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2 Muslim Diversity Study: Quantitative protocol and practical 3 insights on engaging New Zealand's Muslim communities

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5 **ARTICLE HISTORY**

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7 **ABSTRACT**

8 The New Zealand Attitudes and Values Study (NZAVS) is a national longitudinal study aiming to understand social values and attitudes in New Zealanders by tracking responses in the same people over time. Previously, the NZAVS has been undersampling Muslims by ten times lower than those of other religious groups. The Muslim Diversity Study recruits a proportionately representative cohort of Muslims to involve them in longitudinal scientific research within NZAVS. With this, we hope that the stories of Muslim adversity and resilience will be more accurately recorded and understood. Such inclusion enriches the scientific study of human flourishing, addresses the curiosity of the Muslim community in understanding its diversity, and contributes practical insights that can lead to the betterment of this marginalised community. We describe the motivations for the study, explain how the study was developed in consultation with the community, outline our methods, and offer practical guidelines for data collection from a culturally diverse community. In the first instance, this article offers a record of our research with Muslims in New Zealand. We hope this will prove useful to investigators seeking to understanding human flourishing in other settings through the national-scale longitudinal study of culturally diverse, marginalised religious communities.

25 **KEYWORDS**

26 Muslims; diversity; New Zealand Attitudes and Values Study; Muslim Diversity
27 Study; New Zealand

28 **1. Introduction**

29 Officially known as *A national longitudinal study of Muslim diversity and flourishing*, the Muslim Diversity Study (MDS) embraces a community-oriented approach by collaborating with the Muslim community in order to make decisions about the execution of data collection and for identifying key questions of interest for the community at large. It is important that such processes and decisions are recorded in the form of an article so that our findings and recommendations are shared with the broader public and future researchers in New Zealand and across the globe.

36 MDS started in 2023 as part of the New Zealand Attitudes and Values Study (NZAVS).
37 The NZAVS is a planned 20-year-long longitudinal national probability annual panel

CONTACT:

study of social attitudes, personality, ideology and health outcomes that began in 2009 and is currently in its 16th year. It has so far collected data from more than 70,000 New Zealand residents using the electoral roll (Sibley 2024). The NZAVS has been instrumental in exploring key issues related to minorities, including but not limited to discrimination, intergroup relations, identity, distress, security, and the dynamics and mechanisms behind them.

The NZAVS has been uniquely positioned due to its prestigious reputation (over 300 peer-reviewed publications), longitudinal panel design, large sample size, and a large multi-disciplinary research team (Sibley 2024). More importantly, NZAVS has a nationally representative sample with data from different identity and religious groups (Sibley 2024), thereby allowing researchers to compare data from different identity groups. However, the NZAVS has been undersampling Muslims by ten times lower than those of other religious groups (Sibley 2024), which did not allow us to make meaningful inferences regarding Muslim lives and issues in comparison with other religious groups. Hence, the goal of MDS is to achieve as many as 650 Muslim respondents (i.e., $\sim 1\%$ of the total nation’s Muslim community).

This article has three major parts. After providing the broader context of Muslims and MDS, we firstly discuss the process of co-designing and adjustments to the NZAVS design. Secondly, we present the final design and implemented protocol. Thirdly, we share the summary of advice and lessons learned in the process.

2. Muslims in New Zealand

The Muslim community has been expanding in New Zealand. Based on the 2018 census, New Zealand had more than 60,000 Muslims which has grown to over 75,000 according to the 2023 Census (“Stats NZ” 2024). Studies also show that the number of converts to Islam has recently increased (Arkilic 2020). The Muslim community is uniquely positioned in New Zealand: a growing religious minority and a historically stigmatised group that was the direct target of the 15 March 2019 terrorist attack (“Royal Commission of Inquiry into the Terrorist Attack on Christchurch Masjidain on 15 March 2019” 2020; Sibley et al. 2020).

The devastating far-right extremist attack on two mosques took place in Christchurch, killing 51 Muslims and injuring 40 (“Royal Commission of Inquiry into the Terrorist Attack on Christchurch Masjidain on 15 March 2019” 2020). Although this attack was widely condemned (“World Leaders Condemn New Zealand Mosque Attacks” 2019) and was unprecedented in New Zealand (“Jacinda Ardern on the Christchurch Shooting: ‘One of New Zealand’s Darkest Days’” 2019), it was not as surprising to the Muslim community (A. Rahman 2019). Leading up to the attacks, many Muslims had regularly experienced Islamophobia and prejudice (Sibley et al. 2020; Shaver et al. 2017, 2016).

Even as Islamophobia has reportedly increased overseas following these attacks (“Islamophobia After Christchurch Terror Attacks Quadrupled - Australian Report” 2022), the evidence in New Zealand seems to be mixed. While news articles have reported increased hate (Frykberg 2023), the NZAVS findings were indicative of improved attitudes towards Muslims (Shanaah et al. 2021; Bulbulia et al. 2023) following the attacks. Addressing this discrepancy is beyond the scope of the current article; however, it is worth noting that most of our research in this area, primarily through the NZAVS lens, has so far shed light on such attitudes from a non-Muslim perspective. In other words,

83 we have mostly reported on how Muslims are perceived by non-Muslim members of
84 New Zealand society, rather than how Muslims perceive themselves. Although NZAVS
85 studies of anti-Muslim prejudice are scientifically important, systematic insights into
86 how Muslims are diversely responding to prejudice, and where Muslims are diversely
87 found resilience remain unclear.

88 Muslims have generally faced prejudicial attitudes in New Zealand (Yogeeswaran et al.
89 2019; Sibley et al. 2020; Greaves et al. 2020). Until the Christchurch terror attack, news
90 stories on Islam and Muslims in New Zealand media were mostly an extension of ‘the
91 negative othering rhetoric’, and the national media tended to link Muslim converts to
92 jihadis (Drury 2016). Unsurprisingly, such rhetoric has been found to foster anti-Muslim
93 prejudice (Shaver et al. 2017).

94 In the aftermath of Christchurch shootings, the New Zealand government introduced
95 unprecedented counter-terrorism measures such as the prohibition of the sale of all
96 military-style semi-automatic and assault rifles and creating the Royal Commission of
97 Inquiry into these attacks (“Royal Commission of Inquiry into the Terrorist Attack on
98 Christchurch Masjidain on 15 March 2019” 2020). The Royal Commission of Inquiry pre-
99 sented an 800-page report emphasising New Zealand’s inclusive and welcoming identity,
100 among other measures (Arkilic 2021). In addition, the New Zealand press embraced a
101 more inclusive and positive narrative with respect to Islam and Muslims (K. A. Rahman
102 2020; Kabir 2024).

103 In summary, although there have been sporadic reports of increased hate crimes after
104 the attacks (Wilson and Shastri 2020), the average sentiments towards Muslims have
105 improved in New Zealand. The NZAVS, in a series of articles, reported this positive
106 shift in these attitudes toward Muslims post Christchurch attacks (Shanaah et al. 2021;
107 Bulbulia et al. 2023), and the psychological response of New Zealand public to the
108 shootings (Byrne et al. 2022).

109 The Christchurch shootings prompted many New Zealand research groups and insti-
110 tutions to further study about Muslims and with Muslims, who so far had been a
111 culturally-distinct, under-researched, minority group. These studies included trauma-
112 focused response (Sulaiman-Hill et al. 2021; Sulaiman-Hill, Porter, et al. 2024), inclu-
113 sion, Islamophobia and wellbeing (Junaid, Cassim, and Khan-Janif 2024), perceived dis-
114 crimination among Muslim immigrant youth (Raissi 2024), the political implications of
115 government decisions (Arkilic 2021) among others. Given that the NZAVS had explored
116 perceptions of Muslims and the mechanisms of attitudinal changes towards Muslims fol-
117 lowing 15 March 2019 attacks (Sibley et al. 2020; Shaver et al. 2017; Bulbulia et al.
118 2023; Hawi et al. 2019), it was a timely necessity that we expanded our reach to focus
119 on the experiences of this same group.

120 In addition, much of the NZAVS work to date with the Muslim community had focused
121 on conveying information about how Muslims are perceived by the non-Muslim members
122 of New Zealand society. After receiving strong positive suggestions from the Muslim
123 community to scientifically explore diversity, discrimination, self-perception, resilience,
124 meaning-making and flourishing, the MDS was conceptualised in 2022 to address this
125 scholarly and community knowledge gap. Therefore, MDS is effectively a booster to
126 NZAVS, and uses the NZAVS questionnaires to collect data from the members of Muslim
127 community in New Zealand.

128 Media reports pointed out incredible resilience and flourishing of victims as well as the
129 wider Muslim community post Christchurch shootings (Oliver 2024; Greenfield 2019).

