

Poster

Title

A Meta-analysis of Employment Discrimination Against Muslims and Arabs

ABSTRACT (50 Words)

Using 40 effect sizes from 21 sources, we found the presence of discrimination against Muslim and Arab people in employment judgments, behaviors, and decisions across multiple countries. Additionally, moderator analyses revealed that discrimination is stronger in field settings and when actual employment decisions (callbacks) are being made.

PRESS PARAGRAPH (100 words)

This meta-analysis examined the presence and magnitude of employment discrimination against Muslim and Arab individuals. Using 40 effect sizes from 21 sources, we found the presence of discrimination against Muslim and Arab people in employment judgments, behaviors, and decisions across multiple countries. Moderator analyses revealed that discrimination is stronger in field settings and when actual employment decisions are made. Further, results indicate that Arab manipulations resulted in stronger effects than Muslim manipulations. However, primary studies provide inconsistent and inaccurate distinctions between Arabs and Muslims, therefore future work should be cautious in categorizing the exact aspect of identity being studied.

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A Meta-analysis of Employment Discrimination Against Muslims and Arabs

There is a substantial amount of qualitative and quantitative research that shows bias and discrimination toward Muslim and Arab individuals with regard to a variety of contexts and outcomes (e.g., Ghumman, Ryan, Barclay & Markel, 2013; King & Ahmad, 2010). In the recent past, there has been a focus on examining discrimination of these groups in the work setting (for a review, see Ghumman et al., 2013). Despite the illegality of employment discrimination in many countries, primary studies often find that Muslim and Arab individuals are not being treated the same way as others. To this point, there has not yet been a quantitative summary of these findings. Therefore, the purpose of this study is to meta-analytically summarize past research in order to establish the presence and magnitude of hiring discrimination against Muslims and Arabs.

Muslim and Arab Identity

Muslim and Arab refer to two distinct and separate categories of an individual's identity. Muslim is a religious category that refers to an individual who is a follower of Islam. The exact meaning of the term Arab is not completely clear and is debated (e.g., Naber, 2008), but is generally considered an ethnicity that encompasses many different nations, religions, and cultures (e.g., Kumar, Warnke & Karabenick, 2014; Naber, 2000). More specifically, it often refers to those who have ancestry in northern African and western Asian countries in which the primary language is Arabic (Read, 2008). Despite this diversity, many view Arabs as a very homogenous group (Pavlovskaya & Bier, 2012).

Even though Arabs and Muslims are two distinct groups, they are often conflated. While there is no definitive quantitative data to support this (c.f., Magomaeva, Lelchook, & Rudolph, 2011), it has been noted through both discursive and qualitative works (e.g., Jamal, 2008; Naber,

2008; Pavlovskaya & Bier, 2012). Alarming, this conflation also occurs in research. For example, some studies use a similar name manipulation but describe the manipulation as priming either an Arabic (Widner & Chicoine, 2011), Muslim (Pierné, 2013) or even Middle Eastern identity (Booth, Leigh, & Varganova, 2012). Since these groups are not properly distinguished in the literature and there is often overlap in how these categorical groups are perceived by outgroup members and the media (e.g., Naber, 2000), this meta-analysis will incorporate studies focusing on Arabs, Muslims, and Middle Easterners.

Stereotypes of Muslim and Arab Individuals

According to social identity theory (Tajfel & Turner, 1979), individuals have a bias to view their in-groups favorably and out-groups negatively. As a result, there are strong, consistent negative stereotypes of Muslim and Arab individuals across the world (Goel, 2010). As previously mentioned, Arabs are commonly assumed to be Muslim and vice-versa (Naber, 2008), even though that is clearly not the case (D'Agostino, 2003; Naber, 2008). Further, common stereotypes describe Muslim and Arab individuals as evil, violent, aggressive, uncivilized, irrational, inferior, and religious fanatics (Kumar et al., 2013; Naber, 2008). These stereotypes seem to be largely created and perpetuated by popular media (Shaheen, 2012), news coverage (Poole & Richardson, 2006), and even political speeches (Merskin, 2004).

