Attitudes to Religion Predict Warmth for Muslims in New Zealand

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Prejudice against Muslims is prevalent in many Western countries. Past research finds that non-Muslim New Zealanders, while generally accepting of all minority groups, nevertheless exhibit relatively lower warmth towards Muslims. Somewhat unexpectedly, previous research in New Zealand has found that high levels of religious identification is associated with greater warmth towards Muslims. However, it is unclear whether a positive orientation to religion, whether or not one is religious, generally predicts warmth toward Muslims. Here, we investigate this question. For comparative purposes we assess warmth to immigrants and Arabs, as well as to Muslims. Our study draws on a large national sample of non-Muslim, non-Arab New Zealand-born residents (*N* = 17,005) who responded to the 2016 New Zealand Attitudes and Values Study (NZAVS). Our multilevel statistical regression models adjust for a host of demographic variables as well as religious identification and church attendance. Results show that both (1) positive general attitudes towards religion and (2) church attendance are positively correlated with warmth toward immigrants, Arabs, and Muslims. In contrast to past results, religious identification is not reliably associated with warmth toward immigrants, Arabs, or Muslims. Though our data cannot presently establish causation, these preliminary results indicate that acceptance of religion as good in itself might be a powerful source of acceptance for Muslims.

Keywords: Acceptance; Muslim; Prejudice; Religion.

Introduction

Previous research in the United States and Western Europe has identified high levels of prejudice against Muslims (Croucher, 2013; Hutchison & Rosenthal, 2011). New Zealand is not immune to this global trend (Shaver, Troughton, Sibley, & Bulbulia, 2016). Preliminary evidence suggests that media attention to violence in the Middle East may be fueling anti-Muslim prejudice (Shaver et al., 2017). However, the sources of acceptance for Muslims remain unclear. Why do some people express warmth to Muslims whereas others do not? Such a question would appear to be fundamental to enabling Muslims minorities to enjoy the full benefits of living in a liberal and free democracy.

In New Zealand, demographic factors, such as age, education, gender, and socio-economic deprivation have all been associated with warmth towards Muslims (Shaver et al., 2016; Shaver, Sibley, Osborne, & Bulbulia, 2017). Specifically, those who are younger and/or more educated generally report greater warmth toward Muslims, whereas those who are male and/or socioeconomically deprived report less warmth toward Muslims (Shaver et al., 2017).

Somewhat unexpectedly, Shaver et al. (2016) found that among non-Muslims, strong religious identification and more frequent church attendance are associated with greater warmth toward Muslims. Notably, however, Shaver et al. (2016) found that weakly committed religious people exhibit less tolerance for Muslims than do demographically matched secular people. In this way, religious identification paradoxically appears to be associated with both an increase in acceptance among highly religiously identified non-Muslims and also with lower acceptance among weakly religiously identified non-Muslims. This finding of an ambivalent relationship between religion and prejudice replicates a long tradition of social scientific research (Allport & Ross, 1967; Batson, Schoenrade, & Ventis, 1993; Hunsberger, 2010).

This link between strong religious commitment (religious identification and church attendance) and greater acceptance of Muslims in New Zealand suggests that increasing religious commitment might increase acceptance of Muslims. However, promoting religious identification is clearly impractical. For many religious people, identification with a religious faith is not a quantity that can be externally fostered, it is rather an internal state (Boucher & Kucinskas, 2016). Moreover, many secular people harbor negative attitudes towards religion (DiMaggio, Sotoudeh, Goldberg, & Shepherd, 2018). For these reasons, religious commitment cannot be promoted in the wider, non-religious New Zealand population.

However, other factors relating to religion may prove to be useful in promoting the acceptance of Muslims. A recent study in Australia found that possessing more factual knowledge about Islam is associated with less prejudice against Muslims regardless of demographic factors such as age, gender, education level, political orientation, or religiosity (Mansouri & Vergani, 2018). This finding suggests that fostering a greater knowledge about the religion of Islam itself may lead to greater acceptance of Muslims in New Zealand. Importantly, greater knowledge of a religion is open to both religious and non-religious people. Just as a criminologist can study crime without committing crimes, anyone can understand the facts about a religious faith, whether or not they are themselves religiously committed.

In previous research we found that among religious people, attitudes to religion are strongly associated with dimensions of morality (Bulbulia, Osborne, & Sibley, 2013). Here, we focus on general attitudes toward religion as good might be possible source of

acceptance for Muslims, which holds among religious and non-religious people alike. We draw on a large national sample of religious and non-religiously identified non-Muslim New Zealanders who responded to the 2016 New Zealand Attitudes and Values Study (NZAVS) questionnaire (N = 17,005). We expected that greater general acceptance of religion would be associated with greater warmth towards Muslims, however we do not set out to test a specific theory about strength of this association. Rather, the purpose of the study is to quantify the degree to which attitudes to religion among non-Muslim New Zealanders would predict attitudes to Muslims.

METHOD

Sampling Procedure

The New Zealand Attitudes and Values Study (NZAVS) is reviewed every three years by the University of Auckland Human Participants Ethics Committee. Our most recent ethics approval statement is as follows: The New Zealand Attitudes and Values Study was approved by The University of Auckland Human Participants Ethics Committee on 03-June-2015 until 03-June-2018, and renewed on 05-September-2017 until 03-June-2021. Reference Number: 014889. Our previous ethics approval statement for the 2009-2015 period is: The New Zealand Attitudes and Values Study was approved by The University of Auckland Human Participants Ethics Committee on 09-September-2009 until 09-September-2012, and renewed on 17-February-2012 until 09-September-2015. Reference Number: 6171. All participants granted informed written consent and The University of Auckland Human Participants Ethics Committee approved all procedures.

The NZAVS is an annual, longitudinal national probability sample of registered New Zealand voters, which was started in 2009. We analyzed data from participants who completed the Time 8 wave of the NZAVS. The Time 8 (2016) wave of the NZAVS contained responses from 21,936 participants (13,779 retained from one or more previous waves and 8,158 new additions from booster sampling and/or unmatched participants or unsolicited opt-ins). The sample retained 3,347 participants from the initial Time 1 (2009) NZAVS of 6,518 participants (a retention rate of 51.35% over seven years), and 11,933 participants from the full Time 7 (2015) sample (a retention rate of 85.59% from the previous year). Participants who provided an email address were also emailed and invited to complete an online version if they preferred. We offered a prize draw for participation, non-respondents were emailed and phoned multiple times, and all participants were mailed a Season's Greetings card from the NZAVS research team and informed that they had been automatically entered into a bonus seasonal grocery voucher prize draw. We also mailed our yearly pamphlet summarizing key research findings published during the current wave of the study.