Limited research on specific cohorts of Muslims indicated the same (Sulaiman-Hill, Schluter, et al. 2024; Nasier 2023). Research on human flourishing has consistently shown that religiosity and religious service attendance might be associated with various aspects of human flourishing (VanderWeele 2017a, 2017b). New Zealand Muslims’ overall under-representation in research and resilience in the face of prejudice and terror produced a critical research gap in the relationship of Muslim religiosity and flourishing that warranted further empirical investigation. By addressing this line of inquiry with MDS, we contribute to the science of human flourishing in general.

3. MDS research aims

MDS aims to investigate the role of religious community engagement in buffering Muslims against anti-Muslim prejudice, to examine the employment and health challenges faced by Muslims relative to other religious groups, and to explore the similarities in subjective wellbeing and psychological distress across religious affiliations, emphasising the protective effects of community support and religious community-making. In addition, we aim to explore the diversity of Muslims in New Zealand, assess Muslims’ perceived discrimination in comparison with other religious groups, unearth predictors of their flourishing and meaning-making, and measure the effect of service-attendance and religious-identification on these constructs. This comprehensive approach enables the examination of both direct relationships and complex mediating pathways between religious community engagement, experienced prejudice, employment and health outcomes, and psychological wellbeing. Through this multifaceted investigation, the study seeks to contribute to our understanding of the Muslim experience in New Zealand and the role of religious community support in promoting positive outcomes across various life domains.

4. Part 1: Co-designing

4.1. *Community consultation*

Prior to applying for the research grant, we deemed it necessary to consult with the Muslim community to gauge interest in the project, and the feasibility of the project for the community. More importantly, inferring from the culturally-focused research groups, it was important to co-design the project with Muslims by consulting with the academics and leaders of the Muslim community. Therefore, the principal investigator (*anonymised*) started engaging with the Muslim community in February 2022 — one year before the start of the project — to co-design the project.

This consultation continued until November 2022, where *anonymised* reached out to 29 Muslims in six cities, Auckland, Hamilton, Palmerston North, Wellington, Christchurch, and Dunedin, from various age groups, genders, and cultural backgrounds. Twenty of these conversations took place with community leaders, religious scholars, academics, and cultural leaders, while 9 conversations took place with individual activists. The conversations were focused around four objectives: 1) To assess the feasibility of the project for Muslims, 2) To assess the interest of Muslims in the project, 3) To get feedback on the survey items, design, and working with the community, and 4) To inquire if translation of the questionnaire may be needed. The consultation revealed unanimous agreement among respondents regarding the study’s feasibility and timeliness for

the Muslim community, with expectations of strong interest in participation. The respondents indicated that the highest engagement would likely come from youth groups, subsequent-generation migrants, those with formal education, and female participants. Furthermore, the respondents not only endorsed the significance of the study and its planned measures but also pledged their comprehensive support for the initiative.

A few challenges were also identified with regards to the execution of the study: 1) The participation from Christchurch might not be up to the anticipated levels as after the Christchurch shooting, people were frequently surveyed and not provided with the findings, which might have affected their interest to participate in the study. 2) It might not be easy for all prospective participants to understand the questionnaires due to the community's unfamiliarity with research and limitations with fluency in English. 3) The participation from the elderly community (due to unfamiliarity with research) and Muslim converts (due to distrust of the institutions) might also be low. 4) Community members might be suspicious and consider the study to have ulterior or personal motives. Similar challenges have been identified by other researchers who have worked with the Muslim community in New Zealand (Sulaiman-Hill, Porter, et al. 2024).

The following recommendations on mitigating these challenges were received upon completing the consultation: 1) To encourage more participation from the Muslim community, findings should be shared with the wider community in future owing to the diversity it will present. To be able to share the research findings with the community smoothly and keep them up-to-date, it was recommended to have a dedicated website for the study. Therefore, instead of calling it a booster to NZAVS, the project was named Muslim Diversity Study, and a website of the same name was created. 2) Although many said that the questionnaire needs to be translated into seven ethnic languages in connection to reducing the difficulty in reaching the diverse members of the community for the study, they also indicated that a majority of the potential participants could comprehend the English version easily. 3) It was proposed that we should reach out to the community via trusted community leaders/members, ethnic and religious organisations, and mosques, and that for youth engagement, we should go via youth organisations such as Muslim Student Associations (MSAs) at universities. A family-focused strategy was advised to be beneficial as starting with the men was implied to be more effective. 4) To assuage the possible distrust around the motives of the study, the participants must be clearly informed about the study's rationale and its benefits to the community, reiterating that it will increase Muslims' visibility and raise their voice in research. The long-term value of the study for the community as a whole as well as their children should also be emphasised.

This process led to the development of comprehensive guidelines that address feasibility, advice on engagement with the community, the possible challenges, and avenues to enhance participation. The 29 participants of this pilot consultation form the Advisory Group of MDS and are being regularly consulted.

4.2. *Translation*

Our consultation with the community revealed that the need for translation of the questionnaire may be limited to a small subset of New Zealand Muslims, as the majority are expected to be proficient in English. This finding aligns with the research conducted by the March 15 Project team (Sulaiman-Hill et al. 2021), which found that 71% of participants preferred English for surveys and clinical interviews.

219 A critical component of the MDS is the comparison of Muslim scores on the NZAVS
220 with those of other religious groups. The introduction of a translated questionnaire
221 poses the risk of not capturing attitudes and behaviours with the same accuracy as the
222 English version. Consequently, any observed differences in scores between Muslims and
223 other groups could be attributed to translation bias rather than genuine differences in
224 religious affiliations.

225 This concern was presented to the Advisory Group, which recommended against trans-
226 lating the questionnaire. Instead, it was advised to provide the English version to all
227 potential Muslim participants. This approach offers a methodological safeguard, ensur-
228 ing that the conceptual meanings are preserved and not distorted by translation. By
229 maintaining the integrity of the questionnaire, we can be more confident in the validity
230 of the comparative analyses between religious groups.

231 **4.3. *Item retention and religious Context Considerations***

232 The consultation process with the MDS Advisory Group identified six items in the New
233 NZAVS questionnaire that could potentially appear irrelevant to Muslim participants,
234 given the questionnaire’s original development within a predominantly Christian and
235 secular context. Despite these potential concerns, a substantial majority of the Advisory
236 Group (81% average across all six items) recommended retaining these items to enable
237 meaningful cross-religious comparisons in the analysis.

238 To address potential participant concerns about item relevance, we included in the
239 survey instructions: “As the survey is designed for the general New Zealand population,
240 there may be questions that do not necessarily apply to you. Please feel free to skip any
241 questions that you do not wish to answer.” This approach maintains methodological
242 consistency while acknowledging and accommodating the diverse religious perspectives
243 of participants.

244 **5. Part 2: Protocol**

245 **5.1. *Sample size estimation and participants***

246 The NZAVS sample of Muslim cohort was $n = 85$ prior to MDS (Sibley 2024). To
247 enhance the representation of Muslims in NZAVS, we initially aimed to recruit an
248 additional 1500 participants, more than doubling the study’s proportional sampling of
249 the general population. We were able to recruit $n = 582$ new participants. This target
250 corresponds to about 1.3% of New Zealand’s Muslim population based on the 2018
251 Census (“Stats NZ” 2024). Notably, the 2023 Census that took place after the start of
252 MDS shows an increased number of Muslims in New Zealand (75,138) (“2023 Census
253 Population, Dwelling, and Housing Highlights” 2024). Data collection was concentrated
254 in six major urban centers—Auckland, Christchurch, Hamilton, Wellington, Palmerston
255 North, and Dunedin—each with a Muslim population of at least 1,000 (see Table 1).
256 Participants were eligible if they self-identify as Muslim, were 18 years or older, and
257 currently resided in New Zealand. There were no exclusion criteria. By conclusion of
258 Wave 15, the sample size of NZAVS is 32,857, with further details available online
259 (<https://osf.io/75snb/>). The total number of Muslim participants in NZAVS Wave 15
260 is 667.

Table 1.

Muslim Population in 2022 by Selected Cities (From Stats NZ, 2024)

City	Population	Research Assistants
Auckland	40,221	10
Christchurch	3,942	8
Hamilton	3,561	4
Wellington	3,294	5
Palmerston North	1,317	1
Dunedin	1,299	2

5.2. Materials

We are highlighting measures that are pertinent to the planned papers aimed at communicating the findings emerging from MDS. The complete list of NZAVS measures can be accessed online (<https://osf.io/75snb/>).

For Likert type scales, the minimum and maximum levels are noted along with the description: for instance, 1 = Not Important, 7 = Very Important would mean that a score ranges between 1 and 7, with 1 being the minimum and 7 being the maximum score, whereas (R) indicates the reverse-scored items. Notwithstanding, we might choose to explore further measures which will then be elaborated on in the individual articles.

