants in the veil conditions, relative to those of participants in the no veil condition. In contrast to Study 1, however, we did not find consistent evidence that the full-face veil was perceived more negatively relative to the hijab. In Studies 3a and 3b, we extended our work on self-reported emotions and toward women who wore different types of Muslim veil using implicit measures to explore whether a more fine-grained differentiation of responses to different veils is possible at the implicit level. As predicted, we found a negative bias toward any type of common Muslim veil relative to a no veil baseline (Study 3a), and that there was a greater negativity bias toward the full-face veil compared with the hijab (Study 3b). These results confirm our hypothesis that any type of Muslim veil would be associated with more negativity compared with no veil, and provide some support for the prediction that the full-face veil would be associated with more negativity relative to the hijab, while also suggesting that some of these differences may be more easily detectable at the implicit level. Our final study tested the extent to which these perceptions are malleable, demonstrating that changing construals of reasons for wearing a veil impacted the imagined contact experience of participants: construals of the veil as a sign of personal expression led to more positive attitudes about predicted communication with a Muslim woman wearing the full-face veil, relative to construals of the veil as a sign of oppression.

In this paper we therefore extend previous research theoretically by highlighting the need for nuance in discussing “the veil” in intergroup relations: there are different types of Muslim veil, and these may elicit different attitudes, emotions, and biases at both implicit and explicit levels. Our findings provide little evidence of any unilaterally negative

views of Muslim women (or indeed Muslims), but rather paint a more differentiated picture of negative responses toward veils in general, different Muslim veils in particular, and the women who wear them.

Potential theoretical implications of this work concern the impact of clothing more generally in intergroup contexts. Although our results have focused on religious headwear in the Islamic tradition, it is likely that group-based perceptions of clothing may play a role in other intergroup contexts as well (Hoodfar, 2001). In particular, stereotypical clothing may serve to harden negative prejudices in an intergroup context and impede the potential positive effects of intergroup contact (Allport, 1954; Pettigrew & Tropp, 2006). Our results imply that researchers exploring behavior in intergroup contexts would do well to consider the effects that clothing may have in shaping perceptions, beyond mere category labels or information identifying individuals as outgroup members.

### Potential applications

Of what practical use is the knowledge generated by the present studies? First, we suggest that the media may need to take care in their selection of various images to cover “Muslim” issues in contemporary society. As full-face veils are associated with greater negativity, and yet are also the least-commonly worn, the media may have an obligation to temper their use of images showing these particular garments (as “stock” examples) when representing Muslim women. By highlighting full-face veils unnecessarily, the media may play a role in reducing their audience’s likelihood of wishing to engage in intergroup contact, with consequent negative effects for intergroup relations (Pettigrew & Tropp, 2006).

A second use for these findings may be considered from the perspective of Muslim women who wear the different veils we studied. On balance, the above findings show that a Muslim female who wishes to wear a headdress—yet minimize the negative impacts on first impressions formed in non-Muslim perceivers—would do best to wear the hijab compared with other types of headdress that cover more of the face. Full-face veils, by contrast, were regularly associated with the most negative reactions. Of course, a religiously devoted Muslim woman may have any number of reasons to prefer the full-face veil, or may be unconcerned with the effects of different veiling practices on first impressions in non-Muslim individuals. In this paper we make no normative suggestions: we have simply provided empirical evidence the effects that different veiling practices do seem to have on intergroup perceptions, given the current socio-political context.

### Limitations and future directions

We must emphasize that this paper represents just one of the first investigations of a complex issue of both theoretical and

practical importance. In this paper we have presented a set of empirical studies that describe a consistent pattern of differentiated negative responses toward different Muslim veils and the women who wear them. As a preliminary exploration, however, a number of questions concerning perceptions of different Muslim veils and their wearers remain open and need to be addressed in future research. In particular, the specific mediators underlying these effects are largely unexplored in this paper, and so future research is needed before any answer can be given as to why these pattern of results consistently occur.

Second, it should be noted that in these studies we used samples consisting of undergraduate students. As a preliminary exploration, and with the consistent pattern of results we found, this does not constitute a serious problem. However, future research on this issue should take care to include more representative samples to explore whether the same pattern of effects is exhibited to the same degree in the wider public. Given that student samples tend to be more politically liberal than more representative samples (Henrich, Heine, & Norenzayan, 2010), it might be predicted that the pattern of results here may actually be more pronounced among other samples.