Participants

The Time 8 (2016) wave of the NZAVS included 21,936 respondents. Of these participants, 53 self-identified as Muslim, 63 as Middle Eastern, and 4,467 as immigrants (i.e. not born in New Zealand). Because we were interested in out-group determinants of acceptance toward Muslims, Arabs, and immigrants, only New Zealand-born non-Muslim participants were included in the analysis. Though not all people of Middle Eastern ancestry identify as Arab (for example Iranians may identify as Persian, and Israelis may identify as Jewish) we excluded those participants who identified as Middle Eastern to avoid unintentionally modeling attitudes among people who identify as Arab. Immigrants were unable to be excluded as questions pertaining to nation of birth were unavailable in Time 8. This resulted in a sample of N = 17,005 participants.

Measures

Acceptance Measure

Warmth.

Affective thermometer ratings were used to assess acceptance of Muslims, Arabs, and immigrants by asking participants to indicate the "warmth" they feel toward Muslims, Arabs, and immigrants on a scale ranging from 1 (least warm) to 7 (most warm), with 4 (neutral) as the midpoint (Muslims: M = 3.91, SD = 1.52; Arabs: M = 3.89, SD = 1.47; Immigrants: M = 4.45, SD = 1.26).

Theoretical Measures

Religious Identification.

To assess religious identification, we asked people: "Do you identify with a religion and/or spiritual group?" (yes or no). For those who identified with a religion, we asked participants to rate (1 = not important; 7 = very important) "how important is your religion to how you see yourself?" Those individuals who indicated that they did not belong to a religion were coded as a 0 (N = 10,671) on this scale (M = 1.71; SD = 2.56).

Attitudes Toward Religion.

To assess attitudes toward religion, we asked people to rate their agreement (1 = strongly disagree; 7 = strongly disagree) with three questions: (1) "I oppose religion in any form" (reverse scored); (2) "All things considered, religion is a force for good in the world"; and (3) "The teachings of traditional religions are still helpful today" (Gibson & Barnes, 2013). Responses to these three questions were averaged (M = 4.29; SD = 1.49).

Church Attendance.

Church attendance was assessed by asking participants how many times they attended church or a house of worship in the past month (M = 0.71, SD = 2.83). Those who did not report a religious affiliation were assigned a response of zero. Because church attendance rates varied considerably, we obtained a linear transformation of church attendance using the natural logarithm to yield a log scaled church attendance indicator.

Age.

The mean age of the sample was 49.57 (SD = 14.03).

Education.

Education level was measured using an 11-point rating developed by the New Zealand government known as the New Zealand Qualification Framework (NZQF; 0 = *no qualification*, 10 = *doctoral degree*). The mean education level of the sample was 5.09 (SD = 2.73).

Employment.

Employment status was assessed by asking participants if they were currently working, "yes" was coded as "1" (n = 13,322) and "no" was coded as "0" (n = 3,665).

Gender.

The sample included 6,205 males (coded as 1) and 10,765 females (coded as 0).

Ethnic Categories.

Ethnicity was assessed using four basic categories: (1) New Zealand European/Pakeha (n = 13,863), (2) Maori (n = 2,398), (3) Pacific Islander (n = 315), and (4) Asian (n = 206). Middle Easterners were removed from the sample. All respondents were born in New Zealand. There were 223 missing values.

Relationship Status.

Participants were asked if they were in a relationship, "yes" was coded as "1" (n

= 12,257) and no was coded as "0" (*n* = 4,374).

Political Conservatism.

To assess political conservatism, we asked people to rate their political orientation on a seven point scale (1 = Liberal; 7 = Conservative) (*M* = 3.64, *SD* = 1.36).

Right-Wing Authoritarianism.

To assess right-wing authoritarianism, we asked people to rate their agreement (1 = strongly disagree; 7 = strongly disagree) with three questions: (1) "It is always better to trust the judgement of the proper authorities in government and religion than to listen to the noisy rabble-rousers in our society who are trying to create doubt in people's minds"; (2) "It would be best for everyone if the proper authorities censored magazines so that people could not get their hands on trashy and disgusting material"; (3) "Our country will be destroyed some day if we do not smash the perversions eating away at our moral fibre and traditional beliefs"; (4) "People should pay less attention to The Bible and other old traditional forms of religious guidance, and instead develop their own personal standards of what is moral and immoral" (reverse scored); (5) "Atheists and others who have rebelled against established religions are no doubt every bit as good and virtuous as those who attend church regularly" (reverse scored); (6) "Some of the best people in our country are those who are challenging our government, criticizing religion, and ignoring the "normal way" things are supposed to be done" (reverse scored) (Altemeyer, 1996). Responses to these six questions were averaged (*M* = 3.17; *SD* = 1.13).

Social Dominance Orientation.

To assess social dominance orientation, we asked people to rate their agreement (1 = strongly disagree; 7 = strongly disagree) with six questions: (1) "It is OK if some groups have more of a chance in life than others"; (2) "Inferior groups should stay in their place"; (3) "To get ahead in life, it is sometimes okay to step on other groups"; (4) "We should have increased social equality" (reversed scored); (5) "It would be good if groups could be equal" (reversed scored); (6) "We should do what we can to equalise conditions for different groups" (reversed scored) (Sidanius & Pratto, 1999). Responses to these six questions were averaged (*M* = 2.40; *SD* = 0.97).

Deprivation/Socio-Economic Status.

We measured the socio-economic status of participants' immediate (small area) neighborhood using the *2013 New Zealand Deprivation Index (Atkinson, J., Salmond, C., & Crampton, P, 2014).* New Zealand is unusual in having rich census information about each area unit/neighborhood of the country that is made available for research purposes. The smallest of these area units are meshblocks. The NZAVS includes the meshblock code for each participant.