5.2.1. Service attendance and religiosity

1. Do you identify with a religion and/or spiritual group? (Yes/No). If yes, what religion or spiritual group? (String entry).
2. How many times did you attend a church or place of worship in the last month? (String entry).
3. How many times did you pray in the last week? (String entry).
4. How many times did you read religious scripture in the last week? (String entry).
5. How important is your religion to how you see yourself? (1 = Not Important, 7 = Very Important).
6. I identify as a spiritual person. (1 = Strongly Disagree, 7 = Strongly Agree).
7. Do you believe in God? (Yes/No).
8. Do you believe in any form of spirit or life force? (Yes/No).

5.2.2. Prejudice

1. I feel that I am often discriminated against because of my religious/spiritual beliefs. (1 = Strongly Disagree, 7 = Strongly Agree).
2. People from my ethnic group are discriminated against in New Zealand. (1 = Strongly Disagree, 7 = Strongly Agree).
3. I feel that I am often discriminated against because of my age. (1 = Strongly Disagree, 7 = Strongly Agree).
4. I feel that I am often discriminated against because of my ethnicity. (1 = Very Inaccurate, 7 = Very Accurate).
5. I feel that I am often discriminated against because of my gender. (1 = Very Inaccurate, 7 = Very Accurate).

293 6. Intergroup Warmth Ratings: Participants are asked to rate their feelings of warmth
 294 toward different groups using the “Feeling Thermometer Scale” for each group
 295 from least to most warmth on a 7-point scale where 1 = Least Warm and 7 = Most
 296 Warm (see Figure 1 for reference). Groups include NZ Europeans, Māori, Asians
 297 in general, Pacific Islanders, Elderly people, People with a disability, Refugees,
 298 Overweight people, Immigrants in general, Chinese, Indians, Muslims, LGBTQ+
 299 people, People with mental illness.

Please rate your feelings of <u>WARMTH</u> toward the following groups using the “feeling thermometer scale” for each group.																											
Feel <u>LEAST WARM</u> Toward This Group							Neutral							Feel <u>MOST WARM</u> Toward This Group													
1							234567							7													
NZ Europeans							1234567							Overweight people							1234567						
Māori							1234567							Immigrants in general							1234567						
Asians in general							1234567							Chinese							1234567						
Pacific Islanders							1234567							Indians							1234567						
Elderly people							1234567							Muslims							1234567						
People with a disability							1234567							LGBTQ+ people							1234567						
Refugees							1234567							People with mental illness							1234567						

Figure 1. Feeling thermometer scale

300 5.2.3. *Felt belonging*

- 301 1. I know that people in my life accept and value me. (1 = Very Inaccurate, 7 =
 302 Very Accurate).
- 303 2. I feel like an outsider. (1 = Very Inaccurate, 7 = Very Accurate).
- 304 3. I know that people around me share my attitudes and beliefs. (1 = Very Inaccurate,
 305 7 = Very Accurate).

306 5.2.4. *Support*

- 307 1. There are people I can depend on to help me if I really need it. (1 = Strongly
 308 Disagree, 7 = Strongly Agree).
- 309 2. There is no one I can turn to for guidance in times of stress (R). (1 = Strongly
 310 Disagree, 7 = Strongly Agree).
- 311 3. I know there are people I can turn to when I need help. (1 = Strongly Disagree,
 312 7 = Strongly Agree).

313 5.2.5. *Employment*

- 314 1. What is your highest level of qualification? (String entry).
- 315 2. Are you currently employed (This includes self-employed or casual work)?
 316 (Yes/No). This leads to a four-point nominal response: employed full-time, em-
 317 ployed part-time, unemployed, and not in the labour force.
- 318 3. In that job, what is your current occupation? (String entry).
- 319 4. What is the main activity of the business or employer that you work for? (String
 320 entry).
- 321 5. How long have you worked at your current organization? (String entry:
 322 years/months).
- 323 6. How satisfied are you with your current job? (1 = Not Satisfied, 7 = Very Satis-
 324 fied).
- 325 7. How secure do you feel in your current job? (1 = Not Secure, 7 = Very Secure).

326 8. How valued do you feel by your current organization? (1 = Not valued, 7 = Very
327 Valued).

328 5.2.6. *Health*

- 329 1. In general, would you say your health is... (1 = Poor, 7 = Excellent).
- 330 2. I seem to get sick a little easier than other people. (1 = Strongly Disagree, 7 =
331 Strongly Agree).
- 332 3. I expect my health to get worse. (1 = Strongly Disagree, 7 = Strongly Agree).
- 333 4. Do you have a health condition or disability that limits you, and that has lasted
334 for 6+ months? (Yes/No). If yes, please state: (String entry).
- 335 5. How often do you have a drink containing alcohol? This is measured using a 6
336 point nominal scale (a. Never - I don't drink, b. Monthly or less, c. Up to 4 times
337 a month, d. Up to 3 times a week, e. 4 or more times a week, f. Don't know).
- 338 6. Have you ever regularly smoked tobacco cigarettes? (Yes/No).
- 339 7. Have you ever regularly used e-cigarettes? (Yes/No).
- 340 8. Do you currently smoke tobacco cigarettes? (Yes/No).
- 341 9. Do you currently vape or use e-cigarettes? (Yes/No).
- 342 10. Access to and satisfaction with GP: Do you have a regular family doctor/GP?
343 (Yes/No). (If yes) How satisfied are you with the service and care you receive from
344 your family doctor/GP? (1 = Not Satisfied, 7 = Very Satisfied). Do you think your
345 doctor/GP shares a similar cultural background to you? (1 = Definitely No, 7 =
346 Definitely Yes). Does your doctor/GP respect your cultural background when you
347 are discussing health issues with them? (1 = Definitely No, 7 = Definitely Yes).
- 348 11. Please estimate how many hours you spent during each of the following things
349 last week (String entry). Options provided: Working in paid employment,
350 housework/cooking, looking after children, volunteer/charitable work, exercis-
351 ing/physical activity, watching TV/Netflix/movies, travelling/commuting, watch-
352 ing/reading news, using the internet (in total), using social media (e.g., Facebook),
353 playing video games/computer games.
- 354 12. BMI: Calculated by using a person's weight (kg) divided by square root of height
355 (m) that is asked separately, using "What is your height? (String entry (metres))",
356 and "What is your weight? (String entry (kgs))".
- 357 13. During the past month, on average, how many hours of actual sleep did you get
358 per night? (String entry).
- 359 14. Do you have a health condition or disability that limits you, and that has lasted
360 for 6+ months? (Yes/No). If yes, please state: (String entry).
- 361 15. Chronic diseases diagnosis: See Figure 2.

362 5.2.7. *Subjective wellbeing/psychological distress*

363 Measured using the Kessler-6 items (items 1-6 in Figure 3) rated on a 5-point scale (0
364 = None of the time, 4 = All of the time) (Kessler et al. 2010).

365 5.2.8. *Meaning of life*

366 Items are: "My life has a clear sense of purpose" (1 = Strongly Disagree, 7 = Strongly
367 Agree) and "I have a good sense of what makes my life meaningful" (1 = Strongly
368 Disagree, 7 = Strongly Agree).

07. Have you been diagnosed with, or treated for, any of the following health conditions by a doctor in the last five years?

- ☐ High cholesterol
- ☐ High blood pressure
- ☐ Asthma
- ☐ Heart disease
- ☐ Diabetes (Type II)
- ☐ Depression
- ☐ Anxiety disorder
- ☐ Other (please state):

Figure 2. Chronic disease diagnosis

During the last 30 days, how often did...					
(Please use the scale below to circle a number for each question)					
	None Of The Time 0	A Little Of The Time 1	Some Of The Time 2	Most Of The Time 3	All Of The Time 4
1. ... you feel hopeless?	0	1	2	3	4
2. ... you feel so depressed that nothing could cheer you up?	0	1	2	3	4
3. ... you feel restless or fidgety?	0	1	2	3	4
4. ... you feel that everything was an effort?	0	1	2	3	4
5. ... you feel worthless?	0	1	2	3	4
6. ... you feel nervous?	0	1	2	3	4
7. ... you have negative thoughts that repeated over and over?	0	1	2	3	4
8. ... you feel exhausted?	0	1	2	3	4
9. ... other people exclude you from conversations?	0	1	2	3	4

Figure 3. Kessler-6 subjective wellbeing scale

369 5.2.9. *Life satisfaction and national wellbeing*

370 Items from Figure 4 measured on 11-item scale (0 = Completely Dissatisfied, 10 =
371 Completely Satisfied). In addition, “I am satisfied with my life (1= Strongly Disagree, 7
372 = Strongly Agree)” and “In most ways my life is close to ideal (1 = Strongly Disagree,
373 7 = Strongly Agree)” are used.