Third, given the rise in prejudice against Muslims and the negative rhetoric concerning Muslim veils, in this research we focused only on headdresses relevant to this group. It is evident, however, that there are a number of other types of religious headwear, such as a wimple or a *zucchetto* in Christianity, and it remains an open question how these would impact upon intergroup perceptions. Given that our findings show little evidence of general anti-Muslim prejudice driving responses to Muslim veils but, rather, point to nuanced perceptions depending on the type of religious clothing, a fruitful line of research would be to explore whether these negative effects are specific to Muslim headdresses. Would there be comparable negative perceptions toward the Jewish *tichel* or the Greek-Orthodox *mandili*? Such work would be of theoretical interest in helping to explore whether the results here are indicative of antipathy toward specifically Muslim veils that cover more of the face, or if this is a general phenomenon. If it is a more general phenomenon, it remains to be seen to what extent this is driven by perceptions of religious headwear as indicating greater religious extremist-fundamentalism, or more general effects of simple face coverage. Although in this paper we provide initial empirical evidence showing that greater levels of veil coverage are associated with more negative perceptions, this is not always the case, and the effect appears to be stronger on implicit than explicit measures. Further research is essential to elucidate the specific processes by which individuals perceive and respond to religious headdresses such as the Muslim veil in intergroup contexts.

## Conclusion

Across four studies using a range of designs and measures, we found consistent evidence that wearing a full-face veil is associated with more negative responses than wearing no veil; we also found some evidence, especially on implicit measures, that greater levels of veil coverage were associated with more negative perceptions. Results did not, however, indicate simple knee-jerk anti-Muslim attitudes. We have discussed both theoretical and practical implications of this work, arguing that our results highlight the importance that clothing may play in intergroup contexts. Although we do not wish to be prescriptive about what religious forms of dress should be worn, our research provides the first empirical evidence of how non-Muslims respond, explicitly and implicitly, to different forms of Islamic head-covering. Our

results suggest, with appropriate caution, that the hijab or head-scarf may constitute a middle way that balances respect for someone's desire for modesty and religious identification with concerns about the importance of being able to see an individual's face during intergroup communication. In either case, the goal should be to move beyond stereotypes and prejudice in daily interaction, and we call for more research into this important area.

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## Appendix

### Communication scale

1. How easy do you think you would find it to communicate with this person?
2. How much do you think this person would understand what you meant when you expressed your ideas?
3. How successful do you think you would be at telling what this person was feeling?
4. How successful do you think this person would be at telling what you were feeling?
5. How concerned would you be about being misunderstood? (R)
6. How easily do you think the conversation would “flow”?
7. How good a conversationalist do you think this person would be?
8. I would feel uncomfortable disagreeing with this person. (R)
9. How easily would you be able to observe how this person was responding to you during the conversation?
10. How much would you struggle to think of what to say? (R)
11. I feel that the individual would be happy to debate his beliefs with me.
12. I feel that if I disagreed with the individual, they would take it as a personal attack. (R)
13. How perceptive would *you* be about the meaning of this person's behavior as it related to you and the situation?

14. How perceptive would *this person* be about the meaning of your behavior as it related to him or her and the situation?
15. I feel that the individual would become defensive if I challenged their beliefs. (R)

### Islamophobia scale (Leibold & Kühnel, 2006)

1. Islam has created an admirable culture (R).
2. The Muslim culture fits perfectly well into our Western world (R).
3. I am distrustful of people of Muslim religion.
4. Muslims in Britain should have the right to live according to their own religious rules (R).
5. It's their own affair if Muslims call the faithful to prayers by loudspeakers (R).
6. I like it that Muslims can live in Britain, too (R).
7. Islam is a backward religion.
8. Islam is actually a peaceful religion (R).
9. Equality of men and women is compatible with Islam (R).
10. Muslims who promote their religion in Britain should be deported.
11. I am open to Muslims in the same way as to members of other religions (R)
12. Immigration to Britain should be forbidden to Muslims.
13. With so many Muslims here in Britain, sometimes I feel like a stranger in my own country.
14. The number of Muslims in Britain shows that Islam will increase its power in Britain.