More specifically related to the work context, the stereotype content model (Fiske, Cuddy, Glick, & Xu, 2002) uses indicators of warmth and competence to distinguish different dimensions on which a group may be stereotyped. Most immigrants are seen as untrustworthy, incompetent, and physically or economically threatening (Fiske et al., 2002; Pereira, Vala, & Costa-Lopes, 2010). Arabs specifically are seen as average in competence but low in warmth (Fiske et al., 2002) and as symbolically threatening (Gonzalez, Verkuyten, Weesie, & Poppe,

2008). The integrated threat model suggests that negative stereotypes and a perceived symbolic threat predict prejudice against Muslims (Gonzalez et al., 2008). In addition to these consciously held stereotypes, many also have negative implicit attitudes towards Muslim and Arab individuals, associating them with being lazy, inefficient, incompetent, and unambitious (Agerström & Rooth, 2009).

Muslim and Arab Discrimination

These negative stereotypes result in high rates of prejudice and discrimination across Europe, the United States, and Australia (Poynting & Noble, 2004; Rooth et al., 2009). For example, people are more likely to make errors in shooting Muslims compared to non-Muslims in simulations (Unkelbach, Forgas, & Denson, 2008), less likely to return mail containing money to those with Arab sounding names (Ahmed, 2010), and less likely to feel empathy towards Arabs (Sturmer, Synder, Kropp, & Siem, 2006). Arabs also report having experienced discrimination in treatment for services such as infertility (Inhorn & Fakih, 2006).

While these experiences of prejudice are alarming, another influential area to be considered is the workplace. In the last 15 years, the U.S. Equal Employment Opportunity Commission (EEOC) saw a 250% increase in the number of religion-based discrimination charges involving individuals who were perceived to be Muslim, Sikh, Arab, Middle Eastern, or South Asian. The EEOC continues to see a number of charges related to religious discrimination against Muslims or national origin discrimination against those with a Middle Eastern background (EEOC, 2016). In the European Union, Muslims have much higher unemployment rates than the rest of the population and often are over-represented in lower-paying jobs (European Monitoring Center on Racism and Xenophobia, 2006). Research has reported discrimination towards Arabs in callbacks for interviews, perceived suitability for employment,

perceived job skills, perceived general competence, and perceived qualifications for a particular job (see Ghumman & Ryan, 2013; Malos, 2010 for a review). This sort of discrimination has especially detrimental effects on Muslims and Arabs and their families as it indicates they may be less likely to be hired or treated fairly in the workforce simply due to their ethnic or religious background. Even though such discrimination is illegal in America according to the Civil Rights Act (1964), its presence is hard to ignore.

The current study seeks to quantitatively summarize the current literature in order to determine the presence and magnitude of discrimination against Muslim and Arab applicants. In the process, this will also allow the examination of study level moderators, which may unveil some interesting information not found in primary studies. Based on a review of primary studies, as well as some qualitative reviews of the literature (Ghumman & Ryan, 2013; Malos, 2010; Ruggs et al., 2013), we believe that there will be strong evidence of discrimination against Muslim and Arab people in hiring decisions.

Method

Literature Search

In order to survey as broad a section of the literature as possible, a number of different strategies were used to identify research on discrimination towards Arab and Muslim individuals. A number of online databases (PsychINFO, Google Scholar, ProQuest Dissertations and Theses Global Database, Sociological Abstracts, ABI Inform, and Business Source Premier) and conference programs (Society for Industrial and Organizational Psychology Annual Conference, Academy of Management Annual Meeting, and Association for Psychological Science Convention) were searched using various combinations of the following words: *Muslim, Arab, discrimination, social discrimination, group differences, racial and ethnic differences,*

stereotyped attitudes, prejudice, and stigma. Additionally, the references list of a previous review article was examined, (Ghumman & Ryan, 2013) and a number of prominent researchers in the area were contacted. Using this search strategy, 113 articles discussing discrimination against Muslim and Arab people were identified.

Inclusion Criteria

For an identified study to be included, it had to meet all of the following criteria: 1) use quantitative as opposed to qualitative data; 2) have an experimental manipulation of ethnicity or national origin (Arab or Middle Eastern) or religion (Muslim); 3) make a statistical comparison between a Muslim/Arab target and a control/ingroup target (e.g., target with no hijab or with a non-Arab name); 4) involve judgments or decisions made in a hiring context; and 5) report the necessary statistical information.