Instructions: Please rate your level of satisfaction with the following aspects of your life and New Zealand.												
Completely Dissatisfied	Somewhat Satisfied									Completely Satisfied		
0	1	2	3	4	5	6	7	8	9	10		
1. Your standard of living.	0	1	2	3	4	5	6	7	8	9	10	
2. The economic situation in New Zealand.	0	1	2	3	4	5	6	7	8	9	10	
3. The quality of New Zealand's natural environment.	0	1	2	3	4	5	6	7	8	9	10	
4. Your health.	0	1	2	3	4	5	6	7	8	9	10	
5. The social conditions in New Zealand.	0	1	2	3	4	5	6	7	8	9	10	
6. The performance of the current New Zealand government.	0	1	2	3	4	5	6	7	8	9	10	
7. Your future security.	0	1	2	3	4	5	6	7	8	9	10	
8. Business in New Zealand.	0	1	2	3	4	5	6	7	8	9	10	
9. Your personal relationships.	0	1	2	3	4	5	6	7	8	9	10	
10. Your access to health care when you need it (e.g., doctor, GP).	0	1	2	3	4	5	6	7	8	9	10	
11. The quality and health of the waterways in your local region.	0	1	2	3	4	5	6	7	8	9	10	

Figure 4. Life Satisfaction scale

374 5.2.10. *Self esteem*

375 Items are, “On the whole I am satisfied with myself” (1 = Very Inaccurate, 7 = Very
376 Accurate), “I take a positive attitude toward myself” (1 = Very Inaccurate, 7 = Very
377 Accurate) and “I am inclined to feel that I am a failure” (R) (1 = Very Inaccurate, 7 =
378 Very Accurate).

379 5.2.11. *Gratitude*

380 Items are, “I have much in my life to be thankful for” (1 = Strongly Disagree, 7 =
381 Strongly Agree), “When I look at the world, I don’t see much to be grateful for” (R)
382 (1 = Strongly Disagree, 7 = Strongly Agree) and “I am grateful to a wide variety of
383 people” (1 = Strongly Disagree, 7 = Strongly Agree).

384 5.2.12. *Community making*

385 I feel a sense of community with others in my local neighbourhood (1 = Strongly Dis-
386 agree, 7 = Strongly Agree).

387 5.2.13. *Intergroup anxiety*

388 I feel anxious about interacting with people from other races (1 = Strongly Disagree, 7
389 = Strongly Agree).

390 5.2.14. *Rumination*

391 During the last 30 days, how often did you have negative thoughts that repeated over
392 and over? (0 = None of the time, 4 = All of the time).

5.2.15. *Forgivingness versus vengeful rumination*

Items are, “Sometimes I can’t sleep because of thinking about past wrongs I have suffered.” (1 = Strongly Disagree, 7 = Strongly Agree), “I can usually forgive and forget when someone does me wrong. (R)” (1 = Strongly Disagree, 7 = Strongly Agree), and “I find myself regularly thinking about past times that I have been wronged.” (1 = Strongly Disagree, 7 = Strongly Agree).

5.2.16. *Matching with other religious groups*

The following demographic variables are measures by which we will compare the sample obtained with population level indicators of Muslim Diversity in New Zealand Public records.

1. Age: “What is your age?” (String entry), and “When is your date of birth?” (String entry).
2. Education: Measured by an 11-point ordinal scale (0 = No Qualification, 11 = Doctoral Degree, based on the New Zealand Qualification Framework (“The New Zealand Qualifications Framework” 2016)) from responses to the qualification-related question.
3. Employment: A binary variable is created (0 = Unemployed, 1 = Employed) based on the responses to the employment item “Are you currently employed?”.
4. Ethnicity: The items displayed in Figure 5 are categorised following the New Zealand Census Groups: European, Māori, Pacific Peoples, Asian, MELAA (Middle Eastern, Latin American/African), and Other.
5. Gender: Responses to the string entry item “What is your gender?” will be used to create a binary variable (Male = 1, Not male = 0).
6. Area-unit deprivation: Measured based on 2018 New Zealand Deprivation Index (Atkinson, Salmond, and Crampton 2019) that assigns a decile-rank index (1 = Least Deprived, 10 = Most Deprived) using participants’ immediate neighbourhood’s aggregate census information. This index is calculated using component factor analysis of nine variables in weighted order as follows: proportion of adults who received a means-tested benefit, household income, proportion not owning own home, proportion of single-parent families, proportion of unemployed, proportion lacking qualifications, proportion of household crowding, proportion with no telephone access, and proportion with no car access. Hence, this index reflects nationwide mean deprivation level for small neighbourhood-type units (i.e., small community areas consisting about 80-90 people).
7. Socioeconomic status (Occupational prestige): A census-derived occupation-based measure NZSEI (New Zealand Socioeconomic Index) is used to estimate one’s socioeconomic status. It uses an open-ended question regarding one’s occupation, which is subsequently classified in accordance with the Australian and New Zealand Standard Classification of Occupations (ANZSCO) Level 3. In case of missing values, the measure is imputed using a combination of age and education. The measure is assigned scores between 10 = Low and 90 = High.
8. Parent: Measured by assigning a binary variable (1 = Those with children, 0 = The rest) to the item: “How many children have you given birth to, fathered, or adopted?”. (String entry).
9. Partner: Responses to “What is your relationship status?” are assigned a binary variable (1 = Has a partner, 0 = Doesn’t have a partner).
10. Religious identification: Responses to “Do you identify with a religion and/or

spiritual group?” are coded a binary variable (1 = Yes, 0 = No).

11. Political orientation: Responses to “Please rate how politically left-wing versus right-wing you see yourself as being” are assigned a 7-point scale (1 = Extremely left-wing, 7 = Extremely right-wing).

12. Residence: Urban or rural residence (a two-item nominal variable) is identified based on the physical addresses provided.

13. Region of habitation: Whether participants are living in an urban or rural area, based on the addresses provided, is coded 1 = Urban, 0 = Rural.

14. Race-based rejection anxiety: “People from other races would be likely to reject me on the basis of my race”. (1 = Strongly Disagree, 7 = Strongly Agree).

15. Big Six personality traits: Six personality traits – agreeableness, conscientiousness, extraversion, openness, honesty-humility, and neuroticism – are measured using a 7-point (1 = Very Inaccurate, 7 = Very Accurate) Mini-IPIP6 scale (Sibley et al. 2011).

02. Which ethnic group(s) do you belong to?

(Mark the space or spaces which apply to you).

☐

 New Zealand European

☐

 Māori

☐

 Samoan

☐

 Cook Island Māori

☐

 Tongan

☐

 Niuean

☐

 Chinese

☐

 Indian

☐

 Other such as *DUTCH, JAPANESE, TOKELAUAN*. Please state:

Figure 5. Ethnic groups

5.3. Ethics

The NZAVS was approved by the University of Auckland Human Participants Ethics Committee on 26 May 2021 until 26 May 2027 (Reference: UAHPEC22576). All participants granted informed written consent and the University of Auckland Human Participants Ethics Committee approved all procedures.

5.4. Design

The NZAVS is a comprehensive, planned 20-year longitudinal national probability panel study that began in 2009, focusing on social attitudes, personality, ideology, and health outcomes of adults in New Zealand. Currently in its 16th wave, the NZAVS employs quantitative measures to gather data from adult New Zealanders. The MDS serves as a booster to the NZAVS, specifically aimed at increasing the participation of Muslims residing in New Zealand. The MDS Wave 1 corresponded to NZAVS Wave 15 (from October 15, 2023, to October 14, 2024). Subsequent waves of the MDS align with NZAVS Wave 16 (October 15, 2024, to October 14, 2025), Wave 17 (October 15, 2025, to October

468 14, 2026), and so on. MDS will examine various outcome variables to test the proposed
469 hypotheses, including perceived religious and ethnic discrimination, employment status,
470 job satisfaction, job security, feeling valued by the organisation, self-rated health, per-
471 ceived health decline, chronic diseases and disabilities, psychological distress, meaning
472 of life, life satisfaction, sense of belonging, perceived support, warmth toward various
473 groups, vengeful rumination, and forgivingness. The predictors variables include:

- 474 1. Perceived religious discrimination
- 475 2. Perceived ethnic discrimination
- 476 3. Employment status
- 477 4. Job satisfaction
- 478 5. Job security
- 479 6. Feeling valued by organisation
- 480 7. Self-rated health
- 481 8. Perceived health decline
- 482 9. Chronic diseases and disabilities
- 483 10. Kessler-6 psychological distress scale
- 484 11. Meaning of life
- 485 12. Life satisfaction
- 486 13. Sense of belonging
- 487 14. Perceived support
- 488 15. Warmth toward various groups
- 489 16. Vengeful rumination
- 490 17. Forgivingness

491 5.5. *Research questions*

- 492 1. Do service attendance and/or prayer practices buffer Muslims against experiences
493 of anti-Muslim prejudice?
- 494 2. What is the relationship between community ties and resilience to anti-Muslim
495 prejudice among Muslims?
- 496 3. Do Muslims face more challenges in employment compared to members of other
497 religious groups?
- 498 4. How do health outcomes for Muslims differ from those of matched members of
499 other religious groups?
- 500 5. How does religious community-making influence subjective well-being, meaning in
501 life, and psychological distress among Muslims? And, in what ways do these out-
502 comes compare between Muslims and matched members of other religious groups?

