



Libraries and Learning Services

University of Auckland Research Repository, ResearchSpace

Copyright Statement

The digital copy of this thesis is protected by the Copyright Act 1994 (New Zealand).

This thesis may be consulted by you, provided you comply with the provisions of the Act and the following conditions of use:

- Any use you make of these documents or images must be for research or private study purposes only, and you may not make them available to any other person.
- Authors control the copyright of their thesis. You will recognize the author's right to be identified as the author of this thesis, and due acknowledgement will be made to the author where appropriate.
- You will obtain the author's permission before publishing any material from their thesis.

General copyright and disclaimer

In addition to the above conditions, authors give their consent for the digital copy of their work to be used subject to the conditions specified on the [Library Thesis Consent Form](#) and [Deposit Licence](#).

HE PŌKĒKĒ UENUKU I TŪ AI:
A QUANTITATIVE EXPLORATION OF MĀORI IDENTITY, POLITICAL
ATTITUDES, AND BEHAVIOUR

Lara M. Greaves

A thesis submitted in fulfilment of the requirements for the degree of Doctor of Philosophy, The
University of Auckland, 2017.

Abstract

To be Māori is to be political. Our history is filled with political struggles and victories. These struggles, originating from experiences of colonisation and assimilation, have greatly influenced what it is to be Māori today. This thesis explores the relationship between Māori ethnic identity, and political attitudes and outcomes. In this thesis, I present five studies (across four published papers and one full manuscript) which validate the Multidimensional Model of Māori Identity and Cultural Engagement (MMM-ICE2). I focus particular attention on the scale's Socio-Political Consciousness dimension, and illustrate the links between identity and politics for Māori. The MMM-ICE2 is a seven-dimension scaled designed *with* Māori, *by* Māori, and *for* Māori to measure Māori ethnic identity (Houkamau & Sibley, 2010, 2015a). In the first two studies, I focus on using psychometric techniques to further validate the MMM-ICE2 as a measurement tool. Firstly, I use random intercept exploratory factor analysis to show that the scale is not vulnerable to acquiescent responding (yea-saying; Greaves, Houkamau, & Sibley, 2017). The second study uses multigroup confirmatory factor analysis to illustrate that the MMM-ICE2 shows reasonable measurement equivalence across diverse Māori groups (Greaves, Manuela et al., 2017).

In the third study of the thesis, I demonstrate that Māori, broadly defined, are more likely to vote for the political left – the Labour, Green, and New Zealand First parties – over the centre-right National Party (Greaves, Robertson et al., 2017). The results lay the groundwork for two further studies, which demonstrate the construct validity of the Socio-Political Consciousness dimension of the scale by predicting a range of political attitudes and behaviours. Study Four shows that, above and beyond the effects of demographics, Māori enrolled to vote on the Māori electoral roll were higher on the Socio-Political Consciousness and Group Membership Evaluation dimensions (Greaves, Osborne, Houkamau, & Sibley, 2017). Additionally, in Study Five, I demonstrate that higher Socio-Political Consciousness for Māori is related to higher levels of support for Māori rights protests, the left-wing Green Party, and the Māori-issue focussed, Māori and Mana political

parties (Greaves, Sengupta et al., 2017). Yet, lower levels of Socio-Political Consciousness were related to higher support for the right-wing National Party. Taken together, these studies show that the MMM-ICE2 scale and the Socio-Political Consciousness dimension can predict important, real-world political outcomes and attitudes for Māori.

Finally, I discuss the contributions that the papers in this thesis have made to the literature, and the inevitable limitations of the research. I then provide future research directions for the study of quantitative Māori identity and for Māori political participation more generally. I finish with reflections on the process of writing this thesis and on being an emerging Māori quantitative researcher.

Dedication

To my tupuna Zelda Josephine Mary Marshall

Acknowledgments

Ehara taku toa i te toa takitahi, engari he toa takitini ¹

I would like to start by saying this is going to be a rather long acknowledgments section. As a first point, ngā mihi nui to the participants of the surveys. As I'll discuss later in this thesis, the number of people willing to fill out surveys seems to be dropping. If the participants hadn't taken time out of their busy lives to fill out the surveys, I wouldn't have a thesis.

I have been very lucky to have met so many inspiring people throughout this journey! This all started in 2nd year psychology when several keen undergraduates volunteered to stuff envelopes for this super-passionate, young researcher called Chris Sibley. He had this potentially world leading study and infectious enthusiasm for the data it would provide. Today, the New Zealand Attitudes and Values Study continues to thrive. Having Chris as a supervisor has inspired me to heights I never thought possible.

On my first day of volunteering for the NZAVS I met Yanshu Huang and Carly Townrow, who would later become my great friends, fellow PhD students, and a huge amount of support throughout this whole process. Additionally, I'd like to thank the cool older kids – Nikhil Sengupta, Sam Manuela, Matthew Hammond, Yuthika Girme, and Petar Milojev – for giving me the time of day. When I first started with the NZAVS, seeing you all doing PhDs in your own unique ways left a big impression on me. A big thank you is also due to those who joined the NZAVS gang a little later and some of the random psychology friends I made along the way – Sam Stronge, Emily Cross, Sophie Sills, Nicole Satherley, Gloria Fraser, Carol Lee, Correna Matika, Cinnamon Lindsay, Sarah Kapeli, and Joaquin Bahamondes. At this point, I would like to single out Lucy Cowie, and thank her for dealing with way too many neurotic messages.

I would also like to acknowledge the contributions that the many Reviewers and journal Editors made towards improving the articles that comprise this thesis. While it was sometimes a

¹ My strength is not that of a single warrior but that of many (whakataukī translation from Mead & Grove, 2001)

steep learning curve, their guidance has strengthened this thesis considerably. I am also grateful for access to Colmar Brunton polling data, and would like to express my gratitude to Andrew Robertson for the opportunity. I would also like to acknowledge Danny Osborne, who has been a third supervisor throughout my PhD, and was a co-author on many of the papers. Danny gives truly the best and most thorough feedback on drafts.

I have been fortunate to have received several sources of financial support during the writing of this thesis. The financial journey through university can be rough, as it was to me on the lead up to my doctorate. Firstly, I would like to thank Ngā Pae o te Māramatanga for a knowledge sharing grant that allowed me to travel to San Diego for the International Society for Political Psychology conference. The knowledge gained from the event and presentation of a paper helped to form what eventually became Chapter Four of this thesis. In addition, I would like to thank the Tuākana Contestable fund/Mana Toa fund for financing travel to conferences. I was also fortunate to have gained the University of Auckland doctoral scholarship. Furthermore, my gratitude goes out to Andrea Mead and Michelle Burstall for providing me with a steady stream of first year tutoring work, and their inspirational leadership in teaching.

The beginning of my PhD in July of 2015 also marked the beginning of my te reo Māori journey over the road at AUT. I'd like to acknowledge my kaiako – including Erana, and Aini. I also worked with some interesting people at AUT during my PhD, who were all doing academia in their own unique way. I'd particularly like to single out Cristina Parra, who may not know this, but provided me with some interesting revelations about work-life balance and being myself.

While at the University of Auckland I received support from the Tuākana programme and the Māori and Pacific Postgraduate Research Group. Through those networks I have been inspired by many wāhine toa that have been supportive throughout this process, including: Jade Le Grice, Emerald Muriwai, Hineatua Parkinson, and Shiloh Groot. Furthermore, I have been fortunate to work with Carla Houkamau as my secondary supervisor. In particular, Carla provided me with the

confidence to learn te reo and tikanga, and has guided my framing and perspective. What I have learnt from her has greatly developed my thinking on the topics in this thesis and beyond.

Part way through my thesis I started working with COMPASS in the Faculty of Arts at the University of Auckland. I found myself in yet another situation where I saw passionate researchers working on really important mahi for Aotearoa. I'd particularly like to acknowledge Barry Milne, Nichola Shackleton and Martin von Randow for their mentorship, and Liza Bolton for the smiles.

There were also some key people behind the scenes, away from research, that helped me function as a human. I'd like to thank Stanzi for helping me talk through all of this PhD 'madness'. Thanks goes out to my whānau – my grandparents, aunts, uncles, cousins etc. – plus, a special thanks goes to my aunt Cath for letting me write some of this thesis at her kitchen table. I'd also like to thank Mo and WN for *allegedly* not doing anything. To Rodney, my dad, for providing me with great food throughout my writing process. To Wendy, my mum, maybe this thesis was in part due to you having me the day before Waitangi day? Perhaps, there was some responsibility in learning about the (well, what seemed like it in primary school) sweet day off after my birthday? Thanks for being my parents, you have definitely gone beyond the normal call of duty.

Co-Authorship Forms

The following pages present co-authorship forms granting permission from my co-authors to include the four published papers and one unpublished manuscript in my thesis:

Greaves, L. M., Houkama, C. A., & Sibley, C. G. (2017). Random intercept exploratory factor analysis of the multidimensional model of Māori identity and cultural engagement.

Personality and Individual Differences, 105, 14-18. doi: 10.1016/j.paid.2016.09.026

Greaves, L. M., Manuela, S., Muriwai, E., Cowie, L. J., Lindsay, C., Matika, C. M., Houkama, C. A., & Sibley, C. G. (2017). The Multidimensional Model of Māori Identity and Cultural Engagement: Measurement equivalence across diverse Māori groups. *New Zealand Journal of Psychology*, 46(1), 24-35.

Greaves, L. M., Robertson, A., Cowie, L. J., Osborne, D., Houkama, C. A., & Sibley, C. G. (2017). Predicting party vote sentiment: Identifying the demographic and psychological correlates of party preference in two large datasets. *New Zealand Journal of Psychology*, 46(3), 48-61.

Greaves, L. M., Osborne, D., Houkama, C. A., & Sibley, C. G. (2017). Identity and demographics predict voter enrolment on the Māori Electoral Roll: Findings from a national sample. *MAI Journal*, 6(1), 3-16.

Greaves, L. M., Sengupta, N. K., Townrow, C. S., Osborne, D., Houkama, C. A., & Sibley, C. G. (2017). Māori, a politicised identity: Indigenous identity, voter turnout, protest, and political party support in Aotearoa New Zealand. *Manuscript Submitted for Publication*.

Co-Authorship Form

This form is to accompany the submission of any PhD that contains published or unpublished co-authored work. **Please include one copy of this form for each co-authored work.** Completed forms should be included in all copies of your thesis submitted for examination and library deposit (including digital deposit), following your thesis Acknowledgements. Co-authored works may be included in a thesis if the candidate has written all or the majority of the text and had their contribution confirmed by all co-authors as not less than 65%.

Please indicate the chapter/section/pages of this thesis that are extracted from a co-authored work and give the title and publication details or details of submission of the co-authored work.

CHAPTER TWO/Study 1: Greaves, L. M., Houkamau, C. A., & Sibley, C. G. (2017). Random intercept exploratory factor analysis of the multidimensional model of Māori identity and cultural engagement. *Personality and Individual Differences*, 105, 14-18. doi: 10.1016/j.paid.2016.09.026

Nature of contribution by PhD candidate	Collected data, conducted the analyses, wrote the manuscript, completed the revisions.
Extent of contribution by PhD candidate (%)	90

CO-AUTHORS

Name	Nature of Contribution
Carla A. Houkamau	Discussion with this coauthor led to the conception of this paper, commented on drafts.
Chris G. Sibley	Discussion with this coauthor led to the conception of this paper, oversaw data collection, provided advice and guidance for the analyses, commented on drafts, answered questions during the revision process.

Certification by Co-Authors

The undersigned hereby certify that:

- ❖ the above statement correctly reflects the nature and extent of the PhD candidate's contribution to this work, and the nature of the contribution of each of the co-authors; and
- ❖ that the candidate wrote all or the majority of the text.

Name	Signature	Date
Carla A. Houkamau		25-11-2017
Chris G. Sibley		5-11-17

Co-Authorship Form

This form is to accompany the submission of any PhD that contains published or unpublished co-authored work. **Please include one copy of this form for each co-authored work.** Completed forms should be included in all copies of your thesis submitted for examination and library deposit (including digital deposit), following your thesis Acknowledgements. Co-authored works may be included in a thesis if the candidate has written all or the majority of the text and had their contribution confirmed by all co-authors as not less than 65%.

Please indicate the chapter/section/pages of this thesis that are extracted from a co-authored work and give the title and publication details or details of submission of the co-authored work.

CHAPTER TWO/Study 2: Greaves, L. M., Manuela, S., Muriwai, E., Cowie, L. J., Lindsay, C., Matika, C. M., Houkamau, C. A., & Sibley, C. G. (2017). The Multidimensional Model of Māori Identity and Cultural Engagement: Measurement Equivalence across Diverse Māori Groups. *New Zealand Journal of Psychology*, 46(1), 24-35.

Nature of contribution by PhD candidate	Collected data, conducted analyses, wrote manuscript, completed the revisions.
Extent of contribution by PhD candidate (%)	90

CO-AUTHORS

Name	Nature of Contribution
Sam Manuela	Provided advice on the direction of the paper and analyses.
Emerald Muriwai, Lucy J. Cowie, Cinnamon Lindsay, Correna M. Matika	Helped to collect the data, commented on the drafts.
Carla A. Houkamau	Helped to identify the need for the paper/research question to be answered, provided comments on the drafts.
Chris G. Sibley	Provided advice and guidance for the analyses, oversaw data collection, helped with statistics, commented on drafts, answered questions during the revision process.

Certification by Co-Authors

The undersigned hereby certify that:

- ❖ the above statement correctly reflects the nature and extent of the PhD candidate's contribution to this work, and the nature of the contribution of each of the co-authors; and
- ❖ that the candidate wrote all or the majority of the text.

Name	Signature	Date
Sam Manuela		10 / 10 / 17
Emerald Muriwai		19/09/17
Lucy J. Cowie		10/10/17
Cinnamon Lindsay		11 / 10 / 17
Correna M. Matika		11/10/17

Carla A. Houkama		1/12/2017
Chris G. Sibley		5-11-17

Co-Authorship Form

This form is to accompany the submission of any PhD that contains published or unpublished co-authored work. **Please include one copy of this form for each co-authored work.** Completed forms should be included in all copies of your thesis submitted for examination and library deposit (including digital deposit), following your thesis Acknowledgements. Co-authored works may be included in a thesis if the candidate has written all or the majority of the text and had their contribution confirmed by all co-authors as not less than 65%.

Please indicate the chapter/section/pages of this thesis that are extracted from a co-authored work and give the title and publication details or details of submission of the co-authored work.

CHAPTER 3/Study 3: Greaves, L. M., Robertson, A., Cowie, L. J., Osborne, D., Houkamau, C. A., & Sibley, C. G. (in press). Predicting party vote sentiment: Identifying the demographic and psychological correlates of party preference in two large datasets. *New Zealand Journal of Psychology*.

Nature of contribution by PhD candidate

Collected data, conducted analyses, wrote the manuscript, completed the revisions.

Extent of contribution by PhD candidate (%)

90

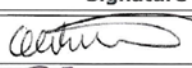
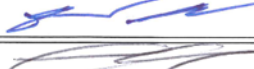
CO-AUTHORS

Name	Nature of Contribution
Andrew Robertson	Provided Colmar Brunton data and expertise on that data set, commented on the drafts.
Lucy J. Cowie	Helped to collect the NZAVS data, commented on the drafts.
Danny Osborne	Commented on the drafts, provided knowledge on NZ politics.
Carla A. Houkamau	Commented on the drafts.
Chris G. Sibley	Oversaw NZAVS data collection, commented on the drafts and direction of the paper.

Certification by Co-Authors

The undersigned hereby certify that:

- ❖ the above statement correctly reflects the nature and extent of the PhD candidate's contribution to this work, and the nature of the contribution of each of the co-authors; and
- ❖ that the candidate wrote all or the majority of the text.

Name	Signature	Date
Andrew Robertson		4/11/17
Lucy J. Cowie		10/11/17
Danny Osborne		3-11-17
Carla A. Houkamau		25.11.2017.
Chris G. Sibley		5-11-17

Co-Authorship Form

This form is to accompany the submission of any PhD that contains published or unpublished co-authored work. **Please include one copy of this form for each co-authored work.** Completed forms should be included in all copies of your thesis submitted for examination and library deposit (including digital deposit), following your thesis Acknowledgements. Co-authored works may be included in a thesis if the candidate has written all or the majority of the text and had their contribution confirmed by all co-authors as not less than 65%.

Please indicate the chapter/section/pages of this thesis that are extracted from a co-authored work and give the title and publication details or details of submission of the co-authored work.

CHAPTER FOUR/Study 4: Greaves, L. M., Osborne, D., Houkamau, C. A., & Sibley, C. G. (2017). Identity and demographics predict voter enrolment on the Māori Electoral Roll: Findings from a national sample. MAI Journal, 6(1) 3-16.

Nature of contribution by PhD candidate	Collected data, conducted the analyses, wrote the manuscript, completed the revisions.
---	--

Extent of contribution by PhD candidate (%)	90
---	----

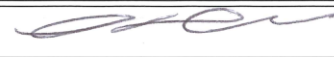
CO-AUTHORS

Name	Nature of Contribution
Danny Osborne	Commented on the drafts.
Carla A. Houkamau	Commented on the drafts, provided guidance on framing for an indigenous journal.
Chris G. Sibley	Oversaw data collection, commented on the drafts.

Certification by Co-Authors

The undersigned hereby certify that:

- ❖ the above statement correctly reflects the nature and extent of the PhD candidate's contribution to this work, and the nature of the contribution of each of the co-authors; and
- ❖ that the candidate wrote all or the majority of the text.

Name	Signature	Date
Danny Osborne		3-11-17
Carla A. Houkamau		25-11-2017
Chris G. Sibley		5-11-17

Co-Authorship Form

This form is to accompany the submission of any PhD that contains published or unpublished co-authored work. **Please include one copy of this form for each co-authored work.** Completed forms should be included in all copies of your thesis submitted for examination and library deposit (including digital deposit), following your thesis Acknowledgements. Co-authored works may be included in a thesis if the candidate has written all or the majority of the text and had their contribution confirmed by all co-authors as not less than 65%.

Please indicate the chapter/section/pages of this thesis that are extracted from a co-authored work and give the title and publication details or details of submission of the co-authored work.

CHAPTER FOUR/Study 5: Māori, a Politicized Identity: Indigenous Identity, Voter Turnout, Protest, and Political Party Support in Aotearoa New Zealand.

This study is a full, unpublished manuscript that has previously been submitted for publication and will be resubmitted soon.

Nature of contribution by PhD candidate	Collected data, conducted analyses, wrote the manuscript.
---	---

Extent of contribution by PhD candidate (%)	90%
---	-----

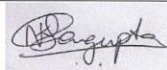
CO-AUTHORS

Name	Nature of Contribution
Nikhil K. Sengupta	Provided advice on the collective action literature, discussed theory, commented on drafts.
Carly S. Townrow	Provided advice on the voter turnout literature, discussed theory, commented on drafts.
Danny Osborne	Reviewed drafts, designed collective action survey item.
Carla A. Houkamau	Discussed results, provided advice on the Māori party results for Perceived Appearance, commented on drafts.
Chris G. Sibley	Helped to conceive of the idea for the paper, runs the overall data collection of the NZAVS, provided comments on drafts.

Certification by Co-Authors

The undersigned hereby certify that:

- ❖ the above statement correctly reflects the nature and extent of the PhD candidate's contribution to this work, and the nature of the contribution of each of the co-authors; and
- ❖ that the candidate wrote all or the majority of the text.

Name	Signature	Date
Nikhil K. Sengupta		31.8.17
Carly S. Townrow		6.11.17
Danny Osborne		3-11-17
Carla A. Houkamau		25.11.2017

Chris G. Sibley		S-11-17
-----------------	--	---------

Table of Contents

Abstract	i
Dedication	iii
Acknowledgments.....	iv
Co-Authorship Forms	vii
Table of Contents	xv
List of Tables	xxi
List of Figures	xxiii
Glossary	xxiv
CHAPTER ONE	1
General Overview	1
Lies, Damned Lies, and Methodologies	6
Māori Identity and Statistics	7
Methodologies versus Methods: Maps versus Bicycles	9
What is an Indigenous Methodology?	10
My Methodology	11
Indigenous Statistics	11
Research Standpoint	12
Researcher's Social Position.....	12
Ethnic Affiliations and Whakapapa.	13
Ethnic and Cultural Identity.	16
Group Membership Evaluation.	16
Socio-Political Consciousness: My Political Standpoint.	17
Epistemology	18
Axiology	20
Ontology	22
Kaupapa Māori Research Methodology	23
Summary: Standpoint, Theoretical Frame, and Methods	26
Māori: from Past to Present.....	27
Pre-Colonisation.	27
Colonisation.	29
Te Tiriti o Waitangi and The Treaty of Waitangi.	29
Assimilation.	30
Māori and Post-Treaty Politics.	32

The ‘Māori Renaissance’	34
The Current Day	35
Summary.....	36
Ethnic Identity	37
Measuring Māori Identity	39
The Multidimensional Model of Māori Identity and Cultural Engagement.....	40
Scale Development	40
A Review of Past Findings	49
Māori Identity Signatures.....	49
Cultural Engagement.....	49
General Wellbeing.	50
Mental Health.....	50
Physical Health.....	51
Prejudice.....	51
Financial Attitudes.	51
Environmental Attitudes.	51
Summary.....	52
Bridging Comments.....	53
CHAPTER TWO	54
Study One: Random Intercept Exploratory Factor Analysis of the Multidimensional Model of Māori Identity and Cultural Engagement	54
Abstract.....	55
Introduction	56
Acquiescent Responding and Random Intercept Exploratory Factor Analysis.....	56
Scale Development	58
Hypothesis	63
Method.....	64
Participants.....	64
Questionnaire Measures.....	64
Analytical Strategy	64
Results	65
Discussion.....	65
Bridging Comments.....	68
Study Two: The Multidimensional Model of Māori Identity and Cultural Engagement:	
Measurement Equivalence across Diverse Māori Groups.....	69

Abstract.....	70
Introduction	71
Development of the MMM-ICE	71
Māori Identity: Key Influential Variables	75
Urban and Rural Māori.	75
Gender.....	76
Age.....	77
Sole and Mixed Māori.....	78
Testing Measurement Equivalence	79
Overview.....	81
Method.....	82
Participant Details.....	82
Sampling Procedure	82
Questionnaire Measures.....	83
Analytic Approach.....	84
Results	84
Discussion.....	89
Bridging Comments.....	92
CHAPTER THREE.....	94
Study Three: Predicting Party Vote Sentiment: Identifying the Demographic and Psychological Correlates of Party Preference in Two Large Datasets	94
Abstract.....	95
Introduction	96
Previous Research on Demographics and Voting.....	97
Personality and Voting.....	99
Patriotism, Nationalism, and Vote Preference	100
Overview of the Present Research	101
Demographics.	101
Personality.....	102
Patriotism and Nationalism.	102
Study One	102
Method.....	103
Sampling Procedure	103
Participant Details.....	103
Post-Stratification Weighting	104

Results	104
Model Results	104
Discussion.....	108
Study Two.....	108
Method.....	108
Sampling Procedure	108
Participant Details.....	109
Post-Stratification Weighting	110
Questionnaire Measures.....	110
Results	111
Demographics	115
Personality	116
Patriotism and Nationalism.....	116
Discussion.....	116
General Discussion	117
Limitations and Future Research Directions	120
Concluding Statement.....	121
Bridging Comments.....	123
CHAPTER FOUR.....	125
Study Four: Identity and Demographics Predict Voter Enrolment on the Māori Electoral Roll: Findings from a National Sample	125
Abstract.....	126
Introduction	127
The Māori Electoral Roll	128
Past Survey Research on the Māori Roll	130
The Multidimensional Model of Māori Identity and Cultural Engagement.....	131
Overview and Hypotheses	132
Method.....	133
Participants and Procedure.....	133
Model One	134
Model Two.....	134
Analytic Strategy	136
Results	136
Model One: Demographics	136
Model Two: Demographics and Identity	137

Discussion.....	139
Limitations and Future Research Directions	142
Concluding Remarks.....	143
Bridging Comments.....	145
Study Five: Māori, a Politicised Identity: Indigenous Identity, Voter Turnout, Protest, and Political Party Support in Aotearoa New Zealand.....	146
Abstract.....	147
Introduction	148
Māori and Colonial Politics	151
Political Participation: Voter Turnout and Rights Protests.....	154
Political Party Support	155
Overview and Hypotheses	157
Method.....	158
Sampling Procedure	158
Participant Details.....	159
Questionnaire Measures.....	160
Results	161
Voter Turnout	161
Māori Rights Protest	162
Political Party Support	164
Discussion.....	166
Limitations and Future Research Directions	169
Conclusion	171
Bridging Comments.....	172
CHAPTER FIVE.....	173
General Discussion, Contribution to the Literature, and Practical Implications	173
Chapter Two: Scale Development	173
Chapters Three and Four: Māori me Tōrangapū	175
Practical Applications and Contributions	177
Caveats, Limitations, and Future Research Directions.....	179
Longitudinal Research	179
Iwi, Heterogeneity, and Intersectionality.....	180
Response Rate and Other Survey Challenges.....	181
Kūpapa and Participation as Assimilation.....	185
Reflexive Considerations.....	186

Indigenous Statistics and Kaupapa Māori Influences	186
Maumahara ki tou Mana Ake	188
Final Comments.....	190
References.....	192
Appendix A.....	233
Responses to Reviewers	233
Response to Reviewers for Study One	233
Editor Comment: Manuscript Focus.....	233
Reviewer One	237
Reviewer Two.....	238
Response to Reviewers for Study Two.....	240
Reviewer One	240
Reviewer Two.....	253
Response to Reviewers for Study Three.....	255
Reviewer One	255
Reviewer Two.....	260
Response to Reviewers for Study Four	263
Reviewer One	263
Reviewer Two.....	264
Reviewer Three.....	267
Appendix B	272
Te Reo Māori Translation of the MMM-ICE2 Reproduced from Houkamau and Sibley (in press).....	272

List of Tables

Tables are numbered in the order that they appear, as is standard in theses. However, please note that there is a substantial amount of repeated information across tables. This is because it was necessary to replicate, for example, the table of MMM-ICE2 construct definitions or item content in many of the published papers.

Table 1. Construct Definitions for the Seven Factors Indexed by the MMM-ICE2. Adapted from Houkamau and Sibley (2015a).....	43
Table 2. Item Content for the MMM-ICE2 by Dimension. Adapted from Houkamau and Sibley (2015a).	45
Table 3. Brief Construct Definitions for the Seven Factors Indexed by the MMM-ICE2. Adapted from Houkamau and Sibley (2015a).....	59
Table 4. Item Content and Factor Loadings for the MMM-ICE2 by Dimension, (R) Signals that the Item is Reverse Coded.	60
Table 5. Construct Definitions for the Seven Factors Indexed by the MMM-ICE2. Adapted from Houkamau and Sibley (2015a).....	73
Table 6. Fit Indices for Standard and Multigroup CFAs Assessing the Equivalence of the MMM-ICE2 across Different Groups.....	85
Table 7. Multinomial Logistic Regression for Study One, Predicting the Likelihood of Voter Preference for the Labour Party (Reference Category is Intending to Vote for the National Party).	105
Table 8. Multinomial Logistic Regression for Study One, Predicting the Likelihood of Voter Preference for the Green Party (Reference Category is Intending to Vote for the National Party).	105

Table 9. Multinomial Logistic Regression for Study One, Predicting the Likelihood of Voter Preference for the NZ First Party (Reference Category is Intending to Vote for the National Party).	106
Table 10. Multinomial Logistic Regression for Study Two (NZAVS Data), Predicting the Likelihood of Voter Preference for the Labour Party (Reference Category is Intending to Vote for the National Party).	112
Table 11. Multinomial Logistic Regression for Study Two (NZAVS Data), Predicting the Likelihood of Voter Preference for the Green Party (Reference Category is Intending to Vote for the National Party).	113
Table 12. Multinomial Logistic Regression for Study Two (NZAVS Data), Predicting the Likelihood of Voter Preference for the NZ First Party (Reference Category is Intending to vote for the National Party).	114
Table 13. Logistic Regression Model of Demographics Predicting the Likelihood of Being on the Māori Roll (Versus the General Roll).	137
Table 14. Logistic Regression Model Using Both Demographic and the MMM-ICE2 to Predict the Likelihood of Being on the Māori Roll (Versus the General Roll).	139
Table 15. Construct Definitions for the Seven Factors Indexed by the MMM-ICE2. Adapted from Houkamau and Sibley (2015a).	150
Table 16. Logistic Regression Model Using Both Demographics and the MMM-ICE2 to Predict the Likelihood of Māori Voting (Versus not Voting).	162
Table 17. Regression Models Using Both Demographics and the MMM-ICE2 to Predict Support for Māori Rights Protest, the National Party, and the Labour Party Among Māori.	163
Table 18. Regression Models Using Both Demographics and the MMM-ICE2 to Predict Support for the Green Party, the Māori Party, and the Mana Party Among Māori.	165

List of Figures

Figure 1. A diagram depicting the Indigenous Statistics methodology. Reproduced from Walter and Andersen (2013) p. 45.....	12
Figure 2. A diagram depicting my approach, presented alongside the Indigenous Statistics methodology. Partially reproduced from Walter and Andersen (2013) p. 45.....	26

Glossary

Below is a glossary of te reo Māori words used in this thesis. Note that I have made the conscious choice not to follow APA protocol of putting ‘other’ languages in italics languages, for specifically te reo Māori, in an effort to normalise its use (I will expand on the normalisation of Māori culture later in the thesis, in the Kaupapa Māori research section; Pihama, 1993; Pihama, Cram, & S. Walker, 2002; G. H. Smith, 1997; L. T. Smith, 2012; L. T. Smith & Reid, 2000). However, to aid readability for everyone, I will provide the translation in parentheses upon the first use. Many translations are based on content from the Māori Dictionary (2018) website.

Ako – To learn, study, instruct, teach, advise. Also refers to the Kaupapa Māori principle of culturally preferred pedagogy.

Aotearoa – New Zealand.

Ata – Many meanings, but ata is used in this thesis to refer to the Kaupapa Māori principle of growing respectful relationships.

Atawhai – To show kindness to, care for.

Awa – River, also stream or creek.

Hapū – Kinship group, clan, a subgroup within iwi - section of a large kinship group and the primary political unit in traditional Māori society.

He Whakaputanga – The 1835 declaration wherein the United Tribes of Aotearoa declared sovereignty over Aotearoa. Sometimes referred to as the declaration of independence.

Hīkoi – A protest march or walk.

Iwi – Extended kinship group, tribe, nation, people - often refers to a large group of people descended from a common ancestor.

Kai – Food, meal.

Kaiako – Teacher, instructor.

Kaitiakitanga – Guardianship, stewardship, trusteeship.

Kanohi ki te kanohi – Face to face.

Kapa haka – A traditional Māori performance/performing group.

Karakia – Prayer.

Kaumātua – Elders.

Kaupapa – Topic or matter for discussion.

Kaupapa Māori – Māori approach, Māori topic, Māori customary practice, Māori institution, Māori agenda, Māori principles, Māori ideology - a philosophy incorporating the knowledge, skills, attitudes and values of Māori society.

Kiwi – A flightless, nocturnal bird native to Aotearoa.

Koha – Gift, offering, donation, contribution.

Kōhanga Reo – Māori language immersion preschools.

Kuia – Female elder, grandmother.

Kūpapa – Collaborator, ally - a term that has become more derogatory over the years and is typically applied to Māori who side with Pākehā opposition or the Government.

Mahi – Work, job, employment, trade, practice, occupation, activity, exercise.

Mana – Prestige, authority, control, power, influence, status, spiritual power, charisma - mana is a supernatural force in a person, place or object. Also the name of a political party in Aotearoa.

Mana Wāhine – Research that centres the experience of Māori women and girls. Mana Wāhine challenges the idea that women have held, or hold, a lower status position in Māori society

Manaakitanga – Hospitality, kindness, support - the process of showing respect, generosity and care for others.

Māori – Indigenous peoples of Aotearoa.

Māoritanga – Māori culture, practices and beliefs, Māoriness, the Māori way of life.

Marae – The open area in front of the wharehau (meeting house), where formal greetings and discussions take place. Often also used to include the complex of buildings around the marae.

Mātauranga Māori – Māori knowledge or ways of knowing - the body of knowledge originating from Māori ancestors, including the Māori world view and perspectives, Māori creativity and cultural practices.

Maunga – Mountain, mount or peak.

Pākehā – Someone of European descent who lives in Aotearoa, often also called New Zealand European. Pepeha – A way of introducing yourself in te reo Māori which can include whakapapa or areas of significance.

Pounamu – Greenstone.

Rangatira – High ranking, noble, revered chiefly or a chief.

Rangatiratanga – Chiefly authority.

Rātana – A religion and pan-iwi, pro-Māori political movement.

Tangata whenua – The local people, Indigenous people.

Taonga – Treasure, anything prized.

Tapu – Sacred, restricted, prohibited, under divine protection.

Tararā – From the former Yugoslavia or Dalmatian.

Tauīwi – Outsiders or those with no iwi. Used to refer to non-Māori while being inclusive of non-Pākehā.

Taurekareka – Slaves.

Tino Rangatiratanga – Self-determination, sovereignty, autonomy, self-government, rule, control, power.

Te Ao Māori – The Māori world.

Te Ao Pākehā – The Pākehā world.

Te Ika-a-Māui – North Island.

Te reo Māori – The Māori language.

Te Tiriti o Waitangi – The Treaty of Waitangi.

Te Waipounamu – South Island.