Three raters (all graduate students in Ph.D. psychology programs) examined the initial list of articles individually and coded them for inclusion based on these criteria. Out of the identified 113 articles, all raters agreed on the inclusion of articles in all but 3 cases; these were discussed until consensus was reached. In total, 21 articles were retained for further analysis.

Coding

Three raters also independently examined each study to calculate effect sizes and coded for potential moderators (e.g. study quality, sample type, type of design, region of data collection, and demographic variables). Any discrepancies were discussed until consensus was reached. Table 1 reports the information regarding each type of coded variable (e.g., *k*, *n*, and *d*). The relevant moderators coded include study design, country of data collection, type of study outcome, and the name used to describe the target group (See Table 1).

Type of Outcome. Outcomes were coded as callbacks (formal response to a job application), employment suitability judgments, intended behavioral discrimination, behavioral discrimination, and interpersonal evaluation. Employment suitability consisted of ratings of a potential employee's perceived job suitability, quality of "hard" skills, likelihood to be recommended for hiring, and attractiveness of the organization at which the employee worked. Behavioral discrimination encompassed behaviors such as length of interaction, presence or absence of a greeting, presence or absence of being thanked, being recommended for a position, permission to complete an application, or being told a job was or was not available. Interpersonal evaluation included measures of respect, affective reaction, perceived level of "soft" skills, and perceived quality of a potential working relationship with a Muslim/Arab applicant.

Group Name. We also coded the name each author used to refer to the comparison group (e.g., Arab, Muslim, Middle Eastern) either in the stimulus materials or within the paper itself. Oftentimes, studies used the same manipulation (e.g., name) but would report that they were analyzing discrimination towards different groups (e.g., Arabs based on nationality or Muslim based on ethnicity).

Analyses

To conduct the meta-analyses, we used a random effects model. The calculations and conversions for each individual d were conducted using the "compute.es" package in R statistical software (Del Re, 2014). We calculated d and log odds ratios using means and standard deviation for 21 effect sizes and proportions for calculating 19 effect sizes. All d 's were calculated so that a negative value indicated discrimination against Muslim/Arabs. Meta-analyses and moderator analyses were conducted using the "metafor" package in R statistical software (Viechtbauer,

2015). Because of sparse artifact information across primary studies, we opted not to make corrections for range restriction or measurement error.

Results

Our literature search identified 113 articles that discussed discrimination towards Muslim and Arab individuals. After a review of these sources, 21 articles met our coding criteria. The 21 articles used in the meta-analyses can be seen in Table 1. As a result of multiple samples within each study, these 21 sources provided 40 independent samples and a total sample size of 24,744 (See Table 2 for meta-analytic results). The weighted overall d value (across outcomes and moderators) was -0.31 , indicating a moderate to large bias against Muslim and Arab individuals (Cohen, 1988). This supports our hypothesis that hiring judgments would favor non-Muslim and non-Arab individuals. However, Hedges and Olkin's (1985) Q -statistic indicated significant heterogeneity ($Q = 152.64, p < .001$) in the estimate, suggesting the presence of moderators.

Outcome Type

We categorized each of the study outcomes into one of 5 outcome categories (behavioral outcomes, behavioral intentions, callbacks, employment suitability judgments, and interpersonal evaluation). However, because the behavioral intentions outcome category had less than 3 effect sizes, it was not examined in this analysis. The results for each remaining outcome are located in Table 2.

Although all outcomes revealed significant, negative effects, the outcome category with the largest magnitude was the callbacks outcome ($\bar{d} = -0.45$) followed by behavioral outcomes ($\bar{d} = -0.29$). As callbacks are also considered a behavioral outcome, this supports previous research that the magnitude of a behavioral effect size is greater than the magnitude of a perceptual effect size (Hosoda et al., 2003). The test for homogeneity was significant for both the

callback outcome ($Q = 53.49, p < .001$) and the employment suitability judgment outcome ($Q = 28.25, p < .01$), suggesting the presence of moderators. As a result of the larger k values as well as the presence of heterogeneity, we examined the presence of moderators in the callback and employment suitability judgment outcomes.

Callback Moderators

Because job callback is a dichotomously measured variable (i.e., you receive a call or you do not), the moderator analyses were examined using log odds ratios as effect size estimates. When compared to the other outcome types, the callback log odds ratio was converted into a d value to allow for a more direct comparison of effect size magnitude against the other continuous outcomes considered here.