503 5.6. *Procedure*

504 5.6.1. *Training, Support, and Supervision for the Project Team*

505 The research assistant position was advertised by the University of Canterbury and
506 shared via social media, emails, and community organisations. The eligibility criteria
507 included at least tertiary level education in New Zealand, familiarity with research in
508 humanities and social sciences, interest in working with communities, and experiences of
509 working with Muslim community organisations. Thirty research assistants, as detailed in
510 Table 1, were recruited after initial screening and interviews from a total of 95 applicants.

511 Prior to the commencement of the MDS, a series of comprehensive Zoom training ses-
512 sions were conducted to equip the research assistants with the necessary knowledge and
513 skills. These sessions covered the background of the NZAVS and the MDS, as well as de-
514 tailed instructions on the survey questionnaires. Additionally, the training emphasised
515 ethical guidelines, confidentiality principles, and effective communication strategies for
516 engaging with a culturally diverse participant pool. The training also provided guide-
517 lines on planning for hiring participants and promoting community participation in the
518 study. All recommendations from the co-designing process with the community were
519 included in the training material.

520 The training programme was tailored to accommodate varying levels of research experi-
521 ence. For some assistants, this was their first experience in data collection, while others
522 had extensive research backgrounds. This structured support system ensured that re-
523 search assistants were well-prepared and confident in their roles, contributing to the
524 overall success of the project.

525 5.6.2. Data collection

526 Research assistants used the snowball approach for data collection. As per recommenda-
527 tions from the co-designing process, they started reaching out to their primary contacts
528 first. These consisted of family members and close friends that the research assistants
529 found the most comfortable to reach out to. Starting in this manner ensured that the re-
530 search assistants were put in a real-life situation within their comfort zone. *anonymised*
531 provided them with consistent feedback and was available to help those that needed
532 practice communicating the message.

533 After two weeks, the research assistants were guided to reach out to their secondary
534 contacts. These consisted of extended families, peers, and classmates. The process of
535 feedback and support by *anonymised* continued. Finally, they reached out to community
536 organisations. This gradual extension helped research assistants to build confidence in
537 reaching out and attain coherence of narrative regarding the study. Research assistants
538 with extensive previous engagement experience with the community reached out to the
539 community sooner than the rest. In addition to promotion, the research assistants were
540 available to help participants with understanding questions, and if needed, were also
541 present when participants completed questionnaires.

542 The sample was non-representative, and participants had the choice of filling in the
543 online questionnaire using Qualtrics, or a paper questionnaire which could be returned
544 to the NZAVS headquarters in Auckland University using a prepaid postal envelope.

545 A runsheet was provided, and different documents and promotional materials such as
546 individual messages, community messages, flyers, and posters were at the research as-
547 sistants disposal based on their needs. We also developed vision and ethics statements
548 that were part of our MDS introductory letter. In addition, a cover letter was sent to
549 all participants alongside the information sheet. It was aimed to clearly convey the pur-
550 poses of MDS to the community, see appendices A-H for the aforementioned materials.
551 Furthermore, 10 promotional shirts were designed which the research assistants wore
552 during festivals and community events for the study promotion.

553 The social media campaign started at the beginning of 2024 and continued until the
554 end of Wave 1. Besides regularly posting on a weekly, and later on, a fortnightly basis,
555 we also used paid promotion to increase the reach of the project.

556 For the purposes of community promotion, we relied on a combination of community out-
557 reach at local mosques, religious, community, and ethnic organisations, Muslim schools
558 and businesses, and MSAs (Muslim Student Associations). From available databases and
559 community contacts, we identified 218 organisations and the research assistants were
560 able to approach Muslims in 105 of these organisations. Out of these, 80 endorsed and
561 promoted the study. Different organisations endorsed us in different manners: some
562 allowed us to give speeches to their audience, while others shared our promotional
563 material online on their social media platforms, via community message groups (e.g.,
564 WhatsApp), and mailing lists. It is worth noting that some of these organisations did
565 not necessarily belong to the Muslim community (e.g., refugee resettlement centres and
566 ethnic community trusts), though they still offered support. In addition, tens of posters
567 were placed in community facilities (e.g., mosques and libraries) and hundreds of flyers
568 were handed over after Friday prayers as well as cultural, community, and religious
569 events and festivals.

570 In addition to reaching out to organisations, the principal investigator and research
571 assistants conversed with 28 local and national community leaders, celebrities, religious
572 scholars, and academics to disseminate information about the study to the commu-
573 nities. As part of this recruitment drive, the principal investigator, *anonymised*, also
574 presented 28 talks, presentations, and/or lectures to Muslim community groups around
575 New Zealand via mosques, universities and community organisations in the selected
576 cities, explaining the goals of the NZAVS, and how it would benefit the New Zealand
577 Muslim community to be represented in this ongoing national longitudinal panel sample.
578 Five additional talks were delivered by the research assistants too.

579 5.6.3. *Ensuring research assistants' convenience*

580 MDS research assistants came from varied backgrounds. Some of them have had re-
581 search degrees and extensive research experience, whereas, for others, it was their first
582 attempt at engaging in data collection. Some research assistants wanted explicit weekly
583 targets while others decided their own targets. The principal investigator, *anonymised*,
584 also provided ongoing guidance and feedback, and was available to communicate with
585 participants via audio and video mediums if and when needed. *Anonymised* conducted
586 fortnightly check-ins with the research assistants and teams in each selected city to
587 ensure that all their queries were answered, and that they had reliable guidance and
588 feedback throughout the process.

589 5.6.4. *Web hosting*

590 The MDS website (access from *hidden for anonymity*) provides all key information for
591 the public and will be updated as progress is made.

592 5.6.5. *Data management*

593 The collected data were anonymised and processed in the NZAVS headquarters, and only
594 made available to trusted researchers and collaborators. The NZAVS data dictionary,
595 sampling procedure, sample details and other relevant information can be accessed
596 online (<https://osf.io/75snb/wiki/home/>) (Sibley 2024).

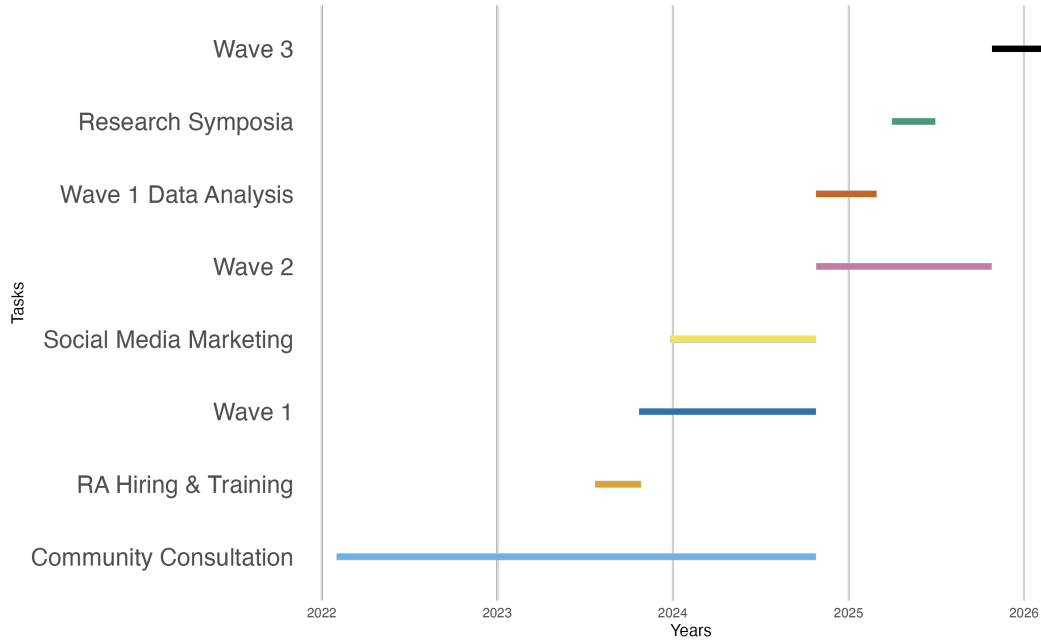


Figure 6. MDS timeline showing tasks and durations

5.7. Timeline

As displayed in Figure 6, the community consultation started before Wave 1 and continued until the end of it. In addition, social media marketing has been an integral part of MDS data collection campaigns. The planned future events, with approximate dates, are indicated too.