The geographic size of these meshblock units differs depending on population density. Each unit tends to cover a region containing a median of roughly 81 residents (*M* = 95.95, *SD* = 73.49, range = 0 – 1899). In 2013 there were a total of 44,211 meshblocks for which data was available.

The New Zealand census defines a meshblock as "a defined geographic area, varying in size from part of a city block to large areas of rural land. Each meshblock abuts against another to form a network covering all of New Zealand including coasts and inlets, and extending out to the two hundred mile economic zone. Meshblocks are added together to 'build up' larger geographic areas such as area units and urban areas."

The New Zealand Deprivation Index uses aggregate census information about the residents of each meshblock to assign a decile-rank index from 1 (most affluent) to 10 (most impoverished) to each meshblock unit. Because it is a decile-ranked index, the 10% of meshblocks that are most affluent are given a score of 1, the next 10% a score of 2, and so on. The index is based on a Principal Components Analysis of the following nine variables (in weighted order): proportion of adults who received a means-tested benefit, household income, proportion not owning own home, proportion single-parent families, proportion unemployed, proportion lacking qualifications, proportion household crowding, proportion no telephone access, and proportion no car access.

The New Zealand Deprivation Index thus reflects the average level of deprivation for small neighborhood-type units (or small community areas of about 80–90 people each) across the entire country. The index is a well-validated index of the level of deprivation of small area units, and has been widely used in health and social policy research examining numerous health outcomes, including mortality, rates of hospitalization, smoking, cot death, and access to health care, to name just a few examples (((hura) & Health Utilisation Research Alliance (HURA), 2006); (Mitchell, Stewart, Crampton, & Salmond, 2000); (C. Salmond & Crampton, 2000); (Crampton, Salmond, Woodward, & Reid, 2000). The index is also widely used in service planning by government and local council, and is a key indicator used to identify high needs areas and allocate resources such as health funding (C. E. Salmond & Crampton, 2012; White, Gunston, Salmond, & Atkinson, 2008). Our sample had a mean deprivation index of 4.74 (*SD* = 2.76).

Urban/Rural.

People were coded as either residing in an urban "1" (*n* = 10,537) or rural "0" (*n* = 6,302) area based on New Zealand census data.

Statistical Analyses

Statistical analysis was performed using R version 3.5.2 (2018-12-20) on an Apple Macbook Pro Platform: x86_64-apple-darwin15.6.0 (64-bit), running under: OS X 10.11.4 (Eggshell Igloo). Linear Mixed-Effect Models were generated using the lme4 (Douglas Bates, Mächler, Bolker, & Walker, 2015) package in R. In addition to lme4, we used the following R packages: Amelia (Honaker, King, & Blackwell, 2011a), coefplot2 (Lander, 2018), dplyr (H. Wickham, François, Henry, & Müller, 2018), ggplot2 (Hadley Wickham, 2009), gridExtra (Auguie, 2017), merTools (Knowles and Frederick, 2018), and their dependencies arm (Gelman & Su, 2018), datasets (R Core Team, 2018), graphics (R Core Team, 2018), grDevices (R Core Team, 2018), MASS (Venables & Ripley, 2002), Matrix (D. Bates & Maechler, 2018), methods (R Core Team, 2018), Rcpp (Eddelbuettel & Balamuta, n.d.), stats (R Core Team, 2018), and utils (R Core Team, 2018).

Imputation.

Missing data frequencies were relatively low across responses to most variables, with missingness typically observed at less than 4.00% of the sample (Tables 1 and 2). Political conservatism was an exception, with 4.07% missing responses. To account for this missingness, we performed multiple imputation. Performing multiple imputation of missing data allows for existing information to be preserved and for the effects of response biases to be reduced, as the causes of missingness may be predicted from other observed variables (Honaker & King, 2010). We

assumed a missingness at random model (i.e. missingness conditional on the model covariates). We caution that our multiple imputation cannot adjust for biases arising from factors that are not included in the imputation model (Blackwell, Honaker, & King, 2017; Honaker, King, & Blackwell, 2011b).

Missing data were multiply imputed using the Amelia package (Honaker et al., 2011a) in R (R Core Team, 2018). For data imputation, nominal responses (factors): Ethnic Categories, Male Gender, Employment Status, Partner Status, and Urban Location. "Denominations" (a random effect) and "Warmth to Arabs", "Warmth to Immigrants," "Warmth to Muslims" (response variables) were not imputed. The remaining missing variables were assumed to be continuous real numbers. Following Amelia package recommendations, where low frequencies of missing responses are observed, we imputed five missing datasets.

Data centering/scaling.

To facilitate interpretation of our data we transformed several variables in Amelia. Age, education, political conservatism, deprivation, religious identification, attitudes toward religion, social dominance orientation, and right-wing authoritarianism were centered at their respective means and standardized. Additionally, age was converted to 10-year units. Church attendance varied considerably and was therefore put into a log scale using a natural logarithm linear transformation. Finally, To adjust for multi-level dependencies, we modeled denominational intercepts as random-effects, following the method in (Shaver et al., 2016).

Mixed effects regression models.

Fixed effects tables and coefficient plots were generated using the lme4 and merTools packages in R. The merTools package allows for a multilevel model to be applied to a list of dataframes, such as those produced by the Amelia command in the Amelia package in R. Fixed effects and confidence intervals can be analyzed using the modelFixedEff command, as the 95% confidence interval is two standard deviations away from the estimate. These outputs are included in both table (Table 3) and graphical (Figure 1) forms.

RESULTS

The results of linear mixed-effect models predicting warmth toward immigrants, Arabs and Muslims are presented in Figures 1 - 3 and Table 3.

Theoretical Variables

Among the theoretical variables there were two general trends worthy of note. (1) Church attendance was positively correlated with greater reported warmth towards immigrants (95% CI: 0.08, 0.17), Arabs (95% CI: 0.09, 0.20), and Muslims (95% CI: 0.06, 0.16). These trends show that church attendance is positively associated with greater warmth for each group. (2) Positive attitudes toward religion was positively associated with greater reported warmth towards immigrants (95% CI: 0.16, 0.21), Arabs (95% CI: 0.18, 0.23), and Muslims (95% CI: 0.23, 0.29). These trends show that positive attitudes toward religion are positively associated with greater warmth for each group. Religious identification was not associated with warmth toward any group. However, when the attitudes towards religion variable was removed, religious identification showed a positive correlation with warmth toward Muslims (95% CI: 0.02, 0.09).