Tēina – Younger siblings of the same gender, or younger cousins from a junior branch of the family of the same gender

Tikanga – Correct procedure, custom, manner, convention, protocol - the customary system of values and practices that have developed over time and are deeply embedded in Māori social contexts.

Tūpuna – Ancestors, also refers to grandparents. Tupuna is the singular version.

Tohunga – Experts in a field, chosen for the role based off signs of early talent.

Tōrangapū – Politics, political.

Tuākana – Elder siblings of the same gender, or elder cousins from a more senior branch of the family of the same gender.

Tūtūā – Low-born or commoner.

Wāhi – Location, place. Spelt waahi in the MMM-ICE2 scale.

Wahine toa – Strong woman. Wāhine toa refers to strong women.

Waiata – Song/to sing.

Waipiro – Liquor, alcohol.

Waka – Canoe, vehicle, conveyance.

Wānanga – Tertiary institutions grounded in Māori traditions and customs, to meet Māori needs.

Wero – Challenge.

Whakapapa – Genealogy, lineage, descent.

Whakataukī – Proverb, saying.

Whakawhanaungatanga – Identifying, maintaining, and forming relationships. An important principle in Kaupapa Māori research.

Whānau – Extended family, family group, generally includes a broader range of people than the Western/English term ‘family’.

Whanaungatanga – Relationship, kinship, sense of family connection.

Wharenuī – Meeting house, large house/main building of a marae where guests are accommodated.

CHAPTER ONE

General Overview

Mr Speaker,

I grew up in a working class Māori family and we were poor. But I was most deeply affected in my childhood by my parents who shared without question their meagre resources with many of our friends and family.

This sharing was the exercise of our Māori familial values, best expressed as whanaungatanga, where the whole whānau cared for and took responsibility for all its members. Like many Māori I grew up with this sharing as a fundamental expression of my Māori self. ...

I also grew up in a racist society, where the expression of Māori values is considered a failure to cope in a modern society ...

To be a Māori in this society is to be revolutionary by existence.

My politicisation, my subversiveness was grounded in my living my life as a Māori...

We too in Aotearoa live in a cage. We are caged by the State, a political and economic system that relegates basic human needs and ecological integrity to the fringes of our existence. ...

Finally Mr Speaker, in my own journey of empowerment, politicisation and subversiveness I have found myself a member of the establishment, but not now nor ever its advocate.

Metiria Turei (2002)

In Aotearoa,² Māori are tangata whenua (the Indigenous peoples of the land). To be Māori nowadays is to be political: our identities are inextricable from colonial influence (Durie, 1998a; Houkamau, 2006, 2010; R. Walker, 2004). The opening epigraph to this thesis, excerpts from the

² New Zealand; throughout the thesis I will use these terms interchangeably, depending on the audience. Although, my preference is for Aotearoa.

former (and controversial) Member of Parliament (MP) and Green Party co-leader Metiria Turei's maiden speech, illustrates this struggle well. Our identities as Māori have been shaped across generations by the dominating, assimilating, and marginalising colonial and political forces of Pākehā³ (Houkamau, 2006, 2010; R. Walker, 2004). As such, to be Māori is to be political. Thus, my thesis explores the content of Māori ethnic identity and the links it has to political attitudes and behaviours.

In this thesis I use both *etic* and *emic* measures of Māori identity. *Etic* measures are broad indicators of ethnic identity which can be used across cultures, for example, simple ethnic group affiliation (Berry, 1989; Pike, 1967; see also scales like Phinney's, 1992, Multi-group Ethnic Identity Measure). Such measures allow researchers to explore differences or similarities across ethnic groups, mainly for the purposes of comparison. In the case of this thesis, *etic* measures such as ethnic group affiliation are used to compare outcomes like vote choice across ethnic groups. Comparative research generally takes an *etic* perspective, which uses an external view of the culture, and the phenomena studied are described by the researcher as an outsider (Berry, 1989; Pike, 1967). While *etic* measures are useful for looking across, say the population of Aotearoa, they provide little depth and suffer from a lack of specificity or sensitivity because they treat every member of an ethnic group as the same (Houkamau & Sibley, in press).

A strength of this thesis is that my focus is on the use of an *emic* measure, the Multidimensional Model of Māori Identity and Cultural Engagement – Revised edition (the MMM-ICE2; Houkamau & Sibley, 2010, 2015a). *Emic* measures centre on the 'insider's' view of what is being studied (Berry, 1989; Pike, 1967). In this case, Māori identity, in a measure designed specifically *for* Māori. The MMM-ICE2 is a seven-dimension scale, which anyone who identifies as Māori can fill in through a Likert-style questionnaire. The scale was designed through a partnership by a Māori qualitative researcher (Houkamau) and Pākehā quantitative researcher (Sibley), both of

³ New Zealand European and Pākehā are two terms commonly used to describe those of European descent that reside in Aotearoa (King, 1999). However, sometimes Pākehā prefer to refer to themselves as "Kiwi" (a flightless bird native to Aotearoa) or "New Zealander" (i.e., see Sibley, Houkamau, & Hoverd, 2011). I personally prefer use of the term Pākehā to refer to both the group and to parts of my own ethnic identity, however in some parts of this thesis I will use New Zealand European or NZ European as for some (international) audiences it warrants less explanation.

whom also supervised this thesis. The purpose of the scale was to measure Māori identity from an *emic* perspective, to be able to explore the diversity within the Māori population, rather than simply taking an *etic*, surface view (Sibley & Houkamau, in press).

Why? Because the content of ethnic identity and one's level of identification with their ethnic group have been shown to be important predictors of a wide range of outcomes (e.g., Phinney, 1990; Phinney & Chavitra, 1992; Phinney & Ong, 2007; Manuela & Sibley, 2013, 2015a; T. B. Smith & Silva, 2011). Basically, our ethnic identities are important parts of our self-concept. Our identities relate to the groups we belong to in society, that make us who we are (e.g., Phinney, 1990, 1991, 1992; Tajfel, 1981; Tajfel & Turner, 1979). A tool was needed to bridge Māori and Western⁴ psychological paradigms to measure ethnic identity for Māori, thus the MMM-ICE2 was created. In the years since its creation, researchers have validated the MMM-ICE2 using various statistical techniques (Houkamau & Sibley, 2010, 2015a, in press; Sibley & Houkamau, 2013) and applied it to a range of outcomes and issues (Cowie, Greaves, Milfont, Houkamau, & Sibley, 2016; Greaves, Houkamau, & Sibley, 2015; Houkamau & Sibley, 2010, 2011, 2015a, 2015b, 2016; Matika, Manuela, Muriwai, Houkamau, & Sibley, in press; Muriwai, Houkamau, & Sibley, 2015, 2016; Te Huia, 2013).

Hence, the overall aims of my thesis are twofold. Firstly, I aim to continue the validation of the MMM-ICE2 as a psychometric tool through the use of advanced psychometric methods (Chapter Two; Studies One and Two). The validation work in the remainder of the thesis is focussed on the construct validity of the Socio-Political Consciousness subscale: that is, if the Socio-Political Consciousness dimension is truly a measure of the political aspects of Māori identity, it should predict political attitudes and behaviours (Cronbach & Meehl, 1955; Chapter Four; Studies Four and Five). The second aim of this thesis is broader: there is a dearth of research predicting political attitudes and behaviours for Māori using national samples (Chapter Three;

⁴ In this thesis, the term “Western” refers to both European and North American traditions and culture (Said, 1978), which much of current-day Pākehā identity, customs, and culture in Aotearoa has been derived from.

Study Three). Thus, my goal is to explore the connection between identity and politics for Māori by predicting a range of political attitudes and behaviours (Chapter Four; Studies Four and Five).

This thesis will be presented in five parts:

- I. Chapter One provides the theoretical and historical basis for the research. I situate myself and the research in relation to Walter and Andersen's (2013) Indigenous Statistics framework and Kaupapa Māori research. Additionally, I review the history and current position of Māori in Aotearoa, and more specifically, in politics. I also review the literature on the creation and use of the MMM-ICE2.
- II. Chapter Two covers further validation of the MMM-ICE2 as a psychometric tool. In this section, I present two studies that show: (1) the MMM-ICE2 is not vulnerable to acquiescent response bias (yea-saying) and (2) that the MMM-ICE2 performs well across diverse Māori groups (across gender, age cohorts, ethnic group affiliation, and the potential urban/rural divide). These studies provide further evidence that researchers (including me, in the rest of my thesis) can confidently rely on the findings of research using the MMM-ICE2.
- III. In Chapter Three, I take a broader, *etic*, look at Māori identity through using the simple measure of ethnic group affiliation as Māori. This section provides a broad comparative view of who Māori vote for compared with other ethnic groups in Aotearoa. The study in this section analyses two large samples to empirically explore which political parties Māori (and those on the Māori roll) prefer. It also provides a baseline to be able to put later, deeper (*emic*) exploration into context.
- IV. In Chapter Four, I show that the MMM-ICE2 has utility in predicting real-world political outcomes for Māori, and demonstrate the construct validity of the Socio-Political Consciousness dimension. The first paper in this section shows which aspects of identity and demographics predict enrolment on the Māori electoral roll (versus the general roll). The second study provides a validation of the MMM-ICE2 scale for political attitudes and behaviours. I present analyses using the MMM-ICE2 and demographics to predict voter turnout, support for Māori rights protest, and political party support.

V. Finally, in Chapter Five, I discuss the findings and the contributions that this thesis makes to the literature. I also explore the practical implications of this thesis, discuss the limitations, reflect on the research process, and provide future research directions.

The studies presented in Chapters Two, Three, and Four are articles that are in varying stages of the publishing process in peer-reviewed, local and international journals. The papers are presented in full (minus cover page, acknowledgements, and references: which are present in the overall references section for this thesis). Taken together, these papers form an exploration of the MMM-ICE2 and Māori politics, they are also intended to be read as standalone articles. Additionally, please note that the order in which the studies are presented is not the same order in which they were published. Thus, there may be times where an earlier paper references a paper published later in the thesis.

A brief note on language is also warranted. Firstly, part of the research process for me has been learning te reo Māori (the Māori language; I will further explain this in the next section). As such, I wanted to use te reo Māori where possible. To enhance readability these terms are translated in parentheses the first time that they appear. Additionally, translations and (occasionally) more complete definitions are provided in the glossary found in the opening pages of this thesis. Secondly, there are times where readers may notice a change in the use of pronouns throughout the thesis (i.e. from ‘I’ to ‘we’). This change reflects that within the sections are papers which have my supervisors (and others) as co-authors, as is commonplace in psychology.

I wish to comment briefly on repetition. As previously mentioned, the bulk of this thesis presents (mostly published) journal articles. As such, there tends to be repetition across several sections. It was necessary to explain who Māori are to international audiences, and to tell the readers about the MMM-ICE2 in each individual paper. Unfortunately, these sections may get repetitive to readers of this thesis. Additionally, sometimes very similar tables are repeated throughout the articles in the thesis. This repetition was necessary to meet the thesis requirements of replication of the standalone journal articles. That being said, I believe that the articles are presented here in their most readable order, and in an order where they build upon one another theoretically.

Finally, before embarking on the first substantial section of the thesis, I would like to acknowledge the contributions of the (mostly) anonymous Reviewers and the journal Editors (copies of the responses to the Reviewers for the publications in this thesis can be found in Appendix A). Their input has vastly strengthened much of what follows in later chapters.

Lies, Damned Lies, and Methodologies

At the broadest level this research is Indigenous and quantitative. Why have I started with this really obvious point? Well, the majority of quantitative theses in the vast field of social psychology will get right into a literature review, analyses, and results. Little to no time will be spent analysing the social or epistemological position that the researcher is coming from, why they chose to use statistics to tackle their research question(s), decisions that the researcher has made, or how any of this affects their end result (Babones, 2015; Baxter, 2012; Carter & Little, 2007; Duffy & Chenail, 2009; Newton, 2009; Ryan & Golden, 2006; L. T. Smith, 2012; Walter & Andersen, 2013). The norm for quantitative methodology is to follow the well-established Western formula based on positivist research; where one formulates a research question, hypothesises, collects and analyses the data, states the results, and aims to ultimately generate scientific knowledge or truths about the world (Babones, 2015; Ryan & Golden, 2006; Walter & Andersen, 2013).

Although this formula for (social) scientific research has been long followed, in recent decades Indigenous researchers have created frameworks that actively resist this methodology (L. T. Smith, 2012; Walter & Andersen, 2013). Indeed, the institution of research itself has been challenged by Indigenous peoples. Māori scholar Linda Tuhiwai Smith famously said that “the word itself, ‘research’, is probably one of the dirtiest words in the Indigenous world’s vocabulary” (2012, p. 1). This resistance to research is more than understandable because research was so often used as a tool for colonisation (Borell, 2014; Stokes, 1992). As part of colonisation, indigenous peoples have been observed and measured by researchers, and subsequently categorised as subhuman (Denzin & Lincoln, 2008; L. T. Smith, 2012). Colonial research was (and arguably still is) used as a basis for political, economic, social, and spiritual injustices (Borell, 2014; Stokes, 1992; L. T. Smith, 2012). Additionally isolating for Māori is the fact that many of the most

prominent universities in Aotearoa were built on land taken during colonisation (Morrison, 1999). Part of the problem is that Māori have often been researched *on* as subjects by outsiders (Pihama, 1993; L. T. Smith, 2012). Research has often been a space defined and constructed by colonisers, who have had the power to choose what is and what is not science or knowledge (Pihama, 2001).

Fortunately, Kaupapa Māori research, which I review in more detail later, has been touted as a remedy to this problem (L. T. Smith, 2012). Kaupapa Māori methodology is a framework followed by many Māori researchers doing research *with* Māori that has the overall goal of empowering Māori and of creating positive change *for* Māori (Pihama, 2001; Pohatu, 2005; L. T. Smith, 1996; 2012; G. H. Smith, 1997; S. Walker, 1996). However, even with the introduction of Kaupapa Māori research, Māori are still said to be suspicious of research, especially quantitative or survey research. This is understandable given the obsession by the media and some researchers with deficit framed stories (Nairn, 2012; L. T. Smith, 2012). Additionally, for many Māori it may be the case that qualitative research comes more naturally (the Kaupapa Māori principle of *ako* Māori, or culturally preferred pedagogy), as it includes holistic features and storytelling, similar to parts of Māori culture (Moewaka Barnes, 2006; Pihama, 2001; Pohatu, 2005; G. H. Smith, 1997)

Māori Identity and Statistics.

There are two kinds of social psychologists: those who believe you can group people, and those who don't.

-Unknown (as quoted in Treharne, 2011, p. 132)

Official statistics (those funded and created by government) have power in society (Kukutai & Walter, 2015). They are used to construct categories and determine the way that Indigenous (and various other) peoples are counted, labelled, and described. Firstly, 'Māori', which simply means 'normal' or 'ordinary', did not exist until colonisation when there was an 'other' to be defined against (Durie, 1998a; Kukutai, 2012; McClean, 2012; Rangihau, 1975; MacDonald, 2016). Before colonisation, the main way that Māori defined themselves was through their *pepeha* (a way of introducing yourself in Te Ao Māori [the Māori world] which can include *whakapapa* [genealogy, lineage, descent] and geographical areas of significance), including *iwi* (extended kinship group,

tribe, nation, people – often refers to a large group of people descended from a common ancestor), hapū (kinship group, clan, a subgroup within iwi - section of a large kinship group and the primary political unit in traditional Māori society), marae (the open area in front of the wharehau [meeting house], where formal greetings and discussions take place – often also used to include the complex of buildings around the marae), waka (canoe, vehicle, conveyance; in this context, the migratory waka one's ancestors were on), key ancestors, and geographical features like maunga (mountain) and awa (river) or other significant bodies of water (Durie, 1998b; McClean, 2012). These connections remain an important part of Māori identity today. However, since colonisation, being Māori has also been defined by *officials*, and thus researchers, in many different ways.

Prior to the 1974 Māori Affairs Amendment Act, Māori were identified according to a blood quantum rule (Durie, 1998b). One could be either a “full Māori”, a “half-caste”, or “a person intermediate between half-caste and a person from that race” (Metge, 1976, p. 41), also known as a “three-quarter-caste” in the 1926 Census (Kukutai, 2012, p. 37). In the nineteenth and early twentieth centuries, blood quantum statistics were taken as measures of success or failure on the part of assimilation. An increase in ‘half-castes’ was thought of as success (Kukutai, 2012). Worldwide, blood quantum models have been used throughout history as a colonial method to count who is and is not Indigenous, and to suppress numbers of Indigenous peoples to reduce their social, political, economic, and cultural dominance (Kukutai, 2012; Tallbear, 2013; L. T. Smith, 2012). In practice, the blood quantum system in Aotearoa was routinely met with defiance by Māori, wherein some people who could have identified as half-castes decided to live as Pākehā, whereas others identified as Māori (Kukutai, 2012; Pool, 1991). Other ‘full blooded’ Māori were not people that were of entirely Māori descent; rather, they were those that protested at having to quantify their ethnic identity in DNA terms (Durie, 1998b; Pool, 1991). Due to these reasons, and lobbying from Māori organisations citing that many Māori found blood quantum measures offensive, the measurement of Māori ethnicity was changed (Kukutai, 2012). Post-1974, the minimum requirement to be able to technically list your ethnic affiliation as Māori is being “a

descendant of (a) Māori” (i.e. having Māori whakapapa; e.g., Electoral Commission, 2014a; Kukutai, 2012).

Who is counted as Māori and the way that official statistics choose to count peoples is important for nations on a day-to-day basis (Kukutai, 2012; Kukutai & Walter, 2015). Such numbers are used for everything from government funding allocations through to the number of seats of parliament allocated to the Māori roll (Bargh, 2012; Durie, 1998a). The groups defined by statistics are often created or reinforced in social life (Andersen, 2008), and historically the way these groups have been created has been bad for Indigenous peoples (Kukutai & Walter, 2015; Zuberi & Bonilla-Silva, 2008). Governments are often motivated to suppress numbers of Indigenous peoples because of the clear link between Indigenous identity, land rights, and claims for historical reparations (Kauanui, 1999; Kukutai, 2012; Maaka & Fleras, 2005). The effects of official statistics are yet another reason for many Māori and other Indigenous peoples to be wary of quantitative methods.

Methodologies versus Methods: Maps versus Bicycles. At this point I wish to distinguish between a methodology and a method. Methodology is the process, for example, Kaplan (1964, p. 18) describes methodology as “the study—the description, the explanation, and the justification—of methods, and not the methods themselves” (see also Coburn, 2015; L. T. Smith, 2012). Methods are the techniques, analyses, tools or data collection that researchers use, or some kind of “research action” (Carter & Little, 2007, p. 1318; Coburn, 2015; Houkamau & Sibley, in press; L. T. Smith, 2012). A suitable analogy is that a methodology is “a domain or a map, while a method refers to set of steps to travel between two places on the map” (Wahyuni, 2012, p. 72). A methodology is often used to justify methods (Carter & Little, 2007). For example, someone taking a critical feminist methodology may use interviews because qualitative methods are what their methodology generally entails (the norm). That being said, in reality methods can also precede methodology. For example, if someone has a quantitative data source on a project of interest, they are unlikely to adopt a critical feminist methodology. However, there has been a growing movement to disconnect the methods

and methodology, especially in light of the rise of mixed methods research (Duffy & Chenail, 2009; Onwuegbuzie & Leech, 2005).

Additionally, methodological fundamentalism can be a problem in the research community (Carter & Little, 2007; Houkamau & Sibley, in press). By this I mean the strongly held views that there is one right, true, or better way to do things, which can even be held by those who do not believe there is one true reality. However, as Linda Tuhiwai Smith (2012) states, research can also be decolonising if it draws from Western knowledge or research. It is important to take a pragmatic approach based on the problem at hand. There is a place for quantitative scales of Māori identity, just as there is a place for Indigenous research with a wide range of methods; these can coexist peacefully (Houkamau & Sibley, in press). The important point is that the concerns and aspirations of Indigenous peoples are placed at the centre and are the dominant perspective. Part of the decolonising process can be done through systematically separating quantitative methods from typically-colonising methodologies.

What is an Indigenous Methodology? Indigenous methodologies are more than simply an Indigenous person conducting research; rather, they are an overall approach to conducting research. They allow Indigenous researchers to be themselves rather than a detached observer of their own people (Hart, 2010), and help us to fulfil felt obligations to the community (Kovach, 2009; S. Wilson, 2001). Indigenous methodologies aim to fulfil the promise of research without harm, a common theme in Indigenous research in light of our history with research. For example, Brass (2000, p. 79) uses the Muskéko-ininiw term *kisténitámowin*, or “to take care to never mistreat any form of life.” These methodologies provide a framework for Indigenous researchers: a standing ground to be true to their identity as an Indigenous person, while still being able to conduct research systematically in a profession often obsessed with deficits (Nairn, 2012; Pihama, 1993; L. T. Smith, 2012; Valencia, 1997, 2010).

Indigenous methodologies do not come without limitations. It is important to remember that the majority of thinking on Indigenous methodologies comes from Indigenous scholars who originate in nations that are now Westernised and industrialised (Coburn, 2015), and that

methodologies are only beginning to have the capacity for intersectionality (to serve those with multiple, perhaps marginalised, identities; Coburn, 2015; Le Grice, 2014; Pihama, 2001). Hart (2010) expressed concern that a downside of continuously developing methodologies is that they may become too complex to those peoples and researchers who have not yet been involved in the Indigenous research community. We also need to be aware of the effects of colonisation on access to culture. Some (like myself at many times) may not have the necessary cultural resources to meet the more restrictive conceptualisations of these methodologies. Indigenous research methods can also be intimidating; those theorising about research say Indigenous research should be done by an Indigenous researcher rather than a researcher that happens to be Indigenous (Irwin, 1992; L. T. Smith, 2012). However, as I will discuss later, at what point is someone Indigenous ‘*enough*’ to meet this criterion?

My Methodology

The methodology of my thesis has two key parts. Firstly, this work is heavily influenced by Walter and Andersen’s (2013) Indigenous Statistics methodology, and secondly, to some extent by Kaupapa Māori research methodology (L. T. Smith, 2012). In this section I explore each part of Walter and Andersen’s (2013) conceptualisation of research methodology before moving onto an overview of Kaupapa Māori research and how it relates to this thesis.

Indigenous Statistics

Walter and Andersen (2013) presented the Indigenous Statistics model as a conceptualisation of methodology. The framework is an attempt to allow researchers to detach methods from methodology, and it alerts researchers to aspects of the process that they normally take for granted. Due to the history of statistics in Indigenous research, which I briefly reviewed above, it is necessary to detach quantitative methods from methodologies in an attempt to decolonise quantitative methods. A visual depiction of Walter and Andersen’s (2013) conceptualisation of methodology can be found in Figure 1. Each part of the model is entwined, yet separating and reflecting on each component can reveal the assumptions made at each point of the research. In this section I describe how my social positions, epistemology, axiology, and ontology

relate to the standpoint of this research and the overall theoretical framework and goals of the research.

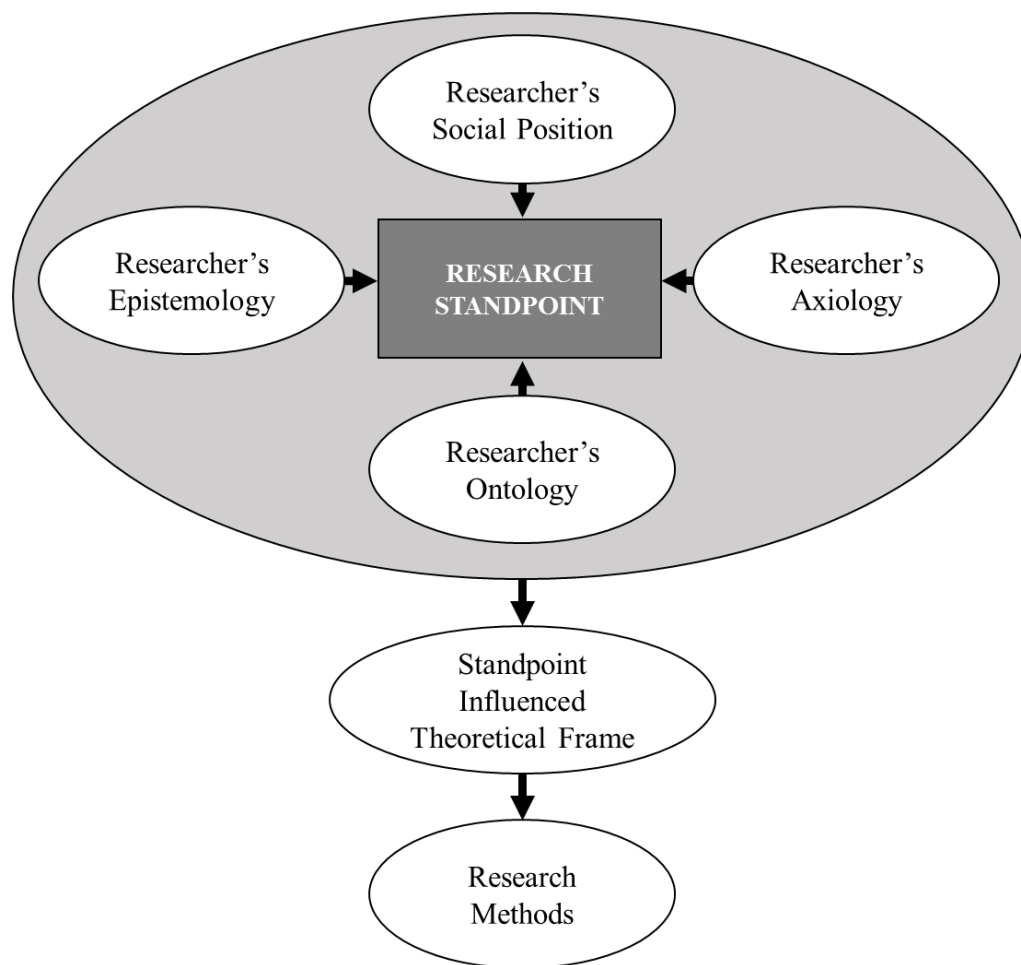


Figure 1. A diagram depicting the Indigenous Statistics methodology. Reproduced from Walter and Andersen (2013) p. 45.

Research Standpoint

Walter and Andersen argue that the research standpoint is the most crucial part of this model. It determines everything about the project: from the methodology used to ultimately the methods of data collection and analysis. Below I explore the four sections: social position, epistemology, ontology, and axiology.

Researcher's Social Position. It is important to introduce myself as a researcher, since social positions underlie how we choose the research questions that we seek to answer (Walter &

Andersen, 2013). This thesis has, of course, been a process of research, but also of self-reflection on my own identity. In addition, writing an introduction of oneself, their whakapapa, and how they came to the research is standard for qualitative researchers, and Māori and other Indigenous researchers (Coburn, 2015; Nicholls, 2009; Pihama, 2001; S. Walker, Eketone, & Gibbs, 2006). Indeed, Pere (1988) discusses that Māori researchers and academics are “historical beings” (see also Irwin, 1992; Mane, 2009). That is, we can clearly see how our success and mahi (work) is tied to whanaungatanga (relationship, kinship, family style connections) and whakapapa. However, this can be difficult. As will become apparent, I am grappling with several identity issues myself, and like most, I am a product of colonisation.

My own ethnic identity has been a source of a lot of thought and confusion for me. I am constantly told by others that I am Pākehā by strangers, other researchers (some of which should probably know better, although I understand the protective suspicions of others), and even family members. I believe that to many of the people I encounter on a day-to-day basis, I do not appear Māori. Throughout my life, people have frequently expressed anti-Māori sentiment to me, talking about the ‘Maaris’⁵ as though *they* are not in the room. Throughout my life, and in more recent years as a social psychologist, this has led me to question: am I Māori ‘*enough*’? In this thesis, I use several indicators of Māori identity including *etic* measures (such as ethnic group affiliation, and Māori descent) and *emic* measures (such as the Multidimensional Model of Māori Identity and Cultural Engagement; Houkamau & Sibley, 2010, 2015a, in press). As such, I felt it would be helpful to structure this introduction and the discussion of my social position around the questions that I asked of other Māori in the data collection this thesis. Thus, I intend to briefly explore how each of these measures relates to my position and identity below to provide the background as to who I am and what I bring to this topic.

Ethnic Affiliations and Whakapapa. I have Māori whakapapa (concisely in this context as genealogy), meaning I know that I descend from Māori. Like many in Aotearoa, my ancestors were

⁵ This is my attempt at expressing the common mispronunciation of the term “Māori” that seemingly goes alongside anti-Māori sentiment.

both the colonisers and the colonised, as I am a descendant of both tangata whenua and early colonial settler populations. My father grew up in South Auckland and went to school in Papatoetoe. He dropped out around age 15-16 and became an award-winning chef. When I was growing up he was constantly joking about his South Auckland accent and being the whitest kid in school. Sadly, his father died very young and my grandmother was left to care for him and his sister. My grandmother has been a constant source of inspiration to me, overcoming many struggles while showing great atawhai (kindness). Having returned to tertiary study in her sixties, she has recently been working as a counsellor for children in lower decile schools. My father identifies as Pākehā, but has Ngāpuhi ancestry on his father's side, and Ngāti Kuri and Tararā (the Māori term for Dalmatian descent, in this case modern-day Croatia) ancestry on his mother's side. I am loathe to go further into the specific details of this part of my whakapapa publically out of respect for the privacy of others (and those who have passed). I acknowledge that while I am happy to speak about my identity publically (although the extent to which any thesis is 'public' is questionable!), others in my whānau (family, although usually refers to a broader range of people than the Western/English meaning of 'family') may not. It is suffice to say, on a broad level, many of the events in the history of this side of my family can be attributed to the impact of colonisation.

My mother grew up on Auckland's North Shore. After being discouraged from veterinary science by teachers despite having excellent grades, she dropped out of secondary school and went on to work in animal care as a veterinary nurse. On my mother's side, my grandmother was always told by whānau that she was 'part Māori' but does not know which iwi or any specific details. She grew up in rural Putaruru and has influenced me through her political awareness. She first trained as a teacher before raising her children and later fulfilling her dream of having her own farm. My grandfather is amazingly artistically talented and spent his life working as a graphic designer and farmer. His mother constantly went on about being Spanish, which was her explanation as to why she had darker skin and prototypically Māori features. Her strategy was likely an attempt to distance herself from her Māori identity and culture by affiliating with a different ethnicity. Unfortunately, we do not know the whakapapa of this line of our family. The (likely) Māori ancestor was born in

Waitara during the time of the atrocities at Parihaka and was adopted by a Pākehā family shortly thereafter. Some family members on this side believe we are Māori, others do not.

As I have shown above, there are family mysteries that I am yet to pursue, that may seem like excuses to some. There has been a feeling of resistance from certain family members whenever I try to follow up my family history. Phone calls from one to another, insistent that we are not ‘Maari’, Yet a glance at the family tree shows: a baby born two years before a marriage, a baby without legal documentation when that was required of Pākehā births at the time, one ancestor who is a completely different skin colour in the photos from their entire family, and so on. These are reasons why I have some whānau that do not know their iwi. This is something I share with 110,928 other New Zealanders at the last count (the 2013 Census; Statistics New Zealand, 2013). In fact, if ‘don’t know’ was an iwi it would be the second largest after Ngāpuhi, so in a way I can say I’m from the two largest iwi! Nevertheless research into my whakapapa will be something I will pursue in future years (perhaps when I am done researching this thesis?).

Another way Māori ethnicity (outlined earlier) has been measured in the past is through a blood quantum model (Kukutai, 2012; L. T. Smith, 2012). Many people, including some of my whānau, like to enforce this idea on Māori. They will try to quantify what proportion of someone’s DNA is Māori as though that is an indicator of who they are, which contributes to the narrative of who is and who is not a real or authentic Māori (Borell, 2005; Chadwick, 1998; Moewaka Barnes et al., 2012). Through the media or opinions of others, we hear stories about people that are 1/16th or 1/128th Māori, or even the idea that no true, ‘100% Māori’ exist. We also hear the rhetoric: “My great grandmother was Irish but I don’t list Irish as my ancestry”, or “My ancestors were Greek, Scottish, Welsh, Portuguese, and English, but I don’t say they are my ethnicities.” This is where identity becomes subjective to an extent, for example, there is no single definition of who Māori are as an ethnic group (Kukutai, 2012; Pool, 1991). Yet some people may have some degree of choice about the ethnic groups they do and do not identify with. For instance, 16% of New Zealanders who have Māori whakapapa do not identify as Māori (Statistics New Zealand, 2013). By the blood quantum measure, I have no idea what proportion of my blood is Māori. I do not care and I do not

believe that the readers of this thesis will. Despite recent attempts at revival by the alt-right and rogue authors, the theory of biological, racial differences (scientific racism) has been well refuted by the scientific community (e.g., Balter, 2014; Tallbear, 2013).

So where does this leave me and my identity? Well I identify as Māori, Pākehā, and Tararā. If you were to give me the Census ethnic affiliations question today that is how I would answer. I include Tararā as separate from Pākehā, as those ancestors faced their own set of challenges, immigrating from what is now Croatia to Kaitaia in the early 20th century. I feel myself enraged by questions like “please identify your main ethnicity” (Kukutai & Callister, 2009); this is not an exaggeration, I have a physical, visceral reaction to them, then I write a complaint in one of the other survey or form boxes. I answer as ‘other’ as I feel like I cannot answer with Pākehā as this marginalises an important part of my identity (Māori, Tararā), but I could not answer Māori or Tararā as this minimises another important part of my identity (Pākehā). In short, our ethnic group affiliations can be complex, in part, due to the degree of subjectivity involved, but they are also incredibly meaningful identities to many people.