6. Part 3: Lessons learned - Guidelines for working with the Muslim community

Based on our interactions with the community, we had anecdotal evidence that some members of the Muslim community might distrust social science research and view it as state surveillance. We also had anecdotal evidence of increases in such scepticism after the Christchurch shootings. Hence, we ensured that our approach and methodology addressed these issues beforehand, and in-line with recommendations from co-designing with the community, such as building trust, highlighting the importance and benefits of academic research, and addressing under-representation of Muslims in research. Our flyers, posters, social media messages, and individual messages are testaments to this. Based on our interactions with the Muslim community and feedback from the research assistants, we inferred that the following elements encourage increased participation of the Muslim community in research:

1. Building rapport: The community trusts religious and community leaders, intellectuals, academics, and elderly. The first step in any community interaction would be reaching out to such figures and clearly sharing with them the vision, mission, and need for the project. Leaders' endorsement can be extremely influential.
2. Addressing concerns regarding confidentiality and data management: Given that a

large number of Muslims have taken refuge in New Zealand after escaping oppressive regimes, it is only natural for them to be sceptical of anyone who might ask for data. Therefore, it is extremely important to ensure that the data are secured. At NZAVS, we adhere to strict security protocols. Our data are anonymised yet not publicly available, and is safeguarded with some of the world's most secure encryption.

3. Being transparent and truthful with the community: Besides building rapport and ensuring confidentiality, it is extremely important to be transparent and truthful with the community in terms of deliverables and outputs. Reportedly, in the past, some researchers have collected data from the community, but the reports were not shared. Being in constant contact with the community ensures that future research endeavours could take place effectively.
4. Reaching out to individuals personally, and not via groups: Our research assistants have discovered this, especially by the means of targeting their close circles individually and keeping expanding the reach, as a more effective approach to incur higher response rate as compared to targeting the community via organisations. Notwithstanding, the group approach has its own advantages and helps with dissemination of messages.
5. Medium: At the beginning, the focus was on both online and paper questionnaires. Towards the end, based on the feedback from research assistants, we employed paper questionnaires only, which resulted in a comparatively higher response rate.
6. Achievable targets: After testing different targets, each research assistant committed to the completion of a minimum of three participants each week during the final five months. This, coupled with point 5, enhanced the response rate.
7. Comprehensive promotion and research assistant training and support: We found the use of social media, website, flyers, and posters effective in engaging the community. Contents of the website addressing privacy concerns, ethics, vision, and mission were appreciated by some participants and community leaders. In terms of research assistant training, we learned that a systematic approach, runsheet, manual, frequently asked questions, and evolving data collection targets were useful.

Similarly, we learned that the following factors could hinder data collection efforts.

1. Length of the questionnaire: It is measured by the time taken to complete the questionnaire, and was one of the challenges identified in MDS. This would not necessarily generalise to shorter questionnaires.
2. Unfamiliarity of participants with scientific research: Generally, it is the subsequent generation of Muslims that attend the Western education system and become familiar with the process of research, thereby, being more comfortable with research participation. On the other hand, the first generations are less likely to participate. We also have anecdotal evidence from participants, research assistants, and Advisory Group to infer that the first generation of Muslims, due to language barriers and other life priorities (settling in New Zealand, work, lower education) might be less likely to participate. Therefore, the sampling should be mindful of these barriers and implement appropriate recruitment strategies.
3. Privacy concerns: In general, if the community does not trust the research group, they would be hesitant to participate. It might sound like common sense, but

666 this is an alert for researchers to not take this matter lightly. The community
667 might not be very familiar with the research process, but that does not mean they
668 should be approached in a non-serious or frank manner. All the potential concerns,
669 including privacy, have to be addressed beforehand.

- 670 4. Political climate: The current political climate and the Middle-East conflict have
671 affected the population as well as the research assistants. Although we lack empir-
672 ical data, many of our team members and potential participants lost their loved
673 ones since October 2023 and have been grieving. In some of such instances, we
674 tried not to approach affected members of the community.
- 675 5. Language barriers: Our community consultation revealed that most of our poten-
676 tial participants would comprehend English. This, by design, left out those with
677 limited language abilities from participation.

678 We witnessed enhanced participation by addressing these challenges. Some of these
679 recommendations have been reflected in outputs of the March 15 research group too
680 (Sulaiman-Hill, Porter, et al. 2024).

681 6.1. *Strengths of MDS*

682 MDS represents a significant advancement in knowledge production, addressing the
683 historical under-representation of the Muslim community in research. While the NZAVS
684 has made important contributions in this area, MDS is a crucial step forward.

685 As the first comprehensive, contextually rich study of Kiwi Muslims, MDS uses system-
686 atic, standardized research methods to explore the decision-making, policy formulation,
687 and inclusion practices of key social players such as the news media, political parties,
688 and social action groups. By ensuring a representative sample (with the NZAVS compris-
689 ing more than 1% of the target population), MDS aims to enhance our understanding
690 of how these entities interact with the Muslim community in New Zealand.

691 The findings of MDS are expected to provide valuable insights into issues like political
692 perceptions, diversity, discrimination, self-perception, resilience, meaning-making, and
693 flourishing within the Muslim community. Additionally, MDS will help dispel miscon-
694 ceptions and improve the general public’s understanding of Muslims, fostering greater
695 social cohesion. Furthermore, this research lays a solid foundation for future studies on
696 the experiences and perspectives of Muslims in New Zealand.

697 6.2. *Limitations of MDS design*

698 MDS is a quantitative-only study, which was necessary to enable comparison with other
699 groups in the NZAVS and to serve as a booster for the NZAS. While this focus on quan-
700 titative data limits certain aspects of the study, it provides valuable insights and lays
701 the groundwork for future qualitative research, which could address emerging questions
702 from the community. Given the large sample size and the range of variables examining
703 various social aspects, MDS—and the NZAVS more broadly—offers an unprecedented
704 wealth of data about the lives of New Zealanders. This richness is demonstrated by 300+
705 peer-reviewed publications that have emerged from the datasets.

706 A limitation of the study is its focus on English-speaking participants, which may restrict
707 the generalisability of the findings. This approach was necessary for ensuring compara-
708 bility with other groups in the NZAVS, but a future qualitative follow-up study could

709 aim to include non-English speakers and further broaden the scope of the research.

710 Another challenge was the length of the questionnaire, which may have affected overall
 711 participation and completion rates. However, gathering detailed data on these variables
 712 was deemed essential for enhancing the NZAVS dataset and making meaningful com-
 713 parisons across religious groups.

714 Finally, because MDS follows the same structure as the NZAVS, some survey items
 715 may not be fully culturally compatible with the attitudes and beliefs of the Muslim
 716 community. However, feedback from the Advisory Group indicated that these items
 717 did not need to be removed, as they were considered important for the overall study
 718 framework.

719 **6.3. *Application and implications of MDS findings***

720 This research enables Muslims in New Zealand to be active participants in shaping their
 721 unique identity. This identity not only encapsulates the diverse ethnocultural societies
 722 within the New Zealand Muslim community, but also allows for the formation of a
 723 distinct national identity. Often research used to drive policy and intervention targeted
 724 at New Zealand Muslims is informed by research undertaken on Muslim communities
 725 overseas. Whilst there are many comparable similarities between Muslims worldwide,
 726 their everyday life experiences are heavily shaped by the society in which a Muslim
 727 resides. Furthermore, the strengthening of this identity can facilitate greater in-group
 728 understanding, connection, and belonging to New Zealand.

729 This research also has the potential for the Muslim voice to have a greater influence on
 730 public perception of Muslims in New Zealand. The visible Muslim voice in many parts of
 731 the Western world is often reactionary to political events, discriminatory experiences, or
 732 accusations of terror. Greater understanding and public discourse of lived experiences
 733 of Muslims in New Zealand, one allows for a more accurate understanding of these
 734 experiences, and two, facilitates a shift in how Muslim voices are ‘allowed’ to participate
 735 in society.

736 This research can also inform international discourse on the experiences of Muslim
 737 immigrants, and their views and beliefs on their country of residence. Stockemer and
 738 Moreau (2021) completed a comprehensive review on studies focused on Muslim immi-
 739 grants’ sense of belonging and identity; results reflected this varied greatly depending
 740 on the country of residence at a macro-level, and personal education at the micro-level.

741 MDS allows Muslim to have an active, data informed input in shaping policies and
 742 intervention targeted at their wellbeing and livelihood. This is especially significant
 743 in the aftermath of the 15 March terror attacks targeting Muslims in New Zealand.
 744 Research highlights significant long term mental health distress and vulnerability for
 745 individuals directly impacted by the attacks (Sulaiman-Hill, Schluter, et al. 2024).