Demographic and ideological Indicators

Among demographic indicators there were numerous predictors of warmth and lack thereof toward immigrants, Arabs, and Muslims.

Age.

Each year of age was associated with more warmth toward immigrants (95% CI: 0.005, 0.033), but less warmth toward Arabs (95% CI: -0.06, -0.03) and Muslims (95% CI: -0.07, -0.03).

Education.

Educated people were warmer toward immigrants (95% CI: 0.04, 0.08), Arabs (95% CI: 0.05, 0.09), and Muslims (95% CI: 0.06 0.11).

Employment.

Employment was associated with more warmth toward Muslims (95% CI: 0.01, 0.12) and Arabs (95% CI: 0.002, 0.110), but not toward immigrants.

Gender.

Men reported less warmth toward Muslims (95% CI: -0.15, -0.06), but not towards immigrants or Arabs.

Political Conservatism.

Political conservatism (standardized) was associated with less warmth toward immigrants (95% CI: -0.06, -0.01), Arabs (95% CI: -0.13, -0.08), and Muslims (95% CI: -0.15, -0.10). Moreover, conservatism is associated with less warmth toward both Arabs and Muslims than immigrants.

RWA.

Right-wing authoritarianism was associated with less warmth toward immigrants (95% CI: -0.19, -0.13), Arabs (95% CI: -0.22, -0.15) and Muslims (95% CI: -0.27, -0.20).

SDO.

Social dominance orientation was associated with less warmth toward immigrants (95% CI: -0.33, -0.29), Arabs (95% CI: -0.38, -0.34) and Muslims (95% CI: -0.41, -0.36).

Ethnic Categories.

European identification was set as the standard of comparison for other ethnic categories. Comparatively, Maori identification was associated with lower warmth towards immigrants (95% CI: -0.13, -0.02) than European identification, but had no association with warmth towards either Arabs or Muslims. Pacific Islander identification was associated with greater warmth towards immigrants (95% CI: 0.08, 0.35), Arabs (95% CI: 0.16, 0.47), and Muslims (95% CI: 0.19, 0.51) than European identification. Asian identification was not statistically significantly associated with warmth towards immigrants, Arabs, or Muslims.

Relationship Status.

Individuals in a relationship tended to express more warmth toward immigrants (95% CI: 0.01, 0.10), but not towards Arabs or Muslims.

Deprivation.

Greater deprivation (standardized) predicted less warmth toward immigrants (95% CI: -0.06, -0.02), but indicated no association between deprivation and warmth toward Arabs or Muslims.

Urban.

People living in urban areas reported more warmth toward immigrants (95% CI: 0.01, 0.09), but no association was found with warmth for Arabs or Muslims.

Table 1. Interval/Ordinal Variables used in Analysis. Numerous variables have been centered and scaled (C/S), age has been put into units of 10 years, and church attendance has been put into logarithmic scale.

Variable	Mean	Standard Deviation	Range	Number Missing	Percentage of Data Missing
Warmth toward Immigrants	4.45	1.26	1 – 7	601	3.53
Warmth toward Arabs	3.89	1.47	1 – 7	657	3.86
Warmth toward Muslims	3.91	1.52	1 – 7	601	3.53
Age (10 Years, C/S)	49.57	14.03	18 – 97	14	0.08
Education (C/S)	5.09	2.73	1 – 10	449	2.64
Political Conservatism (C/S)	3.64	1.36	1 – 7	692	4.07
Right-Wing Authoritarianism (C/S)	3.17	1.13	1 – 7	8	0.05
Social Dominance Orientation (C/S)	2.40	0.97	1 – 7	5	0.03
Deprivation (C/S)	4.74	2.76	1 – 10	215	1.26
Religious Identification (C/S)	1.71	2.56	0 – 7	232	1.36
Church Attendance (Log)	0.71	2.83	0 – 100	15	0.09
Attitudes Toward Religion (C/S)	4.29	1.49	1 – 7	91	0.54