Ethnic and Cultural Identity. Beyond (*etic*) measures of simply whether one has Māori whakapapa or identifies ethnically as Māori, there have been subjective (*emic*) measures of ethnic identity, including the Multidimensional Model of Māori Identity and Cultural Engagement (MMM-ICE). I will return to a full description of the creation of the scale, the various dimensions, and what they predict later. However, for this section I will briefly introduce and touch on my responses to what I see as being the two key dimensions that inform the motivations for this thesis.

Group Membership Evaluation. The dimension of the scale called Group Membership Evaluation warrants a brief discussion. This subscale was designed to measure the extent to which someone thinks that being Māori is positive, and an important part of their identity (Houkamau & Sibley, 2010, 2015a). I score highly on this subscale, which is probably related to the time I grew up in (Houkamau, 2006, 2010): I was born in 1990. In the decades before my birth, Māori fought for my generation to be allowed to feel this way (throughout the writing of this thesis I read many accounts of this: e.g., see Awatere, 1984; Derby, 2014; Hill, 2009; Taonui, 2012; R. Walker, 2004).

In writing a PhD thesis on Māori identity I obviously think that being Māori important to my own identity, even as someone of mixed Māori/Pākehā/Tararā descent. As Irwin (1992, p. 54) discusses, researchers from a mixed ethnic background are often drawn to Māori research, which takes nothing away from their other heritage just that “there are very good historical, cultural and social reasons why my Māori tūpuna (ancestors) need my professional and personal energy more than my Pākehā tūpuna.” I also bring up this dimension to highlight that this thesis is pro-Māori. I am pro-Māori. What does this mean? Well, on a personal level I want to be useful. I want to do my best to provide research and research tools for Māori. On a broader political level, however, I hope that this thesis helps to further Māori political interests. These are all key elements of Kaupapa Māori research which I touch on later in this chapter. As it is the most crucial to my thesis and the motivations behind my research, the second dimension I wish to expand upon is Socio-Political Consciousness,

Socio-Political Consciousness: My Political Standpoint. This is also the place to discuss the standpoint underlying this thesis. Why did I choose this topic and the many other potential thesis topics? I relate this to the dimension of Socio-Political Consciousness in the MMM-ICE: the extent to which one stands up for Māori political rights and believes in the current-day relevance of the intergroup history of Aotearoa (past injustices and events like te Tiriti o Waitangi/the Treaty of Waitangi). When I was 18, like many others, I enrolled to vote: I filled the online form with my name, address, and other details, ticked the box that I was of Māori descent, but I must have chosen the general roll. As an 18 year old I probably did not even know that I could choose between rolls, I also know I would not have felt Māori ‘enough’ to tick Māori roll. Fast-forward a few years and the 2013 Māori electoral roll option had opened (Electoral Commission, 2013a). At the time I was completing an honours thesis on voter apathy and had a high level of political interest. Like many students I was flapping. I called my mum because I knew, as someone who had indicated Māori ancestry on the roll, I would have been sent an enrolment pack. The pack had arrived about a month into the approximately three month long enrolment window. It then took me a while to see my parents and actually get the pack off of them. I enthusiastically filled out the form, but it then ended

up in a pile on my desk, probably because younger people do not send mail. I eventually sent it in. Later, I received a letter telling me I had missed the window for enrolment on the Māori roll and would remain on the general roll until the next roll change option.

Feeling annoyed, on further investigation I realised that this would be in five years' time! This got me thinking: I was a politically interested and motivated student of political psychology, if I was not organised enough to get the form (a) in my hands, (b) completed, and (c) posted, how many people would bother? I also learned that Māori tend to move around more (this could be due to larger social and whānau networks, socio-economic status, or Māori having a lower rate of home ownership/mortgages; Sibley & Houkamaui, 2015b; Statistics New Zealand, 2006), so have a reduced likelihood of ever even receiving the form. This experience highlighted to me some of the systemic factors in the Western political system that work against Māori political interests, which made me passionate about this research (outrage is actually a common motivation for Indigenous researchers; Biermann & Townsend-Cross, 2008; Hall, 2014). From this initial experience, the research topic grew and expanded into the series of related studies presented in this thesis. Indeed, in the time between Māori electoral roll windows I have completed this thesis, yet I am still not on the Māori roll.⁶ In telling this story I am acknowledging that this research has been influenced by my values. These, in turn, influence my epistemology, axiology, and ontology, which will be explored in the next sections.

Epistemology

Epistemology can be defined as “the study of knowledge” (Walter & Andersen, 2013, p. 47) or ways of knowing, which encompasses beliefs on how and why we generate knowledge (Wahyuni, 2012). Walter and Andersen (2013) call for epistemological reflexivity because much of Western research often treats epistemology as something (un)said and done, yet for Indigenous researchers this topic can be more complex. As such, it is necessary to outline the epistemological base of the research in this thesis. As outlined earlier, it is an almost automatic process for

⁶ The next Māori electoral roll option is planned for sometime in 2018 after the 2018 Census (Elections New Zealand, 2013b).

quantitative researchers to produce research questions, collect data, conduct analyses, and draw conclusions or ‘truths’ without questioning the process (Babones, 2015; Newton, 2009; Ryan & Golden, 2006; Willig, 2013). Generally, such research presents the researcher as an unbiased outsider, divorced from their cultural understandings and personal prejudices (L. T. Smith, 2012).

Western epistemological frameworks were engaged as part of colonisation, holding up Western knowledge as truth and devaluing Māori and other Indigenous peoples’ knowledge as superstition (L. T. Smith, 2012). These frameworks continue to operate today through a kind of *colonisation of the mind* (Thiong’o, 1986) where Western knowledge is privileged in research and tertiary education even in programmes that encourage Indigenous scientists. Uncritical and un-empathetic epistemology has led to a misuse of statistics where Indigenous peoples and other marginalised groups are concerned. Statistics generated from what has been presented as a neutral or ‘universal truths’ standpoint have been presented as facts. Based on these ‘facts’, problematic policies have emerged. Much of this has come from positivist traditions: the idea that natural or social phenomena can be observed and measured to generate objective truths or knowledge (Ryan & Golden, 2006).

In their chapter on the development of the MMM-ICE2 scale, Houkamau and Sibley (in press) position themselves (and thus, the scale) as post-positivists. Following their lead, this research adopts a post-positivist base. Post-positivism moves beyond the idea of positivism – that we can observe objective truths about the world through research – to recognise that any knowledge generated from social science will be influenced by the researcher’s values, ideas, and beliefs (Babones, 2015; Wahyuni, 2012). Post-positivism is grounded in critical realism: understanding (social) realities involves framing results within social structures and contexts (and related to constructivism, see section on ontology below). Taking a post-positivist approach, a key aim is that the results from research can be generalised beyond the time and context the results were observed in (Yilmaz, 2013). In the case of this thesis, the goal is to generalise the results to the Māori population. Although, any research using an *emic* measure will be limited by not being generalisable beyond the culture of origin (Berry, 1989; Pike, 1967), but it may inform other *emic*

studies. For example, some of the research in this thesis may be able to be used to inform other *emic* research on Indigenous politics. However, there are places the research moves beyond post-positivism. By measuring ethnic identity as specific to Māori, and from an *emic* perspective, I am acknowledging that there is more than one (social) reality, which is not typical of post-positivism (S. Wilson, 2001). Epistemology is tied up in axiology as the knowledge generated is often judged according to one's values (Carter & Little, 2007).

Axiology

Axiology explores the role of the researcher's values in regards to the research (Creswell, 2007; Yilmaz, 2013). The axiology or values of the researcher also plays a part in what research they do, which questions they ask, and how they go about doing it (S. Wilson, 2001). The concept also relates to the reason for doing the research: did the researchers choose to complete the study because it was a lucrative, 'hot' or 'trendy' area? Because they felt like there was a gap in the research? Because they were building upon theory? Or because they wish to enact social change? (S. Wilson, 2001). Axiology may also affect the framing of the research questions, and which methods are ultimately considered able to answer them (Walter & Andersen, 2013).

Walter and Andersen (2013) encourage researchers to ask themselves why they are interested in their research topic, since research topics do not spontaneously spring from nowhere (see also Babones, 2015). Typically, in Indigenous research a key aim of the researcher is to do something beneficial for the community (Hart, 2010; S. Wilson, 2001). In the epistemology section above, I acknowledged a post-positivist position. Post-positivist axiologies acknowledge the research as value-laden where the research is influenced by the world views of the researcher including their experiences (Wahyuni, 2012). However, where my research deviates from typical post-positivist axiologies is in the underlying reason for conducting it. Where post-positivist motivations for research are traditionally for knowledge generation and furthering science in some way (Babones, 2015; Wahyuni, 2012), the motivation behind this research shares more with an Indigenous approach. The purpose of the research in my thesis is to generate knowledge that can be used to further Māori interests through policy, and to contribute to the body of research giving voice

to Māori political preferences on a national level. Thus, broadly, this research falls under the umbrella or Kaupapa Māori research, which will be explored in a later section.

I also wish to acknowledge the quantitative or statistical nature of my work. Why am I approaching my research from this angle? I believe statistics are the best tools for this particular research ‘job’, but my beliefs here, and thus the way I approach my research interests are also based on my environment (Babones, 2015). I started working with one of my current supervisors (Chris Sibley) during my second year of undergraduate psychology in 2011, when I began volunteering for the New Zealand Attitudes and Values Study. When it comes to statistics, Chris is brilliant and his passion for the area is evident to everyone around him. Although I had no leanings towards either qualitative or quantitative (it is often presented as an either/or choice to students approaching their postgraduate years) before working with Chris, he provided an excellent environment to learn statistics: this was likely an influence on how I ended up using a quantitative, Indigenous Statistics approach.

Another key reason for me engaging with Māori research using quantitative methods is due, in part, to the rarity of Indigenous research that uses statistics. There are relatively few Māori and Indigenous researchers working with statistics relative to qualitative methods (Kukutai & Walter, 2015; L. T. Smith, 2012). Indeed, there have been calls to train more Indigenous people with statistical skills (Kukutai & Walter, 2015; Sporle, 2016). These lower numbers may be due to the tenuous history between Indigenous peoples and statistics, and the idea that the oral traditions of Māori culture make us more comfortable with qualitative research (Moewaka Barnes, 2006; Pihama, 2001; Pohatu, 2005; G. H. Smith, 1997). However, the overall lower numbers of Māori and Indigenous peoples in the academy likely plays a part too (Çinlar & Dowse, 2008; Hall, 2014; White & Le Grice, 2008). Although there are some Māori utilising statistics, this is still a developing area, and currently the bulk of work is in the health or education areas (e.g., Clark et al., 2013; Curtis, Wikaire, Stokes, & Reid, 2012; Curtis et al., 2015; Ratima et al., 2008; Wikaire et al., 2016). Therefore, the scarcity of Māori quantitative researchers has left a gap in the literature for me at the intersection of Māori research and politics. Many of the research questions in my thesis can

only be answered through quantitative methods. Specifically, quantitative methods allow me to investigate identity, political attitudes, and behaviours across national samples.

The statistical skills I have gained through my research experience and a lack of quantitative research in my area of interest (shaped by my social position and ideologies) have called me to this research. This is why I am doing quantitative research on Māori identity and politics: there is a gap in the research and a place for Māori statistical research. However, this has to go beyond self-interest and a surface engagement with the extant literature: sometimes a gap exists because the research is not worthy and the community do not want it (L. T. Smith, 2012). The obligation in responsible Indigenous research is always to the community and for reciprocity: this research comes from a set of pro-Māori values, as does the development on the MMM-ICE2 scale (Houkamau & Sibley, in press). I believe that my thesis generates broad insights that can be useful in advancing pro-Māori arguments at a national level. Voices can be heard in more than word-based forms: the use of statistics can counter or pique the interest of those who make policies.

The research in this thesis also operates on a couple of key assumptions about the structure of society that reflect my values and those of a lot of academics (see also the opening epigraph to this thesis by Turei, 2002). However, I wish to acknowledge that some people (and other researchers) may have a different perspective. Firstly, the work in this thesis is completed within the framework of the political system we currently have, rather than the one that many would like.⁷ Secondly, I am working from the standpoint that participation within the framework of the current system, whether it be organising, protesting, voting, volunteering, or running for office, is a good thing for Māori.

Ontology

Ontology refers to one's beliefs about the nature of reality (Wahyuni, 2012; Walter & Andersen, 2013). Put more practically, ontology refers to what people think is real in the world (S. Wilson, 2001). Western knowledge and history is often privileged, especially in Aotearoa, which

⁷ I would like to acknowledge that many great Māori scholars are working to reform this system, including through constitutional transformation (e.g., Jackson & Mutu, 2016).

affects how many researchers approach their work (L. T. Smith, 2012). The typical Western ontological framework is to believe that one universal reality or truth exists independent of us as social actors and our interpretation of it. While this view of reality is often expressed in the ‘hard’ sciences, it becomes more problematic when adopted in the social sciences, where the very disciplines that adopt this position also acknowledge that culture and socialisation affects so much of who we are (L. T. Smith, 2012). Alternatively, one of the ontological bases adopted in the design of the MMM-ICE2 is constructivism. Constructivists believe that there is not one ‘true’ reality, that is, there are multiple valid realities that are socially constructed based on values and culture. That is, truth or objectivity does not exist, but certain aspects can be measured or known under the influence of time and context (Duffy & Chenail, 2009). This is rare of quantitative research (Wahyuni, 2012). However, the idea behind the MMM-ICE scale is that while you cannot directly observe identity, it is still possible to measure it in a meaningful way, and that the results can be useful for communities (Houkamau & Sibley, in press). Again, I believe that the results from this thesis will represent specifically Māori views of identity and politics, on a broad level, in our time, and may be useful for policy and political psychology.

Kaupapa Māori Research Methodology

“The essence is that our struggle, becomes our theory. Theory is something that we, as Māori academics do, with our pens.”

(S. Walker, 1996, p. 119)

The research in my thesis also draws inspiration from the Kaupapa Māori Research (KMR) methodological framework where possible (Pihama, 2001; G. H. Smith, 1997; L. T. Smith, 1996, 2012; S. Walker, 1996). I say ‘where possible’ because the bulk of KMR research is completed using qualitative techniques and the theoretical literature on KMR reflects this. Thus, while there is no generic or definitive ‘how to’ guide or checklist for KMR (Mikaere, 2011; Pihama, 2001), there are limitations as to how *strictly* quantitative research can follow the approach set out by much of the literature. This falls under the notion or principle of *ako* Māori, that there are ways that Māori culturally *prefer* to do research (Moewaka Barnes, 2006; Pihama, 2001; Pohatu, 2005; G. H. Smith,

1997). However, there are many instances where quantitative research projects, or the interpretation of quantitative data, have been guided by KMR frameworks, and the area will no doubt continue to grow (e.g., see Baxter, 2012; Clark et al., 2013; Curtis et al., 2012; Curtis et al., 2015; Wikaire et al., 2016).

Although founded in practices that are thousands of years old (Pihama, 2001), the name KMR came about in the mid-1980s in response to research that was not serving Māori needs, and often even marginalising Māori (G. H. Smith, 1997; L. T. Smith, 2012). It is often defined as being *by* Māori, *for* Māori, and *with* Māori (L. T. Smith, 2012). As such, a key aim of KMR is based on the idea of “writing back” to oppressors: “researching back” by recovering the ways of knowing that have been devalued through colonisation (G. H. Smith, 1997; L. T. Smith, 2012). There are a number of principles that have been conceived by influential thinkers, many of which I will review in this section in relation to the research in this thesis. Overall, KMR is based on tikanga Māori (Māori customs), mātauranga Māori (Māori knowledge or ways of knowing, or the body of knowledge originating from Māori ancestors, including the Māori world view and perspectives) and is explicitly Māori-centred: the main goal of the research needs to be promoting positive outcomes for Māori (tāonga tuku iho, the cultural aspirations principle; Mane, 2009; Pihama et al., 2002; G. H. Smith, 1997; L. T. Smith, 2012; L. T. Smith & Reid, 2000). Below, I outline some of the literature and principles of Kaupapa Māori Research that has informed my thesis.

Tino Rangatiratanga (self-determination, sovereignty, autonomy), as embodied in the te reo Māori version of The Treaty of Waitangi (Te Tiriti o Waitangi), is an important underlying principle to both KMR and this thesis (Durie, 1998a, 1998b; Pihama et al., 2002; S. Walker, 1996; S. Walker et al., 2006). This principle recognises Māori as the first peoples of Aotearoa and represents the idea that Māori need to have power and control over research done with Māori (Bishop, 1996; Durie, 1998a; Mane, 2009; Pihama et al., 2002; G. Smith, 1997; S. Walker, 1996). It is about Māori having control over our own destinies (L. T. Smith & Reid, 2000). Additionally, Graham Hingangaroa Smith (1997) argues that KMR aims for “emancipatory outcomes” and to be counter-hegemonic (Pihama, 1993; S. Walker et al., 2006). Relatedly, in practice, being Māori

should be taken for granted in KMR, which means Māori are not to be positioned as the ‘other’ (Pihama et al., 2002). Researchers are also reminded: “kaua e takahia te mana o te tāngata (do not trample over the mana of the people)”, and of “aroha ki te tāngata (a respect for people)” (Cram, 2009; L. T. Smith, 2012, p. 124). KMR challenges researchers to reject the victim blaming and deficit focuses; the type of framing many of us were taught through our experiences in the Western education system (Moewaka Barnes, Taiapa, Borell, & McCreanor, 2013; Pihama, 1993; L. T. Smith, 2012; Valencia, 1997, 2010).

The Tino Rangatiratanga principle guides my thesis by challenging me to carefully consider how the various analyses represent Māori. For example, an area where it would be easy to fall into Western-style deficit focussed narratives would be around the lower rate of voter turnout for Māori. Low voter turnout could be thought of as crisis research, where numbers contrasting Māori and Pākehā are presented as an awful phenomenon that must be fixed. This is the kind of research that Linda Tuhiwai Smith (2012) says KMR seeks to avoid. The reality is that barriers to participation have made Māori less than enthusiastic about voting, which dates back to initial disenfranchisement (Levine & Roberts, 2010; J. Wilson, 2010). In this thesis, I have been cautious to make sure that any discussion of voter turnout has been framed in terms of colonisation and Māori rationality. There is also a need to be cautious when using *etic* (in my case, ethnic group affiliation) measures of ethnicity or ethnic identity. Comparisons across ethnic groups always need to be framed so that they do not imply any deficit on the part of Māori (or other groups for that matter; Kukutai & Walter, 2015; Valencia, 1997, 2010). I have taken care not to do this, discussing Māori as I do other groups. However, as I will come back to in the discussion, there are suggestions that such an approach is deficient under KMR due to some researchers interpretation of the role of te Titiri o Waitangi as a principle of KMR (Baxter, 2012).

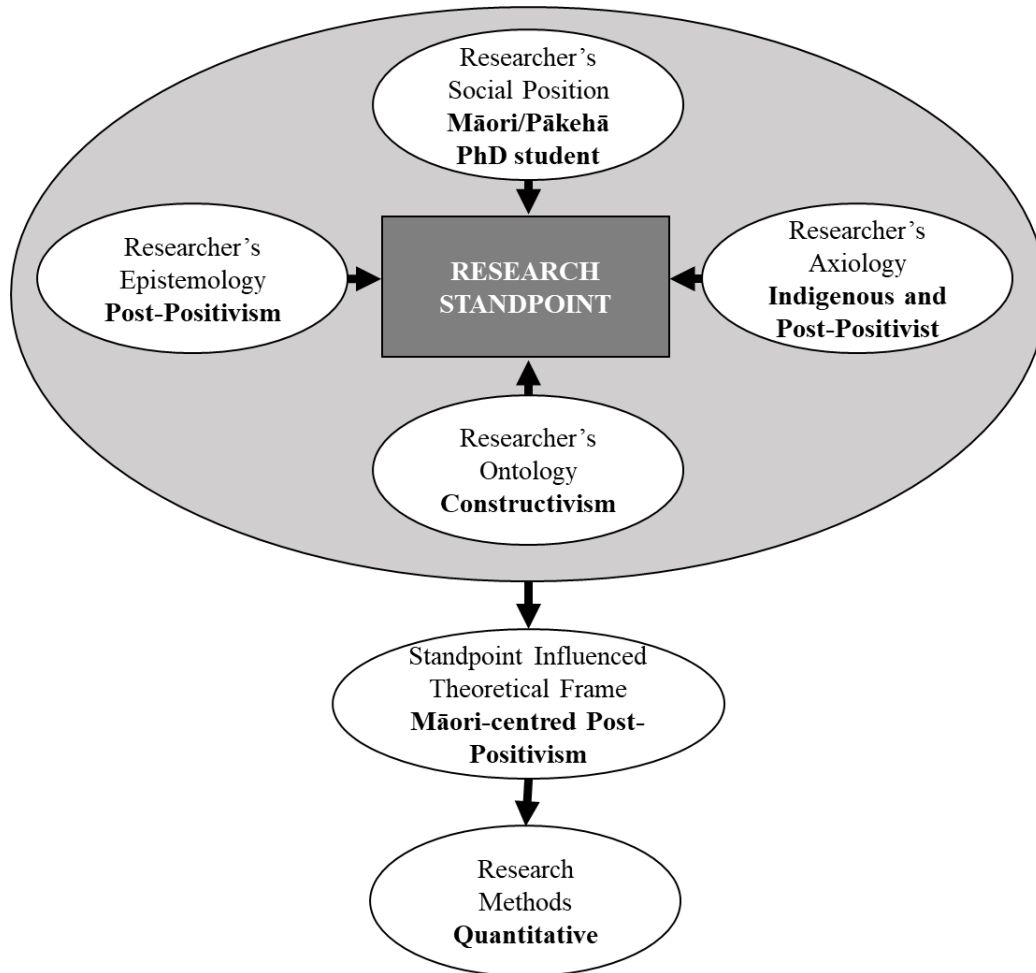


Figure 2. A diagram depicting my approach, presented alongside the Indigenous Statistics methodology. Partially reproduced from Walter and Andersen (2013) p. 45.

Summary: Standpoint, Theoretical Frame, and Methods

E tipu e rea, mō ngā rā o te ao,

Grow up o tender child in the days of your world,

Ko tō ringa ki ngā rākau a te Pākehā,

In your hands the tools of the Pākehā,

Hei oranga mō tō tinana,

As means to support and sustain you,

Ko to ngākau ki ngā taonga a ō tīpuna,

In your heart the treasures of your ancestors,

Hei tikitiki mō tō māhunga,

As a plume for your head,

Ko tō wairua ki te Atua,
Your spirit is given to God,
Nāna nei ngā mea katoa,
The source of all things.

– Sir Apirana Ngata (1935, as quoted in Brougham & Reed, 2012)

Where does all of this leave my thesis? Well, I come to the research with the legacies (and other heritage) of my own social position and standpoint. These experiences have informed my epistemology, ontology, and axiology, which have ultimately led me to a methodology based on the Indigenous Statistics framework by Walter and Andersen (2013), and methodology informed by the applicable aspects of Kaupapa Māori research. My approach can be summarised as Māori-centred Post-positivism (see Figure 2). The opening epigraph of this section, attributed to the great Sir Apirana Ngata, I felt summarised this well. While this research comes from what could be characterised as a ‘pro-Māori’ position – that is, wanting to represent Māori using a decolonising, Indigenous Statistics and Kaupapa Māori-informed approach – it also uses “the tools of the Pākehā” in that I am using statistics, a method viewed as traditionally Western, as a means for Māori advancement.

Māori: from Past to Present

In this section I provide a brief history of Māori in Aotearoa for historical context. I pay particular attention to political history and the forces that formed identity, since these topics are the core of my thesis. I start with a brief review of Māori political structures and identity before covering contact with Pākehā. I touch briefly on early Pākehā strategies of engagement, namely colonisation, the Treaty, and assimilation. Then I provide an overview of the historical period often referred to as the ‘Māori Renaissance’ and discuss the position of Māori in the present day.

Pre-Colonisation. As discussed earlier, ‘Māori’ is a term that simply means ‘ordinary’ and is now used to refer to all Māori people across iwi, hapū, and whānau (Durie, 1998b). The term only gained its current meaning after Pākehā arrival, as the collection of iwi that make up ‘Māori’ were homogenised into a group, or as an ‘other’ ethnic group that Pākehā could define themselves against

(Durie, 1998a; Kukutai, 2012; McClean, 2012; Rangihau, 1975; MacDonald, 2016). Prior to Pākehā arrival, the population of Aoteroa was primarily identified by affiliation with iwi as the largest social grouping (King, 2003; R. Walker, 2004; iwi is still a very important grouping for Māori, although 16.5% of Māori do not know their iwi; Statistics New Zealand, 2013). It is outside the scope of this thesis to explore historical (and identity) differences across iwi. As such, some of the following description is simplified. I nevertheless wish to acknowledge that there was (and is) some variation between iwi in culture, history, and identity.

Pre-contact Māori political systems and identity differed greatly from the Western, British Westminster system that would come to be pushed upon Māori (R. Walker, 2004). Whānau were the smallest social unit, and normally included three generations living in their own space. The heads of the household were the older generation – the kaumātua – who held the most status within whānau. The next largest social unit were hapū, which could be created if a leader of mana (prestige, authority, influence, status, spiritual power, and charisma; a supernatural force in a person, place, or object) emerged and a territory was claimed. The largest social unit were iwi, which were comprised of many hapū, who generally tried their best to stay at peace (King, 2003). Each hapū had a rangatira (high ranking, noble, revered chiefly, or a chief), who were meant to be equals at the iwi level (notwithstanding seniority tuākana [older relative]/tēina [younger relative] relationships and some iwi had one rangatira who ranked above others for cohesion; R. Walker, 2004). Inheritance of rangatira status or mana was commonly akin to a male primogeniture system, where status was inherited through men in order of birth, although women held leadership positions in some iwi (King, 2003). Within iwi, social class was arranged into several levels, rangatira and whānau, tohunga (experts in their field), tūtūā (low-born/commoners), and taurekareka (slaves; Belich, 1996; R. Walker, 2004). Other important identities were: the original migratory waka of one's ancestors, their marae, and geographical features of their local area, for example, their awa and maunga. One's identity was (and still is) expressed through reciting one's pepeha, whakataukī (proverbs), and singing waiata (songs; Durie, 1998b; King, 2003). There were advanced trade networks between iwi, for example, evidence suggests that from the fifteenth century onwards there

was pounamu (greenstone) trade between the iwi of Te Waipounamu (South Island) and Te Ika-a-Māui (North Island; King, 2003). While there were many iwi across Aotearoa, they generally stayed at peace, although relations varied depending on the supply and availability of food and resources at any given time (Belich, 1996; King, 2003).

Colonisation. It is debatable when exactly colonisation began (e.g., Nairn, 2012; L. T. Smith, 2012; Spoonley, 1995). The first Europeans to sight Aotearoa were the party of the Dutch ‘explorer’ Abel Tasman in 1642, although they did not come ashore due to a deadly confrontation with Ngāti Tumatakokiri (R. Walker, 2004). In 1769, James Cook and his crew were the next Pākehā to visit Aotearoa. Their reports of large seal colonies and readily available timber meant that in the later part of the eighteenth century, Pākehā migrated to Aotearoa to exploit its natural resources (King, 2003; R. Walker, 2004). Over this time period, Māori engaged in trade with Pākehā to acquire various goods, for example weapons and tools, in exchange for providing for the raw materials and the basic needs of their guests (Mutu, 2010; R. Walker, 2004). Eventually, with He Whakaputanga/The Declaration of Independence, Māori (well, 34 Chiefs hailing from between Northland and the Hauraki Gulf) declared European-style sovereignty over Aotearoa under the banner of the United Tribes of New Zealand (Durie, 1998a; Mutu, 2010; R. Walker, 2004).

Te Tiriti o Waitangi and The Treaty of Waitangi.

“Ko te ata kau o te whenua i riro i a te Kuini, ko te tinana o te whenua waiho ki ngā Māori.”

“The shadow of the land goes to the Queen but the substance remains with us”

Nōpera Panakareao (1840 as quoted in Kawharu, 2008)

“There is no recognition of the authority of the native people, no meeting of the two authorities ... Suggestions have been made (with a view to giving natives a share in the administration of affairs), but to what purpose? The reply is, this island has lost its independence, it is enslaved, and the chiefs with it.”

Te Rangikaheke (1855; as quoted in Ward, 1974)

These two quotes represent the sentiment of two rangatira a mere fifteen years apart. Te Tiriti o Waitangi (hereafter used to refer to the te reo Māori version of the text)/The Treaty of Waitangi (hereafter used to refer to the English language version of the text) has been the subject of a huge body of literature, and perhaps an even larger amount of debate. It is beyond the scope of this thesis to provide a full review of this body of literature. However, in short, Te Tiriti/The Treaty formalised the relationship between Māori (who were supposedly a united entity) and the British in 1840 in a contentious, hastily-drafted translation that may have been designed to deceive Māori (Durie, 1998a; Mutu, 2010; Orange, 2011; R. Walker, 2004). In particular, there are inconsistent terms used for the idea of sovereignty (supreme power and authority). In the first article of te Tiriti a transliterated word, without cultural precedent, *kāwanatanga*, is used to refer to sovereignty, but this word is made up of the terms *kāwana*- (or governor-) and *-tanga* (or -ship). The issue with this translation is that the English version intended to give sovereignty or control over Aotearoa to the Queen, but the te reo Māori version simply indicated that there would be a governor in the country (Mutu, 2010). However, this is vastly inconsistent with the second article, where the words *tino* (self) *rangatiratanga* (chieftanship) were used as a translation for sovereignty. This indicated that Māori would have been able to keep independence and control over their own affairs (Mutu, 2010). In summary, Māori were led to believe that signing te Tiriti/the Treaty would protect their culture, self-governance, and rights over their own lands and affairs. The te reo Māori version is now taken as the correct interpretation of the document by international law, but this did not play out in the reality of Māori-Crown relations (Awatere, 1984; Belgrave, 2005). Despite the fact that the majority of rangatira signed the te reo Māori Tiriti, in the years following the signing, the English language version was taken as the true representation. As such, Māori found themselves in a position where they had many rights taken by the colonisers, as articulated by Te Rangikaheke above.

Assimilation. A key goal of colonisation has been to assimilate Māori into Pākehā culture (Belich, 1996; Kukutai, 2012; McDowell, 2013; Pihama, 2001). In many accounts from the time of early colonisation, assimilation was justified as a kind, paternalistic act to protect Māori from the harm that colonisers caused to other Indigenous peoples (Kukutai, 2012; McDowell, 2013;

Williams, 2001). However, it is important to note that by this stage in world history, the European colonisers knew the fatal impact that colonisation would have on indigenous peoples. Part of this assimilation was ‘demographic swamping’. Post-treaty, Māori were soon outnumbered: Pākehā, emigrating largely from the United Kingdom, arrived to take advantage of the new opportunities Aotearoa offered. For example, in 1840 there were an estimated 70,000 Māori in Aotearoa and around 2,000 permanent European settlers. Yet in 1857, official measures show that Māori were already fifty percent of the population, and by 1874 Māori comprised only 14 percent of the population (Durie, 1998a, 1998b).

The decrease in the Māori population was also, in part, caused by disease, alcohol, and guns, all of which appeared in early contact. As is typically the case, the colonisers carried a number of diseases that Māori had no immunity to or procedures for dealing with (Belich, 1996; King, 2003). These included small pox, dysentery, venereal disease, measles, influenza, and typhoid. Together, these diseases had a devastating effect on the Māori population. This process was also helped along by the introduction of alcohol or waipiro (literally stinking water, i.e. alcohol). Māori societies did not have any similar substance prior to contact, addiction became a serious issue for communities (Durie, 1998b; King, 2003). Additionally, inter-iwi conflict became more deadly due to the addition of muskets (King, 2003).

A number of colonial policies were introduced to culturally assimilate Māori. ‘Native schools’ were set up with the purpose of ‘civilising’ Māori children, by training them for domestic work, and teaching Christianity (L. T. Smith, 1992). Pihama (2001, p. 306) describes native schooling as the “Trojan horse of colonisation.” These schools changed Māori conceptualisations of gender roles to reflect traditional Christian Pākehā ideals and pressured many Māori children to accept the Pākehā version of history, culture, and language (Pihama, 2001; L. T. Smith, 1992). Later, Māori children were punished for speaking te reo Māori in schools (R. Walker, 2004). The forces of capitalism contributed to assimilation (R. Walker, 2004). Many Māori whānau migrated from rural homelands to the cities and suburbs for economic opportunities (Taonui, 2012; R. Walker, 2004). When requesting lodgings from the state it was policy to ‘pepper pot’ state housing,

wherein Māori whānau were dispersed amongst Pākehā families so as to not create areas with high proportions of Māori (Taonui, 2012).

Māori and Post-Treaty Politics. Beyond atrocities such as land confiscations and the New Zealand land wars, Pākehā enacted various attempts to assimilate Māori into their system of government (Durie, 1998a). I discuss the Māori roll in more detail in the paper that comprises Study Four of this thesis. In brief, four geographically super-imposed Māori seats were established in 1867 as a temporary measure to provide representation for Māori men, this action meant that the Māori population was vastly underrepresented in comparison to others in Aotearoa for many years (Royal Commission, 1986). Māori men could theoretically vote under the previous system, but generally did not meet the land ownership criteria because their land was owned collectively (Geddis, 2006; J. Wilson, 2010). It was thought that Māori men would eventually assimilate and change their land title so the seats would be no longer needed, however by 1876 it was clear that this assimilation was not happening, thus the seats were retained indefinitely (J. Wilson, 2010; Xanthaki & O’Sullivan, 2009). The Māori seats were a rather remarkable addition to the electoral system, considering the international context and time period (1867; McDowell, 2013), although some have argued they were a token measure (R. Walker, 2004). Early elections to the Māori seats had incredibly low voter turnout as many Māori were unenthusiastic about Western democracy (Durie, 1998a). McDowell (2013) argues that Māori MPs throughout history have battled stereotypes of being unprepared and ineffective despite the task of having to effectively walk in both Te Ao Māori and Te Ao Pākehā (the Pākehā world) as a Member of Parliament (MP) with the cultural, educational, and language barriers that position entailed. Not to mention the geographically huge and unworkable sizes of their electorates (four to cover the entire country), especially in a time when air travel did not exist.