Region of data collection. We examined the region of data collection to determine if the magnitude of the effect size varied according to the country where the data was collected (See Table 3). Only countries with at least two effect sizes were examined in the analysis. While each country examined revealed at least a significant, moderate, and negative effect size, France had the effect size with the greatest magnitude ($\log OR = -1.14$) while the United States had the smallest ($\log OR = -0.54$).

Group name. We also examined if the target group name used in the study affected the magnitude of the effect size (See Table 3). Although there was not a statistically significant difference, the studies that referred to the group as “Arab” had the strongest effect ($\log OR = -0.92$) while the studies that referred to the group as “Muslim” had the weakest effect ($\log OR = -0.53$).

Employment Suitability Judgment Moderator

Group name. The moderator of the target group name for employment suitability judgment outcome was also examined (See Table 4). Similar to the callback outcome, the studies that referred to the group as “Arab” had the strongest effect ($\bar{d} = -0.21$) while the studies that referred to the group as “Muslim” had the weakest effect ($\bar{d} = 0.01$).

Additional Study Characteristics

Publication status. The meta-analytic effect sizes for all types of outcomes were examined across publication status (See Table 2). Effect sizes from unpublished studies were greater in magnitude ($\bar{d} = -0.35$) than effect sizes from published studies ($\bar{d} = -0.30$); however, the nearly identical confidence intervals indicated that this was not a significant difference.

Study type. The meta-analytic effect sizes were also examined across study type (See Table 2). Effect sizes from field studies were significantly greater in magnitude ($\bar{d} = -0.41$) than effect sizes from lab studies ($\bar{d} = -0.15$).

Discussion

The current research examines bias towards Muslims/Arabs in employment-related contexts by meta-analytically examining both lab and field experimental studies. This is the first meta-analytic investigation of this specific kind of ethnic and religious discrimination and it makes several important contributions.

Overall, our meta-analytic results clearly show that there is discrimination against Muslim and Arab individuals in the hiring context. Moreover, the examination of different study outcomes revealed that this bias can be seen not only in employment related judgments in a lab setting, but also in actual hiring decisions (job callbacks). In fact, our findings show that there is more discrimination in actual behaviors than in hiring judgments.

It is interesting to note that for callback studies, the magnitude of effect sizes varied by country; France had the highest magnitude while the United States had the lowest. These results suggest the need for a closer examination as to why different countries have different effect sizes. Perhaps, the French perceive Muslims/Arabs as more of an economic threat, while Americans perceive Muslims/Arabs as a safety threat. Therefore, workplace discrimination may be stronger in a country that perceives Muslims and Arabs as threatening one's economy rather than one's physical security.

Additionally, the stronger effect of field versus lab experiments emphasizes the importance of conducting discrimination research in the field; field research is seen as higher in external validity, and therefore, may be a more accurate depiction of workplace discrimination against Muslims/Arabs.

Limitations and future directions

While this study makes many important contributions, it is not without its limitations. As with all meta-analyses, our conclusions can only be assumed to generalize to the population from which the individual studies were drawn. For instance, although we found and included data from several nations, our results might not generalize to some South American, African, or Asian countries. Additionally, although we found and included many effect sizes, some of our moderator analyses included groups with a small number of studies. Future research should focus on examining these differences more closely.

Additionally, future field research should examine the relationship between the salience of an individual's religion or ethnicity and the resulting discrimination. It would be interesting to examine the interaction of skin tone, name, accent, religion, clothing, and nationality. It would also be beneficial to explore potential interventions in workplace discrimination towards

Muslims/Arabs in order to determine their effectiveness in general and towards specifically identified groups (e.g. people who wear the hijab versus those who have a combination of Muslim/Arabic identifiers).

However, the progress of this line of research is limited by the manner in which Muslim and Arab targets are identified. Even though people often categorize Muslims and Arabs as one group (Jamal, 2008), there are important distinctions that should be made salient and consistent. ‘Arab’ refers to people of a particular ethnic group or nationality while ‘Muslim’ describes people of a particular religion. Yet, the literature contains numerous examples in which Arabs and Muslims are referenced as the same group or in which Arabs’ identity is manipulated with religious indicators or Muslims are categorized by a regional description. For both methodological and ethical purposes, it is important for future research studies to accurately depict each group.