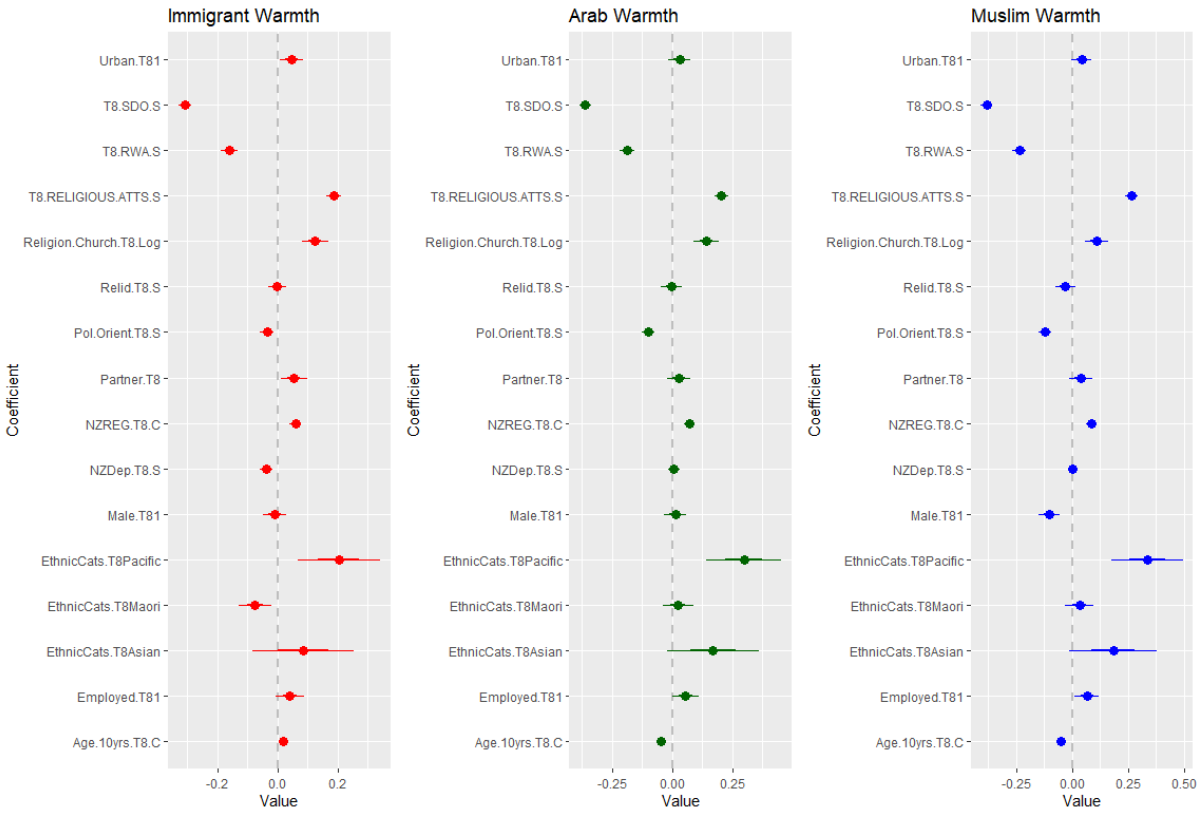

Figure 1. Warmth Towards Immigrants (Intercept = 4.33), Arabs (Intercept = 3.73), and Muslims (Intercept = 3.79). The overall warmth for immigrants is 0.60 higher than for Arabs and 0.54 higher than for Muslims.

Table 2. Dichotomous Variables Used in Analysis

Variable	Proportion	Number Missing	Percentage of Data Missing
Employed	0.79	18	0.11
Male	0.37	35	0.21
Ethnic Categories	-	223	1.31
European Descent	0.83	-	-
Maori Descent	0.14	-	-
Pacific Island Descent	0.02	-	-
Asian Descent	0.01	-	-
In a Relationship	0.74	474	2.78
Urban	0.63	166	0.98

Table 3. Warmth Confidence Intervals

	Warmth Toward Immigrants			Warmth Toward Arabs			Warmth Toward Muslims		
Predictors	*Estimate*	*95% Lower Bound*	*95% Upper Bound*	*Estimate*	*95% Lower Bound*	*95% Upper Bound*	*Estimate*	*95% Lower Bound*	*95% Upper Bound*
(Intercept)	4.33	4.27	4.39	3.73	3.65	3.81	3.79	3.71	3.87
Age	0.02	0.00	0.03	-0.05	-0.06	-0.03	-0.05	-0.07	-0.03
Male	-0.01	-0.05	0.035	0.01	-0.03	0.06	-0.10	-0.15	-0.06
Employed	0.04	-0.01	0.09	0.06	0.002	0.11	0.07	0.01	0.12
In a Relationship	0.06	0.012	0.10	0.03	-0.02	0.08	0.04	-0.02	0.09
Urban	0.05	0.01	0.09	0.03	-0.01	0.08	0.04	-0.01	0.09
Ethnic Categories	–	–	–	–	–	–	–	–	–
Maori	-0.08	-0.13	-0.02	0.02	-0.04	0.08	0.03	-0.03	0.09
Pacific Islander	0.21	0.08	0.35	0.31	0.16	0.47	0.35	0.19	0.51
Asian	0.07	-0.09	0.24	0.15	-0.04	0.34	0.17	-0.03	0.36
Deprivation	-0.04	-0.06	-0.02	0.01	-0.01	0.03	-0.02	-0.02	0.03
Education	0.06	0.04	0.08	0.07	0.05	0.09	0.08	0.06	0.11
Political Orientation	-0.04	-0.06	-0.01	-0.10	-0.13	-0.08	-0.12	-0.15	-0.10
Right-Wing Authoritarianism	-0.16	-0.19	-0.13	-0.19	-0.22	-0.15	-0.23	-0.27	-0.20
Social Dominance Orientation	-0.31	-0.33	-0.29	-0.36	-0.38	-0.34	-0.38	-0.41	-0.36
Religious Identification	-0.00	-0.03	0.03	-0.00	-0.05	0.04	-0.04	-0.08	0.01
Church Attendance	0.12	0.08	0.17	0.14	0.09	0.20	0.11	0.06	0.16
Attitudes Toward Religion	0.19	0.16	0.21	0.21	0.12	0.23	0.27	0.24	0.29

DISCUSSION

Across the Western world, Muslim minorities experience prejudice and discrimination. The purpose of this study was to identify new potential sources of promoting acceptance of Muslims in New Zealand. Through our analysis, we replicated previous research showing that warmth ratings are lower for Muslims compared with other minority groups, such as immigrants. After adjusting for demographic factors, as well as religious identification and church attendance, the expected level of warmth towards Muslims is on average 3.79 on a 1-7 scale. This expected mean is similar to that of Arabs (3.73). This may be in part due to a conflation of Muslims and Arabs. Warmth toward both Muslims and Arabs was below that of immigrants (4.33). As with previous research, people in New Zealand exhibit greater warmth to Immigrants than to Muslims and Arabs. Additionally, females, younger New Zealanders, and better educated New Zealanders report greater warmth toward immigrants, Arabs, and Muslims.

Focusing on our theoretical interest in religion, first, we find that a positive attitude to religion is strongly associated with increased warmth toward Muslims, immigrants, and Arabs. Put another way, viewing religion as good is strongly linked with viewing Muslims in a more favorable light.

Noteably, we find that including positive attitudes to religion in our statistical model, removes the association between high religious identification and warmth towards Muslims. This finding is in contrast to the results of Shaver et al. (2016), in which religious identification was observed to predict warmth toward Muslims. Instead of religious identification with a single faith, it is possible that an overall appreciation for religion as a good in life drives the Muslim acceptance among highly religious identified people in New Zealand.

These findings may hold practical importance. They imply that providing accurate information to the public about the positive role of religion in the world may increase acceptance of Muslims. Speculating, it is possible that education about religion may result in increased warmth for other minority groups as well (such as immigrants and Arabs). Likewise, increased church attendance was positively associated with warmth toward Immigrants, Arabs, and Muslims. This suggests that a general appreciation of religion and active participation with a religious community may promote especially powerful acceptance for minority groups among those in New Zealand who practice their faith.