Although they were facing an array of unique challenges, the Māori MPs supported and created initiatives that increased Māori political engagement throughout the nineteenth century and beyond. For example, Māori MPs created a Native Affairs select committee in 1871 to hear a broad range of Māori issues, although the committee did not have the resources to investigate large claims

(McDowell, 2013). Later (mid-twentieth century) MPs elected under the Rātana-Labour alliance (Rātana is a religion and pan-iwi, pro-Māori political movement) made clearer (re)gains. Notable examples include: the creation of Waitangi day, use of the word Māori instead of ‘Native’, increasing the use of te reo Māori in parliament, and acting as the voice for the many Māori suffering under multiple inequalities (such as racial discrimination, culture loss, and poverty; McDowell, 2013; R. Walker, 2004).

Throughout the nineteenth, and for a lot of the twentieth century, it was blatantly clear those on the Māori roll did not have the same political rights as others in Aotearoa. Those on the Māori roll could not vote by secret ballot until 1937 (J. Wilson, 2010). Additionally, Māori roll voters were excluded from voting in referenda until 1949 (J. Wilson, 2010). Up until the introduction of MMP (the Mixed Member Proportional system) in 1996, the number of Māori seats was vastly disproportionate to the number of Māori in the population (Bargh, 2012; Durie, 1998a). Until the introduction of the party vote through MMP, Māori could only choose from a limited number of options, in part due to the powerful Rātana-Labour alliance (Durie, 1998a). Another barrier to participation noted by Wilson (2010), was the lack of polling places for those registered to vote on the Māori roll. Thankfully, the number increased in the late 1990s. For example, Māori roll polling places numbered 534 in 1993, but increased to 1,203 in 1999 (J. Wilson, 2010).

Perhaps further isolating Māori from parliamentary politics, there have been problems throughout the years around the use of te reo Māori in parliament. There has been controversy over occasions when translators were not present (McDowell, 2013). In fact, it took until 1997 for there to be an official parliamentary interpreter, previously MPs were meant to give their own immediate translations (Ministry for Culture and Heritage, 2014). As such, MPs have been chastised by the Speaker for not providing translations themselves, or just launching into te reo (McDowell, 2013; Ministry for Culture and Heritage, 2014).⁸ However, even with the change in 1997, the speeches were only translated after the member had finished speaking, giving no opportunity for interjections

⁸ Indeed, while in the final months of writing this thesis, Winston Peters publically objected to the use of te reo Māori in parliament (Kirk, 2017).

or questions (McDowell, 2013). Indeed, translation issues continued until 2005, when the Māori Party first arrived in parliament. Māori Party MPs forced parliament to adopt instant translation services by constantly giving speeches in te reo Māori. While many of these inequalities have been addressed, the extent to which these inequalities damaged Māori views of the political system is unclear.

The ‘Māori Renaissance’.

“... the 1970s protests cried ‘not one more acre of Māori land’; 1980s protests said ‘Honour the Treaty’; 1990s protests advocated Treaty justice; and the new millennium seeks multiple equalities.”

Taonui (2012, p. 254)

The above epigraph highlights the relatively-rapid and important changes that have taken place for Māori in the past fifty years. The ‘Māori Renaissance’⁹ is a term used to refer to the time period from about the 1960s through until the 1990s, when Māori engaged in notable activism against the state and against assimilation. As a consequence, steps were made towards Māori regaining some of what was lost in early colonisation (Derby, 2014; Durie, 1998a; Hill, 2009; Taonui, 2012; R. Walker, 2004). Indeed, Kaupapa Māori frameworks were conceptualised as a result of this period of activism (Bishop, 2010). A number of contextual factors contributed to the activism in this era. The initial urbanisation of Māori had led to a weakening of traditional cultural ties for some, there came a time when a large proportion of Māori were living in the urban centres (Hill, 2009; Taonui, 2012). Additionally, a high birth rate among Māori had meant the Māori population had grown 500% between 1936 and 1986 (Pool, 1991). While there were still many impediments to getting a degree, increasing numbers of young Māori had access to tertiary education (Hill, 2009). These factors meant that there was a larger Māori population facing less of the typical barriers to collective action. Thus, newsletters were distributed and groups like Ngā

⁹ While many refer to this time period as the ‘Māori Renaissance’ some feel uncomfortable with this terminology. Firstly, ‘Renaissance’ is a term associated with Europe, where the colonisers of Aotearoa are from. Secondly, the other meaning of the term is revival or renewal, however, many Māori were always conscious of political injustice (Hill, 2009). For this thesis I have decided to use the term, albeit in quotation marks due to my mixed feelings about its appropriateness.

Tamatoa formed, which raised Māori collective consciousness of injustice (Hill, 2009; Taonui, 2012; R. Walker, 2004).

As such, in this time period raised political consciousness led to key events like the Māori land march of 1975, the protests at Bastion Point in 1977-78, and the Auckland University haka party ‘incident’ of 1979 (Taonui, 2012; R. Walker, 2004). As a result of this period of political activism, a number of initiatives were created. Some encouraged Māori culture and the revitalisation of te reo Māori, for example, Kōhanga Reo (te reo Māori immersion pre-schools), te reo Māori and kapa haka (performance) programmes for primary and secondary schools (O’Regan, 2012), and wānanga (tertiary institutions grounded in Māori traditions and customs, to meet Māori needs) at post-secondary level education (R. Walker, 2004). In 1975, the Waitangi Tribunal was established to address historical reparations for breaches of Te Tiriti (Belgrave, 2005; Derby, 2014; McDowell, 2013). This meant that iwi could get a symbolic victory in recognition of Treaty violations and a material one in the form of (albeit meagre) compensation or returned lands (Durie, 1998a).

The Current Day. Before starting this thesis I made a *not one more deficit* pledge in my writing (see also section on Kaupapa Māori research above). It is all too easy to frame the importance of research with (or on) marginalised groups with an emphasis on deficit based statistics (Pihama, 1993; Valencia, 1997, 2010). The reality is that Māori face discrimination across a wide range of measures that are typically used as Western indicators of success or failure, including: education (to cite just a few examples; Curtis et al., 2015; Cowie, 2017; Hynds et al., 2011; Turner, 2013; Wikaire et al., 2016), health (Crengle, Lay-Yee, Davis, & Pearson, 2005; Jansen, Bacal, & Buetow, 2011; Harris et al., 2006; Harris, Cormack, & Stanley, 2013; Lee, Duck, & Sibley, 2017), through the media (McCreanor et al., 2014; Moewaka Barnes et al., 2012; Moewaka Barnes et al., 2013; Nairn et al., 2012), the criminal justice system (Brittain, 2016; Fergusson, Horwood, & Swain-Campbell, 2003; Hook, 2009; Quince, 2007; Workman, 2011), the financial sector (Houkamau & Sibley, 2015b; Durie, 1998b; Houkamau & Sibley, 2014; L. T. Smith & Reid, 2000; R. Walker, 2004), and in the political system, which I will review below. Research has shown that

there are differences in outcomes even for those who have Māori whakapapa yet do not identify their ethnicity as Māori (Houkamau & Sibley, 2014).

There are still institutional structures that make it more difficult for Māori to engage with the political system. The Māori seats, which guarantee Māori representation, are not entrenched and could easily be removed by a majority vote in parliament (Bargh, 2012; R. Walker, 2004; J. Wilson, 2010). Many of those enrolled to vote in the Māori seats face a longer line, as the issuing officer has to enter their names on a list of special voters (J. Wilson, 2010), which can intimidate Māori voters (Galicki, 2016). A complaint that has existed as long as the Māori seats have is that they are too large in size geographically. For example, the largest electorate of Te Tai Tonga is the entire South Island and a small part of the bottom of the North Island (McDowell, 2013). This means that MPs from the Māori seats have to represent large areas, which makes them less accessible *kanohi-ki-te-kanohi* (face to face) to constituents, an important detail for many Māori (McDowell, 2013). Additionally, this has made campaigning in these electorates more expensive. Further, as mentioned above, *te reo* Māori translation services in parliament only became instant in 2005 (McDowell, 2013). Another initiative by the Māori Party to make parliament more bicultural, was the creation of a voluntary code of conduct in 2007 (Bargh, 2012). The idea behind this code was to stop MPs from personal attacks as these were seen as disrespecting the personal *mana* of those in Parliament and the Speaker (Bargh, 2012; McDowell, 2013). While National described the code of conduct as “a veiled attack on the Speaker” (Tait, 2007) some Māori described it as “placing Kaupapa and principles above personalities” (Taonui, 2006). Although this code of conduct was only voluntary, and signed by the minority Green, Māori, United Future, and ACT parties, it represents steps towards making parliament more truly bicultural (Tait, 2007). These small changes, over time, may lead Māori to feel more comfortable engaging in parliamentary style politics (McDowell, 2013).

Summary. It is clear that historical events, from first contact, through to Te Tiriti/The Treaty, colonial attempts at assimilation, and our constant efforts at political resistance have influenced the identities of Māori. Māori have been colonised by Pākehā and this has affected so

much of who we are today.¹⁰ Yet, still today, we face discrimination from the political system, not to mention across a whole range of contexts that shape our day-to-day lives, such as in health care and education. Without Pākehā there would be no ‘Māori’ because there would have been no reason to construct this identity as a people, and as separate from the lands of Aotearoa. There may not have been that ‘other’ to define ourselves against. Regardless, Māori are now the numerical ethnic minority in Aotearoa.

Ethnic Identity

In this thesis I define ethnic identity from a (Western) psychological perspective (following Phinney, 1990, 1991, 1992; Tajfel, 1981), as the extent to which someone identifies and accepts themselves as a member of an ethnic group (it is part of their self-concept), has a sense of belonging to this group, and has a personal understanding of what this group membership means. Ethnic identity then affects how a person views themselves, the world, and how they behave.

There are several processes operating in the measurement of Māori identity. To describe ethnic identity, I will break this down into several components: ancestry, ethnic group affiliation (or ethnicity), and ethnic identity. Most people who identify as Māori have three things: (1) Māori whakapapa, as in they are descended from Māori; (2) they identify their ethnicity as Māori (at least one of their ethnic group affiliations is Māori); and (3) they have varying levels of attachment to aspects of Māori culture, spirituality, other Māori, politics, and so on (Kukutai, 2012).

If someone has ancestry from an ethnic group they may choose to affiliate with that ethnic group. Ancestry is to some extent biologically and socially constructed (Kukutai, 2012; McClean, 2012). This means that while ethnic group affiliation is based on one’s biological ancestry it is also to some extent subjective. For example, someone in Aotearoa could knowingly be of English, Chinese, and Māori descent and indicate this in a question where we ask them for their ethnicity. However, to give an example, recognising the subjective component, that same hypothetical person may put something like ‘Kiwi’, ‘New Zealander’ or just recognise their European ancestry and say

¹⁰ Again, some would argue Māori are still being colonised by Pākehā (Nairn, 2012; L. T. Smith, 2012). While it is beyond the scope of this thesis to get into these semantics of language, I do wish to acknowledge this kaupapa.

‘New Zealand European’ (King, 1999; Sibley, Houkamau, & Hovard, 2011). This has implications for the study of ethnic identity. If someone has Māori whakapapa but does not identify as Māori there is no point in giving them a survey to assess their subjective identification with aspects of Māori identity. Many people with Māori ancestry do not identify as Māori, as is illustrated with Census data: around 20% of the population indicate Māori ancestry, yet around only 15% identify as Māori (Houkamau & Sibley, 2010; Sibley, 2010; Statistics New Zealand, 2013).

Moving on to how researchers measure ethnic identity. Broadly, these can be categorised into two types: *etic* measures and *emic* measures (Berry, 1989; Pike, 1967). As I described at the beginning of this thesis, *etic* measures are broad and allow comparison across groups. Although they may be a member of the group being studied, the researcher takes the position of an outsider. An example includes Phinney’s (1992) Multi-group Ethnic Identity Measure which aims to assess ethnic identity across diverse ethnic groups. *Etic* measures are most useful when taking a wider view across groups or cultures, for example, the use of ethnic group affiliation when comparing ethnic groups across some measure (for example an outcome variable like physical or mental health). However, this means that *etic* measures have to be careful around cultural sensitivity, validity across cultural contexts, and may lack depth. They might be used to display the existence of a phenomenon but not give any insight as to why it occurs.

In contrast, *emic* measures are culturally specific measures of identity that have a great deal of depth but cannot be generalised outside of the cultural or ethnic group they have been designed for (Berry, 1989; Pike, 1967). They may be scales like the Pacific Identity and Well-being scale, which measures the identity of Pasifika peoples in Aotearoa (Manuela & Sibley, 2013), the Multidimensional Model of Racial Identity for African Americans (MMRI; Sellers, Smith, Shelton, Rowley, & Chavous, 1998), the Urban American Indian Attitudes Scale (UAIAS; Walters, 1999), the Racial Identity and Self-Esteem scale for Australian Aboriginal children (IRISE_C; Kickett-Tucker et al., 2015) or the MMM-ICE2 scale that is used in this thesis. These are generally scales created by a member of the community (or in a team with members from the particular community being studied) for use in their community.

Measuring Māori Identity

Prior to the MMM-ICE2 there were few quantitative *emic* measures of (specifically) Māori ethnic identity or related constructs in the literature. The literature in the area started with efforts to measure cultural knowledge, engagement, and efficacy. An early endeavour by Thomas (1988), was a test of Māori cultural knowledge, including te reo Māori fluency. The idea behind the test being that Māori who scored lower may have been at risk of having lower access to social support networks. Indeed, Thomas' measure correlated to higher levels of cultural contact among students, for example, marae visits and being a member of a Māori cultural club. Next, based on Thomas' efforts, Ratima, Potaka, Durie, and Ratima (1993) created a Māori identity scale which included cultural familiarity and knowledge questions in combination with a self-identification question. Durie (1993) took a similar approach, combining questions on iwi and marae affiliations, level of self-reported involvement with Māori organisations and schools, and attitudes towards and proficiency in te reo Māori.

Durie (1995) extended earlier attempts at measuring Māori identity with identity related items in Te Hoe Nuku Roa. Te Hoe Nuku Roa was a large, longitudinal study of Māori households that aimed to provide much-needed information to policy-makers about Māori, their identities, their relationships with others, and the social structures that surround them. There were many questions throughout this study that related to the study of identity. Four key assumptions lay under the study of Māori identity for Durie: (1) that Māori are a diverse group; (2) we may identify with many ethnic groups, and indeed, important identity-based groups beyond ethnic identity; (3) what it means to be Māori is constantly changing; and (4) Māori identity is based on a level of self-identification and choice. As a result, the identity measures that Durie devised revolved around four axes. Paihere Tangata, or the human relationships axis, corresponded to questions on household roles, relationships, in(ter)dependence, and cohesion. The Te Ao Māori, or Māori culture and identity axis, examined ethnic group affiliations, te reo Māori and tikanga use, views on land, environment, and resource issues, and involvement with iwi, hapū, and marae. The next axis was Ngā Āhuatanga Noho-ā-tangata, or socio-economic factors, these were questions on housing,

health, employment, education, lifestyle, and income. Lastly, a key goal was to measure change over time. The Ngā Whakanekeketanga axis assessed mobility, stability, vulnerability, new groupings, the impact of external factors, and the realisation of aspirations.

In summary, there have been a few attempts at measuring Māori identity quantitatively. Thomas (1988) and Ratima et al. (1993) focussed on knowledge, which may relate to identity but is not conceptually the same construct. Durie (1993, 1995) created measures that indexed Māori ethnic identity in greater detail. However, Durie did not create a specific scale of Māori identity, rather, the measures that Durie used were more based on a multitude of questions assessed in different ways. These past scales definitely recognised important aspects of Māori identity, yet there was a gap in the literature for a comprehensive scale of Māori identity. As such, Houkamau and Sibley (2010) built on this past work, related qualitative research, and the international literature on ethnic identity to create a uniting scale to consistently cover the multiple dimensions of Māori identity: the Multidimensional Model of Māori Identity and Cultural Engagement. The next section describes the scale, and the subsequent and continuing work in this area.

The Multidimensional Model of Māori Identity and Cultural Engagement

A large part of this thesis uses the Multidimensional Model of Māori Identity and Cultural Engagement – Revised edition (MMM-ICE2). Indeed, a key goal of this thesis is to continue the validation of the scale and apply it to a range of political outcomes for Māori. Although I briefly review the creation of the scale in several of the articles presented in this thesis, I also describe the creation, development, and use of the scale in the section that follows. While the material in the standalone articles provides a brief background, the following section aims to provide a more complete literature review of the scale, beyond what can be presented in an article due to space constraints.

Scale Development. The aim of the scale has been to measure Māori ethnic identity, where identity is defined as:

Constituting those aspects of the self-concept (including beliefs/values/ attitudes)
that pertain to ‘who’ a person is as Māori, how they ‘fit in’ with others in the social

world and what that means in terms of behaviour (Houkamau & Sibley, 2010, p. 12).

The researchers approached the scale creation as a primarily qualitative Māori researcher (Houkamau) and a primarily quantitative Pākehā researcher (Sibley). Houkamau and Sibley (in press) describe that they took a ‘pragmatic’ approach to studying Māori identity scientifically by drawing upon multiple theoretical perspectives to create the best tool possible to measure Māori identity. An initial task was to develop a pool of survey items that could be tested with Exploratory Factor Analysis (a technique used to uncover which survey items cluster together to form dimensions; Field, 2012; Houkamau & Sibley, in press). As such, their first steps were to conceptualise a number of themes that might underlie Māori identity based on past scales of Māori identity (described in the section above), qualitative research (e.g., Barlow, 1991; Houkamau, 2006; Marsden, 1975; Moeke-Pickering, 1996; Rangihau, 1975; R. Walker, 2004), and the international literature on ethnic identity. Then from these themes, the task was to create well-worded survey items that conceptually assess aspects of each hypothesised dimension.

Based on their literature review, Houkamau and Sibley (2010, in press) believed they would find eight initial themes. The original item pool included 92 items based on: identity centrality (Sellers et al., 1998; Luhtanen & Crocker, 1992), collective self-esteem (Luhtanen & Crocker, 1992), cultural efficacy (see Durie, 1995), active identity engagement (based on qualitative research by Houkamau, 2006, 2010), spirituality (i.e. Durie, 1998b), interdependency/collectivism (Kashima & Hardie, 2000), and essentialist/authenticity based beliefs (based on discussions on the legitimising myth of real ‘Māoriness’ by Borell, 2005; Chadwick, 1998). Houkamau and Sibley (2010) then conducted an Exploratory Factor Analysis on responses to the items by an internet sample ($N = 270$). Although they believed they would find an eight-factor solution, a six-factor solution using 47 items best fit the data.

The next step was to name and describe the content of the six dimensions. The full descriptions of the dimensions are presented in Table 1, and a full copy of the MMM-ICE is presented in Table 2 (however, note that these tables also include the later seventh dimension,

Perceived Appearance). One eight-item dimension was named Group Membership Evaluation (GME). The first aspect of this dimension relates to having positive feelings/a positive evaluation about 'Māori' (example item: "Being Māori is cool"), reflecting international literature on collective self-esteem (Luhtanen & Crocker, 1992). A second aspect of this dimension is how important and central to the self one's identity as a 'Māori' is (e.g., "My Māori ancestry is important to me"), reflecting the identity centrality found in Sellers et al.'s (1998) research on ethnic identity in African Americans. The two aspects of this dimension were initially expected to split into factors (Houkamau & Sibley, 2010).

Table 1.

Construct Definitions for the Seven Factors Indexed by the MMM-ICE2. Adapted from Houkamau and Sibley (2015a).

Group Membership Evaluation (GME)

The extent to which the individual positively evaluates their membership in the social category Māori and views their membership as Māori as a personally important or central aspect of their self-concept versus the extent to which the individual negatively evaluates their membership in the social category Māori and views their membership as Māori as peripheral or irrelevant to their self-concept

Cultural Efficacy and Active Identity Engagement (CEAIE)

The extent to which the individual perceives that they have the personal resources required (i.e. the personal efficacy) to engage appropriately with other Māori in Māori social and cultural contexts versus the extent to which the individual perceives that they lack the personal resources and ability to engage appropriately with other Māori in Māori social and cultural contexts

Interdependent Self-Concept (ISC)

The extent to which the concept of the self-as-Māori is defined by virtue of relationships with other Māori people versus the extent to which the concept of the self-as-Māori is viewed as being defined as solely unique and independent to the individual rather than as part of the social group.

Spirituality (S)

The extent to which the individual is engaged with, and has a belief in, certain Māori concepts of spirituality, including a strong connection with ancestors, Māori traditions, the sensation and experience of *waahi tapu* (sacred places), and a strong spiritual attachment and feeling of connectedness with the land versus the extent to which the individual is disengaged from or does not believe in Māori concepts of spirituality.

Socio-Political Consciousness (SPC)

The extent to which the individual perceives historical factors as being of continued importance for understanding contemporary intergroup relations between Māori and other ethnic groups in New Zealand; and how actively engaged the individual is in promoting and defending Māori rights given the context of the Treaty of Waitangi versus the extent to which the individual perceives historical factors and injustices experienced by Māori as being irrelevant in contemporary society.

Authenticity Beliefs (AB)

The extent to which the individual believes that to be a ‘real’ or ‘authentic’ member of the social category Māori one must display specific (stereotypical) features, knowledge and behaviour versus the extent to which the individual believes that Māori identity is fluid rather than fixed, and produced through lived experience.

Perceived Appearance (PA)

The extent to which people subjectively evaluate their appearance as having clear and visible features that signalling their ethnicity and ancestry as Māori (or high Māori prototypicality) versus the extent to which people evaluate their appearance as less indicative of having Māori ancestry (low Māori prototypicality).

Table 2.

Item Content for the MMM-ICE2 by Dimension. Adapted from Houkamau and Sibley (2015a).

Group Membership Evaluation (GME)	
1.	I reckon being Māori is awesome.
2.	I love the fact I am Māori.
3.	Being Māori is cool.
4.	I don't really care about following Māori culture.
5.	I wish I could hide the fact that I am Māori from other people.
6.	My Māori ancestry is important to me.
7.	Being Māori is NOT important to who I am as a person.
8.	Being Māori is NOT important to my sense of what kind of person I am.
Cultural Efficacy and Active Identity Engagement (CEAIE)	
9.	I don't know how to act like a real Māori on a <i>marae</i> .
10.	I can't do Māori cultural stuff properly.
11.	I can't do Māori culture or speak Māori.
12.	I know how to act the right way when I am on a <i>marae</i> .
13.	I'm comfortable doing Māori cultural stuff when I need to.
14.	I have a clear sense of my Māori heritage and what it means for me.
15.	I try to korero (speak) Māori whenever I can.
16.	I sometimes feel that I don't fit in with other Māori.
Interdependent Self-Concept (ISC)	
17.	My relationships with other Māori people (friends and family) are what make me Māori.
18.	I consider myself Māori because I am interconnected with other Māori people, including friends and family.
19.	My Māori Identity is fundamentally about my relationships with other Māori.
20.	For me, a big part of being Māori is my relationships with other Māori people.
21.	How I see myself is totally tied up with my relationships with my Māori friends and family.
22.	My Māori Identity belongs to me personally. It has nothing to do with my relationships with other Māori.
23.	Reciprocity (give-and-take) is at the heart of what it means to be Māori for me.
Spirituality (S)	
24.	I believe that Tūpuna (ancient ancestors) can communicate with you if they want to.
25.	I don't believe in that Māori spiritual stuff.
26.	I believe that my Taha Wairua (my spiritual side) is an important part of my Māori Identity.
27.	I can sense it when I am in a <i>Tapu</i> place.
28.	I can sometimes feel my Māori ancestors watching over me.
29.	I have never felt a spiritual connection with my ancestors.
30.	I think <i>Tapu</i> is just a made up thing. It can't actually affect you.
31.	I feel a strong spiritual association with the land.

Socio-Political Consciousness (SPC)

1. Māori would be heaps better off if they just forgot about the past and moved on.
 2. All of us, both Māori and Pākehā, did bad things in the past—we should all just forget about it.
 3. I'm sick of hearing about the Treaty of Waitangi and how Māori had their land stolen.
 4. I think we should all just be New Zealanders and forget about differences between Māori and Pākehā.
 5. I think that Māori have been wronged in the past, and that we should stand up for what is ours.
 6. What the European settlers did to Māori in the past has nothing to do with me personally. I wasn't there and I don't think it affects me at all.
 7. I stand up for Māori rights.
 8. It's important for Māori to stand together and be strong if we want to claim back the lands that were taken from us.
-

Authenticity Beliefs (AB)

9. You can always tell true Māori from other Māori. They're real different.
 10. I reckon that true Māori hang out at their *marae* all the time.
 11. True Māori always do karakia (prayer) before important events.
 12. You can tell a true Māori just by looking at them.
 13. Real Māori put their whānau first.
 14. To be truly Māori you need to understand your *whakapapa* and the history of your people.
 15. You can be a real Māori even if you don't know your *iwi*.
 16. You can be a true Māori without ever speaking Māori.
-

Perceived Appearance (PA)

17. I think it is easy to tell that I am Māori just by looking at me.
 18. You only need to look at me to see that I am Māori.
 19. When people meet me, they often do not realise that I am Māori.
 20. I think it is hard to tell that I am Māori just by looking at me.
 21. I think it is clear to other people when they look at me that I am of Māori descent.
 22. People would never know that I am of Māori descent just by looking at me.
 23. People who don't know me often assume that I am from another (non-Māori) ethnic group.
-

Another eight-item dimension was named Socio-Political Consciousness (SPC). This dimension indexes the ideological component of Māori identity: beliefs that colonial history and the injustices experienced by Māori at the hands of Pākehā are still relevant today (e.g., the reverse worded item “Māori would be heaps better off if they just forgot about the past and moved on”). The second part of SPC is the degree to which the participant feels they engage actively in the political process and ‘stand up’ for Māori political rights (e.g., “I stand up for Māori rights”). The items from this dimension were drawn from the recognition that Māori live in a socio-political context that is constantly changing (R. Walker, 2004), political experiences have affected the identities of many Māori (Houkamau, 2010; Rata, Liu, & Hanke, 2008), and that Māori are still in a battle for historical recognition (Sibley, 2010; Sibley, Liu, Duckitt, & Khan, 2008).

The dimension of Cultural Efficacy and Active Identity Engagement (CEAIE) comprises eight items that assess the extent to which one believes they have the personal efficacy to engage with other Māori in traditional cultural contexts. The items of this dimension vary from specific (e.g., “I know how to act the right way when I am on a marae”) through to general felt competencies (e.g., the reverse worded: “I can’t do Māori cultural stuff properly”). Houkamau and Sibley (2010) showed that this dimension predicted actual engagement with Māori lived traditions, like visiting marae. This dimension is conceptually similar to earlier work by Durie and others (reviewed above) in past measures of Māori identity (Durie, 1993, 1995; Ratima et al., 1993; Thomas, 1988). There is also overlap with this dimension and Phinney’s (1992) ethnic identity achievement scale, in that it indexes identity efficacy.

The fourth dimension of the scale was named Spirituality. This dimension measures belief in traditional Māori concepts of spirituality like recognising tūpuna (e.g., “I can sometimes feel my Māori ancestors watching over me”) and that which is tapu (sacred, restricted, prohibited, under divine protection; e.g., “I can sense it when I am in a Tapu place”). The contents for this dimension were based on the work of Pere (1988; see also Barlow, 1991), who posited that a key part of Māori identity is our connections to the land and ancestors (e.g., in the recitation of pepeha). This aspect is

fairly unique among measures of ethnic identity worldwide, although Manuela and Sibley (2013, 2015a) feature religious and cultural connections in the Pacific Identity and Well-Being Scale.

The fifth dimension was called Interdependent Self-Concept; this assesses the degree to which the participant believes that being Māori is interdependent or independent from their relationships with other Māori (e.g., “My relationships with other Māori peoples (friends and family) are what make me Māori”). Put more simply, it assesses whether one feels they need to actively engage with other Māori people in order to truly be Māori. This dimension was based off of international work in cross-cultural psychology on the independent versus the more collectivist, interdependent self (Kashima & Hardie, 2000). Māori culture has previously been labelled as more collectivist, so the rationale behind this dimension was to assess beliefs relating to this interdependent self-concept, versus a Western, individualist one (Harrington & Liu, 2004).

The final dimension was named Authenticity Beliefs. This dimension assesses the degree to which someone believes that Māori have to have the ability to know or do certain cultural things (e.g., the reverse worded “You can be a true Māori without ever speaking Māori”), look (e.g., “You can tell a true Māori just by looking at them”), or behave in certain ways (e.g., “True Māori always do a Karakia (prayer) before important events”) to be an authentic Māori. Higher scores relate to belief that there is one fixed way to be Māori and criteria that need to be met, i.e. informal knowledge or appearance ‘tests’ (Borell, 2005). Whereas low scores indicate identity fluidity and the belief that Māori identity arises individually through lived experience. This dimension is based on theories of racial essentialism (Tate & Audette, 2001), and on legitimising myths that maintain inequality by creating a hard-to-reach criteria for one to be a ‘true’ Māori, and thus worthy of reparations. To further validate the MMM-ICE, Sibley and Houkamau (2013) conducted an item response theory analysis of the scale’s properties ($N = 492$). The results indicated that the subscales provide fairly precise measurement of the initial six dimensions across the range of each latent trait.

A few years after its initial inception, a seventh dimension was added to the scale due to community feedback. Many participants wrote to the researchers about how they feel Māori but feel that they do not look Māori to others. As such, Houkamau and Sibley (2015a), sought to update

their model by adding a seventh, seven-question factor, which was named Perceived Appearance (the second iteration of the scale was thus called the Multidimensional Model of Māori Identity and Cultural Engagement – Revised edition; the MMM-ICE2). Perceived Appearance assesses the extent to which one feels that others perceive their ethnicity as Māori. That is, whether they feel they have prototypically Māori physical features.

A Review of Past Findings. The MMM-ICE2 has shown utility in predicting a diverse range of attitudes and behaviours for Māori. In the coming section I provide a brief review of the literature and findings using the scale.

Māori Identity Signatures. In my master's thesis and the resulting paper, I explored the common response patterns to the MMM-ICE2, calling these 'Māori Identity Signatures' (Greaves, 2014; Greaves, Houkamau, & Sibley, 2015). We used a statistical technique called latent profile analysis to group together common patterns of responses across the scale dimensions. We found that many Māori scored moderately or highly across the scale: 22.6% were classified as 'Traditional Essentialists' and 16% as 'Traditional Inclusives', the key difference between these groups being their Authenticity Beliefs scores. There were also two groups that had consistently moderate scores across the scale: the 'High Moderates' (31.7%) and 'Low Moderates' (18.7%). However, two groups had relatively lower scores: the 'Spiritually Orientated' (4.1%) who only scored high on the Spirituality subscale, and the 'Disassociated' (6.9%) who had generally low scores. We posited that the 'Disassociated' group may be less likely to receive some of the potentially protective benefits identity can provide. We also proposed longitudinal research: it may be that in years to come, some of these people no longer identify their ethnicity as Māori.

Cultural Engagement. In their original paper presenting the scale, Houkamau and Sibley (2010) found that higher Cultural Efficacy and Active Identity Engagement (CEAIE) predicted more marae visits. Te Huia (2013) has also linked the CEAIE, Group Membership Evaluation, and Authenticity Beliefs subscales to second language learners of te reo Māori. Higher motivation to learn was positively associated with all three subscales. Te Huia posited that te reo Māori learners

may be motivated by a desire to have greater cultural efficacy and belonging, and may also hold beliefs that speaking te reo will help them to become a more ‘authentic’ group member.

General Wellbeing. Houkamau and Sibley (2011) tested the ‘culture-as-cure’ model on a small sample ($N = 93$) with the original six-dimension MMM-ICE. ‘Culture-as-cure’ is the idea that higher cultural efficacy may be a protective factor for Māori against the day-to-day stresses of being a member of a marginalised ethnic group (R. Walker, 2004). Houkamau and Sibley found that higher scores on the CEAIE dimension were associated with higher scores on the Personal Wellbeing Index. The Personal Wellbeing Index assesses one’s satisfaction with their own health, standard of living, achievements, safety, future security, personal relationships, and feeling that one is part of a community. This finding supported the ‘culture-as-cure’ argument. However, higher scores on CEAIE were also associated with lower scores on the National Wellbeing Index, which assesses satisfaction with the nation’s economic, environmental, social, governmental, security, and business conditions. Interestingly, Socio-Political Consciousness was not associated with National Wellbeing Index scores. The authors posited that this was because SPC indexes more specifically *political* engagement and engagement with Treaty related issues.

Mental Health. The MMM-ICE2 has been used successfully in mental health research. Muriwai, Houkamau, and Sibley (2015) found that for sole-identifying Māori, higher Cultural Efficacy and Active Identity Engagement scores related to lower psychological distress (as measured by the Kessler-6 scale). Their findings provided support for the ‘culture-as-cure’ argument. Matika and colleagues (in press) extended these findings by linking higher scores in CEAIE domain to higher scores in self-esteem. Furthermore, they found that Cultural Efficacy has a buffering effect through decreased rumination. Thus, higher confidence and engagement in traditional Māori cultural contexts (higher scores on the Cultural Efficacy and Active Identity Engagement sub-scale) is related to lower psychological distress, lower rumination, and higher self-esteem. Their findings provided more evidence for the argument that the ‘culture-as-cure’ effect is present for Māori.

