



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

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Abstract

The New Zealand Attitudes and Values Study (NZAVS) is a national longitudinal study tracking social values and attitudes over time. Previously, NZAVS undersampled Muslims at ten times lower rates than other religious groups. The Muslim Diversity Study recruits a representative cohort of Muslims for longitudinal research within NZAVS. This ensures Muslim adversity and resilience are accurately recorded. Such inclusion enriches the scientific study of human flourishing, addresses Muslim curiosity about their diversity, and contributes practical insights for their betterment. We describe our study's motivations, development, and methodology and offer practical guidelines for culturally diverse data collection. This article records our research with Muslims in New Zealand, aiding those studying flourishing and resilience in marginalised religious communities.



Keywords: Muslims, diversity, flourishing, Islamophobia, protocol

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Introduction

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 Aotearoa New Zealand and across the globe.

MDS started in 2023 as part of the New Zealand Attitudes and Values Study (NZAVS). The NZAVS is a planned 20-year-long longitudinal national probability annual panel 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 group (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. We speculate that potential factors of limited engagement may include low trust in institutions, concerns about privacy, unfamiliarity with research and its potential benefits, and, importantly, a lack of direct representation or voice in such initiatives. Hence, the goal of MDS was to achieve as many as 650 Muslim respondents (i.e., ~ 1% of the total nation's Muslim community).

The NZAVS uses large sample size to ensure sufficient statistical power for detecting reliable effects and differences across diverse subgroups, including religious minorities. Although the NZAVS relies on national probability sampling, booster

samples are often used to improve the representation of various identity groups such as Māori, Pacific, and Asian peoples—highlighting the importance of increasing Muslim participation as well (Sibley, 2023).

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.

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, 2024a). Muslims in New Zealand are a diverse group. While most are ethnically Asian, there are also significant numbers of Arabs and Sub-Saharan Africans (Drury, 2020), with approximately 25% of New Zealand Muslims born in New Zealand (Stats NZ, 2024a). The community also includes local converts from Māori and Pākehā backgrounds (Arkilic, 2020) and is made up of various Islamic groups, with Sunni being the majority, alongside Shia, Ahmadiyah, Salafi, and Sufi groups (Drury, 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 (DPMC, 2020; Sibley et al., 2020).

The devastating far-right extremist attack on two mosques took place in Christchurch, killing 51 Muslims and injuring 40 (DPMC, 2020). Although the attack was widely condemned by world leaders (Al Jazeera, 2019) and was unprecedented in New Zealand (The Guardian, 2019), it was not as surprising to the Muslim community (A. Rahman, 2019). Leading up to the attacks, many Muslims had regularly experienced prejudice (Shaver et al., 2016, 2017; Sibley et al., 2020). NZAVS uses a “feeling thermometer” scale where participants rate their warmth toward different groups. A comparatively low score for Muslims on this scale has been considered as the evidence of anti-Muslim prejudice (Sibley et al., 2020). More recently, NZAVS utilised a three-item self-report measure of Islamophobia — defined as the fear of Muslims and Islamic faith (Badis et al., under review). Badis et al. reports a strong correlation between the scores of the feeling thermometer for Muslims and of the Islamophobia scale, indicating that the feeling thermometer can be



used as a proxy for measuring Islamophobia. That said, those who expressed lower warmth towards Muslims (Sibley et al., 2020) also have a tendency to express Islamophobic attitudes (Badis et al.).

Notwithstanding, as Islamophobia has reportedly increased overseas following the Christchurch attacks (RNZ, 2022), the evidence in New Zealand seems to be mixed. While news articles have reported hate directed at Muslims (Frykberg, 2023), the NZAVS findings were indicative of improved attitudes towards Muslims following the attacks (Bulbulia et al., 2023; Shanaah et al., 2021). 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, we have mostly reported on how Muslims are perceived by non-Muslim members of New Zealand society, rather than how Muslims perceive themselves. Although NZAVS studies of anti-Muslim prejudice are scientifically important, a systematic understanding of the diverse ways in which Muslims respond to such prejudice and the sources of their resilience remain unclear.