Limitations

Our study is limited in a number of ways. First, there may have been confusion about the meaning of the questions. For example, participants may feel warmth toward Muslims in New Zealand, but not toward Muslims in the Middle East. Moreover, there may have been confusion about Muslims as a group versus Muslims as individuals, as participants may have distinguished between the Muslims and/or Arabs with which they are friends and Muslims and/or Arabs in general. Third, systematic presentation bias may be present. For example, younger, better educated, and more religious people might report higher warmth in order to adhere to perceived societal norms of acceptance, while still privately harboring low levels of warmth. Similar worries might be expressed for positive attitudes to religion as an artifact of social desirability. Against these worries, however, if the study is tracking a norm for inclusion, rather than individual attitudes, attention to a norm for inclusion is arguably an important step towards realising inclusion. To see this, imagine the effect of norms for exclusion.

A deeper worry is that our measures are are unable to clarify the connection between reported warmth and prejudicial behavior. For example, individuals might exhibit lower warmth toward Muslims but still promote fair hiring practices for Muslims. Similarly, those who report greater warmth could engage in more discriminatory practices against Muslims.

Conclusions

Though we cannot presently estimate the behavioral correlates of subjective warmth attitudes to Muslims, it would be surprising if the substantially lower levels of warmth for Muslims in New Zealand were not reflected in behavior. It is therefore worrying that expected warmth for Muslims is markedly lower than the expected warmth for Immigrants. For this reason, it is important to investigate potential sources of Muslim acceptance wherever these are available. Indeed**,** in the wake of the March 15, 2019 terrorist attack on Muslims in Christchurch, understanding the acceptance gap for Muslims in New Zealand is especially vital. Though our data indicate that most New Zealanders express acceptance of Muslims, nevertheless Muslims in New Zealand experience substantially lower levels of acceptance than other minority groups, except Arabs, with whom Muslims appear to be conflated (Shaver et al., 2017). Our finding that positive attitudes for religion are associated with greater warmth to Muslims suggests that promoting positive thinking about religion may be an important step toward bridging the anti-Muslim gap.

Acknowledgements: This research was supported by a grant from the Templeton Religion Trust (TRT0196). The funders have no role in NZAVS study design, data collection and analysis, decision to publish, or preparation of scientific reports or manuscripts for publication using NZAVS data. Syntax for the analyses reported in this manuscript is available at: www.nzavs.auckland.ac.nz.

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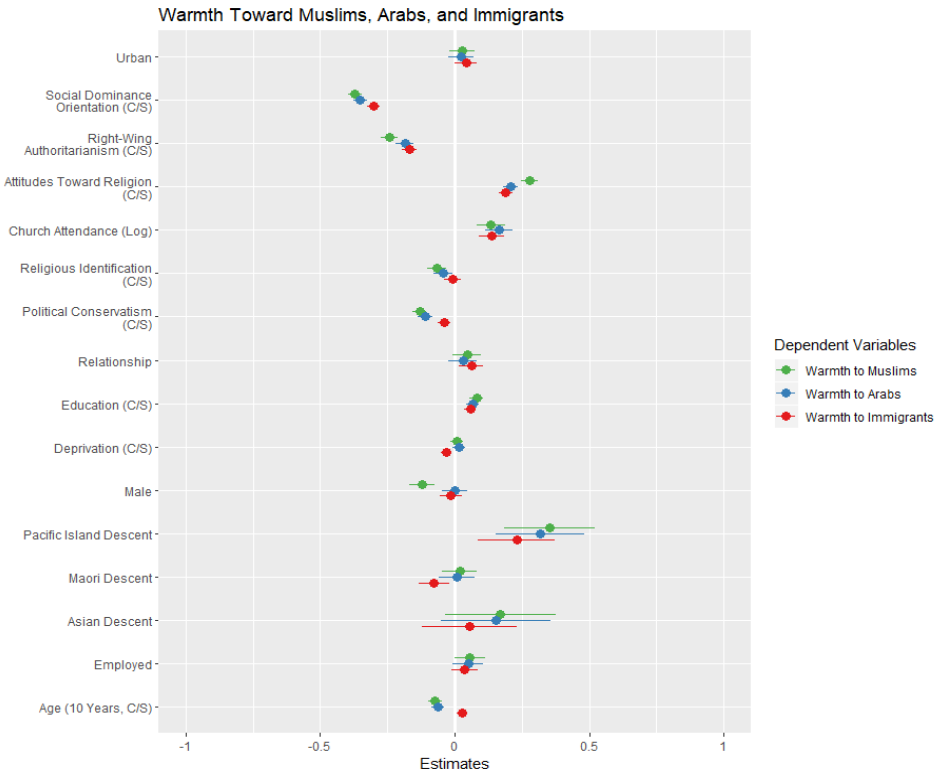
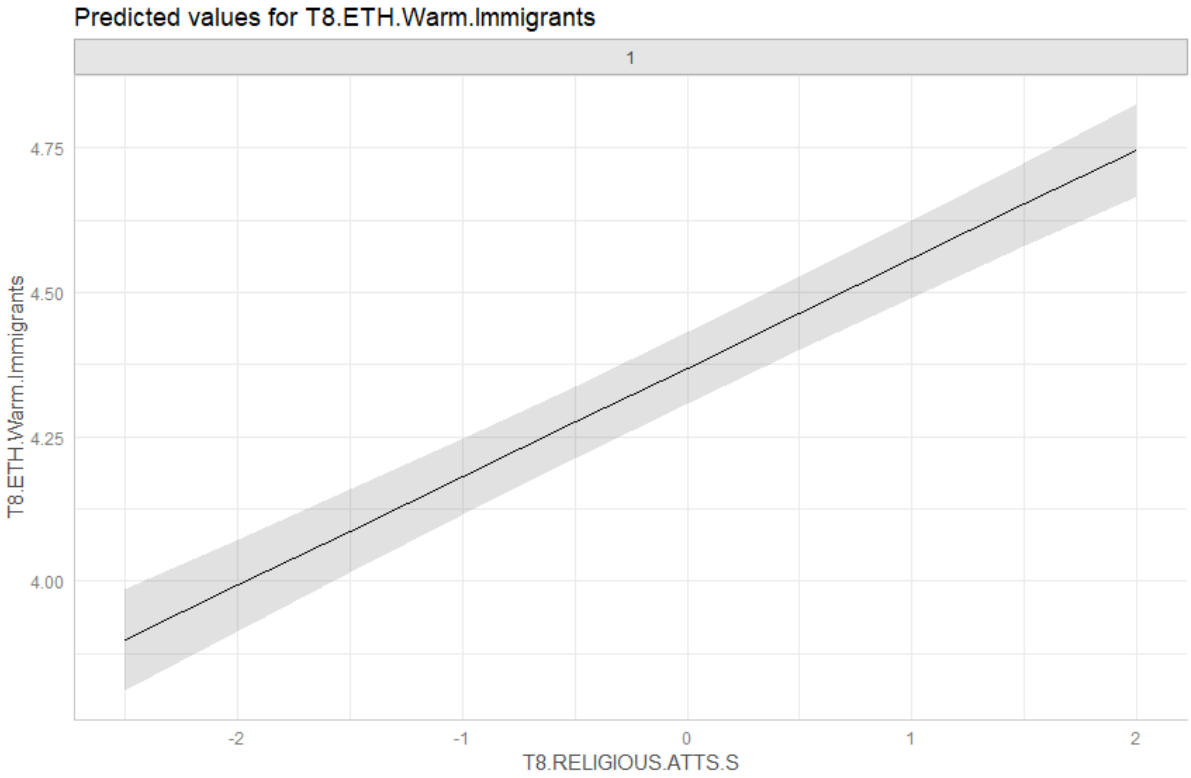
Supplemental Material