Physical Health. In an analysis of identity and smoking behaviour, Muriwai, Houkama, and Sibley, (2016; Muriwai, 2016) tested which aspects of the MMM-ICE2 related to whether someone was a tobacco cigarette smoker or not (smoking status). Muriwai and colleagues found that the only scale dimension related to smoking status was Perceived Appearance, in that the more someone felt that others perceived them as looking prototypically Māori, the more likely they were to smoke. Curiously, Perceived Discrimination scores did not predict smoking status. Their explanation for this finding was that the links between the Perceived Appearance dimension and discrimination may be more complex than first thought.

Prejudice. As outlined above, in the validation of the updated MMM-ICE2 scale, higher scores on the Perceived Appearance dimension were related to greater feelings of perceived ethnic discrimination (Houkama & Sibley, 2015a). In a related study, Houkama and Sibley (2015b) found that the higher someone scored in the Perceived Appearance dimension, that is, the more that one felt they looked prototypically Māori, the less likely they were to own their own home. The researchers explained that the findings indicated institutional racism on the part of the banks, as the effect held after controlling for a range of demographics, such as education and income.

Financial Attitudes. Houkama and Sibley (2016) examined the relationship between MMM-ICE2 scores and two important financial variables (1) whether someone was enrolled in the state-sponsored savings scheme Kiwisaver, and (2) subjective ratings of participant's satisfaction with their financial security. Higher CEAIE scores were related to a lower likelihood of being enrolled in Kiwisaver, but were also related to higher satisfaction with one's financial security. Additionally, higher SPC was associated with lower levels of satisfaction with one's financial security. The authors posited that those higher in SPC were likely more conscious of the inequalities experienced by Māori, which in turn, led them to be more suspicious of their own financial security.

Environmental Attitudes. In a paper examining ethnic group differences in environmental attitudes, Cowie and colleagues (2016) found that Māori had higher levels of regard for the natural environment than other ethnic groups in Aotearoa (Pākehā, Pacific, and Asian). They followed up on this effect by testing which aspects of Māori identity predicted environmental regard. Higher

Socio-Political Consciousness was linked to higher regard for the environment, however, against predictions, the Spirituality dimension was not significantly associated to environmental attitudes. Their research contributed to the literature by showing which aspects of Indigenous identity relate to the higher level of valuing the environment that is associated internationally with Indigenous peoples.

Summary. As I have shown in the preceding section, a growing body of research uses the MMM-ICE2 to predict a range of meaningful and important outcomes for Māori. Extant research suggests that CEAIE has utility in predicting wellbeing, mental health, self-esteem, and financial outcomes, as well as behaviours like visiting marae more often. Perceived Appearance has been linked to an increased likelihood of smoking, more perceived discrimination, and a lower likelihood of home ownership. Finally, lower Socio-Political Consciousness has been linked to lower satisfaction in perceptions of future financial security, with higher scores having been shown to predict a higher level of regard for the natural environment. In sum, the scale has been shown to predict important outcomes, as it will in remainder of this thesis.

Bridging Comments

The following paper represents the first of two in the scale development section of my thesis. As I have just discussed, the MMM-ICE2 scale has been used for a variety of research that explores important outcomes for Māori. Additionally, my thesis moves on to analysing further outcomes: in my case, in the political domain. Thus, it is important that the scale that all of this research relies on is well validated using a range of psychometric tools. As I argue in the following paper, it was possible that the MMM-ICE2 was vulnerable to acquiescent responding (yea-saying). This is because (a) the scale attempts to translate Māori cultural concepts into English, (b) the subscales of the MMM-ICE2 are not semantically balanced, and (c) past research has shown that participants from collectivist cultures (Māori culture has been referred to as collectivist) are more likely to acquiesce in surveys. In this first study I utilise random intercept exploratory factor analysis to check the scale for acquiescent responding. This study was published in 2017 in the international journal *Personality and Individual Differences*. As it was written for an international audience, and is technical in nature, the researchers are positioned as outsiders.

Finally, a reminder that the pronouns will change in the next three chapters from ‘I’ to the collective ‘we’ to reflect the fact that they are published papers with co-authors (as is the convention in my discipline, psychology). While I wrote each paper myself, the contributions of my co-authors were invaluable. These co-authors include: my supervisors, who were the primary investigators on the studies that the data were collected from (Houkamau and Sibley), other academics who served as advisors and contributors (Osborne, Manuela, Muriwai, and Sengupta), and Andrew Robertson, who often collaborates with the lab group and procured the data for the first model of Study Three. Finally, some work includes other co-authors who were graduate students who helped during the data collection and the writing process (Cowie, Lindsay, Matika, and Townrow).

CHAPTER TWO

Study One: Random Intercept Exploratory Factor Analysis of the Multidimensional Model of Māori Identity and Cultural Engagement

The research article that follows is the author's copy of a manuscript published in *Personality and Individual Differences* © 2017 Elsevier Ltd.

Greaves, L. M., Houkama, C. A., & Sibley, C. G. (2017). Random intercept exploratory factor analysis of the multidimensional model of Māori identity and cultural engagement.

Personality and Individual Differences, 105, 14-18. doi: 10.1016/j.paid.2016.09.026

Abstract

Acquiescent response style (the tendency to agree to questionnaire items regardless of content) is an issue that has plagued questionnaire design for decades. We employ recent advances in random intercept exploratory factor analysis to examine the extent to which the Multidimensional Model of Māori Identity and Cultural Engagement (the MMM-ICE2) is potentially contaminated by acquiescent response bias. The MMM-ICE2 is a culture-specific seven-dimension scale designed to measure one's subjective identification as Māori (the Indigenous peoples of New Zealand). Analyses of a national probability sample of Māori ($N = 678$) indicated that the factor structure of MMM-ICE2 was reliably recovered when adjusting for potential bias due to acquiescent responding, indicating that the scale shows minimal contamination due to acquiescent response bias. These findings provide important additional information validating the MMM-ICE2 measure of identity for use with Māori populations. Following Aichholzer (2014), we recommend random intercept exploratory factor analysis for use in scales where acquiescent responding may be of concern.

Keywords: Acquiescence; Random Intercept; Māori; Identity; Indigenous; Factor Analysis

Introduction

The Multidimensional Model of Māori Identity and Cultural Engagement – Revised (MMM-ICE2) is a seven-dimension, public domain, Likert-style scale designed to measure one's subjective identity as Māori (the Indigenous peoples of New Zealand; see Houkamau & Sibley, 2015a). The scale has been used to predict a wide range of crucial outcomes for Māori, including: home-ownership (Houkamau & Sibley, 2015b), retirement savings and perceptions of financial security (Houkamau & Sibley, 2016), fluency in the Māori language (Houkamau & Sibley, 2010), voter enrolment (Greaves, Houkamau et al., 2017), smoking status (Muriwai et al., 2016), and mental health (Muriwai et al., 2015).

As the scale becomes more widely used to predict crucial outcomes for Māori, it is important to validate the scale across multiple domains. One key domain in which the scale remains to be validated is that of potential contamination due to acquiescent responding. We argue that scales used with Indigenous populations are particularly vulnerable, in this case because (a) the scale translates Māori cultural concepts into English, (b) subscales of the MMM-ICE2 are not semantically balanced, and (c) collectivist cultures are more likely to acquiesce in surveys. In this paper, we apply random intercept exploratory factor analysis (EFA) to examine the extent acquiescent responding may contaminate responses to the MMM-ICE2. We do so using data from a large-scale national probability sample of Māori ($N = 690$).

Acquiescent Responding and Random Intercept Exploratory Factor Analysis

Acquiescent responding has been defined as the tendency of participants to agree to survey items regardless of the item content (Paulhus, 1991). Several explanations for acquiescent responding have been advanced: people may tend to agree because they take mental shortcuts, their surrounding environment could be distracting, they may lack the knowledge or education to respond accurately, they could be bored to some degree and not engage critically with the material, or the survey could be poorly or vaguely written (Baumgartner & Steenkamp, 2001; Knowles & Nathan, 1997; Messick, 1991). Regardless, acquiescent responding is an issue that plagues many scales by strengthening or weakening correlation and regression coefficients, inflating reliability estimates,

and producing misleading factor analytic solutions (Baumgartner & Steenkamp, 2001; Billet & McClendon, 2000; Weijters, Geuens, & Schillewaert, 2010).

As a consequence, researchers have turned to statistical solutions to model and control for acquiescent responding after initial scale design, or data collection (for a review see Wenzel, Böhnke, & Brown, 2016). A recent development in testing for acquiescent response style is random intercept EFA. This approach builds on previous work by Billiet and McClendon (2000) who modelled trait factors and a latent method factor (a general acquiescence factor) in a Confirmatory Factor Analysis (CFA). However, such a method is not available when scales have unequal numbers of negatively and positively worded items, as the general acquiescence factor may extract the variance of the trait factors (Kam & Zhou, 2014; Wenzel et al., 2016). Another weakness is the assumption in CFA that items will load onto only their pre-determined factor, which is not the reality for most scales (Aichholzer, 2014). Random intercept models also differ from common factor models, like the bifactor model, as they allow the intercepts of the model to change across participants. In short, common factor models assume that participants have invariant response patterns, whereas random intercept models allow intercepts to be estimated based on the variance in the population (for more information, see Maydeu-Olivares & Coffman, 2006). Due to these limitations, random intercept EFA has been shown to have utility for scales that may be prone to acquiescent responding where subscales are not counterbalanced (Aichholzer, 2014). This is thus the appropriate test for the MMM-ICE2.

Random intercept EFA has been successfully applied to personality scales. Aichholzer (2014) used standard EFA, CFA, and random intercept EFA to test the underlying factor structure of the German versions of the Big Five Inventory and the NEO Five Factor Inventory. Random intercept EFA was shown to reduce the impact of acquiescent responding on model fit, when compared with standard CFA and EFA models. Consequently, Aichholzer (2014) recommended random intercept EFA for use on scales with a complex factor structure, semantically imbalanced or not, to uncover the extent to which acquiescent responding may be biasing the factor structure of a scale.

Scale Development

Originally, Houkamau and Sibley (2010) employed both EFA and CFA to create the MMM-ICE. The researchers used EFA on responses to a pool of 92 items by 270 Māori participants. Houkamau and Sibley recovered a six-factor solution which was validated with a subsequent sample using CFA. Later, Houkamau and Sibley (2015a) updated the MMM-ICE by adding a seventh factor, Perceived Appearance. Descriptions of the resulting dimensions for the revised MMM-ICE2 can be found in Table 3 and item content is displayed in Table 4.

Table 3.

Brief Construct Definitions for the Seven Factors Indexed by the MMM-ICE2. Adapted from Houkamau and Sibley (2015a).

Group Membership Evaluation

The extent to which the individual positively evaluates their membership in the social category Māori and views their membership as Māori as a personally important or central to their self-concept.

Cultural Efficacy and Active Identity Engagement

The extent to which the individual perceives that they have the personal resources required (i.e. personal efficacy) to engage appropriately with other Māori in Māori social and cultural contexts.

Interdependent Self-Concept

The extent to which the concept of the self-as-Māori is defined by virtue of relationships with other Māori people.

Spirituality

The extent to which the individual is engaged with, and has a belief in, certain Māori concepts of spirituality, including a strong connection with ancestors, Māori traditions, the sensation and experience of sacred places, and a strong spiritual attachment and feeling of connectedness with the land.

Socio-Political Consciousness

The extent to which the individual perceives historical factors as being of continued importance for understanding contemporary intergroup relations between Māori and other ethnic groups in New Zealand; and how actively engaged the individual is in promoting and defending Māori rights given the context of the Treaty of Waitangi.

Authenticity Beliefs

The extent to which the individual believes that to be a ‘real’ or ‘authentic’ member of the social category Māori one must display specific (stereotypical) features, knowledge and behaviour.

Perceived Appearance

The extent to which people subjectively evaluate their appearance as having clear and visible features that signalling their ethnicity and ancestry as Māori (or high Māori prototypicality).

Table 4.

Item Content and Factor Loadings for the MMM-ICE2 by Dimension, (R) Signals that the Item is Reverse Coded.

	1	2	3	4	5	6	7
1. Group Membership Evaluation							
1. I reckon being Māori is awesome.	.75	.05	.04	.05	-.04	.07	.08
2. I love the fact I am Māori.	.62	.16	.06	.01	-.01	-.04	.05
3. Being Māori is cool.	.59	-.02	.13	-.07	-.14	-.06	.04
4. I don't really care about following Māori culture. (R)	-.28	-.11	-.03	-.25	.12	-.16	.01
5. I wish I could hide the fact that I am Māori from other people. (R)	-.44	-.01	.09	.04	.03	.03	.04
6. My Māori ancestry is important to me.	.57	.05	.01	.22	-.06	.02	.03
7. Being Māori is NOT important to who I am as a person. (R)	-.37	-.05	.03	-.09	.18	-.06	.04
8. Being Māori is NOT important to my sense of what kind of person I am. (R)	-.33	-.04	-.02	-.06	.23	-.23	.03
2. Cultural Efficacy and Active Identity Engagement							
9. I don't know how to act like a real Māori on a marae. (R)	.05	-.66	.07	-.06	.00	.08	-.03
10. I can't do Māori cultural stuff properly. (R)	.01	-.61	.10	.00	.02	-.09	.02
11. I can't do Māori culture or speak Māori. (R)	-.07	-.59	-.02	.04	.00	-.26	.06
12. I know how to act the right way when I am on a marae.	-.01	.77	.04	.03	-.02	-.05	.07
13. I'm comfortable doing Māori cultural stuff when I need to.	.19	.60	.06	-.01	.00	.02	-.02
14. I have a clear sense of my Māori heritage and what it means for me.	.07	.58	.02	.16	-.09	-.07	.07
15. I try to korero (speak) Māori whenever I can.	.11	.39	.20	.06	-.08	.24	.02
16. I sometimes feel that I don't fit in with other Māori. (R)	-.02	-.42	-.08	.04	-.08	.05	-.20
3. Interdependent Self-Concept							
17. My relationships with other Māori people (friends and family) are what make me Māori.	.09	-.03	.71	.04	.04	.07	.07
18. I consider myself Māori because I am interconnected with other Māori people, including friends and family.	.02	.06	.69	.03	-.01	.02	-.05
19. My Māori identity is fundamentally about my relationships with other Māori.	-.02	-.04	.59	-.01	-.04	.08	.01
20. For me, a big part of being Māori is my relationships with other Māori people.	.11	.07	.60	.13	-.07	.03	.02
21. How I see myself is totally tied up with my relationships with my Māori friends and family.	.04	.11	.65	.04	.04	-.08	.04
22. My Māori identity belongs to me personally. It has nothing to do with my relationships with other Māori. (R)	-.04	.03	-.39	-.03	.13	.02	.09
23. Reciprocity (give-and-take) is at the heart of what it means to be Māori for me.	.08	-.03	.25	.21	.03	-.08	-.03

4. Spirituality								
24.	I believe that Tūpuna (ancient ancestors) can communicate with you if they want to.	.04	.04	-.02	.79	.09	.03	.04
25.	I don't believe in that Māori spiritual stuff. (R)	-.08	.05	.04	-.62	.07	-.08	-.03
26.	I believe that my Taha Wairua (my spiritual side) is an important part of my Māori identity.	.02	-.02	.10	.72	-.05	.10	.02
27.	I can sense it when I am in a Tapu place.	-.03	.16	.05	.45	-.04	.03	.02
28.	I can sometimes feel my Māori ancestors watching over me.	-.02	.04	.08	.75	.00	-.09	.04
29.	I have never felt a spiritual connection with my ancestors. (R)	-.04	-.14	.08	-.62	.07	.26	.06
30.	I think Tapu is just a made up thing. It can't actually affect you. (R)	-.09	.04	.05	-.44	.09	-.23	-.06
31.	I feel a strong spiritual association with the land.	-.04	.07	.11	.51	-.17	-.06	.02
5. Socio-Political Consciousness								
32.	Māori would be heaps better off if they just forgot about the past and moved on. (R)	-.05	-.02	.00	.00	.66	.02	.00
33.	All of us, both Māori and Pākehā, did bad things in the past—we should all just forget about it. (R)	.01	.01	.10	-.05	.70	-.07	.01
34.	I'm sick of hearing about the Treaty of Waitangi and how Māori had their land stolen. (R)	-.11	-.03	-.06	.05	.68	.06	-.03
35.	I think we should all just be New Zealanders and forget about differences between Māori and Pākehā. (R)	-.04	-.01	.08	-.06	.71	-.08	.00
36.	I think that Māori have been wronged in the past, and that we should stand up for what is ours.	-.02	.02	.10	.05	-.65	-.08	.10
37.	What the European settlers did to Māori in the past has nothing to do with me personally. I wasn't there and I don't think it affects me at all. (R)	-.09	.02	.10	-.11	.61	-.18	-.04
38.	I stand up for Māori rights.	.12	.22	.21	.08	-.36	-.15	.01
39.	It's important for Māori to stand together and be strong if we want to claim back the lands that were taken from us.	-.03	.09	.25	.04	-.56	-.05	.10
6. Authenticity Beliefs								
40.	You can always tell true Māori from other Māori. They're real different.	-.13	-.01	.27	-.13	-.01	.30	.09
41.	I reckon that true Māori hang out at their marae all the time.	-.08	-.07	.42	-.09	.01	.41	.02
42.	True Māori always do karakia (prayer) before important events.	-.02	-.01	.28	.18	.02	.57	.03
43.	You can tell a true Māori just by looking at them.	-.14	-.03	.25	-.06	.05	.34	.19
44.	Real Māori put their whānau first.	.10	.03	.23	.02	.05	.27	-.04
45.	To be truly Māori you need to understand your whakapapa and the history of your people.	-.03	-.03	.23	.07	-.12	.78	-.05
46.	You can be a real Māori even if you don't know your Iwi. (R)	-.06	-.01	.12	-.07	-.07	-.93	-.01
47.	You can be a true Māori without ever speaking Māori. (R)	-.07	-.10	.04	.11	.07	-.99	.07

7. Perceived Appearance								
48.	I think it is easy to tell that I am Māori just by looking at me.	-.08	.03	.05	.05	-.03	.18	.82
49.	You only need to look at me to see that I am Māori.	-.11	.01	.03	-.04	-.09	.12	.84
50.	When people meet me, they often do not realise that I am Māori. (R)	-.09	-.01	.07	.02	.00	.16	-.75
51.	I think it is hard to tell that I am Māori just by looking at me. (R)	-.07	.00	.05	-.01	.02	.16	-.82
52.	I think it is clear to other people when they look at me that I am of Māori descent.	.02	.01	.05	.03	.02	.02	.81
53.	People would never know that I am of Māori descent just by looking at me. (R)	-.06	.00	.01	-.04	.00	.12	-.78
54.	People who don't know me often assume that I am from another (non-Māori) ethnic group. (R)	-.13	-.03	.03	-.01	-.18	-.10	-.57

It is vitally important that when creating measurement tools like the MMM-ICE2 that concepts do not get ‘lost in translation’. Indigenous measurement tools are fairly novel in the literature, due to a tenuous history between research and Indigenous peoples (Walter, & Andersen, 2013). Statistics have been viewed with suspicion, as part of research that has been traditionally disempowering (L. T. Smith, 2012; Walter & Andersen, 2013). Indeed, Māori tend to respond to surveys at lower rates than other populations (Fink, Paine, Gander, Harris, & Purdie, 2011; Sibley, 2014a). Scales like the MMM-ICE2, are based off qualitative research, which typically allows for face-to-face clarification. For example, if the researcher asks a question in a way that the participant does not quite understand, the two can come to a mutual understanding by trying to clarify the question or concept. This responsiveness is not possible with a printed survey. Adding to this is the complexity of having a survey of Māori cultural concepts printed largely in English. Due to colonisation, many Māori cannot speak the Māori language. Thus, it is essential to express the scale in English (Houkamau & Sibley, 2015a). These issues may culminate in an increased likelihood of misunderstanding, and therefore acquiescence.

As with many multidimensional scales, the possibility remains that the MMM-ICE2 is vulnerable to acquiescent responding due to a lack of semantic balancing. However, it being a scale of Indigenous identity presents additional challenges. One often-used solution to the problem of acquiescent responding at the scale-design level has been to semantically balance items within a

survey by having an even number of positively and negatively worded items. Researchers typically use one of two strategies to address this problem. They may use an antonym of a key term, which could actually change the concept that is being measured (van Sonderen, Sanderman, & Coyne, 2013). More commonly, researchers add affixal morphemes like ‘non-’ or ‘dis-’ or negative particles like ‘not’ to the survey item (Swain, Weathers, & Niedrich, 2008). For many dimensions of the MMM-ICE2 it would not be feasible to create reverse-coded items that would still make sense to participants, in terms of language, and more importantly, in terms of sentiment. To send a survey to an Indigenous population that refers to aspects of their culture in negative terms would be insulting and culturally insensitive. For example, in our view it would be very difficult to negatively word items for the subscale assessing Interdependent Self Concept, as these items largely relate to the importance of friends and family in one’s life and to one’s identity. If we were to send out a survey to a wide range of Māori (who are likely already suspicious of research) that has a number of items along the lines of “my family is not important to me”, many participants would probably not respond or be offended.

Additionally, it is important to assess the extent to which the MMM-ICE2 is contaminated by acquiescent responding because such contamination has been found to be higher in more collectivist, less individualistic cultures (Johnson, Kulesa, Cho, & Shavitt, 2005; van Herk, Poortinga, & Verhallen, 2004). Māori culture tends to be fairly collectivist in nature, at least relative to New Zealand European culture (Harrington & Liu, 2002; Tassell, Flett, & Gavala, 2010). The combination of these three concerns – the difficulty in presenting and translating Indigenous cultural concepts into a survey, the lack of semantic balancing, and the potential for greater acquiescence due to collectivism – make it important to test the MMM-ICE2 for acquiescent responding.

Hypothesis

We employ recent advances in random intercept EFA to examine the extent to which the MMM-ICE2 is potentially contaminated by acquiescent response bias. The validity of the MMM-ICE2 has been tested using traditional EFA (Houkamau & Sibley, 2010), CFA (Houkamau &

Sibley, 2015a; Greaves, Manuela et al., 2017), and Item Response Theory analysis (Sibley & Houkamau, 2013). However, it remains to be seen whether the hypothesised seven-factor structure of the MMM-ICE2 can be reliably recovered when adjusting for potential contamination due to acquiescent responding.

Method

Participants

As part of the Time 4 (2012) New Zealand Attitudes and Values Study sampling design, we included a booster sample aimed specifically at recruiting Māori participants. This sample frame consisted of 9,000 people randomly selected from those who indicated on the electoral roll that they were of Māori descent. A total of 690 participants responded (for full information see Sibley, 2014a). Participants were 428 women and 250 men, with a mean age of 43.93 ($SD = 13.01$), who completed the measures of interest. We sampled participants that identified as Māori, however, 55% also identified as New Zealanders of European descent ($n = 3,873$), 5.2% with a Pacific Nations ethnicity ($n = 35$), 1.2% as Asian ($n = 8$), and 0.9% with another ethnicity ($n = 6$).

Questionnaire Measures

Participants completed the 54-item MMM-ICE-2; a copy of the scale is presented in Table 4.

Analytical Strategy

Random intercept EFA was conducted in *Mplus* 7.4 (Muthén & Muthén, 1998-2015) using Maximum Likelihood estimation. Following Bentler (2007) we examined a range of fit indices. Standard guidelines or ‘rules-of-thumb’ recommend that an RMSEA of less than .08 indicates acceptable model fit and an RMSEA of less than .05 indicates excellent fit (Marsh, Hau, & Wen, 2004). Hu and Bentler (1999) have reported a standard ‘rule-of-thumb’ that an SRMR of less than .08 is generally desirable. They also propose that CFI and TLI should be greater than .95, a CFI and TLI greater than .90 may also indicate a reasonable model.

Results

The model fit the data reasonably well according to indices of relative fit ($\chi^2(1073, N = 678) = 2501.352, p < .001, CFI = .924, TLI = .899, RMSEA = .044, SRMR = .029$). Table 4 presents the full MMM-ICE2 scale item content and factor loadings generated from the random intercept EFA. Factor loadings over .30 are presented in bold. The factor structure of the MMM-ICE2 held through this stringent test across the all seven subscales. However, of the 54 items included in the scale, three items had factor loadings of less than .30 on their hypothesised factor.

One item from the Group Membership Evaluation had a factor loading of -.28: “I don’t really care about following Māori culture” (reverse coded). Similarly, one item expected to load on the Interdependent Self Concept scale: “Reciprocity (give-and-take) is at the heart of what it means to be Māori for me” had a factor loading of .25. Finally, the item: “Real Māori put their whānau first” only obtained a factor loading of .27 on the expected Authenticity Beliefs dimension. Additionally, the item: “I reckon that true Māori hang out at their marae all the time” loaded on to both the Interdependent Self-Concept and Authenticity Beliefs subscales at .41. Therefore, it seems as though this item is indexing both dimensions equally when accounting for acquiescent responding. In sum, the model fit the data well and we reliably recovered all seven subscales from the data, although we did identify a few weaker items that may show potential for future revision.

Discussion

We tested an important, and previously unexplored, aspect of validity of the MMM-ICE2: the extent to which the factor structure of this instrument is potentially contaminated by acquiescent response bias. Following Aichholzer (2014), random intercept EFA of the MMM-ICE2 in a national probability sample of Māori indicated that the scale performed well and the factor structure held when adjusting for acquiescent responding. This is an important test for the MMM-ICE2, as the subscales are not all semantically balanced, and many of the scale items translate Māori cultural concepts into English for which it is difficult to construct reverse-worded statements. More generally, the MMM-ICE2 is becoming a useful tool for research. As such, it is vital that this tool be rigorously tested and its validity established in a variety of domains. We contribute to this

endeavour by showing that the factor structure of the MMM-ICE2 is relatively uncontaminated by acquiescent response bias.

To reiterate our earlier point: it is often difficult to write reverse worded items. When creating scales for something as personal as identity, especially for a colonised and marginalised group such as Māori, the wording of the scale must be very sensitive and has the possibility to cause great offence or harm. Where possible the scale authors have semantically balanced items, although due to the aforementioned considerations and results from previous analyses, many subscales are imbalanced. Thus, taken alongside evidence that collectivist cultures tend to acquiesce more in response to surveys, it was unclear to what extent the underlying factor structure of the scale may have been affected by acquiescent responding. Random intercept EFA provided us with the ability to test the MMM-ICE2 scale and means that researchers who use the scale in future can have confidence that their effects are not due to acquiescent responding.

We did, however, find areas of the scale that will need developing in future research. Some items had factor loadings below .30, these will need to be examined in future iterations of the scale. Additionally, one item “I reckon that true Māori hang out at their marae all the time” loaded onto two subscales. The MMM-ICE2 scale has been revised once subject to community feedback and will undoubtedly continually be improved in response to research (Houkamau & Sibley, 2015a). We hope that future revisions of the scale take into account the findings of the random intercept model presented here. However, for the time being, our recommendations for best practice with the MMM-ICE2 would be to estimate a latent variable model based on the measurement model adjusting for acquiescent responding.

In sum, and following Aichholzer (2014), for those using multidimensional scales with varying levels of semantic balancing, we recommend random intercept EFA as part of the scale development toolset. This method of analysis is important for scale development generally, and holds great promise for testing and validating culture-specific questionnaire measures developed for populations where there is the added potential of inappropriately worded reverse-coded items,

potential translation issues in the expression of culture-specific concepts which may create acquiescent response bias.

Bridging Comments

In the preceding paper I further validated the MMM-ICE2 scale using advanced psychometric techniques (random intercept exploratory factor analysis; RIEFA) to show that it was not vulnerable to acquiescent responding (yea-saying). This was a concern given that the scale attempts to translate cultural concepts into English/a Western style format, the subscales are not semantically balanced, and Māori culture can be characterised as collectivist. The literature suggested that all of these factors may have indicated vulnerability to acquiescent responding. These analyses revealed that four out of the 54 survey items may need improvement in further iterations of the scale. However, overall, the scale performed well. Although best practice would be to estimate a latent variable model and adjust for acquiescent responding when using the scale, when using RIEFA we recovered a very similar factor solution to when simply using mean scores. Thus, while researchers can be confident the scale is not vulnerable to yea-saying, we nevertheless identified a few areas for future development.

In the second paper of this measurement section I examine the measurement equivalence of the scale. That is, whether the scale is measuring the same concepts across the intersections of Māori identity and various other identities or demographic characteristics. This is important as the scale purports to measure Māori identity, yet Māori are an increasingly young and diverse group (Durie, 1998b; Houkamau, 2006, 2010; Greaves, 2014; Greaves, Houkamau et al., 2015; Statistics New Zealand, 2013; Williams, 2001). As such, it is essential to ensure that the scale is measuring the same concepts for, for example, a rural kuia (grandmother or older woman), as it is for a younger, urban man who identifies as both Māori and Pākehā. To test this I use multigroup confirmatory factor analysis to test configural, metric, and scalar equivalence across urban and rural Māori, men and women, age groups (under 40, 41-54, 55 and over), and sole-identifying Māori compared to those who identify with more than one ethnicity. Finally, note that this paper was published in the New Zealand Journal of Psychology, as such it is aimed at a New Zealand national audience.

**Study Two: The Multidimensional Model of Māori Identity and Cultural Engagement:
Measurement Equivalence across Diverse Māori Groups**

The research article that follows is the author's copy of a manuscript published in the New Zealand Journal of Psychology © 2017 the New Zealand Psychological Association.

Greaves, L. M., Manuela, S., Muriwai, E., Cowie, L. J., Lindsay, C., Matika, C. M., Houkama, C. A., & Sibley, C. G. (2017). The Multidimensional Model of Māori Identity and Cultural Engagement: Measurement Equivalence across Diverse Māori Groups. *New Zealand Journal of Psychology*, 46(1), 24-35.

Abstract

The Multidimensional Model of Māori Identity and Cultural Engagement (or MMM-ICE2) is a self-report questionnaire that measures seven distinct dimensions of one's subjective identity as Māori. Prior research indicates that the scale performs well psychometrically and predicts a wide range of outcomes for Māori peoples. However, the measurement equivalence of the MMM-ICE2 is yet to be assessed. That is, the extent to which the scale provides comparable measurement of the same aspects of identity for all Māori, for instance, across different age groups, for Māori men and women, and for Māori living in different urban or rural regions. Here, we address this gap in the validation of the MMM-ICE2 using multigroup confirmatory factor analysis to assess the configural, metric, and scalar equivalence of the scale across different demographic groups. We test our models using data from Māori participants who completed the MMM-ICE2 as part of the broader New Zealand Attitudes and Values Study ($N = 696$). Results indicate that the scale has reasonable measurement equivalence over metric, configural, and scalar assessments across most demographic comparisons. In sum, the results indicate that the MMM-ICE2 provides a valid assessment tool for Māori across a range of contexts, but nevertheless points to ways in which the scale could be improved in future.

Keywords: Māori; Identity; Indigenous; Measurement Equivalence

Introduction

The field of quantitative identity research has undergone somewhat of an *emic* (by the people of the culture, for the people; Berry, 1989) revolution in recent years. The addition of the Pacific Identity and Wellbeing Scale (the PIWBS; Manuela & Sibley, 2013; 2015a), and the Multidimensional Model of Māori Identity and Cultural Engagement - Revised (the MMM-ICE2; Houkamau & Sibley, 2010, 2015a), have allowed researchers to assess identity in a culturally-specific and nuanced way. The MMM-ICE2 is a seven dimension, public domain, quantitative, Likert-style, self-report measure created *for* Māori *by* Māori (Houkamau & Sibley, 2010, 2015a). The purpose of the scale is to measure one's subjective identification as Māori (Houkamau & Sibley, 2010, 2015a). The MMM-ICE2 has shown utility in predicting a wide range of outcomes including: home-ownership (Houkamau & Sibley, 2015b), marae visits and fluency in te reo Māori (Houkamau & Sibley, 2010), perceptions of National and Personal well-being (Houkamau & Sibley, 2011), self-esteem (Matika et al., in press), environmental attitudes and values (Cowie et al., 2016), and mental health (Muriwai et al., 2015). Here, we aim to test the measurement equivalence of the MMM-ICE2 across urban/rural Māori, gender, age, and sole-identified versus mixed Māori, to provide evidence that the scale is measuring subjective identification equally across groups.

Development of the MMM-ICE

Initially, Houkamau and Sibley (2010) aimed to create a scale of Māori identity, where identity is defined as: “constituting those aspects of the self-concept (including beliefs/values/attitudes) that pertain to ‘who’ a person is as Māori, how they ‘fit in’ with others in the social world and what that means in terms of behaviour” (Houkamau & Sibley, 2010, p. 12). The original items were from a broad and detailed review of the literature on Māori identity and the international literature on ethnic identity. The initial item pool included items based on: identity centrality (Sellers et al., 1998; Luhtanen & Crocker, 1992), collective self-esteem (Luhtanen & Crocker, 1992), cultural efficacy (see Durie, 1995), active identity engagement (based on qualitative research by Houkamau, 2006), spirituality (i.e. Durie, 1998b), interdependency/collectivism

(Kashima & Hardie, 2000), and essentialist/authenticity based beliefs (based on discussions on the legitimising myth of real 'Māoriness' by Borell, 2005; Chadwick, 1998).