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References marked with an asterisk indicate studies included in the meta-analysis.

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Table 1

Studies Included in Meta-Analysis

Author (year)	n^a	d^b	Study Outcome ^c	Group Name ^d	Study Type ^e	Study Design ^f	Publication Status ^g	Country
Agerstrom et al. (2012)	5636	-0.33	2	1	F	W	P	Sweden
Arai et al. (2011)	1132	-0.54	2	1	F	W	U	Sweden
Booth et al. (2012)	1682	-0.36	2	3	F	W	P	Australia
Carlsson & Rooth (2007)	3228	-0.30	2	1	F	W	U	Sweden
Carlsson & Rooth (2008)	2628	-0.50	2	3	F	W	U	Sweden
Derous & Ryan (2012)	400	-1.03	2	1	F	W	P	The Netherlands
Derous et al. (2009)	608	-0.07	3	1	L	W	P	The Netherlands
Derous et al. (2009)	564	-0.06	3	1	L	W	P	US
Derous et al. (2012)	302	-0.35	3	1	F	W	P	The Netherlands
Derous et al. (2012)	110	-0.66	3	1	L	W	P	The Netherlands
Derous et al. (2015)	112	-0.41	3	1	L	W	P	The Netherlands
Derous et al. (2015)	244	-0.06	3	1	L	W	P	The Netherlands
Duguet et al. (2014)	936	-0.53	2	1	F	W	U	France
Ghumman & Jackson (2008)	302	0.32	3	2	L	B	P	US
Ghumman & Ryan (2013)	112	-0.46	1	2	F	B	P	US
Ghumman & Ryan (2013)	112	-0.25	1	2	F	B	P	US
Ghumman & Ryan (2013)	112	-0.16	1	2	F	B	P	US
Ghumman & Ryan (2013)	112	-0.70	2	2	F	B	P	US
King & Ahmad (2010)	42	-0.55	1	2	F	B	P	US
King & Ahmad (2010)	79	-0.46	1	2	F	B	P	US
King & Ahmad (2010)	81	-0.45	1	2	F	B	P	US
King & Ahmad (2010)	42	-0.38	1	2	F	B	P	US
King & Ahmad (2010)	78	0.18	1	2	F	B	P	US
King & Ahmad (2010)	81	-0.29	2	2	F	B	P	US
King & Ahmad (2010)	70	-0.26	3	2	L	B	P	US
King & Ahmad (2010)	70	-0.39	5	2	L	B	P	US
King & Ahmad (2010)	70	-0.32	4	2	L	B	P	US
King et al. (2014)	93	-0.25	3	2	L	B	P	US
King et al. (2014)	93	-0.21	4	2	L	B	P	US
King et al. (2014)	93	-0.14	4	2	L	B	P	US
Nguyen (2015)	207	-0.24	3	1,2	L	B	U	US
Nguyen (2015)	207	0.00	3	1,2	L	B	U	US
Nguyen (2015)	189	-0.31	4	1,2	L	B	U	US
Nguyen (2015)	189	-0.21	4	1,2	L	B	U	US
Pierne (2013)	600	-0.72	2	1,2	F	W	P	France
Pinkerton (2013)	1000	-0.30	2	3	F	W	U	Australia

Rudolph (2009)	206	-0.14	3	1	L	W	U	US
Wallace et al. (2014)	800	-0.34	2	2	F	W	P	US
Widner (2011)	530	-0.59	2	1	F	W	P	US
Wright et al. (2013)	1592	-0.16	2	2	F	W	P	US

Note. ^a Sample Size. ^b Overall effect size from the article. Positive d values indicate bias in favor of Arabs and negative d values indicate bias in favor of non-Arabs. ^c Study outcome used: 1 = behavioral, 2 = callbacks, 3 = employment suitability, 4 = interpersonal, 5 = intended behavior. ^d Group name used in study: 1 = Arab, 2 = Muslim, 3 = Middle Eastern. ^e Study type: F = field study, L = lab study. ^f Participant Type: S = student, N = nonstudent. ^g Study Design: B = between subjects, W = within subjects. ^h Publication Status: P = published, U = unpublished.