S1 Table 1. Warmth Toward Muslims, Arabs, and immigrants in pairwise deleted dataset

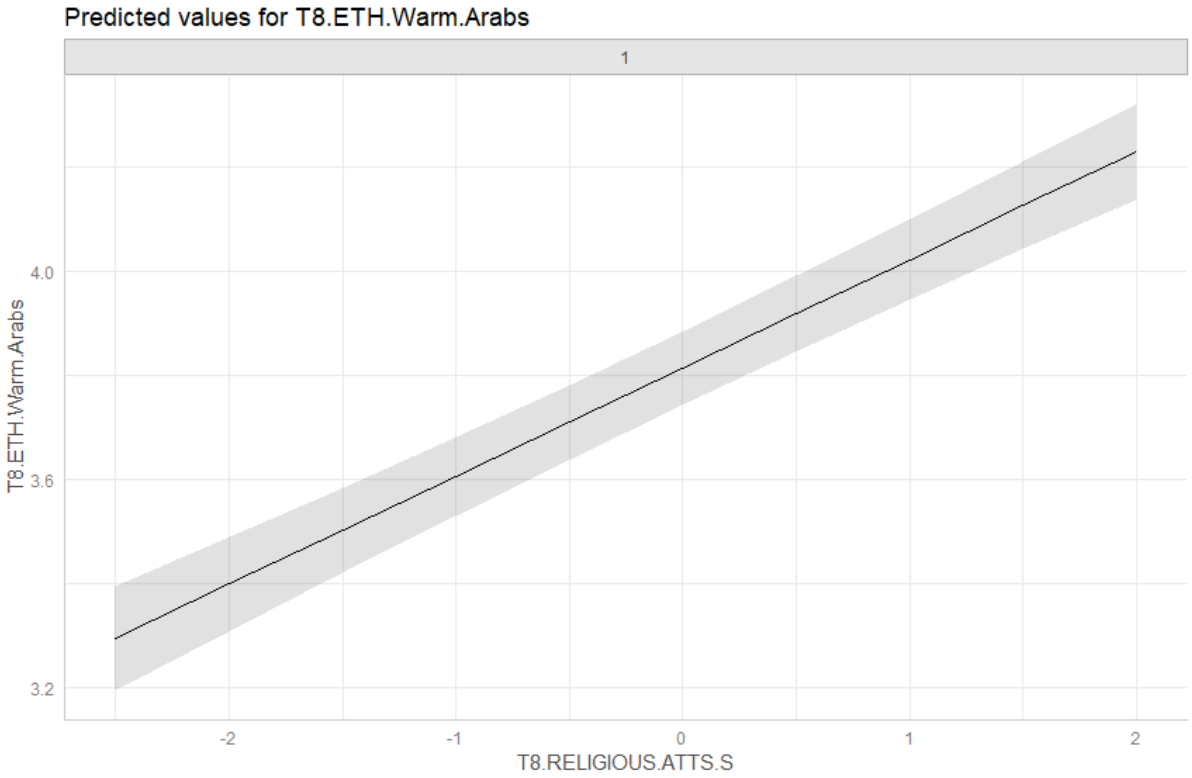
	Warmth Toward Muslims			Warmth Toward Arabs			Warmth Toward Immigrants		
Predictors	*Estimates*	*CI*	*p*	*Estimates*	*CI*	*p*	*Estimates*	*CI*	*p*
(Intercept)	3.82	3.75 – 3.89	<0.001	3.77	3.69 – 3.84	<0.001	4.33	4.27 – 4.39	<0.001
Age (10 Years, C/S)	-0.07	-0.10 – -0.05	<0.001	-0.06	-0.09 – -0.04	<0.001	0.03	0.01 – 0.05	0.009
Male	-0.12	-0.17 – -0.07	<0.001	-0.00	-0.05 – 0.05	0.950	-0.02	-0.06 – 0.03	0.465
Education (C/S)	0.08	0.06 – 0.11	<0.001	0.07	0.04 – 0.09	<0.001	0.06	0.04 – 0.08	<0.001
Religious Identification (C/S)	-0.07	-0.10 – -0.03	<0.001	-0.04	-0.08 – -0.01	0.015	-0.01	-0.04 – 0.02	0.609
Church Attendance (Log)	0.13	0.08 – 0.19	<0.001	0.16	0.11 – 0.22	<0.001	0.14	0.09 – 0.18	<0.001
Deprivation (C/S)	0.01	-0.01 – 0.03	0.469	0.01	-0.01 – 0.04	0.221	-0.03	-0.05 – -0.01	0.003
Employed	0.05	-0.00 – 0.11	0.058	0.05	-0.01 – 0.11	0.081	0.04	-0.01 – 0.09	0.142
Relationship	0.05	-0.01 – 0.10	0.083	0.03	-0.02 – 0.08	0.262	0.06	0.02 – 0.11	0.008
Social Dominance Orientation (C/S)	-0.37	-0.40 – -0.35	<0.001	-0.35	-0.38 – -0.33	<0.001	-0.30	-0.32 – -0.28	<0.001
Right-Wing Authoritarianism (C/S)	-0.24	-0.28 – -0.21	<0.001	-0.19	-0.22 – -0.15	<0.001	-0.17	-0.20 – -0.14	<0.001
Maori Descent	0.02	-0.05 – 0.08	0.588	0.01	-0.06 – 0.07	0.816	-0.08	-0.13 – -0.02	0.007
Pacific Island Descent	0.35	0.19 – 0.52	<0.001	0.32	0.15 – 0.48	<0.001	0.23	0.09 – 0.37	0.002
Asian Descent	0.17	-0.04 – 0.37	0.105	0.15	-0.05 – 0.36	0.138	0.05	-0.12 – 0.23	0.543
Attitudes Toward Religion (C/S)	0.28	0.25 – 0.31	<0.001	0.21	0.18 – 0.24	<0.001	0.19	0.16 – 0.21	<0.001
Urban	0.03	-0.02 – 0.08	0.247	0.02	-0.02 – 0.07	0.344	0.04	0.00 – 0.08	0.043
Political Conservatism (C/S)	-0.13	-0.16 – -0.10	<0.001	-0.11	-0.14 – -0.08	<0.001	-0.04	-0.06 – -0.02	0.001
Random Effects									
σ^2		1.88			1.81			1.38	
τ_{00}		$0.00_{\text{Demographics}}$			$0.00_{\text{Demographics}}$			$0.00_{\text{Demographics}}$	
ICC		$0.00_{\text{Demographics}}$			$0.00_{\text{Demographics}}$			$0.00_{\text{Demographics}}$	
Observations	14743			14691			14743		
Marginal R^2 / Conditional R^2	0.174 / 0.174			0.140 / 0.140			0.122 / 0.122		