Houkamau and Sibley (2010) then used Exploratory Factor Analysis (EFA) on responses to a pool of 92 items by 270 participants recruited on the internet. EFA is a method used to explore how items cluster together to form a number of latent dimensions. A six-factor solution emerged from the analysis, meaning there were six reliable dimensions which underlie Māori identity over 47 items drawn from the data. Descriptions of the different dimensions can be found in Table 5. The first dimension was called Group Membership Evaluation (GME), which relates to having positive feelings about one's membership in the group 'Māori'. A second aspect of this dimension is how central and important to the self one's identity as a 'Māori' is. Another dimension was named Socio-Political Consciousness (SPC). This dimension indexes beliefs in the continued importance of colonial history and the injustices experienced by Māori. This dimension also assesses the degree to which the participant feels they actively engage in the political process and 'stand up' for Māori political rights. The dimension of Cultural Efficacy and Active Identity Engagement (CEAIE) measures the extent to which one believes they have the personal resources to engage with other Māori in traditional cultural contexts.

Table 5.

Construct Definitions for the Seven Factors Indexed by the MMM-ICE2. Adapted from Houkamau and Sibley (2015a).

Group Membership Evaluation (GME)

The extent to which the individual positively evaluates their membership in the social category Māori and views their membership as Māori as a personally important or central aspect of their self-concept versus the extent to which the individual negatively evaluates their membership in the social category Māori and views their membership as Māori as peripheral or irrelevant to their self-concept

Cultural Efficacy and Active Identity Engagement (CEAIE)

The extent to which the individual perceives that they have the personal resources required (i.e. the personal efficacy) to engage appropriately with other Māori in Māori social and cultural contexts versus the extent to which the individual perceives that they lack the personal resources and ability to engage appropriately with other Māori in Māori social and cultural contexts

Interdependent Self-Concept (ISC)

The extent to which the concept of the self-as-Māori is defined by virtue of relationships with other Māori people versus the extent to which the concept of the self-as-Māori is viewed as being defined as solely unique and independent to the individual rather than as part of the social group.

Spirituality (S)

The extent to which the individual is engaged with, and has a belief in, certain Māori concepts of spirituality, including a strong connection with ancestors, Māori traditions, the sensation and experience of *waahi tapu* (sacred places), and a strong spiritual attachment and feeling of connectedness with the land versus the extent to which the individual is disengaged from or does not believe in Māori concepts of spirituality.

Socio-Political Consciousness (SPC)

The extent to which the individual perceives historical factors as being of continued importance for understanding contemporary intergroup relations between Māori and other ethnic groups in New Zealand; and how actively engaged the individual is in promoting and defending Māori rights given the context of the Treaty of Waitangi versus the extent to which the individual perceives historical factors and injustices experienced by Māori as being irrelevant in contemporary society.

Authenticity Beliefs (AB)

The extent to which the individual believes that to be a ‘real’ or ‘authentic’ member of the social category Māori one must display specific (stereotypical) features, knowledge and behaviour versus the extent to which the individual believes that Māori identity is fluid rather than fixed, and produced through lived experience.

Perceived Appearance (PA)

The extent to which people subjectively evaluate their appearance as having clear and visible features that signalling their ethnicity and ancestry as Māori (or high Māori prototypicality) versus the extent to which people evaluate their appearance as less indicative of having Māori ancestry (low Māori prototypicality).

The fourth dimension of the scale was named Spirituality, which measures engagement with traditional Māori concepts of spirituality like recognising tūpuna (ancestors) and that which is tapu. The fifth dimension was called Interdependent Self-Concept; this assesses the degree to which the participant believes that being Māori is interdependent or independent from their relationships with other Māori. Put more simply, it assesses whether one feels they need to actively engage with other Māori in order to truly be Māori. The final dimension was named Authenticity Beliefs. This dimension assesses the degree to which someone believes that Māori have to do certain cultural things or look/act certain ways to be an authentic Māori.

In a later paper, Sibley and Houkamau (2013) examined the scale properties of the MMM-ICE, and assessed the stability of the scale across genders, and across the lifespan. They extended the initial analyses by using item response theory analysis to look at the scale's internal reliability. That is, to check if there were scale reliability differences between people and at different levels of the dimensions. The MMM-ICE tended to be most precise at the mean level range of each dimension, but each dimension showed an acceptable level of reliability across the scale. Examining the dimensions across age cohorts and genders provided interesting comparisons and insights into how identity may change with age (although longitudinal research is needed). Older people tended to have a higher level of identification with the MMM-ICE dimensions and across genders the results were reasonably similar.

Finally, due to feedback from the community and further examination of the literature, Houkamau and Sibley (2015a) updated the original MMM-ICE by adding a seventh factor, Perceived Appearance. Perceived Appearance assesses the extent to which someone believes that they look prototypically Māori to others. Houkamau and Sibley (2015a) also showed that this new factor, when controlling for the other six dimensions of the MMM-ICE2, predicted unique variation in reported perceived discrimination and that people lower in this dimension were more likely to be of mixed Māori-Pākehā (New Zealand European) descent. However, despite the growing body of research developing the scale, some important questions remain: for example, does the MMM-ICE2 measure identity as 'well' for urban Māori as it does for rural Māori? What about

for men versus women? Or across age groups? And, finally, for those who solely identify as Māori versus those who also identify with other ethnicities? The aim of this paper is to test the measurement equivalence of the MMM-ICE2 across all of these groups using Multigroup Confirmatory Factor Analysis (MCFA).

Māori Identity: Key Influential Variables

MCFA is a tool that allows us to test the factorial equivalence of the MMM-ICE2 subscales across groups. However, the researchers must still choose suitable groups for comparison. For example, Manuela and Sibley (2015b) chose to compare the Pacific Identity and Wellbeing Scale across the major Pacific Island groups (Samoan, Cook Island, Tongan, and Niuean). For the study of Māori identity this decision is less clear cut (especially since there are numerous iwi). However, several key variables have been identified in past research as having a role in shaping one's identity as Māori.

Urban and Rural Māori. The distinction between urban and rural Māori has been influential in past research on identity. This distinction has been largely shaped by historical forces (Durie, 1998b; Houkamau, 2006, 2010). A key time period in the shaping of modern Māori identity occurred in the middle of the 20th century, where there was a mass migration away from (rural) ancestral lands to urban areas for economic opportunities (Taonui, 2012). This transition meant that assimilation of Māori into Pākehā culture became a reality of Māori life for some. For example, it was official policy to 'pepper pot' state housing (meaning dispersing Māori families throughout Pākehā ones). Additionally, speaking te reo Māori in schools became a punishable offence, and the amount of land owned by Māori shrunk to the point that the remaining Māori-owned lands could only support one quarter of the Māori population (Belgrave, 2005; R. Walker, 2004). The distinction between rural and urban Māori may have been pronounced through this time in history, as many who resided in urban areas were assimilated into Pākehā culture and had reduced access to Māori cultural resources. Whereas rural Māori were said to still be engaged in Te Ao Māori, or the traditional Māori world/way of life (Houkamau, 2006, 2010).

The urbanisation that contributed to a weakening of traditional Māori identity for some (Durie, 1998b; Houkamau, 2006, 2010), aided in the creation of protest movements, as Māori became more concentrated in urban centres (Taonui, 2012). A combination of factors led to ‘the Māori Renaissance’, a phrase used to refer to a period in New Zealand history from approximately the late 1960s through until the 1990s (Derby, 2014; Taonui, 2012). As a consequence, the Government was pressured into responding with policies promoting Māori culture and biculturalism, and established the Waitangi Tribunal to address Treaty violations (Belgrave, 2005; Derby, 2014).

Although through this period Māori culture became more easily accessible to urban Māori than it had been in the past, there still remains the possibility that Māori from rural areas have different conceptualisations of Māori identity than urban Māori. That being said, recent research with the MMM-ICE2 has found no differences between the urban/rural divide across common patterns of Māori identity (Greaves, Houkamau et al., 2015). It may be that the simple urban/rural either/or distinction is too simplistic and essentialises Māori experiences. For example, Chapple (2000) argues that the urban/rural divide exists and now may be more of a class distinction comprising an urban, educated, working class of Māori, versus rural Māori that have few employment prospects. Other research has found that there are differences in health across rural and urban Māori (Hodgkin, Hamlin, Ross, & Peters, 2010; Robson, Cormack, & Purdie, 2010), including that urban Māori youth are at a higher risk of developing depression (Clarke, & Jensen, 1997). Therefore, due to the possible different experiences that rural and urban Māori may have, it is beneficial to test the measurement equivalence of the MMM-ICE2 over this divide.

Gender. Life experiences and how people perceive one another typically differ depending on one’s gender; of course this is no different for the experiences of Māori. Although, research using the MMM-ICE2 rarely finds gender differences across the scale. The most thorough investigation of gender differences being Sibley and Houkamau’s (2013) examination of the stability of the scale across the lifespan by gender. They used item response theory analysis to check if there were scale reliability differences between people, and at different levels of the

dimensions. The MMM-ICE2 tended to be most precise at the mean level range of each dimension, but each dimension showed an acceptable level of reliability across the scale. Importantly, across genders the results were reasonably similar.

While there is little quantitative work focusing on Māori women's identity, a body of qualitative work recognises that Māori women's experience and identity have been greatly shaped by their gender. Work completed under the Mana Wāhine framework of Kaupapa Māori research challenges the idea that women have held, or hold, a lower status position in Māori society (Pihama, 2001). Mana Wāhine provides a framework for research that acknowledges issues that impact specifically on Māori women and girls (Pihama, 2001; Simmonds, 2011). For example, experiences of reproduction alone are inherently life- and identity- shaping for Māori women (Le Grice, 2014). Thus, although there is little quantitative research on Māori identity and gender, extant research, combined with the qualitative and theoretical literature suggest that gender is an important category to assess the MMM-ICE2 across.

Age cohort. Historical events have been found to be very influential in shaping Māori identity. Houkamau (2006, 2010) showed that identity is linked to socio-historical contexts in that cultural, social, political and historical processes shape identity over time and across generations. As such, age cohort groups may have had very different experiences relating to their identities. Houkamau (2006, 2010) interviewed 35 Māori women, and found that three key periods of events in New Zealand history were salient in their descriptions of identity. These three key periods of events influenced the identity development for these three distinct age cohort groups. Firstly, there was an older group who felt positive about their Māori identity and engaged in the traditional Māori world. Secondly, there was a middle-aged group who grew up in a time when Māori identity was devalued, who struggled to form a sense of identity, and felt removed from their culture. This group were the least likely to feel that they could confidently rebut racism and negative views of Māori. Thirdly, there was a younger group who grew up during the 'Māori Renaissance', and so were able to learn how to act competently as Māori and were also able to navigate a colonised or 'Pākehā' world.

Quantitative research has also shown age differences in Māori identity, although it is as yet unclear whether these were cohort effects or if identity changes as one ages. Sibley and Houkamau (2013) investigated the stability of the MMM-ICE2 across the lifespan and found that older people tended to have higher scores across MMM-ICE2 dimensions. Greaves and colleagues (2015) also found that those with an enculturated (higher scoring) identity profile tended to be older. Thus, keeping in mind the historical influences on identity and the higher level of identification that past research has found with older people, the age cohort that one belongs to may have an influence on their MMM-ICE2 scale scores. Therefore, we aim to test the measurement equivalence of the MMM-ICE2 across three age cohorts based on Houkamau (2006, 2010): those aged under 40 (post-‘Māori Renaissance’ and may have benefitted from policies for increased biculturalism), 41-54 (formative years during the ‘Māori Renaissance’) and over 55 (pre-‘Māori Renaissance’).

Sole and Mixed Māori. Another key variable that influences ethnic identity is whether one identifies solely as Māori or also identifies with another ethnicity (typically Pākehā). In 1974, being officially ‘Māori’ first legally moved beyond a Western blood-quantum based framework, which assumes that Māori identity and culture have a strict biological basis, to one of identification and affiliation (Cormack & Robson, 2010; Durie, 1998b; Kukutai, 2004). A blood-quantum based system meant that one had to have a minimum level of Māori ancestry to identify as Māori. For example, one had to be at least half Māori (i.e. have one Māori parent) to identify their ethnicity as Māori. However, post-1974 anyone with whakapapa (with a Māori ancestor) could be counted officially as Māori on birth certificates and documentation, on the electoral roll (from 1975), and on the Census if they wished (from 1986). Even though, in reality, Māori had been doing this for years (Durie, 1998b). The 1991 national Census even allowed people to identify with their iwi and distinguished between a) having a Māori ancestor and b) choosing to identify as Māori under ethnicity (including mixed- and sole-Māori). These changes to the official conception of ethnicity in New Zealand meant that being Māori moved from being about the Western and outdated concept of ‘race’, and toward ethnic identity or affiliation.

In the present day one in seven New Zealanders (14.9%) identify as Māori (although a further 100,000 New Zealanders report Māori ancestry but do not identify as Māori), with almost half (46.5%) of these individuals identifying solely as Māori (Statistics New Zealand, 2013). The experiences of mixed and sole identified Māori may differ as those who identify with another ethnicity may be able to draw upon the ‘cultural resources’ of both ethnicities (Houkamau & Sibley, 2014). This effect is particularly pronounced for those who also identify as Pākehā, who are the majority of the population in New Zealand. These individuals may be perceived by others as Pākehā, and thus face different experiences of racism to those who identify as solely Māori (Houkamau & Sibley, 2014; Kukutai, 2007, 2008, 2013; Kukutai & Callister, 2009; Muriwai et al., 2015).

As a result, research has found differences between sole-identifying and mixed- identifying Māori. It may be due to higher levels of racism that sole-identified Māori are more likely to experience exclusion (Houkamau & Sibley, 2015a; Nairn & McCreanor, 1991; Pihama, 2001; Thomas & Nikora, 1996) which can lead to a range of negative psychological outcomes (Houkamau & Sibley, 2014; Muriwai et al., 2015). Houkamau and Sibley (2014) have also shown that mixed and sole identifying Māori differ in some political attitudes: sole identifying Māori showed higher support for the Māori Party, more warmth towards Māori, and more support for policies benefitting Māori (Houkamau & Sibley, 2014). Due to these consistent findings of differences between sole- and mixed-identifying Māori over a range of outcomes, it is important to test the measurement equivalence of the MMM-ICE2 across these groups.

Testing Measurement Equivalence

A key goal in the development of the MMM-ICE was to create a scale to assess one’s subjective Māori identity. Māori, however, are a diverse and changing group. In earlier Māori identity research, Durie (1995) recognised this as a key assumption when creating a Māori identity scale for the Te Hoe Nuku Roa study of Māori households. Furthermore, research with the MMM-ICE2 has also shown that Māori identity can be expressed in a number of diverse patterns (Greaves, Houkamau et al., 2015). This previous research highlights the need to test the factor equivalence of

the MMM-ICE2 over a diverse number of groups within Māoridom to ensure that the scale can serve each sector of the Māori community equally. For example, if Māori residing in rural areas interpret items from the MMM-ICE2 differently to those who reside in cities/urban areas then the sub-scales are referring to different concepts. Meaning, that the whole point of the scale – to measure certain factors within, and specific to, Māori ethnic identity – is compromised. Manuela and Sibley (2015b) liken this to the problems researchers have using Western scales, like self-esteem, across different cultural contexts and languages. That is, the scale could potentially lose its meaning when items do not ‘translate’ across contexts and therefore the scale may not actually measure the construct that researchers had intended to measure.

A Multigroup Confirmatory Factor Analysis (MCFA) extends typical Confirmatory Factor Analysis (CFA) and tests factorial equivalence by estimating a CFA model for separate groups at the same time. This allows the researcher to test measurement equivalence (sometimes called measurement invariance) or whether the scale assesses the same constructs across the different groups (for more on MCFA see Cheung & Rensvold, 2002; Steenkamp & Baumgartner, 1998; for a review of measurement invariance see Vandenberg & Lance, 2000). In our case, one model we aim to test is the MMM-ICE2 across age cohort groups. Thus, we would estimate fit across the three theoretically different *a priori* specified age categories (40 and under, 41-54, and 55 plus), the goal being that the model fits equally well across groups. There are three levels at which this can be assessed: configural, metric, and scalar equivalence (see Milfont & Fischer, 2015).

Configural equivalence is the least conservative measure of factor equivalence. A key purpose of configural equivalence is to establish a baseline model for more stringent tests of measurement equivalence (Vandenberg & Lance, 2000). Good configural equivalence would indicate that different groups are interpreting the construct the researcher is testing for in the same way, or that the items are measuring the same underlying concepts across groups. If researchers do not find configural equivalence, then the measure represents different constructs in different groups, and so it becomes pointless to assess metric or scalar equivalence (Vandenberg & Lance, 2000). In MCFA, the test of metric equivalence examines the extent to which the factor loadings are the same

across the groups. Metric equivalence assesses whether the strength of the relationship between the indicators (Likert items, in our case) and the underlying latent construct are the same across different groups. If the tests of metric equivalence are satisfied then the groups can be compared with the confidence that the measurement units (in our case, the intervals of the Likert scale) are comparable across groups.

The third and most demanding test of factorial equivalence is that of scalar equivalence. Scalar equivalence extends the other model by estimating the extent to which the intercepts for the indicators are similar across groups. To return to our example of testing the scale across age cohorts, scalar equivalence would tell us if the mean scores (intercepts) of the different survey items are comparable across everyone regardless of age. For example, two people from different age groups (e.g., one under 40 and one aged 55 plus) have conceptually the same level of belief in the continued importance of the Treaty of Waitangi and both actively stand up for Māori political rights (indexed as part of the MMM-ICE2 by the subscale/construct of Socio-Political Consciousness). These two individuals should have a similar mean score on any given question in the Socio-Political Consciousness subscale. In other words, we would hope that the average construction of Māori identity for one group is not dramatically different from another when using the MMM-ICE2 scale, except when there are real mean differences between groups.

Overview

In this paper we aim to test the measurement equivalence of the MMM-ICE2 with four multigroup confirmatory factor analyses looking across the urban/rural divide, gender (man or woman), three age cohort groups (under 40, 41-54, and 55+) based largely on work by Houkamau (2006, 2010), and sole-Māori or mixed-Māori ethnic identification. Additionally, this paper presents the first Confirmatory Factor Analysis of the MMM-ICE2 (the revised) scale. The MMM-ICE2 is a scale of Māori identity that was created based on the recognition that Māori are a broad and diverse group (Houkamau & Sibley, 2010). As such, we hypothesise that the MMM-ICE2 will display fairly good measurement equivalence across all groups.

Method

Participant Details

Participants were 436 women, 260 men with a mean age of 44.01 ($SD = 13.03$; note that sample sizes varied across analyses due to missing data). We sampled participants that identified as Māori, however, 55% also identified as Pākehā (NZ European; $n = 383$), 5.6% as Pasifika ($n = 39$), 1.3% as Asian ($n = 9$), and 1.4% as another ethnicity ($n = 10$). Participants were asked if they identified with a religion or spiritual group, 44.4% of the sample identified as religious ($n = 309$). In regards to education, 25.1% did not report their highest level of education or reported no education ($n = 175$), 33.3% reported at least some high school ($n = 232$), 18.0% reported having studied towards a diploma or certificate ($n = 125$), 17.1% reported having studied at the undergraduate level ($n = 119$), and 6.5% reported having pursued postgraduate study ($n = 45$).

Participants' postal addresses were used to identify the levels of material deprivation for each participants' immediate neighbourhood area based on Census data (Atkinson, Salmond, & Crampton, 2014). The sample had a mean NZ Deprivation 2013 score of 6.77 ($SD = 2.78$). The index is decile ranked (each unit represents 10% of the population) from 1 to 10 (low-high), therefore a mean score of 6.77 indicates a moderate level of deprivation relative to others in New Zealand. We also used participant addresses to determine whether each participant lived in either a rural or urban unit as defined by the Local Government Act 2002 (Statistics New Zealand, 2014). People living in urban areas constituted 52.8% of the sample ($n = 366$), and those in rural areas were 47.2% of the sample ($n = 327$).

Sampling Procedure

As part of the Time 4 New Zealand Attitudes and Values Study (NZAVS) sampling design, we included a booster sample aimed specifically at recruiting Māori participants (Frame 5 of the Time 4 NZAVS). This sample frame consisted of 9,000 people randomly selected from those who indicated on the 2012 electoral roll that they were of Māori descent. A total of 690 participants responded to this booster sample.

Adjusting for the overall address accuracy of the electoral roll as a whole, this represents a response rate of 7.78%. It should be noted that this response rate is lower than that observed for the main (full random probability) sample frames used in the NZAVS, which give responses rates of up to approximately 16%. The low response rate for this sample likely indicates many factors, among the most influential being the overall reduced likelihood of Māori participants to respond to postal surveys in general, combined with the possibility that contact details for Māori in the electoral roll may, on average, have a lower level of accuracy. It is likely that this relatively low response rate was also partially affected by the fact that people were opting into a 16 year longitudinal study. Thus, providing their contact details indicated that they were willing to be contacted by us to complete similar questionnaires for the next 15 years.

The questionnaire administered to the NZAVS Māori booster sample was similar in format and content to the standard NZAVS questionnaire, except it included questions specifically designed for Māori, and the cover letter introduced the survey as a “The NZAVS – Māori Identity Focus Questionnaire.” The lead researcher and point of contact for this sample frame was of Māori descent, and was introduced to participants in the cover letter by listing iwi affiliations. Participants were informed that they had been randomly sampled for this study from among those who indicated that they were of Māori descent on the electoral roll.

Questionnaire Measures

Participants completed the full 54 item MMM-ICE2 including reverse-scored items and subscales for all seven subscales (Houkamau & Sibley, 2015a). Group Membership Evaluation (GME) was assessed by eight items ($\alpha = .843$), example items include: “I love the fact I am Māori” and “Being Māori is NOT important to who I am as a person” (reverse coded). The Cultural Efficacy and Active Identity Engagement (CEAIE) subscale also used eight items ($\alpha = .858$), including: “I can’t do Māori cultural stuff properly” (reverse coded). The subscale for Interdependent Self-Concept used seven items ($\alpha = .810$) including: “My Māori identity is fundamentally about my relationships with other Māori” and “My relationships with other Māori people (friends and family) are what make me Māori.” Spirituality was assessed using eight items

($\alpha = .810$), for example: “I feel a strong spiritual association with the land” and “I don’t believe in that Māori spiritual stuff” (reverse coded). We looked at Socio-Political Consciousness by using eight items ($\alpha = .882$) including the items: “I stand up for Māori rights” and “Māori would be heaps better off if they just forgot about the past and moved on” (reverse coded). Authenticity Beliefs were assessed by using the eight item scale ($\alpha = .603$) including items like: “You can tell a true Māori just by looking at them” and “Real Māori put their whānau first.” The final dimension, Perceived Appearance was assessed with seven items ($\alpha = .918$), examples include: “You only need to look at me to see that I am Māori.”

Analytic Approach

We conducted four separate Multigroup Confirmatory Factor Analyses (MCFA), assessing the configural, metric, and scalar equivalence of the MMM-ICE2 for Māori across different demographic factors. The four demographic factors we examined were:

- (a) Urban Māori versus rural Māori.
- (b) Women and men.
- (c) Broad age cohorts (40 years and under, 41-54 years, and 55 years and over).
- (d) Sole-identified Māori versus Māori who identify with a least one other ethnic group.

We estimated these models using Maximum Likelihood with Robust error estimation (MLR) using *Mplus* 7.3. MLR is a maximum likelihood estimator that means the standard errors and Chi-Square test statistic are robust to non-normality and non-independence of observations (Muthén & Muthén, 2012). For each demographic, we first conducted standard CFAs separately for each subgroup (e.g., separate CFAs of the MMM-ICE2 for Māori men, and another for Māori women), and then a MCFA assessing the configural, metric and scalar equivalent of the MMM-ICE2 in a model directly comparing these groups (e.g., a MCFA comparing the solution for Māori men and women).

Results

Table 6 presents fit indices for CFAs assessing each group within each model is examined independently (e.g., a model for men, a model for women), and also the configural, metric, and

scalar tests for each model directly comparing groups (e.g., comparing men and women). We present the results for both the independent CFAs and MCFA for the purposes of completeness, so that interested readers have information that can inform their use of the scale both in a specific population of Māori (e.g., Māori men, or Māori of a certain age), as well as the equivalence of the scale across different demographic groups.

Table 6.

Fit Indices for Standard and Multigroup CFAs Assessing the Equivalence of the MMM-ICE2 across Different Groups.

	<i>N</i>	χ^2	<i>df</i>	<i>TLI</i>	<i>CFI</i>	<i>RMSEA</i>	<i>SRMR</i>
Standard CFAs							
Overall model	678	5004.69	1356	.795	.806	.063	.074
Regional Models							
Urban	315	3543.51	1356	.744	.757	.072	.087
Rural	360	3365.38	1356	.791	.802	.064	.074
Gender Models							
Women	428	2920.27	1356	.765	.777	.066	.083
Men	250	2772.51	1356	.807	.818	.065	.072
Age Models							
40 and under	271	2908.74	1356	.807	.817	.065	.075
41-54	186	2670.49	1356	.739	.753	.072	.088
55+	221	2695.81	1356	.714	.729	.073	.095
Ethnicity Models							
Sole	305	3453.95	1356	.672	.689	.071	.104
Mixed	373	3166.15	1356	.823	.832	.060	.067
Multigroup CFA							
Regional Model							
Configural model	675	6307.43	2712	.770	.782	.063	.080
Metric model		6328.04	2759	.776	.784	.062	.081
Scalar model		6383.69	2806	.779	.784	.061	.081
Gender Model							
Configural model	678	6110.77	2712	.784	.796	.061	.079
Metric model		6167.88	2759	.787	.795	.060	.081
Scalar model		6304.97	2806	.786	.790	.061	.082
Age Model							
Configural model	677	8067.16	4068	.760	.772	.066	.085
Metric model		8179.29	4162	.764	.771	.065	.087
Scalar model		8438.86	4256	.760	.762	.066	.088
Ethnicity Model							
Configural model	678	6045.70	2712	.767	.779	.060	.086
Metric model		6208.25	2759	.763	.771	.061	.088
Scalar model		6366.07	2806	.759	.764	.061	.090

For interpretation of model fit we present measures of exact fit: model χ^2 , and indicators of relative fit: the Tucker-Lewis Index (TLI), the Comparative Fit Index (CFI), the Root Mean Squared Error of Approximation (RMSEA), and the Standardised Root Mean Square Residual (SRMR). We present a variety of indices of relative fit as model χ^2 alone is not an appropriate assessment of model fit, and recommendations advocate the presentation of a range of fit indices (Bentler, 2007). This is because χ^2 is an indicator of *exact* fit: one's test is either significant (the model does not fit) or not (the model does fit) and because we have sample sizes over 200 χ^2 will always be significant (Barrett, 2007). Due to this limitation we additionally present indicators of relative fit: the TLI, CFI, RMSEA, and SRMR. Relative fit measures tell the researcher not whether the model fits exactly, but whether the level of fit in a model is acceptable.

However, finding an exact cut-off value for relative model fit is difficult (as it depends on a number of factors; Hu & Bentler, 1998; Marsh, Hau, & Wen, 2004) and well-contested (and perhaps in contrast to the point of 'relative' fit; Barrett, 2007; Bentler, 2007; Hayduk, Cummings, Boadu, Pazderka-Robinson, & Boulianne, 2007; Marsh et al., 2004). Standard guidelines or 'rules-of-thumb' generally recommend that an RMSEA of less than .08 indicates acceptable model fit and an RMSEA of less than .05 indicates excellent fit (Marsh et al., 2004). For SRMR, Hu and Bentler (1999) have reported a standard 'rule-of-thumb' of less than .08 is generally desirable. They also propose that CFI and TLI should be greater than .95, but a CFI and TLI greater than .90 may also indicate a reasonable model.

As can be seen in Table 6, the overall CFA model provided reasonable fit across the whole sample ($\chi^2(1356, N = 678) = 5004.69, p < .001, TLI = .795, CFI = .806, RMSEA = .063, SRMR = .074$). Additionally, the independent CFAs for each group across each test also indicated that the MMM-ICE2 fits reasonably well when examining each group independently. The configural models for the MCFAs for region ($\chi^2(2712, N = 675) = 6307.43, p < .001, TLI = .770, CFI = .782, RMSEA = .063, SRMR = .080$), gender ($\chi^2(2712, N = 678) = 6110.77, p < .001, TLI = .784, CFI = .796, RMSEA = .061, SRMR = .079$), age groups ($\chi^2(4068, N = 677) = 8067.16, p < .001, TLI = .760, CFI = .772, RMSEA = .066, SRMR = .085$), and sole versus mixed Māori ($\chi^2(2712, N = 678)$

= 6045.70, $p < .001$, $TLI = .767$, $CFI = .779$, $RMSEA = .060$, $SRMR = .086$) performed reasonably well. Although, the SRMR for both the age groups and ethnicity models was above the .08 generally recommended for acceptable fit. The TLI and CFI were also below the recommended .90 cut-off.

Additionally presented in Table 6 are the results for the metric models. Metric equivalence is attained if the factor loadings are the same across groups. The results for the metric models are as follows: for region ($\chi^2(2759, N = 675) = 6328.04$, $p < .001$, $TLI = .776$, $CFI = .784$, $RMSEA = .062$, $SRMR = .081$), gender ($\chi^2(2759, N = 678) = 6167.88$, $p < .001$, $TLI = .787$, $CFI = .795$, $RMSEA = .060$, $SRMR = .081$), age groups ($\chi^2(4162, N = 677) = 8179.29$, $p < .001$, $TLI = .764$, $CFI = .771$, $RMSEA = .065$, $SRMR = .087$), and sole versus mixed Māori ($\chi^2(2759, N = 678) = 6208.25$, $p < .001$, $TLI = .763$, $CFI = .771$, $RMSEA = .061$, $SRMR = .088$). Again, no models had a TLI or CFI higher than the .90 cut-off value. Additionally, the SRMR for the age and ethnicity models were again well above .08.

The results for our third and most stringent test of the measurement equivalence of the MMM-ICE2 are also presented in Table 6. Recall that scalar equivalence assesses the similarity of the intercepts for each item across groups. The results for the scalar models are as follows: for region ($\chi^2(2806, N = 675) = 6383.69$, $p < .001$, $TLI = .779$, $CFI = .784$, $RMSEA = .061$, $SRMR = .081$), gender ($\chi^2(2806, N = 678) = 6304.97$, $p < .001$, $TLI = .786$, $CFI = .790$, $RMSEA = .061$, $SRMR = .082$), age groups ($\chi^2(4256, N = 677) = 8438.86$, $p < .001$, $TLI = .760$, $CFI = .762$, $RMSEA = .066$, $SRMR = .088$), and sole versus mixed Māori ($\chi^2(2806, N = 678) = 6366.07$, $p < .001$, $TLI = .759$, $CFI = .764$, $RMSEA = .061$, $SRMR = .090$). As with the configural and metric models, the scalar models for ethnicity and age had SRMR values higher than the desired .08. Again, the TLI and CFI values for each model were lower than the desired .90.

We then tested for differences in model fit for each group comparison using chi-square difference tests and change in CFI. When assessing model fit we assessed the metric against the configural model, then the scalar against the configural model. We conducted chi-square difference tests. In these tests if the more restrictive model (e.g., scalar), is significantly different from the less

restrictive one (e.g., metric), then the model does not fit as well. Additionally, Cheung and Rensvold (2002) propose that fit can be assessed incrementally with change in CFI across these models: if ΔCFI is less than .01 the more restrictive model can be accepted.

For region, the metric against configural model ($\Delta\chi^2(47) = 28.17, p = .987; \Delta CFI = .002$), the scalar against configural model ($\Delta\chi^2(94) = 76.43, p = .907; \Delta CFI = .002$), and the scalar against metric model ($\Delta\chi^2(47) = 50.33, p = .343; \Delta CFI = .000$) did not significantly differ in fit and ΔCFI was below the $<.01$ threshold. For gender, the metric and configural model did not significantly differ in fit ($\Delta\chi^2(47) = 59.37, p = .106; \Delta CFI = .001$). The scalar and configural model ($\Delta\chi^2(94) = 193.77, p < .001; \Delta CFI = .006$), and the scalar against the metric model ($\Delta\chi^2(47) = 140.60, p < .001; \Delta CFI = .005$) results indicated that the more restrictive measurement equivalence models did not fit as well as the metric model. However, when assessing ΔCFI , the differences were below .01, indicating that the more restrictive models can be accepted in both cases.

We found when testing both age cohort and sole versus mixed Māori, the more restrictive models significantly differed from the fit of the less restrictive metric models. For the age cohorts there were significant differences for the metric against configural ($\Delta\chi^2(94) = 120.32, p = .035; \Delta CFI = .001$), scalar and configural ($\Delta\chi^2(188) = 371.73, p < .001; \Delta CFI = .010$), and the scalar against metric models ($\Delta\chi^2(94) = 264.28, p < .001; \Delta CFI = .009$). However, the ΔCFI for each comparison came in equal to or below the $<.01$ guideline indicating that the more restrictive models can be accepted in this case, although ΔCFI for the configural versus scalar comparison was .01.

The results were similar for sole versus mixed Māori. There were significant differences for the metric against configural models ($\Delta\chi^2(47) = 155.07, p < .001; \Delta CFI = .008$), the scalar and configural models ($\Delta\chi^2(94) = 316.10, p < .001; \Delta CFI = .015$), and the scalar against metric models ($\Delta\chi^2(47) = 161.76, p < .001; \Delta CFI = .008$). However, when using ΔCFI as an indicator of model fit, the metric versus configural and configural versus scalar models were under the $<.01$ guideline. The threshold of $\Delta CFI <.01$ was not met when comparing the configural model to the most restrictive scalar model, with the change being .015.