Muslims have generally faced prejudicial attitudes in New Zealand (Greaves et al., 2020; Sibley et al., 2020; Yogeeswaran et al., 2019). Until the Christchurch terror attack, news stories on Islam and Muslims in New Zealand media were mostly an extension of the ‘negative othering rhetoric’, with the national media often linking Muslim converts to *jihadis* — a frequently misused term to describe Muslims resorting to violence in the name of defending or advancing Islam (BBC, 2014; Drury, 2016). Unsurprisingly, such rhetoric has been found to foster anti-Muslim prejudice (Shaver et al., 2017). In this context, Sulaiman-Hill (2011) noted that while Australian media often framed refugee issues in political terms and negatively portrayed asylum seekers, New Zealand’s media coverage, particularly in editorials, was more balanced and sympathetic, often offering refugees a more nuanced perspective. Kabir (2012) similarly highlighted that while hard news in New Zealand reinforced negative stereotypes of Muslims, editorials were more reflective and provided a pluralist construction of Islamic identity, which contrasts with the earlier dominant media portrayals.

In the aftermath of Christchurch shootings, the New Zealand government introduced unprecedented counter-terrorism measures such as the prohibition of the sale of all military-style semi-automatic and assault rifles and creating the Royal Commission of

Inquiry into these attacks (DPMC, 2020). The Royal Commission of Inquiry presented an 800-page report emphasising New Zealand’s inclusive and welcoming identity, among other measures (Arkilic, 2021). In addition, the New Zealand press embraced a more inclusive and positive narrative with respect to Islam and Muslims (Kabir, 2024; K. A. Rahman, 2020). However, these measures have gradually been deprioritised over the years (Bhamidipati, 2024, McClure, 2023), which has raised concerns within the Muslim community, as they continue to push for legal protections against hate speech. More recently, the Chief Human Rights Commissioner apologised to the Muslim community following his controversial take on Muslims “posing a greater threat to the Jewish community in New Zealand than white supremacists” (RNZ, 2025).

In summary, although there have been sporadic reports of increased hate crimes after the attacks (Wilson & Shastri, 2020), the general average sentiments towards Muslims have improved in New Zealand. The NZAVS, in a series of articles, reported this positive shift in attitudes toward Muslims post Christchurch attacks (Bulbulia et al., 2023; Shanaah et al., 2021). Byrne et al. (2022), on the other hand, reported increased terrorism anxiety and sense of community in New Zealanders during this period.

The Christchurch shootings prompted many New Zealand research groups and institutions to further study about Muslims and with Muslims, who so far had been a culturally-distinct, under-researched, minority group. These studies included trauma-focused response (Sulaiman-Hill et al., 2021; Sulaiman-Hill, Porter, et al., 2024), inclusion, Islamophobia and wellbeing (Junaid et al., 2024), perceived discrimination among Muslim immigrant youth (Raissi, 2024), the political implications of government decisions (Arkilic, 2021) among others. Given that the NZAVS had explored perceptions of Muslims and the mechanisms of attitudinal changes towards Muslims following 15 March 2019 attacks (Bulbulia et al., 2023; Hawi et al., 2019; Shaver et al., 2017; Sibley et al., 2020), it was a timely necessity that we expanded our reach to focus on the experiences of this same group.

After receiving strong positive suggestions from the Muslim community to scientifically explore diversity, discrimination, self-perception, resilience, meaning-making and flourishing, the MDS was conceptualised in 2022 to address this scholarly and community knowledge gap. Therefore, MDS is effectively a booster to NZAVS, and uses the NZAVS questionnaires to collect data from the members of Muslim community in New Zealand.



The collected data are pooled with the overall NZAVS sample and the whole dataset is analysed to address research questions posed within the current article.

Media reports pointed out incredible resilience and flourishing of victims as well as the wider Muslim community post Christchurch shootings (Greenfield, 2019; Oliver, 2024). Limited research on specific cohort of Muslims indicated the same (Nasier, 2023; Sulaiman-Hill, Schluter, et al., 2024). 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.

MDS research aims

Launched in February 2023, 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 effects 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.

The current article is divided into three parts. Part 1 focuses on the process of co-designing the implementation of MDS, reviewing the questionnaire and potential questionable items, and identifying some of the factors that might help or

hinder data collection from the Muslim community. Part 2 focuses on the MDS protocol, where we detail the project implementation steps, research assistants' training, and several data collection steps. Part 3 details factors that facilitated and factors that challenged data collection, with practical strategies that might be useful for future researchers.