Table 2.
Overall Meta-Analytic Results

Variable	<i>k</i>	<i>n</i>	\bar{d}	<i>SE</i>	95% <i>CI</i> <i>lower</i>	95% <i>CI</i> <i>upper</i>	<i>Q</i>	<i>I</i> ²
All samples	40	24744	-0.31	0.04	-0.39	-0.23	152.64***	78.99%
Outcome Type								
Behavioral Outcome	8	658	-0.29	0.09	-0.45	-0.12	6.06	0.00%
Callbacks	14	20357	-0.45	0.06	-0.56	-0.33	53.76***	85.08%
Employment Suitability Judgment	12	3025	-0.15	0.07	-0.28	-0.02	28.25***	68.66%
Interpersonal Evaluation	5	634	-0.24	0.08	-0.40	-0.07	0.60	0.00%
Publication Status								
Published	31	15028	-0.30	0.05	-0.40	-0.20	108.07***	77.57%
Unpublished	9	9716	-0.35	0.06	-0.46	-0.24	27.68***	72.69%
Study Type								
Lab	17	3427	-0.15	0.05	-0.25	-0.05	27.65*	50.20%
Field	23	21317	-0.41	0.05	-0.50	-0.32	61.59***	74.33%

Note. *k* = number of effect sizes; *n* = sample size; \bar{d} = average sample size weighted effect size (positive values indicate bias in favor of Arabs and negative values indicate bias in favor of non-Arabs); *SE* = standard error of \bar{d} ; 95% *CI* = lower and upper limits of 95% confidence interval; *Q* = statistic that tests whether the average effect is homogeneous; *I*² = percentage of the variability in effect estimates that is due to heterogeneity rather than sampling error (chance).

***. Significant at the 0.001 level (2-tailed).

** . Significant at the 0.01 level (2-tailed).

*. Significant at the 0.05 level (2-tailed).

Table 3
Callback Moderator Analyses

Variable	<i>k</i>	<i>n</i>	<i>logOR</i>	<i>SE</i>	95% CI lower	95% CI upper	<i>QM</i>	<i>I</i> ²
Callbacks	14	20357	-0.81	0.11	-1.02	-0.61	53.49***	85.00%
Region of Data Collection							160.22***	61.25%
Australia	2	2682	-0.61	0.15	-0.90	-0.31		
France	2	1536	-1.14	0.20	-1.52	-0.75		
Sweden	4	12624	-0.74	0.09	-0.92	-0.55		
US	5	3115	-0.54	0.16	-0.86	-0.23		
Group Name							65.73***	83.11%
Arab	6	11862	-0.92	0.15	-1.22	-0.62		
Middle Eastern	3	5310	-0.71	0.20	-1.09	-0.66		
Muslim	4	2585	-0.53	0.23	-0.98	-0.07		

Note. *k* = number of effect sizes; *n* = sample size; *logOR* = average sample size weighted effect size (positive values indicate bias in favor of Arabs and negative values indicate bias in favor of non-Arabs); *SE* = standard error of DBAR; 95% CI = lower and upper limits of 95% confidence interval.

***. Significant at the 0.001 level (2-tailed).

**. Significant at the 0.01 level (2-tailed).

*. Significant at the 0.05 level (2-tailed).

Table 4
Employment Suitability Moderator Analysis

Variable	<i>k</i>	<i>n</i>	\bar{d}	<i>SE</i>	95% CI lower	95% CI upper	<i>QM</i>	<i>I</i> ²
			Group Name				6.64	69.46%
Arab	7	2146	-0.21	0.08	-0.37	-0.04		
Both Arab & Muslim	2	414	-0.11	0.16	-0.43	0.20		
Muslim	3	465	0.01	0.15	-0.28	0.30		

Note. *k* = number of effect sizes; *n* = sample size; DBAR(CHANGE) = average sample size weighted effect size (positive values indicate bias in favor of Arabs and negative values indicate bias in favor of non-Arabs); *SE* = standard error of DBAR; 95% CI = lower and upper limits of 95% confidence interval.

***. Significant at the 0.001 level (2-tailed).

**. Significant at the 0.01 level (2-tailed).

*. Significant at the 0.05 level (2-tailed).