Discussion

The MMM-ICE2 is a scale that purports to measure subjective Māori ethnic identity in a scale specific to Māori. However, Māori are a diverse group, which may present problems for any scale wishing to capture the multiplicity of Māori identity (Durie, 1998b; Greaves, Houkamau et al., 2015). Thus, we aimed to answer the questions: does the MMM-ICE2 measure the same concepts across all Māori? Even across such diverse groups as urban Māori, rural Māori, Māori men, Māori women, young Māori, older Māori, those solely-identified as Māori, and bi-/multi-ethnic identifying Māori? As such, we conducted several multigroup confirmatory factor analyses to test measurement equivalence across these groups.

Our results showed that the scale performed well across region (urban or rural) and gender (woman or man), the only exception being that the region and gender models did not reach the .90 guideline for TLI or CFI at any point. However, it bears keeping in mind that TLI and CFI may have been sensitive to the large number of items on the scale (Cheung & Rensvold, 2002). The ethnicity (sole or mixed identifying Māori) and age (40 and under, 41-54, and 55 plus) models again did not meet the .90 recommended for TLI or CFI, and had an SRMR higher than the recommended .80. Additionally, when comparing the configural (base) model and the most conservative scalar models, the results were just over the guideline for ethnicity and right on the rule-of-thumb value for age. This indicates two areas where the scale could have performed better. Our results suggest that the intercepts for the indicators are not similar across these groups. When examining the CFA results, the key weaker areas for the MMM-ICE2 was the comparison between older Māori and sole identifying Māori, and the comparison between age groups.

To put this in practical terms, those who are older (when compared to the younger age groups), or those who vary across ethnic affiliation, may have conceptually the same level of identification with a MMM-ICE2 domain, but a different mean score on an item across groups. For example, across age groups people may conceptually, equally agree with the item “Being Māori is cool” however, they may have a different mean score on this item due to a variety of possible reasons. The result is that any mean differences found across groups, across items, may not be

related to there being a real difference in scores. Therefore, if someone were to conduct research exploring age differences or differences between sole- and mixed- Māori in a domain of the MMM-ICE2, there is a possibility some of the differences found could be attributed to measurement invariance. However, in both cases these comparisons fell barely short of the guideline we used for model fit (change in CFI). Additionally, in future, those working with the MMM-ICE2 should also try to replicate our results in an independent sample of Māori as intercepts, and therefore scalar invariance, may be sample-specific (Vandenberg & Lance, 2000). Generally, the results of our analyses should provide confidence to researchers that the MMM-ICE2 can continue to be used as a scale to measure Māori identity across broad and diverse samples of Māori.

It is also important to keep in mind that the Māori population is youthful compared to the non-Māori population (Statistics New Zealand, 2013). As such representative samples of Māori tend to have lower rates of people over 55 (or older: only around 5% of the Māori population is over 65; Statistics New Zealand, 2013) compared to samples of the general population. Further, younger people may be more familiar with the format and goals of surveys. It could be interesting to test measurement equivalence with a sample of Māori over time (Vandenberg & Lance, 2000) to explore whether the slight measurement invariance we found here is a cohort effect, i.e. whether it is due to a feature of this cohort of older Māori, or whether these effects for equivalence change as people age. Additionally, future studies examining the scale properties of the MMM-ICE2 could explore the particular items that were invariant (Byrne, Shavelson, & Muthén, 1989).

There remains the possibility that a couple of key things are missing from this examination of the MMM-ICE2 scale, and this sample used to test the MMM-ICE2 more generally. While the MMM-ICE2 purports to be a scale of Māori identity, there is the possibility that some unexamined part of Māori identity is not measured in the scale. This would mean that the scale is not a complete picture of Māori identity which can be remedied with improvements and feedback over time (like the addition of the Perceived Appearance dimension in the MMM-ICE2; Houkamau & Sibley, 2015a). Another limitation is the relatively low response rate to the survey (7.78% when electoral roll address accuracy adjusted). Participants were opting into a 16 year longitudinal survey and this

may have been off-putting. However, survey response rates have been dropping over time and the effect is particularly pronounced for Māori (see Fink et al., 2011; Sibley, 2014a). This low response rate may mean that the sample tested here was biased in some way.

One problem is that we cannot know if our sample differs in views or identity to non-respondents, although, the sample look reasonably representative compared with Census data on the Māori population (notwithstanding gender; Sibley, Muriwai, & Greaves, 2014). However, it may be that there is a group of Māori who are resistant to surveys, a Western concept that they may view as being linked to the government. Additionally, the survey was only sent in English and not te reo Māori. The groups which the model did not fit as well for were sole-identifying and older Māori, these are groups who may speak te reo at higher rates. Alternatively, there may have been problems with address accuracy – it may be that some aspect of Māori identity predicts moving house more often and we have missed an important group – or we may have missed a group of more economically deprived Māori. However, these are all speculative, and we hope to follow up on these ideas with future analyses.

A key future research direction for the MMM-ICE2 is to collect longitudinal data. There are plans for a follow up Māori Focus questionnaire in the next couple of years. This means that more complex, longitudinal models can be created to help us better understand how Māori identity may change over time. There is currently a need for research to discover how Māori identity may change with age, although extant research suggests that Māori may become more enculturated as they get older (Sibley & Houkamau, 2013; Greaves, Houkamau et al., 2015). Furthermore, collecting data from adolescent Māori, to both compare age groups and to examine scores as they age, are potential future research directions. Here, we have found that the intercepts of the scale may vary by age, meaning that future research examining age and Māori identity will need to examine, and control for, measurement invariance. We hope that the groundwork laid in this paper allows for future longitudinal research to be conducted with relative confidence that the MMM-ICE2 is an efficacious measure of the broad, diverse group that are ‘Māori’.

Bridging Comments

The goal of the first part of my thesis was to further validate the MMM-ICE2 using advanced psychometric analyses. In this first section I (a) used RIEFA to provide confidence to researchers that the MMM-ICE2 is not vulnerable to acquiescent responding, and (b) used MCFA to show that the MMM-ICE2 is measuring the same constructs across groups (i.e. that the scale has reasonable measurement equivalence). The results of the second paper suggest that the MMM-ICE2 assesses the same concepts across some of the diversity within Māoridom – across urbanicity, gender, age, sole- or mixed- ethnicity – and that any results showing differences across these groups are real mean score differences on these constructs, not just differences in the ways these groups respond. Although, there were two areas where the scale could have performed better, that is, for older Māori and for sole-identifying Māori at the most-conservative scalar level (the intercepts for different items). Thus, again, the research in this thesis has provided areas where the scale could be improved in future iterations.

While the results of these first two papers are useful for researchers using the MMM-ICE2 more generally, there was also a level of self-interest. After conducting these first two studies I was able to move onto further analyses using the MMM-ICE2 to predict political outcomes. However, I found that there was a lack of research even showing who Māori (compared with other ethnic groups) voted for. Although the political science community ‘knew’ that Māori were less likely to vote for National, and likely preferred the political left, much of the basis of this knowledge came from one-off political polls. These are often conducted with limited samples (especially of Māori) and do not control for a range of variables in their analyses. There was other research, however this was all reliant on specifically the New Zealand Election Study (NZES; e.g., Vowles, 2014a; Vowles, Aimer, Banducci, Karp, & Miller, 2004). While the NZES is a rich source of data, it is only one study and is a lot smaller in size than the NZAVS (e.g., $N = 2,498$ in the 2014 NZES and $N = 2,475$ in the 2011 NZES; compared to sample sizes of $N = 6,518$ in 2009 to $N = 18,261$ in 2013 for the main NZAVS). Additionally, research has shown that participants in explicitly political studies are more politically engaged than the general public, for example, they vote at higher rates

(e.g., Burden, 2000). Thus, the paper that follows arose from a lack of solid, empirical literature. It relates to this thesis through its use of *etic* measures to establish a baseline for political preference for (1) those who indicate their ethnic group affiliation is Māori and (2) those enrolled to vote on the Māori electoral roll. Again, note that this paper is published in the New Zealand Journal of Psychology, as such, it is aimed at a national audience,

CHAPTER THREE

Study Three: Predicting Party Vote Sentiment: Identifying the Demographic and Psychological Correlates of Party Preference in Two Large Datasets

The research article that follows is the author's copy of a manuscript published in in the New Zealand Journal of Psychology © 2017 the New Zealand Psychological Association.

Greaves, L. M., Robertson, A., Cowie, L. J., Osborne, D., Houkamau, C. A., & Sibley, C. G.

(2017). Predicting party vote sentiment: Identifying the demographic and psychological correlates of party preference in two large datasets. *New Zealand Journal of Psychology*, 46(3), 48-61.

Abstract

This paper models the demographic and psychological correlates of voter preference in two independent datasets collected in 2014: a random digit-dial survey conducted by research firm Colmar Brunton for Television New Zealand ($N = 7,830$), and a national probability postal survey: the New Zealand Attitudes and Values Study (NZAVS; $N = 10,581$). Together, these data allow us to uncover not only the consistent demographic factors, but also the psychological variables that predict voter sentiment. A standard set of demographic variables were statistically significant predictors: ethnicity, age, gender, and income. However, the NZAVS data showed that education, local area deprivation, being on the Māori electoral roll, and sexual orientation should also be taken into account. Additionally, all of the Big-Six personality traits, Nationalism, and Patriotism predicted voter sentiment. This paper provides reliable statistical data by utilising two independent, large-scale, national probability samples to document important demographic and psychological differences in voter preference in New Zealand.

Keywords: Voting; Personality; Demographics; Political Psychology; 2014 General Election

Introduction

Across established democracies and across decades, sociological models of voter choice have shown that people with certain social or demographic characteristics are more likely to vote for different political parties. In New Zealand, the New Zealand Election Study (NZES) and a handful of smaller studies have provided reliable data from a national sample on demographics and vote choice for past elections (e.g., Aimer & Vowles, 2004; Coffé, 2013; Iusitini & Crothers, 2013; Park, 2006; Vowles, 1998, 2002a, 2014b). Our aim here is to document not only the social and demographic variables, but also the psychological variables associated with voter sentiment¹¹ by utilising two large, independent national probability samples. We seek to replicate past analyses with the advantage of two large datasets and to synchronise information on how demographic and psychological variables relate to voter preference in New Zealand into a single paper.

Firstly, we use data from a random-digit dial survey conducted by research firm Colmar Brunton for Television New Zealand ($N = 7,830$) in the run up to the 2014 General Election. These analyses show how the standard set of demographic variables collected through phone polling predict voter sentiment, and also provide validation for the second model which was collected via a postal-based survey. Due to the relative efficiency and quicker time frames of phone polling, mail surveys have not traditionally been used as a method to track voter sentiment in the lead up to an election (Sibley et al., 2017). As such, our first model provides a benchmark for the second set of analyses using a national probability mail survey, the New Zealand Attitudes and Values Study (NZAVS; $N = 10,581$), collected from the end of 2013 through to the end of 2014. The NZAVS is a valuable data source as it includes not only the ‘standard set’ of demographic variables, but also psychological variables which may help shed light on previously-unidentified correlates of voter preference in New Zealand. Thus, with this second set of analyses, we extend previous analyses by adding psychological variables, such as personality, Patriotism, and Nationalism. Additionally, the large size of the NZAVS (in terms of both sample size, and range of questions) allows us to explore

¹¹ A note on terminology: here we use voter sentiment, intended vote, and voter preference interchangeably to refer to the party for which the participants would vote. This is because both datasets used in this paper capture sentiment or preference towards one party over others at the time data were collected rather than the party they identify with, support, or actually vote for.

differences in voter sentiment for groups that past studies have been unable to reliably examine due to small sample sizes. For example, differences in voter preferences across minority ethnic groups, and the previously unexamined attitudes of the Lesbian, Gay, Bisexual (LGB+) population.

Previous Research on Demographics and Voting

There have been many studies conducted both nationally and worldwide on how demographics relate to voting behaviour. However, the focus of this paper is on providing data, rather than providing an exhaustive review of how demographics may relate to vote choice. As such, we focus on recent research (since the introduction of the Mixed Member Proportional electoral system in 1996) from New Zealand. Such research largely uses the NZES, a study which provides researchers with a rich source of national data, and one that has led to many publications based on quantitative analyses (for an overview, see Vowles, 2000; New Zealand Election Study, n.d.), including prominent analyses of voter turnout (to cite just a few examples: Karp & Banducci, 1999; Karp & Brockington, 2005; Vowles, 2002b, 2010).

Research from the NZES has shown consistent demographic differences across a number of variables, including a gender gap in voting. Women have tended to vote for Labour over National since the 1993 election and have expressed significantly less support for NZ First (Coffé, 2013; Curtin, 2014; Vowles, 1998, 2002a, 2014). Research based on the NZES has also found reliable socioeconomic differences and differences in rurality/urbanicity between voters. National voters tend to be small business owners, self-employed, living in rural areas, and have a higher socioeconomic status than other voters (Aimer & Vowles, 2004; Vowles, 1998, 2002a, 2014). However, Labour and Green voters tend to have a higher level of education than National voters (Aimer & Vowles, 2004; Vowles, 2014). In terms of age, Green voters are generally the youngest, with many middle-aged voters opting for National, and older voters choosing Labour or NZ First (Vowles, 2002a). Additionally, Christians have shown a higher level of support for National over other parties (Aimer & Vowles, 2004).

Though informative, the NZES is limited in its size of two to three thousand participants over the past four elections (2005-2014; although the 2002 and 1999 editions had closer to six

thousand participants). While the NZES is large enough to provide data on the social characteristics for larger groups (for example, the comparison between women and men), the data on smaller social groups may be unreliable, or such groups may be too small to analyse. For example, minority ethnic groups are less likely to respond to surveys. However, studies have found differences in voting based on ethnicity in the NZES. Throughout the years, researchers utilising NZES data have found that Māori are more likely to support Labour or NZ First over National (Aimer & Vowles, 2004; Vowles, 1998, 2014). Additionally, using pooled NZES data, Iusitini and Crothers (2013) found that Pasifika were twice as likely as other voters to vote for the Labour Party when controlling for variables like socio-economic status and education (see also Aimer & Vowles, 2004). Finally, Park (2006) used both the NZES and data collected around the 2002 election, and found that Asian voters (limited to those who identified as Korean or Chinese) were more supportive of the major parties than the Greens and NZ First (see also Vowles, 2014). In this paper we test these demographic variables with two new, large data sets, collected using two different methods. Additionally, while these extant NZES analyses provide a good source of research on the basic demographic differences between voters, little research in New Zealand has incorporated social psychological variables into models of voter sentiment.

The second study of this paper also includes sexual orientation as a predictor of vote choice. Sexual orientation in this case refers to one's sexual identity which is typically based on the gender(s) one has romantic and sexual attractions for and has engaged in past sexual or romantic behaviour with (e.g., see Greaves et al., 2016; Laumann, Gagnon, Michael, & Michaels, 1994; Savin-Williams, 2009). Internationally, lesbian, gay, and bisexual individuals have been shown to be more politically liberal and vote for the Democrats in the US, when compared with their heterosexual counterparts (Edelman, 1993; Egan, 2008; Herek, Norton, Allen, & Sims, 2010; Hertzog, 1996; Schaffner & Senic, 2006). Similarly, Perrella, Brown, and Kay (2012) found in a large survey of Canadian voters that the LGB+ population tend to be less supportive of the Conservative Party, and more supportive of the Liberal and New Democratic parties. Although we

would expect to find a similar pattern in New Zealand, sexual orientation and vote choice has yet to be examined in the New Zealand context.

Personality and Voting

Personality is defined as “relatively enduring styles of thinking, feeling and acting” (McCrae & Costa, 1997, p. 509) and is typically conceptualised into five or six traits that are considered to be universal human characteristics across cultures (McCrae & Costa, 1997). Personality, and how it relates to political attitudes and behaviour, has been examined extensively overseas (for reviews see Gerber, Huber, Doherty, & Dowling, 2011; Sibley, Osborne, & Duckitt, 2012). Consistent findings are that liberal or left-wing voters tend to be higher on Openness to Experience (i.e. more curious, imaginative, and tolerant of ambiguity) than their conservative counterparts. On the other hand, right-wing or conservative voters are found to be higher than liberals on Conscientiousness, which is a trait marked by higher diligence, organisational skills, and attention to detail.

Locally, research using NZAVS data has supported these international findings, and a couple of papers have focused specifically on personality and vote choice (Greaves, Osborne, & Sibley, 2015; Osborne & Sibley, 2012). In an analysis of different voter profiles (made from the extent to which people supported different parties in 2009), Greaves and colleagues yielded mixed findings for party support and personality. Specifically, the results for Conscientiousness and Openness to Experience followed the international literature. However, Neuroticism (i.e. the tendency to feel anxious, insecure and restless; McCrae & Costa, 1997) was found to be higher in those who supported left-wing (vs. right-wing) parties, which is less often found to be a predictor of political preference internationally (Greaves, Osborne et al., 2015). Osborne and Sibley (2012) also used NZAVS data to specifically analyse the personality correlates of conservative vote choice (that is, whether someone was a National Party voter in the 2011 election or not). The researchers found that National voters were less Open to Experience, more Conscientious, and had lower Neuroticism than non-National voters. It could be that some of these effects appear in a multiparty system where vote choice is more nuanced, in that the difference between Green and National voters, for example, should be larger than the difference between Democratic and Republican voters in the US.

Nonetheless, this area remains unexplored in New Zealand when using actual vote preference across multiple parties as an outcome variable.

Patriotism, Nationalism, and Vote Preference

Patriotism and Nationalism are yet to be explored in relation to voter preference in the New Zealand context. Patriotism is defined as an attachment and love for one's nation that is unrelated to one's feelings about other nations, or other out-groups (Adorno, Frenkel-Brunswik, Levinson, & Sanford, 1950; Bar-Tal, & Staub, 1997; Kosterman & Feshbach, 1989; Skitka, 2005). Patriotism leads to behaviours like flag-waving, and helps maintain social order (Sidanius & Petrocik, 2001; Skitka, 2005). In New Zealand, high levels of Patriotism have been found across ethnic groups and may relate to acceptance of multiculturalism (Sibley & Ward, 2013; Osborne, Milojev, & Sibley, 2017). While this seems subjectively positive, Patriotism may serve to maintain the status quo wherein those who advocate change on certain issues in society are seen as 'unpatriotic' (Sidanius & Petrocik, 2001). As such, voters of parties that show an opposition towards the current status quo, for example, the Greens, might have lower Patriotism. Patriotism has been shown to relate to vote choice internationally. In the US, higher Patriotism relates to voting for the Republican Party and lower support for President Obama, although part of this effect may be based on campaign rhetoric and priming (Kalmoe & Gross, 2016; Parker, Sawyer, & Towler, 2009; Sullivan, Fried, & Dietz, 1992; Tesler, 2010). As such, in New Zealand, higher Patriotism may predict support for the centre-right National Party over the Greens or Labour.

On the other hand, Nationalism refers to an uncritical and somewhat unconditional acceptance or love of one's country (Adorno et al., 1950; Hechter, 2000; Kosterman & Feshbach, 1989; Schatz, Staub, & Lavine, 1999; Skitka, 2005). Nationalism manifests itself as a blind belief in the power of authorities and a drive for expression of the dominance and superiority of one's own nation over others. It includes negative comparisons between other nations and one's own (Kosterman & Feshbach, 1989). Nationalism tends to reflect behaviours relating to out-group derogation, xenophobia, and opposition to immigration (Ariely, 2011; Mummendey, Klink, & Brown, 2001; Wagner, Becker, Christ, Pettigrew, & Schmidt, 2010). In Europe, higher Nationalism

has been shown to relate to higher opposition to immigration (especially from Muslim-majority countries) and support for far-right parties (Lubbers & Coenders, 2017). Thus, to speculate about our results, we would expect NZ First voters to have higher Nationalism, as one of their key party policies has been opposition to immigration (New Zealand First, n.d.).

Overview of the Present Research

In the present paper, we aim to document the demographic and social psychological differences between intended voters capitalising on data from two large, national samples collected using two different sampling methods. This allows us to consider demographic differences across voters from two different sources and increases the robustness of our results. Furthermore, the second sample (i.e. the NZAVS) allows us to (a) examine a broader range of demographic variables and in greater detail than previous, smaller studies and (b) model these demographic differences while controlling for (and exploring) the social psychological differences between voters. These analyses allow us to examine a wide set of correlates—including demographic and social psychological variables—of voter preference in the New Zealand context.

Demographics. Broadly, across our two studies, we expect that our findings for gender, age, religion, socio-economic status, rurality, and education will provide support for what has been found in analyses of NZES data in recent years (Aimer & Vowles, 2004; Coffé, 2013; Curtin, 2014; Vowles, 1998, 2002, 2014). We also expect that Māori will be more supportive of the Labour and NZ First parties over National, and that Pasifika will intend to vote for Labour at far higher rates than National (Aimer & Vowles, 2004; Iusitini & Crothers, 2013; Vowles, 1998, 2014). We hypothesise that Asian voters will be significantly more likely to show preference for National over the Greens and NZ First (Park, 2006; Vowles, 2014). Additionally, the NZAVS includes sexual orientation, a variable that has not been included in the NZES previously or examined in a national sample in NZ before. We hypothesise, based on the international literature (Edelman, 1993; Herek et al., 2010; Hertzog, 1996; Perrella et al., 2012; Schaffner & Senic, 2006), that LGB+ individuals will be more likely to vote for Labour and the Greens over National, as both parties are considered to be more liberal, and were supportive of marriage equality (Singh & Ball, 2013).

Personality. The relationship between personality and politics is fairly well established in the literature, including in analyses of NZAVS data and political party support (Gerber et al., 2011; Greaves, Osborne et al., 2015; Osborne & Sibley, 2012; Sibley et al., 2012). However, researchers are yet to analyse the relationship between personality and actual voter sentiment in the NZAVS (rather than the political party support variable for each party, which may show more complex patterns of support beyond a forced intended vote choice; Greaves, Osborne et al., 2015). That said, we do expect that our results will follow past analyses using NZAVS data. We hypothesise that intended Green and Labour voters will have higher Openness to Experience and lower Conscientiousness, and may have higher Neuroticism scores than intended National voters (Greaves, Osborne et al., 2015; Osborne & Sibley, 2012). NZ First voters tend to see their party as slightly left of centre (Vowles, 2014). Thus, there may be significant differences between those who intend to vote NZ First and National on some personality traits.

Patriotism and Nationalism. Our paper presents the first examination of Patriotism, Nationalism and vote choice with a large, national sample in New Zealand. Patriotism has been shown to relate to agreement with the status quo (Sidanius & Petrocik, 2001) and support for right-wing parties internationally (Parker et al., 2009; Sullivan et al., 1992; Tesler, 2010). As such, we expect that lower Patriotism may relate to a higher likelihood of intending to vote for the Greens or Labour over National. Additionally, as higher Nationalism has been shown to relate to support for restrictions on immigration (Ariely, 2011; Lubbers & Coenders, 2017; Mummendey et al., 2001; Wagner et al., 2010), we expect that higher Nationalism may mean a higher likelihood of intending to vote for NZ First over National.

Study One

The first study uses data from the One News Colmar Brunton polls collected in the lead-up to the 2014 election to examine demographic differences between those with different party preferences.

Method

Sampling Procedure

The One News Colmar Brunton poll employed a three-stage sampling scheme. First, the sample was stratified by telephone number ranges into 37 random-digit dial area strata. This stratification was on main urban centres, partitions of main centres (where local calling boundaries cut across main centres), and non-main urban areas adjacent to main centres, with resulting strata completely covering New Zealand landlines. Next, household selection was made by an interviewer who called randomly generated telephone phone numbers within a given stratum. The number of interviews conducted within each stratum was set in advance and in proportion to the size of each stratum, defined as the number of permanent residents aged 18 years and over at the time of the 2013 Census. Finally, on contact with the household, the person aged 18 years and over who would have the next birthday was selected as the respondent for the survey. This potential respondent was not substituted for anyone else in the household.

Respondents were contacted over a range of times throughout the five-day fieldwork period. To mitigate bias against people who were not home at the time of initial contact, many calls were made to numbers where there was no reply. In addition, selected respondents were called back by appointment, if unavailable at the initial contact. Each One News Colmar Brunton poll targeted a response rate of 30% (the average response rate in 2014 was 28.3%), and achieved a refusal rate of 35.0%, on average. These rates were calculated using the AAPOR's standard call outcome definitions and their RR1 response.

Participant Details

A total of 10,210 participants (5,720 women, 4,490 men) responded to the One News Colmar Brunton polls between 1 February and 19 September 2014. The age spread of participants was as follows: 18-19 (1.5%), 20-24 (3%), 25-29 (3.8%), 30-34 (6%), 35-39 (7.3%), 40-44 (10%), 45-49 (10.1%), 50-54 (10.3%), 55-59 (9.6%), 60-64 (8.8%), 65-69 (8.8%), and 70+ (20%). In terms of ethnicity, 8.2% of these participants identified as Māori ($n = 842$), 3.8% of Pacific Nations descent ($n = 383$), and 7.2% Asian ($n = 731$). Most participants incomes fell in to the over \$30,000

band (68.8% $n = 7,026$), with 42% earning over \$70,000 ($n = 4,291$), and 24.3% earning over \$100,000 ($n = 2,477$). Participants also reported the following number of adults in their household: 1 (27.6%), 2 (54.5%), 3 (11.3%), 4 (4.7%), 5 or more (1.9%). When asked which party they would vote for, 43.4% said National, 21.3% responded with Labour, 7.9% said they would vote for the Greens, 4.1% said NZ First and 4.1% responded with another party—numbers that closely reflect the actual outcome of the 2014 General Election. Some participants (19.2%; $n = 1,960$) did not respond to the question, which accounted for the reduced sample size for our analyses (i.e. $n = 7830$).

Post-Stratification Weighting

We applied the post-stratification weighting procedures developed specifically for the One News Colmar Brunton surveys. The One News Colmar Brunton surveys apply a sample weight constructed for each separate poll. Estimates of intended party vote were obtained using this general sample weight. Results were weighted to adjust for sampling design probabilities of interviewing one person per household, and possible effects of non-response or non-coverage. The exact post-stratification weighting procedure employed by the One News Colmar Brunton poll is the intellectual property of Colmar Brunton. Non-disclosure of the post-stratification weighting procedure employed by Colmar Brunton was a condition of our access to the One News Colmar Brunton polling data.

Results

Model Results

We conducted one large multinomial logistic regression model to examine whether various demographic factors were associated with the likelihood of intending to vote for the Labour, Green, or NZ First political parties as opposed to intending to vote for the National Party. As is standard for these types of models, the numerically largest category (in this case, an intended vote for the National Party) was used as the reference category. The results of these analyses are reported in Table 7 for the Labour Party, Table 8 for the Green Party, and Table 9 for NZ First.

Table 7.

Multinomial Logistic Regression for Study One, Predicting the Likelihood of Voter Preference for the Labour Party (Reference Category is Intending to Vote for the National Party).

	<i>b</i>	<i>SE</i>	<i>OR</i>	<i>95% CI of OR</i>	<i>z</i>
Labour					
Intercept/Threshold	-.172	.161			
Gender (0 women, 1 men)	-.248	.066	.780	[.685, .889]	-3.736**
Age (0 low to 1 high)	-.338	.147	.713	[.534, .952]	-2.295
Māori (0 no, 1 yes)	1.059	.117	2.884	[2.295, 3.624]	9.086**
Pacific Islander (0 no, 1 yes)	1.885	.169	6.586	[4.733, 9.163]	11.185**
Asian (0 no, 1 yes)	.082	.132	1.086	[.839, 1.405]	.625
Income above \$30k (0 no, 1 yes)	-.377	.088	.686	[.578, .815]	-4.291**
Income above \$70k (0 no, 1 yes)	-.240	.093	.787	[.656, .944]	-2.584
Income above \$100k (0 no, 1 yes)	-.583	.099	.558	[.460, .678]	-5.895**
Number of Adults in Household (0 low to 1 high)	1.037	.350	2.821	[1.419, 5.606]	2.959*

Note. * $p < .01$, ** $p < .001$. Study One *Ns* for intended vote: National = 4,433, Labour = 2,170.

Table 8.

Multinomial Logistic Regression for Study One, Predicting the Likelihood of Voter Preference for the Green Party (Reference Category is Intending to Vote for the National Party).

	<i>b</i>	<i>SE</i>	<i>OR</i>	<i>95% CI of OR</i>	<i>z</i>
Green					
Intercept/Threshold	-.393	.219			
Gender (0 women, 1 men)	-.275	.092	.760	[.634, .910]	-2.983*
Age (0 low to 1 high)	-1.342	.196	.261	[.178, .384]	-6.838**
Māori (0 no, 1 yes)	.535	.173	1.708	[1.218, 2.396]	3.100*
Pacific Islander (0 no, 1 yes)	-.413	.359	.662	[.327, 1.337]	-1.150
Asian (0 no, 1 yes)	-1.174	.272	.309	[.181, .527]	-4.312**
Income above \$30k (0 no, 1 yes)	-.151	.133	.860	[.662, 1.117]	-1.132
Income above \$70k (0 no, 1 yes)	-.201	.134	.818	[.628, 1.064]	-1.498
Income above \$100k (0 no, 1 yes)	-.029	.125	.971	[.761, 1.240]	-.233
Number of Adults in Household (0 low to 1 high)	.515	.520	1.674	[.604, 4.641]	.990

Note. * $p < .01$, ** $p < .001$. Study One *Ns* for intended vote: National = 4,433, Greens = 807.

Table 9.

Multinomial Logistic Regression for Study One, Predicting the Likelihood of Voter Preference for the NZ First Party (Reference Category is Intending to Vote for the National Party).

	<i>b</i>	<i>SE</i>	<i>OR</i>	<i>95% CI of OR</i>	<i>z</i>
NZ First					
Intercept/Threshold	-3.137	.295			
Gender (0 women, 1 men)	.466	.125	1.594	[1.248, 2.035]	3.740**
Age (0 low to 1 high)	1.361	.299	3.899	[2.170, 7.006]	4.550**
Māori (0 no, 1 yes)	1.518	.190	4.562	[3.140, 6.626]	7.968**
Pacific Islander (0 no, 1 yes)	.860	.418	2.364	[1.041, 5.367]	2.056
Asian (0 no, 1 yes)	-1.433	.486	.239	[.092, .618]	-2.950*
Income above \$30k (0 no, 1 yes)	-.114	.143	.892	[.675, 1.180]	-.800
Income above \$70k (0 no, 1 yes)	-.748	.192	.474	[.325, .689]	-3.901**
Income above \$100k (0 no, 1 yes)	-.491	.222	.612	[.396, .947]	-2.207*
Number of Adults in Household (0 low to 1 high)	.873	.607	2.394	[.729, 7.860]	1.439

Note. * $p < .01$, ** $p < .001$. Study One Ns for intended vote: National = 4,433, NZ First = 420.

As seen in Tables 7-9, a clear pattern of demographic differences across intended party vote emerged. Women were more likely to intend to vote for either the Labour Party ($b = -.248$, $SE = .066$, $OR = .780$, $z = -3.736$, $p < .001$) or the Greens ($b = -.275$, $SE = .092$, $OR = .760$, $z = -2.983$, $p = .003$) than National. However, men were more likely to be NZ First voters ($b = .466$, $SE = .125$, $OR = 1.594$, $z = 3.740$, $p < .001$). Age was negatively associated with intending to vote for the Green Party ($b = -1.342$, $SE = .196$, $OR = .261$, $z = -6.838$, $p < .001$), showing that Green voters tend to be younger than National Party supporters. Age was also positively associated with intending to vote for NZ First ($b = 1.361$, $SE = .299$, $OR = 3.899$, $z = 4.550$, $p < .001$), suggesting that NZ First voters tend to be older than National Party supporters.

In terms of ethnicity, those identifying as Māori (versus those who did not) were 2.9 times more likely to intend to vote for the Labour Party than the National Party ($b = 1.059$, $SE = .117$, $OR = 2.884$, $z = 9.086$, $p < .001$). Māori were also 1.7 times more likely to vote for the Green Party ($b = .535$, $SE = .173$, $OR = 1.708$, $z = 3.100$, $p = .002$), or 4.6 times more likely to vote for NZ First ($b = 1.518$, $SE = .190$, $z = 7.968$, $OR = 4.562$, $p < .001$), than for the National Party. As expected, those identifying as Pasifika were also significantly (6.6 times) more likely to vote for Labour ($b = .1.885$, $SE = .169$, $OR = 6.586$, $z = 11.185$, $p < .001$). People who identify as Asian were, perhaps unsurprisingly, less likely to vote for NZ First ($b = -1.433$, $SE = .486$, $z = -2.950$, $OR = .239$, $p = .003$) than National. However, Asian peoples were also less likely to vote for the Green Party relative to National ($b = -1.174$, $SE = .272$, $OR = .309$, $z = -4.312$, $p < .001$).

There were no significant differences in income between National and Green voters. However, Labour voters were less likely than National voters to have an income over \$30k ($b = -.377$, $SE = .088$, $OR = .686$, $z = -4.291$, $p < .001$) or over \$100k ($b = -.583$, $SE = .099$, $OR = .558$, $z = -5.895$, $p < .001$). Potential voters from households with a greater number of adults were more likely to prefer Labour ($b = 1.037$, $SE = .350$, $OR = 2.821$, $z = 2.959$, $p = .003$) over National. NZ First voters were less likely than National voters to have an income over \$70K ($b = -.748$, $SE = .192$, $OR = .474$, $z = -3.901$, $p < .001$). There were no significant income differences between

intended National and Green voters. Thus, National and Green voters tend to be wealthier than their counterparts who preferred other parties.