MDS core team

The MDS Core Team consists of five members: M. Usman Afzali, Joseph A. Bulbulia, Kumar Yogeeswaran, Aarif A. Rasheed and Chris G. Sibley. Afzali and Rasheed are academics with expertise in lived experiences of Muslims and community engagement. The rest of the team are members of the NZAVS Central Management Team with expertise in methodology and longitudinal research, and over 15-years' experience of implementing the NZAVS.

Part 1: Co-designing

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' advice, 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 (MUA) 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 MUA reached out to 29 Muslims in six cities, Auckland, Hamilton, Palmerston North, Wellington, Christchurch, and Dunedin, from various age groups, genders, and cultural backgrounds. Members of the MDS team utilised their networks as well as the Kiwi Muslim Directory (2022) to identify and connect with these members. 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 shootings, 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 (e.g., using data against the Muslim community and causing harm, especially, in such a politically volatile point of time). 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 participation, we should engage 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 MDS Advisory Group and are being regularly consulted. They are highly motivated members of the society who volunteer their time for the initiative.

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.

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

This concern was presented to the MDS Advisory Group, which recommended against translating the questionnaire. Instead, it was advised to provide the English version to all potential Muslim participants. This approach offers a methodological safeguard, ensuring that the conceptual meanings are preserved and not distorted by translation. By maintaining the integrity of the questionnaire, we can be more confident in the validity of the comparative analyses between religious groups.

Item retention and religious context considerations

The consultation process with the MDS Advisory Group identified six items in the NZAVS questionnaire that could potentially appear irrelevant to Muslim participants, given the questionnaire's



original development within a predominantly Christian and secular context. Despite these potential concerns, a substantial majority of the MDS Advisory Group (81% average across all six items) recommended retaining these items to enable meaningful cross-religious comparisons in the analyses.

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

Part 2: Protocol

Sample size estimation and participants

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

Materials

We used the NZAVS questionnaire to collect MDS data. Measures that are pertinent to the planned papers aimed at communicating the findings emerging from MDS are reported here. These measures have been tested (Sibley et al., 2023) and historically used in the NZAVS. The complete list of NZAVS measures and further methodological details can be accessed online (<https://osf.io/75snb/> and

<https://osf.io/75snb/wiki/Scale%20Validation%20Study/>).

We might choose to explore further measures which will then be elaborated on in the individual articles. All measures are listed below, and further details are provided in Appendix A.

1. Service attendance and religiosity
2. Prejudice
3. Felt belonging
4. Support
5. Employment
6. Health
7. Subjective wellbeing/psychological distress
8. Meaning of life
9. Personal wellbeing index
10. National wellbeing index
11. Self esteem
12. Gratitude
13. Community making
14. Intergroup anxiety
15. Rumination
16. Forgiveness versus vengeful rumination

Table 1. Muslim Population in 2022 by Selected Cities (From Stats NZ, 2024a)

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

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; age, education, employment, ethnicity, gender, area-unit deprivation, socio-economic status, parent, partner, religious identification, political orientation, residence, region of habituation, race-based rejection anxiety, and Big Six personality traits.

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.

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

1. Perceived religious discrimination
2. Perceived ethnic discrimination
3. Employment status
4. Job satisfaction
5. Job security
6. Feeling valued by organisation
7. Self-rated health
8. Perceived health decline
9. Chronic diseases and disabilities
10. Kessler-6 psychological distress scale
11. Meaning of life
12. Life satisfaction
13. Sense of belonging
14. Perceived support
15. Warmth towards various groups
16. Vengeful rumination
17. Forgivingness

Research questions

1. Do service attendance and/or prayer practices buffer Muslims against experiences of anti-Muslim prejudice?
2. What is the relationship between community ties and resilience to anti-Muslim prejudice among Muslims?

3. Do Muslims face more challenges in employment compared to members of other religious groups?
4. How do health outcomes for Muslims differ from those of matched members of other religious groups?
5. How does religious community-making influence subjective well-being, meaning in life, and psychological distress among Muslims? And, in what ways do these outcomes compare between Muslims and matched members of other religious groups?