746 Insights from the findings could be used as a form of policy advocacy in two ways: first,
 747 by engaging with policymakers to advocate for policies that address discrimination and
 748 promote inclusivity. This could involve working with local governments and organisa-
 749 tions to ensure that the voices of Muslims are heard in policymaking and in organising
 750 safety and security initiatives. Second, by collaborating with law enforcement to create
 751 safety initiatives that ensure the wellbeing of Muslim communities.

752 Policymakers can use our findings to develop more effective and equitable policies that

753 better address the needs and rights of Muslim communities. For instance, understanding
754 the impact of community ties and religiosity on the resilience of Muslim communities can
755 guide the government in creating support programmes that strengthen these aspects.

756 Findings from this study can contribute to government strategies that focus on adapt-
757 ability and change while engaging with the Muslim community to encourage bonding,
758 bridging, and linking social capital where possible.

759 Research also highlights the psychological impact that the terror attacks had on wider
760 Muslim communities in New Zealand, who viewed the attack to be of a personal nature
761 through a shared identity with the targeted victims of the attacks (Nasier 2023). This
762 poses significant responsibility on the health system in New Zealand to be equipped
763 to meet the ongoing and long-term needs of New Zealanders impacted by terror. This
764 research can provide valuable insights into the Muslim community, facilitating the de-
765 velopment of interventions that are effectively tailored to meet their needs.

766 Practically, the findings could guide the development of targeted interventions aimed at
767 reducing Islamophobia and supporting the Muslim community in New Zealand. Since
768 “programmes are the instruments, governments use to implement a policy or achieve a
769 particular outcome” (Rose 1991), community-based programmes that strengthen social
770 ties and religious practices could be designed to buffer against anti-Muslim prejudice.
771 Insights from the findings could further pave the way for organising public forums and
772 discussions to bring together Muslims and non-Muslims to address issues of discrim-
773 ination, resilience, and community wellbeing, with the aim of fostering dialogue and
774 understanding.

775 The findings could also inform policy regarding the need for targeted anti-discrimination
776 measures. As the research has highlighted the challenges faced by Muslims in employ-
777 ment and health, targeted interventions to improve these areas for Muslim commu-
778 nities should be prioritised by the government. Muslims in New Zealand are diverse
779 and the Muslim community organisations have been actively working with local and
780 central governments to provide advice and input regarding ethnic communities (“Federation of Islamic Associations of New Zealand” 2024; “New Zealand Muslim Association” 2024). However, it should be noted that while it may be regarded as illusory to develop policies, programmes, and practices that purport to be “blind” to race and ethnicity (Durie 2005), socio-economic measures addressing discrimination among Muslims in New Zealand should be tailored to the communities, considering their religious characteristics alongside their ethnicities or races.

787 Regarding socio-economic concerns, the practical applications of the study’s findings
788 can be seen in interventions focusing on employment and economic support, such as
789 creating programmes that assist Muslims in navigating the job market and addressing
790 the unique challenges they face. This could include mentorship programmes, skills training, and networking opportunities. Additionally, partnerships between local businesses and Muslim community organisations could promote diversity in hiring practices and support entrepreneurs. Culturally sensitive mental health initiatives that are visible within Muslim communities and tailored to their cultural and religious needs would also be effective programmes.

796 6.4. *Conclusion*

797 MDS is a crucial booster for the NZAVS because not only it addresses the under-
798 representation of Muslim in NZAVS, but it only helps us answer many questions about
799 Muslims' self-perception, meaning-making, flourishing, religiosity, and health outcomes.
800 We have provided a preliminary guideline of working with a minoritised religious commu-
801 nity in a culturally sensitive manner. Despite the well-known limitations of observational,
802 quantitative, survey research, MDS provides substantial values in terms of implications
803 and applications. Techniques learned from MDS can be applied while working with
804 Muslims and other culturally similar groups in New Zealand and overseas.

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940 7. Data Sharing

941 The data described in this study are part of the Muslim Diversity Study, which is
942 conducted under the [New Zealand Attitudes and Values Study](#).

⁹⁴³ **8. Conflict of Interest**

⁹⁴⁴ The authors have no conflicts of interest to disclose.

945 **9. Funding**

946 The Muslim Diversity Study - officially known as “A National Longitudinal Study of
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950 10. Acknowledgement

951 The authors are grateful to Michael Mahoney for the [Quarto template](#).

952 **11. Author Roles**

953 *hidden for anonymity*

954 **12. Appendix A: MDS Runhseet**

955 [Monospaced font refers to urls in the actual document.]

956 Salam alaikum and welcome to the Muslim Diversity Study.

- 957 1. This **Dropbox folder** consists of all information that you might need.
- 958 2. We have updated our communication and approach strategy, found **here**.
- 959 3. This **document** contains message to the community and FAQs. [will keep updating]
- 960 4. **Cover letter** for the Muslim Diversity Study.
- 961 5. **MDS Questionnaire** (pdf)
- 962 6. Use this **message** to send the MDS participation request to individuals. Please
- 963 remember that individual connection is extremely important, and this is what we
- 964 bank on.
- 965 7. Use this **message** to advertise MDS on social media (e.g., Facebook or LinkedIn);
- 966 and to send it via WhatsApp or emailing lists to the wider community and organ-
- 967 isations.
- 968 8. Use this **message** for shorter social media platforms (e.g., Twitter/X).
- 969 9. Access the **poster** (pdf) here (and png).
- 970 10. Access the **flyer** (pdf) here (and png).
- 971 11. This **document** can be shared with organisations to introduce MDS.
- 972 12. Organisation lists: Auckland, Hamilton, Palmerston North, Wellington,
- 973 Christchurch, Dunedin. In addition, **this** is the list of organisations that have
- 974 endorsed us or shared our ads. Please keep adding names to this list.
- 975 13. Please use **this** guideline for reaching out to organisations.
- 976 14. This **story** by UC has recorded the motivation behind MDS and its benefits for
- 977 the Muslim community. It can be shared widely with those that want to know
- 978 more.
- 979 15. The recent public **lecture** narrates the whole story of MDS (past, present, fu-
- 980 ture) in a detailed manner. This, again, can be shared extensively with anyone
- 981 interested.
- 982 16. Find our social media and website **here**.
- 983 17. The paper questionnaires are valuable, and to ensure meaningful responses, we
- 984 shall only provide them to individuals who express interest and want them. Please
- 985 distribute as many copies of **flyers**, and I can provide more flyers as needed.
- 986 18. Participants using the Qualtrics link should be reminded that they can resume the
- 987 questionnaire from where they left off if they don't complete it initially. Ideally,
- 988 an additional message can be sent using this wording: "You can easily resume
- 989 the questionnaire where you left off by clicking on the provided link. Feel free
- 990 to complete the questionnaire in multiple sessions; your previous responses are
- 991 automatically saved." Since it's not part of the ethics approval, it can be sent in
- 992 the next message as additional guideline (instruction).
- 993 19. To claim your hours, log-in **here**.
- 994 20. If you are claiming your hours for the first time, use information in this **folder**.
- 995 21. If you want to have an update on collected data so far, see **this**.
- 996 22. I am thinking of a qualitative research project based on our experiences with the
- 997 Muslim community where we'd want to interview our current RA's. It's briefly
- 998 detailed **here**. If any of you are keen to be part of this or know someone who
- 999 might want to take this on, please let me know. It can easily be a master's thesis,
- 1000 and as detailed in the brief, it will attract great impact.
- 1001 23. *hidden for anonymity*

1003 **13. Appendix B: Message to Individual Participants**

1004 Your Voice Matters! Join the Muslim Diversity Study!

1005 Assalamu Alaikum WR WB [person's name]

1006 I'm [name of the RA], a research assistant in the Muslim Diversity Study.

1007 We need YOUR perspective!

1008 The Muslim community is underrepresented, and we're changing that with your help.
1009 Participate in this first-of-its-kind survey to share your views on social attitudes, val-
1010 ues, resilience, religiosity, flourishing, meaning-making, wellbeing, and experiences of
1011 Muslims in New Zealand. Let's make our voices heard!

1012 Why Participate?

1013 Gather data on underrepresented Muslims, amplifying voices and providing insights into
1014 issues, wellbeing, and experiences.

1015 Equip the Muslim community with evidence-based information for advocacy.

1016 Enrich understanding, strengthening the collective voice, and shaping a more accurate
1017 narrative.

1018 Your contribution counts and confidentiality is assured!

1019 By participating, you could potentially win one out of five \$1000 grocery vouchers.

1020 The data will be analysed with a focus on the Muslim community. Your input guides our
1021 research, ensuring authenticity and representation. We reassure you that the responses
1022 to the questionnaire are anonymized, encrypted, and aggregated in a manner that ensure
1023 confidentiality.