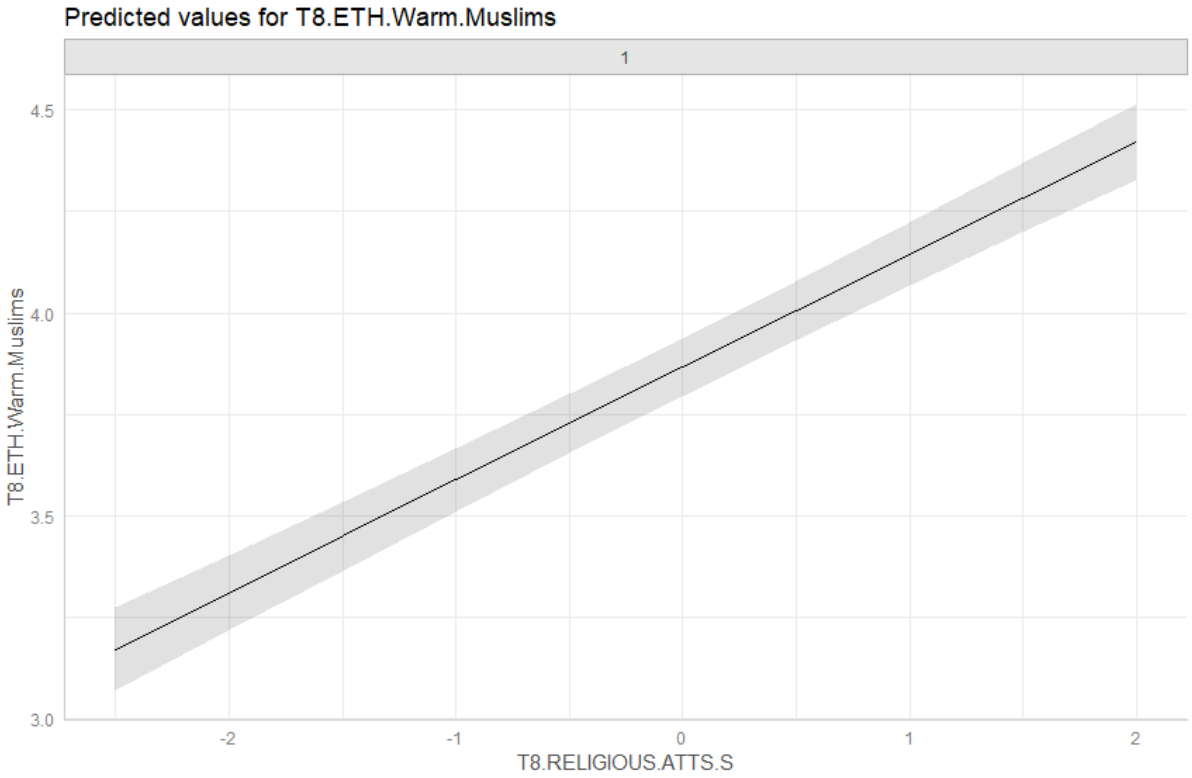
S2 Figure 1. Warmth Toward Immigrants, Arabs, and Muslims in pairwise deleted dataset. Numerical variables have been centered and scaled (C/S), age has been put into units of 10 years, and church attendance has been put into the logarithmic scale.



S3 Figure 2. Predicted Probability of Warmth Toward Immigrants by Attitudes Toward Religion in pairwise deleted dataset when other variables in the regression model are set to zero (recall numerical indicator were centred and scaled). The attitudes to religion co-variate on the x-axis is graphed in standard deviation units.



S4 Figure 3. Predicted Probability of Warmth Toward Arabs by Attitudes Toward Religion in pairwise deleted dataset when other variables in the regression model are set to zero (recall numerical indicator were centred and scaled). The attitudes to religion co-variate on the x-axis is graphed in standard deviation units.



S5 Figure 4. Predicted Probability of Warmth Toward Muslims by Attitudes Toward Religion in pairwise deleted dataset when other variables in the regression model are set to zero (recall numerical indicator were centred and scaled).