Procedure

Training, support, and supervision for the project team

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

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

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

Data collection



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

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

The participants had the choice of filling in the online questionnaire using Qualtrics, or a paper questionnaire which could be returned to the NZAVS headquarters in Auckland University using a prepaid postal envelope.

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

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

For the purposes of community promotion, we relied on a combination of community outreach at local

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

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

Ensuring research assistants' convenience

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



Web hosting

The MDS website provides all key information for the public and is regularly updated as progress is made. Link: www.muslimdiversitystudy.com

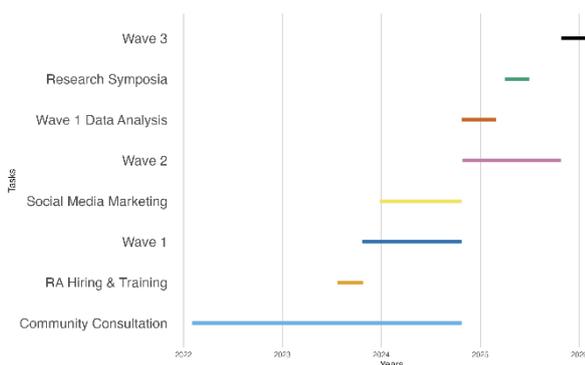
Data management

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

Timeline

As displayed in Figure 1, 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 campaign. The planned future events, with approximate dates, are indicated too.

Figure 1. MDS timeline showing tasks and durations



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 were 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 are safeguarded using 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 gradually 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.
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 the MDS 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 this is an alert for researchers to not take this matter lightly. The community might not be very familiar with the research process, but that does not mean they should be approached in a non-serious or frank manner. All the potential concerns, including privacy, have to be addressed beforehand.
4. **Political climate:** The current political climate and the Middle East conflict have affected the population as well as the research assistants. Although we lack empirical data, many of our team members and potential participants lost their loved ones since October 2023 and have been grieving. In some of such instances, we tried not to approach affected members of the community.
5. **Language barriers:** Our community consultation revealed that most of our potential participants would comprehend English. This, by design, left out those with limited language abilities from participation.

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

Strengths of MDS

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

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



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

Limitations of MDS

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

A limitation of the study is its focus on English-speaking participants, which may restrict the generalisability of the findings. This approach was necessary for ensuring comparability with other groups in the NZAVS, but a future qualitative follow-up study could aim to include non-English speakers and further broaden the scope of the research.

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

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

Applications and implications of MDS findings

This research enables Muslims in New Zealand to be active participants in shaping their unique identity. This identity not only encapsulates the diverse ethnocultural societies within the New Zealand

Muslim community but also allows for the formation of a distinct national identity. Often research used to drive policy and intervention targeted at New Zealand Muslims is informed by research undertaken on Muslim communities overseas. Whilst there are many comparable similarities between Muslims worldwide, their everyday life experiences are heavily shaped by the society in which a Muslim resides. Furthermore, the strengthening of this identity can facilitate greater in-group understanding, connection, and belonging to New Zealand.

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

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

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

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



Policymakers can use our findings to develop more effective and equitable policies that better address the needs and rights of Muslim communities. For instance, understanding the impact of community ties and religiosity on the resilience of Muslim communities can guide the government in creating support programmes that strengthen these aspects.

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

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

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

The findings could also inform policy regarding the need for targeted anti-discrimination measures. As the research has highlighted the challenges faced by Muslims in employment and health, targeted interventions to improve these areas for Muslim communities should be prioritised by the government. Muslims in New Zealand are diverse and the Muslim community organisations have been actively working with local and 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.

Regarding socio-economic concerns, the practical applications of the study’s findings can be seen in interventions focusing on employment and economic support, such as creating programmes that assist Muslims in navigating the job market and addressing the unique challenges they face. This could include mentorship programmes, skills trainings, 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.

Conclusion

MDS is a crucial booster for the NZAVS because it not only addresses the under-representation of Muslim in NZAVS, but it also helps us answer many questions about Muslims’ self-perception, meaning-making, flourishing, religiosity, and health outcomes. We have provided a preliminary guideline of working with a minority religious community in a culturally sensitive manner. Despite the well-known limitations of observational, quantitative, survey research, MDS provides substantial value in terms of implications and applications. Lessons learned during MDS implementation can be applied while working with Muslims and other culturally similar groups in New Zealand and overseas.

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