1024 Spread the Word!

1025 Please share with your friends, family, and community members! Let's come together
1026 and make a difference.

1027 To complete the questionnaire kindly click on the link below or message us for a paper
1028 copy: https://www.nzavs.auckland.ac.nz/muslim_diversity

1029 For more info, visit our website (below) or reach out to *anonymised* (the lead researcher):
1030 (email address and contact phone number) *hidden for anonymity*

1031 APPROVED BY THE UNIVERSITY OF AUCKLAND HUMAN PARTICIPANTS
1032 ETHICS COMMITTEE ON 26/05/2021 UNTIL 26/05/2027, REFERENCE NUMBER:
1033 UAHPEC22576.

1034 14. Appendix C: Community and Social Media Message

1035 Your Voice Matters! Join the Muslim Diversity Study!

1036 Assalamu Alaikum WR WB, Muslims in New Zealand!

1037 We need YOUR perspective!

1038 The Muslim community is underrepresented, and we're changing that with your help.
1039 Participate in this first-of-its-kind survey to share your views on social attitudes, val-
1040 ues, resilience, religiosity, flourishing, meaning-making, wellbeing, and experiences of
1041 Muslims in New Zealand. Let's make our voices heard!

1042 Why Participate?

1043 Gather data on underrepresented Muslims, amplifying voices and providing insights into
1044 issues, wellbeing, and experiences.

1045 Equip the Muslim community with evidence-based information for advocacy.

1046 Enrich understanding, strengthening the collective voice, and shaping a more accurate
1047 narrative.

1048 Your contribution counts and confidentiality is assured!

1049 By participating, you could potentially win one out of five \$1000 grocery vouchers.

1050 The data will be analysed with a focus on the Muslim community. Your input guides our
1051 research, ensuring authenticity and representation. We reassure you that the responses
1052 to the questionnaire are anonymized, encrypted, and aggregated in a manner that ensure
1053 confidentiality.

1054 Spread the Word!

1055 Please share with your friends, family, and community members! Let's come together
1056 and make a difference.

1057 To complete the questionnaire kindly click on the link below or message us for a paper
1058 copy: https://www.nzavs.auckland.ac.nz/muslim_diversity

1059 For more info, visit our website (below) or reach out to *anonymised* (the lead researcher):
1060 (email address and contact phone number) *hidden for anonymity*

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1062 ETHICS COMMITTEE ON 26/05/2021 UNTIL 26/05/2027, REFERENCE NUMBER:
1063 UAHPEC22576.

1064 **15. Appendix D: MDS Flyer**

1065 *hidden for anonymity*

1066 **16. Appendix E: MDS Poster**

1067 *hidden for anonymity*

1068 17. Appendix F: MDS Vision

1069 The NZAVS is committed to the following three principles for the Muslim Diversity
1070 Study.

1071 Protection: The NZAVS is strongly committed to respecting and protecting data gath-
1072 ered from all participants and takes confidentiality seriously. Our commitment to par-
1073 ticipant privacy and safety is central to the NZAVS.

1074 Participation: The NZAVS is committed to enhancing the research capacity of our
1075 communities in Aotearoa New Zealand. Any NZAVS research focusing specifically on
1076 the Muslim community will be reviewed by our Muslim academic advisor *anonymised*,
1077 and/or appropriate nominated reviewers from the Muslim community in New Zealand.
1078 We are committed to Muslim community-led research for Muslim-focussed studies to
1079 ensure respectful reporting that considers the social, religious, and cultural settings of
1080 New Zealand’s Muslims.

1081 Partnership: The NZAVS actively fosters opportunities for collaborative research with
1082 emerging Muslim researchers in New Zealand. We seek to mentor Muslim graduate stu-
1083 dents interested in accessing NZAVS data for research in their own postgraduate theses
1084 or dissertations. We invite students from the Muslim community in New Zealand to con-
1085 tact our Muslim academic advisor, or any member of the NZAVS board or leadership
1086 team for guidance in developing a project.

1087 18. Appendix G

1088 18.1. *Participant confidentiality*

1089 Here at the NZAVS we take our participants' confidentiality very seriously. All personal
1090 details are encrypted and stored separately from questionnaire data. Only Professor
1091 Chris Sibley and trusted research assistants working on the NZAVS in secure conditions
1092 have access to participants' contact details. Participants' contact details are used solely
1093 for the purposes of contacting them to continue their participation in the NZAVS each
1094 year and to provide them with information and feedback about research findings from
1095 the NZAVS.

1096 Reference: <https://osf.io/75snb/wiki/home/>

1097 18.2. *Ethics approval*

1098 The Muslim Diversity Study is regulated by the University of Auckland Human Partic-
1099 ipants Ethics Committee.

1100 The current ethics approval statement for the 2021-2027 period is as follows: The New
1101 Zealand Attitudes and Values Study was approved by the University of Auckland Hu-
1102 man Participants Ethics Committee on 26/05/2021 until 26/05/2024, and renewed on
1103 02/05/2023 until 26/05/2027. Reference Number: UAHPEC22576.

1104 For any queries regarding ethical concerns, you may contact the Chair, University of
1105 Auckland Human Participants Ethics Committee, Ethics and Integrity Team, University
1106 of Auckland, Private Bag 92019, Auckland 1142. Telephone 09 373-7599 ext. 83711.
1107 Email: humanethics@auckland.ac.nz.

1108 18.3. *Why we need ethics approval?*

1109 Ethical approval for research is essential to ensure that studies involving human partici-
1110 pants are conducted in a morally responsible and respectful manner. It serves to protect
1111 the rights, wellbeing, dignity, and confidentiality of those involved in the research, as
1112 well as the broader community affected by the study. Ethical approval ensures that po-
1113 tential risks are minimized, benefits are maximized, informed consent is obtained, and
1114 any potential conflicts of interest or biases are addressed. This oversight helps main-
1115 tain public trust in the scientific community and upholds the fundamental principles of
1116 fairness, respect, and accountability in research endeavours.

1117 19. Appendix H: MDS Cover Letter

1118 Salaam alaikum, kia ora, and greetings!

1119 My name is *anonymised*, and I am the lead researcher of the Muslim Diversity Study.
1120 The Muslim Diversity Study is conducted as part of the New Zealand Attitudes and
1121 Values Study. This is a broad longitudinal study aiming to survey people from all across
1122 New Zealand (see the information sheet on the next page for more details).

1123 As a researcher and committed member of the New Zealand Muslim community, I
1124 recognise the importance of including our voices in discussions about New Zealand. This
1125 inspired me to develop a booster study to enhance Muslim representation in the New
1126 Zealand Attitudes and Values Study, since we are underrepresented at present. I would
1127 be deeply grateful if you would consider participating in this survey. By sharing your
1128 perspectives, you will enrich our understanding of the attitudes, values, and wellbeing of
1129 the Muslim community in New Zealand. This will strengthen the voice of our community
1130 within New Zealand. We will publish the findings of our work in scientific journals, create
1131 brief reports and infographics, and present our findings to Muslim communities across
1132 New Zealand over the coming years.

1133 My research team includes Muslim researchers from across New Zealand. By completing
1134 this survey, you are contributing to a research project led by people from the Muslim
1135 community for the Muslim community in New Zealand. Furthermore, analysis of the
1136 collected data, with a specific focus on the Muslim community, will not proceed without
1137 seeking consultation with researchers who are themselves part of the Muslim community.

1138 As the survey is designed for the general New Zealand population, there may be ques-
1139 tions that do not necessarily apply to you. Please feel free to skip any questions that
1140 you do not wish to answer. This study is funded by a research grant from a not-for-
1141 profit organisation, the Templeton Religion Trust, to help increase the participation of
1142 Muslims in the New Zealand Attitudes and Values Study.

If you would like to complete this questionnaire online instead of returning by post,
please use: https://www.nzavs.auckland.ac.nz/muslim_diversity.

1143
1144 If you have any questions or concerns regarding the Muslim Diversity Study, please
1145 do not hesitate to reach out to me, *anonymised* (contact details below). For general
1146 inquiries about the New Zealand Attitudes and Values Study, please contact Professor
1147 Chris Sibley (contact details below).

1148 If you need help with understanding items of this questionnaire, feel free to reach out.
1149 Our researcher assistants are trained and have a detailed understanding of the question-
1150 naire. Details are available at: *hidden for anonymity*

1151 Your participation in this survey is highly valuable, and your input will significantly con-
1152 tribute to our understanding of the social values and attitudes of the Muslim community
1153 in New Zealand.

1154 Sincerely,

1155 *hidden for anonymity*

1156 APPROVED BY THE UNIVERSITY OF AUCKLAND HUMAN PARTICIPANTS
1157 ETHICS COMMITTEE ON 26/05/2021 UNTIL 26/05/2027, REFERENCE NUMBER:

1158 UAHPEC22576.