Discussion

In summary, we found a consistent set of demographic differences across intended party vote that aligns well with past research completed using the NZES. This first model collected via the standard phone polling method provides a benchmark for our second study. The second study was collected via post, a method not traditionally used for predicting voter sentiment. While the NZAVS has been shown to accurately track voter sentiment pre-election when compared to the Colmar Brunton polling data (Sibley et al., 2017), it has a much lower response rate. Thus, Study One of this paper also acts as a benchmark: we should find similar results between studies across demographics. As such, our second study examines these factors, extra demographic variables that may be important in predicting intended vote, and extends our analyses using a set of social psychological variables.

Study Two

Study Two utilises data from the NZAVS 2013/14 wave (i.e. Time 5), collected largely in the year prior to the 2014 election, to build a large model of the demographic and social psychological predictors of party vote preference. Although the NZAVS was not started for the purpose of political polling, it has been shown to have good accuracy in predicting voter preference (Sibley et al., 2017).

Method

Sampling Procedure

The NZAVS sample was drawn primarily from the New Zealand Electoral Roll and largely consists of registered voters who are aged 18 and over. Detailed sampling procedures for the Time 5 wave of the study analysed here are described below. Full details regarding sampling procedures for each wave are available online on the NZAVS technical documents page (Sibley, 2014a).

Participant Details

Participants included 10,518 people (6,501 women, 4,017 men) who responded to the Time 5 NZAVS questionnaire and stated that they intended to vote, and in an open-ended survey question that they would give their 2014 party vote to National (50.8%; $n = 5,345$), Labour (25.0%; $n = 2,631$), the Greens (20.5%; $n = 2,153$) or NZ First (3.7%; $n = 389$). Due to low sample sizes, we restricted our analyses to only those who intended to vote for a party that exceeded the 5% threshold for the party vote in the 2014 General Election. The analyses also only included people who provided complete information for all exogenous measures, the exception being household income for which missing values were replaced with the sample median.

Participants included in this study had an average age of 48.13 years ($SD = 13.77$). In terms of ethnicity, 90.8% identified as NZ European ($n = 10,008$), 10.3% of participants identified as Māori ($n = 1,084$), 3.1% of Pacific Nations descent ($n = 322$), 4.1% Asian ($n = 426$; note that participants could identify with more than one ethnicity). Participant data were matched to the electoral roll, with 4.2% of participants enrolled on the Māori electoral roll ($n = 443$). Around one fifth of the sample were immigrants, with 19.8% of participants born outside of New Zealand ($n = 2,087$).

Participant's postal addresses were used to identify the level of economic deprivation of their neighbourhood. The New Zealand Deprivation Index uses aggregate Census information about the residents of each meshblock to assign a decile-rank index from 1 (most affluent) to 10 (most impoverished) to each meshblock unit (Atkinson et al., 2014). Because it is a decile-ranked index, the 10% of meshblocks that are most affluent are given a score of 1, the next 10% a score of 2, and so on. The mean score on this deprivation measure in our sample was 4.59 ($SD = 2.71$). Additionally, we determined whether each participant lived in an urban versus rural region by identifying the territorial authority, either a district (rural) or city (urban) within which each participant resided (Statistics New Zealand, 2014). The majority of participants (68.7%) lived in urban wards.

With regard to other demographics, 78.2% of the sample was employed, with 92.8% having household earnings over \$30,000 per year, 71.8% over \$70,000 and 45.3% over \$100,000. The majority were parents (74.6%; $n = 7,846$) and 74.6% were in a serious romantic relationship ($n = 7,849$). The majority of participants (95.2%; $n = 10,008$) identified as heterosexual (see Greaves et al., 2016 for coding information). Less than half of participants (38.5%, $n = 4,052$) identified with a religion or spiritual group. Education was coded according to the NZQA education level the participant had attained (Statistics New Zealand, 2016) where 0 represents no qualification, 3 the end of secondary education, 7 a bachelor's degree, and 10 represents a doctorate. The mean qualification level the sample had attained was 5.05 ($SD = 2.82$), or a sample average of a level 5 diploma or certificate.

Post-Stratification Weighting

We applied the post-stratification weighting procedures developed specifically for the NZAVS. Detailed information about the post-stratification weighting procedure is available online on the NZAVS technical documents page (Sibley, 2014b). Briefly, the NZAVS Time 5 sample was weighted to adjust for the expected proportion of men and women from each of the four primary ethnic groups separately, as well as region of residence. This was based on information from the 2013 New Zealand Census for those aged 18 and over. Regions were coded by identifying which of the 16 mutually exclusive and non-overlapping council zones of New Zealand each participant listed as their primary residential address.

Questionnaire Measures

Personality was assessed using the Mini-IPIP6 scale on a 1 (very inaccurate) to 7 (very accurate) scale. The Mini-IPIP6 is a short-form inventory assessing the Big-Six dimensions of personality (α s for Extraversion = .75, Agreeableness = .70, Conscientiousness = .67, Neuroticism = .70, Openness = .69, and Honesty-Humility = .77). The scale has been validated for use in the NZAVS with good test re-test stability (Milojev, Osborne, Greaves, Barlow, & Sibley, 2013; Sibley et al., 2011; Sibley, 2012; Sibley & Pirie, 2013).

Nationalism was measured with two items ($\alpha = .43$) rated on a 1 (strongly disagree) to 7 (strongly agree) scale: “Generally, the more influence NZ has on other nations, the better off they are” and “Foreign nations have done some very fine things but they are still not as good as New Zealand” (modified for use in the NZ context from Kosterman & Feshbach, 1989). Patriotism was measured with two items ($\alpha = .72$), also rated on a 1 (strongly disagree) to 7 (strongly agree) scale: “I feel a great pride in the land that is our New Zealand” and “Although at times I may not agree with the Government, my commitment to New Zealand always remains strong” (modified for use in the NZ context from Kosterman & Feshbach, 1989).

Results

We conducted three multinomial logistic regression models to examine whether various personality, social psychological, and demographic factors were linked with the likelihood of intending to vote for the National, Labour, Green, or NZ First political parties. As is standard for these types of models, the numerically largest category (in this case, an intended vote for the National Party) was used as the reference category. The results of the regression models are reported in Table 10 for the Labour Party, Table 11 for the Green Party, and Table 12 for NZ First. Our analyses included 27 predictor variables relating to our primary goal of examining the possible differences between voters for different parties. Due to the large number of parameters in our models, we have focussed only on certain points of interest in the results below.

Table 10.

Multinomial Logistic Regression for Study Two (NZAVS Data), Predicting the Likelihood of Voter Preference for the Labour Party (Reference Category is Intending to Vote for the National Party).

	<i>b</i>	<i>SE</i>	<i>OR</i>	<i>95% CI of OR</i>	<i>z</i>
Labour					
Intercept/Threshold	-1.039	.425			
Gender (0 women, 1 men)	-.132	.065	.877	[.772, .996]	-2.024
Age (0 lower to 1 higher)	.843	.243	2.322	[1.442, 3.740]	3.465*
Māori (0 no, 1 yes)	.470	.117	1.600	[1.273, 2.010]	4.030**
Pacific Islander (0 no, 1 yes)	1.779	.173	5.922	[4.222, 8.307]	10.300**
Asian (0 no, 1 yes)	.121	.140	1.128	[.857, 1.485]	.861
Income above \$30k (0 no, 1 yes)	-.226	.128	.798	[.621, 1.026]	-1.763
Income above \$70k (0 no, 1 yes)	-.143	.085	.866	[.733, 1.024]	-1.686
Income above \$100k (0 no, 1 yes)	-.434	.076	.648	[.559, .751]	-5.739**
NZDep Index 2013 (0 low to 1 high)	1.411	.116	4.100	[3.265, 5.150]	12.139**
Born in New Zealand (0 no, 1 yes)	-.182	.078	.834	[.716, .972]	-2.328
Religious (0 no, 1 yes)	-.175	.061	.839	[.744, .947]	-2.857*
Parent (0 no, 1 yes)	-.041	.079	.960	[.822, 1.120]	-.520
Relationship (0 no, 1 yes)	-.278	.076	.757	[.652, .879]	-3.657**
Employment (0 no, 1 yes)	-.131	.075	.877	[.757, 1.017]	-1.732
Urban neighbourhood (0 no, 1 yes)	.292	.063	1.339	[1.183, 1.516]	4.614**
Māori roll (0 no, 1 yes)	1.470	.189	4.348	[3.004, 6.294]	7.789**
Education (0 low to 1 high)	.829	.115	2.291	[1.829, 2.869]	7.218**
LGB (0 no, 1 yes)	.552	.150	1.737	[1.294, 2.333]	3.674**
Extraversion (0 low to 1 high)	-.484	.193	.616	[.422, .899]	-2.512
Agreeableness (0 low to 1 high)	.958	.250	2.607	[1.597, 4.254]	3.833**
Conscientiousness (0 low to 1 high)	-1.228	.207	.293	[.195, .439]	-5.939**
Neuroticism (0 low to 1 high)	.682	.196	1.977	[1.346, 2.904]	3.476*
Openness to Experience (0 low to 1 high)	.787	.203	2.198	[1.476, 3.272]	3.878**
Honesty-Humility (0 low to 1 high)	.500	.181	1.649	[1.157, 2.351]	2.764*
Patriotism (0 low to 1 high)	-1.062	.238	.346	[.217, .551]	-4.459**
Nationalism (0 low to 1 high)	-.649	.180	.523	[.367, .744]	-3.604**

Note. * $p < .01$, ** $p < .001$. Study Two *Ns* for intended vote: National = 5,345, Labour = 2,631. Model *loglikelihood* = -120203.19, *AIC* = 20568.38, *BIC* = 21156.50.

Table 11.

Multinomial Logistic Regression for Study Two (NZAVS Data), Predicting the Likelihood of Voter Preference for the Green Party (Reference Category is Intending to Vote for the National Party).

	<i>b</i>	<i>SE</i>	<i>OR</i>	<i>95% CI of OR</i>	<i>z</i>
Green					
Intercept/Threshold	-2.322	.458			
Gender (0 women, 1 men)	-.181	.072	.834	[.725, .960]	-2.532
Age (0 lower to 1 higher)	-1.666	.269	.189	[.112, .321]	-6.182**
Māori (0 no, 1 yes)	.326	.143	1.385	[1.047, 1.832]	2.281
Pacific Islander (0 no, 1 yes)	.638	.238	1.892	[1.186, 3.019]	2.676*
Asian (0 no, 1 yes)	-.671	.177	.511	[.361, .723]	-3.795**
Income above \$30k (0 no, 1 yes)	-.217	.154	.805	[.595, 1.088]	-1.413
Income above \$70k (0 no, 1 yes)	-.232	.095	.793	[.658, .956]	-2.436
Income above \$100k (0 no, 1 yes)	-.373	.081	.689	[.587, .808]	-4.582**
NZDep Index 2013 (0 low to 1 high)	.918	.128	2.504	[1.950, 3.216]	7.187**
Born in New Zealand (0 no, 1 yes)	-.130	.084	.878	[.745, 1.034]	-1.558
Religious (0 no, 1 yes)	-.591	.071	.554	[.482, .636]	-8.322**
Parent (0 no, 1 yes)	-.177	.084	.838	[.711, .987]	-2.117
Relationship (0 no, 1 yes)	-.029	.086	.971	[.821, 1.149]	-.340
Employment (0 no, 1 yes)	-.020	.089	.980	[.822, 1.167]	-.229
Urban neighbourhood (0 no, 1 yes)	.218	.069	1.244	[1.086, 1.425]	3.143*
Māori roll (0 no, 1 yes)	1.509	.229	4.523	[2.889, 7.079]	6.601**
Education (0 low to 1 high)	1.935	.134	6.927	[5.323, 9.015]	14.402**
LGB (0 no, 1 yes)	.969	.141	2.635	[2.000, 3.470]	6.894**
Extraversion (0 low to 1 high)	-.751	.202	.472	[.318, .701]	-3.724**
Agreeableness (0 low to 1 high)	.850	.262	2.340	[1.401, 3.907]	3.250*
Conscientiousness (0 low to 1 high)	-1.791	.218	.167	[.109, .256]	-8.214**
Neuroticism (0 low to 1 high)	.992	.210	2.696	[1.785, 4.072]	4.715**
Openness to Experience (0 low to 1 high)	2.834	.230	17.009	[10.842, 26.684]	12.334**
Honesty-Humility (0 low to 1 high)	2.391	.216	10.924	[7.148, 16.695]	11.049**
Patriotism (0 low to 1 high)	-1.290	.252	.275	[.168, .451]	-5.124**
Nationalism (0 low to 1 high)	-1.140	.195	.320	[.218, .468]	-5.855**

Note. * $p < .01$, ** $p < .001$. Ns for intended vote: National = 5,345, Greens = 2,153. Model *loglikelihood* = -120203.19, *AIC* = 20568.38, *BIC* = 21156.50.

Table 12.

Multinomial Logistic Regression for Study Two (NZAVS Data), Predicting the Likelihood of Voter Preference for the NZ First Party (Reference Category is Intending to vote for the National Party).

	<i>b</i>	<i>SE</i>	<i>OR</i>	<i>95% CI of OR</i>	<i>z</i>
NZ First					
Intercept/Threshold	-4.375	.793			
Gender (0 women, 1 men)	.545	.126	1.724	[1.348, 2.205]	4.337**
Age (0 lower to 1 higher)	2.912	.497	18.401	[6.940, 48.787]	5.854**
Māori (0 no, 1 yes)	1.152	.174	3.166	[2.253, 4.449]	6.639**
Pacific Islander (0 no, 1 yes)	1.174	.332	3.235	[1.687, 6.201]	3.535**
Asian (0 no, 1 yes)	-1.979	.758	.138	[.031, .610]	-2.611*
Income above \$30k (0 no, 1 yes)	-.180	.205	.835	[.559, 1.247]	-.880
Income above \$70k (0 no, 1 yes)	-.522	.153	.593	[.439, .801]	-3.412*
Income above \$100k (0 no, 1 yes)	-.345	.162	.708	[.515, .974]	-2.122
NZDep Index 2013 (0 low to 1 high)	1.438	.221	4.210	[2.728, 6.498]	6.493**
Born in New Zealand (0 no, 1 yes)	.154	.172	1.167	[.833, 1.634]	.896
Religious (0 no, 1 yes)	.061	.118	1.063	[.844, 1.338]	.517
Parent (0 no, 1 yes)	.091	.174	1.095	[.778, 1.542]	.523
Relationship (0 no, 1 yes)	-.028	.149	.972	[.726, 1.302]	-.191
Employment (0 no, 1 yes)	-.229	.143	.795	[.601, 1.052]	-1.603
Urban neighbourhood (0 no, 1 yes)	.056	.121	1.058	[.835, 1.341]	.467
Māori roll (0 no, 1 yes)	1.107	.257	3.026	[1.829, 5.004]	4.312**
Education (ordinal 0 to 1)	.267	.227	1.305	[.836, 2.037]	1.174
LGB (0 no, 1 yes)	-.200	.353	.818	[.410, 1.633]	-.568
Extraversion (0 low to 1 high)	-.331	.374	.718	[.345, 1.495]	-.885
Agreeableness (0 low to 1 high)	-.184	.499	.832	[.313, 2.212]	-.369
Conscientiousness (0 low to 1 high)	-1.126	.417	.324	[.143, .734]	-2.702*
Neuroticism (0 low to 1 high)	.961	.402	2.616	[1.190, 5.750]	2.392
Openness to Experience (0 low to 1 high)	1.161	.414	3.193	[1.418, 7.191]	2.803*
Honesty-Humility (0 low to 1 high)	.516	.345	1.676	[.852, 3.297]	1.496
Patriotism (0 low to 1 high)	-1.503	.477	.222	[.087, .566]	-3.152*
Nationalism (0 low to 1 high)	.436	.347	1.546	[.784, 3.051]	1.257

Note. * $p < .01$, ** $p < .001$. Study Two *Ns* for intended vote: National = 5345, NZ First = 389. Model *loglikelihood* = -120203.19, *AIC* = 20568.38, *BIC* = 21156.50.

Demographics

Though we were using a different sample and controlling for a broader range of demographics (as well as personality, Patriotism, and Nationalism), many of the demographic effects found in Study One were replicated. Of note, the gender differences between Labour and Green voters and National voters were not found in the NZAVS data set. Also present in the NZAVS data, but not in Study One, were significant differences for Pacific voters in that Pasifika were more likely to intend to vote for the Greens ($b = .638$, $SE = .238$, $OR = 1.892$, $z = 2.676$, $p = .007$) and NZ First ($b = 1.174$, $SE = .332$, $OR = 3.535$, $z = 12.139$, $p < .001$) than National.

Additionally, those living in more economically deprived neighbourhoods were more likely to intend to vote for Labour ($b = 1.411$, $SE = .116$, $OR = 4.100$, $z = 12.139$, $p < .001$), the Greens ($b = .918$, $SE = .128$, $OR = 2.504$, $z = 7.187$, $p < .001$), or NZ First ($b = 1.438$, $SE = .221$, $OR = 4.210$, $z = 6.439$, $p < .001$) than National. Those living in urban neighbourhoods had a higher chance of intending to vote for the Greens ($b = .218$, $SE = .069$, $OR = 1.244$, $z = 3.143$, $p < .001$) or Labour Party ($b = .292$, $SE = .063$, $OR = 1.339$, $z = 4.614$, $p < .001$) relative to National. Unsurprisingly, participants on the Māori electoral roll were 4.4 times more likely to give their party vote to Labour ($b = 1.470$, $SE = .189$, $OR = 4.348$, $z = 7.789$, $p < .001$), 4.5 times more likely to vote for the Greens ($b = 1.509$, $SE = .229$, $OR = 4.523$, $z = 6.601$, $p < .001$), and 3 times more likely to vote NZ First ($b = 1.107$, $SE = .257$, $OR = 3.026$, $z = 4.312$, $p < .001$) over National. People with a higher average level of education were more likely to prefer Labour ($b = .829$, $SE = .115$, $OR = 2.291$, $z = 7.218$, $p < .001$), or the Greens ($b = 1.935$, $SE = .134$, $OR = 6.927$, $z = 14.402$, $p < .001$) than National. There were no significant differences between National and NZ First voters in terms of educational attainment. Those identifying as LGB+ (Lesbian, Gay, or Bisexual) were 1.7 times more likely to vote for Labour ($b = .552$, $SE = .150$, $OR = 1.737$, $z = 3.674$, $p < .001$) and 2.6 times more likely to vote for the Greens ($b = .969$, $SE = .141$, $OR = 2.635$, $z = 6.894$, $p < .001$) over National. There were no significant differences in sexual orientation between National and NZ First voters.

Personality

Significant effects were found for personality across intended party vote. There were statistically significant differences between Green and National voters on all six personality traits. Green voters had lower levels of Extraversion ($b = -.751$, $SE = .202$, $OR = .472$, $z = -3.724$, $p < .001$) and Conscientiousness ($b = -1.791$, $SE = .218$, $OR = .167$, $z = -8.214$, $p < .001$), but higher levels of Agreeableness ($b = .850$, $SE = .262$, $OR = 2.340$, $z = 3.250$, $p = .001$), Neuroticism ($b = .992$, $SE = .210$, $OR = 2.696$, $z = 4.715$, $p < .001$), Openness to Experience ($b = 2.834$, $SE = .230$, $OR = 17.009$, $z = 12.334$, $p < .001$), and Honesty Humility ($b = 2.391$, $SE = .216$, $OR = 10.924$, $z = 11.049$, $p < .001$). Results for the differences in personality between Labour and National voters followed a similar pattern to that of the Greens and National. The only difference being that levels of Extraversion were unassociated with choosing Labour over National. There were relatively few personality differences between National and NZ First voters, though NZ First voters tended to have lower Conscientiousness ($b = -1.126$, $SE = .417$, $OR = .324$, $z = -2.702$, $p = .007$), and higher Openness to Experience ($b = 1.161$, $SE = .414$, $OR = 3.193$, $z = 2.803$, $p = .005$), than National voters.

Patriotism and Nationalism

Participants who were intending to vote for Labour ($b = -1.062$, $SE = .238$, $OR = .346$, $z = -4.459$, $p < .001$), the Greens ($b = -1.290$, $SE = .252$, $OR = .275$, $z = -5.124$, $p < .001$), or NZ First ($b = -1.503$, $SE = .477$, $OR = .222$, $z = -3.152$, $p = .002$) had lower levels of Patriotism than those intending to vote for the National Party. Likewise, intended Green voters ($b = -1.140$, $SE = .195$, $OR = .320$, $z = -5.855$, $p < .001$) and Labour voters ($b = -.649$, $SE = .180$, $OR = .523$, $z = -3.604$, $p < .001$) had lower levels of Nationalism. There was, however, no significant difference in Nationalism between intended National and NZ First voters.

Discussion

Our second study utilised data from the NZAVS, a postal-based national probability sample. Although this second, larger sample recruited participants through a different method and controlled

for a larger range of demographic and psychological variables, we replicated many of the effects identified in Study One. However, there was no gender gap in voting for left-wing parties, and we found additional effects for Pasifika voting and the smaller parties. Replicating past NZES analyses, we found that National voters were less likely to live in economically deprived neighbourhoods, were less likely than other voters to be on the Māori electoral roll, and had a lower mean level of education than Labour and Green voters. In the first exploration of LGB voting in New Zealand, we found that LGB-identified individuals were more likely to intend to vote for Labour or the Greens than for National.

We have also shown that psychological variables predict political party preference in New Zealand. There were more personality differences than we hypothesised. We found significant differences between Green and National voters over each of the Big-Six personality traits, and between Labour and National voters in every trait except Extraversion. The personality differences between National and NZ First voters were less pronounced, although we found that NZ First voters tended to have lower levels of Conscientiousness and higher levels of Openness to Experience. There were also differences in Patriotism, with National voters displaying higher mean scores than all other voters. Likewise, National voters had higher levels of Nationalism than Labour or Green voters. There was, however, no significant difference in Nationalism between intended National and intended NZ First voters. In sum, we found that personality and psychological variables are useful correlates of vote preference in New Zealand, even after controlling for a range of demographic variables.

General Discussion

In the two studies presented here, we showed that there are reliable differences between voters across not only a number of demographic variables, but also over social psychological variables including personality, Patriotism, and Nationalism. Thus, our large sample size and extended list of predictor variables provided a nuanced picture of voter demographics in New Zealand. Many of our hypotheses were supported and those of particular interest to the aims of the

paper warrant further discussion. Our findings showed that Māori were more likely to be intended voters for the Labour, Green (Colmar Brunton sample only), and NZ First parties, over the National Party. We found results consistent with previous research showing that Pasifika prefer the Labour Party in far higher rates than they support National, but also found that they prefer NZ First and the Greens over National in the NZAVS (Iusitini & Crothers, 2013). We did not, however, find significant differences in support for the NZ First Party in Study One. Our ability to detect this effect may be due to the large effort researchers in the NZAVS have put in to recruiting a large Pasifika sample.¹² Asian peoples were less likely to intend to vote for the Greens and NZ First relative to National, although they were not significantly more or less likely to vote for Labour. This result replicates past findings from Park (2006) who used data collected around the 2002 election, and found that Chinese and Korean voters preferred the two larger parties. The reasons behind these vote choices is something that future research should explore.

One incidental finding worth additional comment is that our paper provides a rare insight into the voting behaviour of LGB individuals. We included, as a covariate, whether the participant identified as heterosexual or identified as lesbian, gay, bisexual, or of another minority sexual orientation. Those who identified as LGB were more likely to support the Green or Labour parties (for coding information see Greaves et al., 2016). Our results coincide with the international literature from the US, which shows that the LGBT community are more likely to vote for the Democratic Party than they are to vote for the Republican Party (Edelman, 1993; Egan, 2008; Herek et al., 2010; Hertzog, 1996; Schaffner & Senic, 2006; a similar pattern has been found in Canada, too: Perrella et al., 2012). In the New Zealand Parliament, voting on LGBT issues has been split less rigidly along party lines. Although, on the Marriage Equality conscience vote, the majority of National Party Members of Parliament (MPs)—and all of the NZ First MPs—voted against the bill, a watershed event in LGBT rights in NZ (Singh & Ball, 2013). However, it is unclear whether

¹² Our gratitude goes to Dr Sam Manuela who vigorously recruited a large number of Pasifika to complete the Pacific Identity and Wellbeing Scale, these participants now regularly participate in the NZAVS. For more information, see: Manuela and Sibley (2015a).

LGBT issues (versus economic or other social policies) are the main driver of vote choice among LGBT-identified people, and the relative weighting of different issues when an LGBT individual is deciding who to vote for warrants further investigation. We hope that these incidental findings will be of interest for future work specifically focussed on the topic.

This paper provides data from two independent samples that replicates many of the past findings from the NZES, giving researchers across all three studies confidence that their findings for demographics and vote choice are replicable. One curious difference between past studies and the two models presented here was the lack of a gender gap in voting (Coffé, 2013; Curtin, 2014). In the NZAVS, when controlling for a wider range of demographic and with the addition of psychological variables, we found no evidence of women being more likely to vote for the Labour or Green parties over National (although they were significantly more likely to prefer National over NZ First). This is a finding that should be followed up in future iterations of the NZAVS. Additionally, in future studies, the NZAVS, due to its large sample size, could extend our analyses further by probing the interactions between various demographic variables. For example, we have shown here that Pasifika voters prefer Labour, but we have also shown that Pasifika are more likely to vote for NZ First and the Greens than National. Thus, an interesting future research question would be to see if the age pattern found in the general population is found for Pasifika too, and if similar effects are found across ethnic groups for SES and so on.

The model in Study Two showed that there were personality differences across *all six* personality traits between National and Green Party voters and five of the six traits when looking at differences between Labour and National Party voters. Thus, a basic personality profile emerged. Specifically, the political left (when compared to National voters) in New Zealand showed higher Agreeableness (also see Osborne, Wootton, & Sibley, 2013). We also found that intended Green voters had lower Extraversion, and that Green and Labour intended voters had lower Conscientiousness, higher Neuroticism, higher Openness to Experience and higher Honesty-Humility. In short, psychological factors may be important when people head to polls or, more

likely, when they form partisan attachments (Green, Palmquist, & Schickler, 2004). However, these results diverge from the typical Openness to Experience and Conscientiousness findings from most political contexts (Gerber et al., 2011; Sibley et al., 2012). As such, it is clear that the relationship between the development of personality and who one chooses to vote for warrants further investigation over time, especially in a multi-party system.

Also as expected, there were differences in Patriotism and Nationalism across party voters. Intended National Party voters were higher in Patriotism than all other voters. This effect shows that National supporters may have a higher attachment to, and love for, New Zealand. However, National voters, alongside NZ First voters, were also higher in Nationalism than Green and Labour voters. Nationalism indexes an uncritical acceptance of one's nation and derogation of other nations/outside (Adorno et al., 1950; Kosterman & Feshbach, 1989; Schatz et al., 1999; Skitka, 2005). This may mean that National and NZ First voters are less supportive of immigration, although we are unsure of the causal direction here. For example, it is not clear whether those high on Nationalism are attracted to National and NZ First, or whether those who prefer National and NZ First become more Nationalistic over time to closer reflect their party's policies. Future research could explore Nationalism, Patriotism, and politics in New Zealand longitudinally and in finer detail, including the interactions between these attitudes and other variables including demographics.

Limitations and Future Research Directions

Firstly, we wish to mention a few variables that were not assessed in this paper. A key limitation of this research is that the One News Colmar Brunton polls measured the party that participants *would* vote for at the time of the poll. Similarly, the NZAVS measured intended party vote *before* the election. Therefore, we measured either voter preference or anticipated vote choice rather than the party for whom participants actually voted. It is unclear how stable peoples' vote choices were over the course of the campaign, as research using both sets of data used here show the overall party vote tends to change by small amounts month-by-month (Sibley et al., 2017). We

also did not examine electorate vote. As such, it is unknown if the same demographics predict candidate choice as party choice, especially with the possibility of strategic voting. In future, we aim to use the NZAVS to identify the correlates of being a strategic voter. Another key research area to pursue is to look at those who change from their intended vote, for example, people who later report voting for a different party than their intended vote before the election.

Another limitation to this study is that we only examined intended votes for the four largest parties (those who reached the 5% threshold in the 2014 election) in the 2014 General Election. That is, we assessed the correlates of preference for the National, Labour, Green, or NZ First parties. Because only a small proportion of the samples intended to vote for the remaining smaller parties, we did not have an adequate sample size needed to examine the demographic correlates of these minor party supporters. There may be a number of interesting demographic and psychological differences between those who vote for these larger parties and those who choose to stick with the smaller parties, even at the risk of their preferred party not gaining parliamentary seats. These are questions we wish to follow up with in future research.

Concluding Statement

In this paper, we sought to document the demographic and psychological differences between voters of the four largest parties in New Zealand. This enabled us to examine the replicability of findings from international studies in our unique context, while also validating previous findings from smaller convenience samples and the NZES. Across two large samples collected through different methods, we found many of the previously documented demographic differences (Studies One and Two) and added to the literature by including sexual orientation. Moreover, Study Two demonstrated that many of these demographic differences held while controlling for a range of psychological variables. We also confirmed the utility of personality, Nationalism, and Patriotism in New Zealand as correlates of voter preference. We hope this paper will serve as a synchronised source of information, and will provide a useful resource for political

scientists, pollsters, political practitioners, and the media in future discussions about the various demographic *and* psychological differences (and similarities) between voters.

Bridging Comments

The third study of this paper explored broad group differences in vote preference in the lead up to the 2014 General Election. The paper was written to focus on a wide range of differences, but when it comes to Māori identity, it used *etic* measures of ethnic identity (i.e. ethnic group affiliation as Māori and whether one was enrolled to vote on the Māori electoral roll) to explore differences in political party preference. The purpose of the study was to provide a solid foundation for the next part of the thesis. That is, to figure out who it is, in comparison to other groups in Aotearoa, that Māori preferred to vote for in 2014. Although, it was limited in that we did not have enough voters indicating their preference to vote for the Māori or Mana parties, this study allowed me to show which political parties Māori prefer.

In summary, Māori were more supportive of the centre-left Labour Party, and of the left-leaning, populist New Zealand First Party, than they were of National. In Study One of the paper, Māori were more likely to vote Green, however, I did not find this effect in the NZAVS data in Study Two. Those on the Māori electoral roll were more likely to vote for Labour, the Greens, or New Zealand First over National. Crucially, this paper controlled for a range of variables that could have influenced the relationship between ethnicity and vote choice, for example, socio-economic deprivation, urbanicity, and education (it is important to control for these in studies using Māori participants as due to the continued effects of colonisation and discrimination there are systematic differences between ethnic groups in Aotearoa; Bishop, 1998; Cram, 2011). Thus, considering that we examined data from two large samples collected using different methods, and controlled for a wide range of variables, we can have confidence in the reliability of these results. However, a limitation of this paper was that it used *etic* measures and was aimed at a general political audience, rather than being focussed on Māori politics.

Building on these *etic* measures, the next chapter of the thesis utilises *emic* measures of ethnic identity. Next is the section of my thesis where I apply the MMM-ICE2 to political variables. There are two aims for the two studies. The first is to explore the relationship between Māori

identity and behaviours, namely, whether one was enrolled on the Māori electoral roll and voter turnout, and the association between Māori identity and political attitudes, i.e. support for Māori rights protest, and the National, Labour, Green, Māori, and Mana parties. The second is to demonstrate the construct validity of the Socio-Political Consciousness dimension (Cronbach & Meehl, 1955). That is, if this dimension indexes the political content of Māori identity as it purports to, it should predict political attitudes and behaviour. The next paper (Study Four) also contrasts *etic* and *emic* approaches to Māori identity. In the first model of the paper, I analysed data from the main NZAVS using a simple, *etic* identity indicator: participants were those who had indicated being of Māori descent on the electoral roll. This first model uses simple demographics to predict electoral roll choice. The second part of the paper, however, used the *emic* MMM-ICE2 and shows the utility of using such a specific scale over simple *etic* measures. Additionally, note that this paper was published in the Indigenous *MAI Journal*. As such, the tone of the article reflects this audience and includes a level of reflexivity not present in the previous papers.

CHAPTER FOUR

Study Four: Identity and Demographics Predict Voter Enrolment on the Māori Electoral

Roll: Findings from a National Sample

The research article that follows is the author's copy of a manuscript published in Mai Journal © 2017 Ngā Pae o te Māramatanga.

Greaves, L. M., Osborne, D., Houkamau, C. A., & Sibley, C. G. (2017). Identity and demographics predict voter enrolment on the Māori electoral roll: Findings from a national sample. *MAI Journal*, 6(1) 3-16.

Abstract

Statistics from the New Zealand Electoral Commission state that only 55% of those who indicate they are of Māori descent are enrolled on the Māori electoral roll. In this paper, we aim to find the statistical predictors of being enrolled to vote on the Māori roll, versus being enrolled on the general roll. We present two models analysing demographic and psychological aspects of people's subjective identification as Māori to predict enrolment on the Māori roll. In model 1, demographic variables from participants of Māori ancestry involved in a national probability sample ($N = 1,961$) were analysed to predict enrolment on the Māori roll. In model 2, data from a subsample of people who identify as Māori ($N = 662$) were analysed to assess the impact of both demographics and identity on electoral roll choice. Higher Group Membership Evaluation (the extent to which someone thinks that being Māori is positive and part of their self-concept) and higher Socio-Political Consciousness (engagement with Māori political issues) predicted enrolment on the Māori roll. Our findings may be useful for those looking to increase Māori roll enrolment but also may help to combat deficit-based arguments for abolition of the Māori seats,

Keywords: Voter Enrolment; Māori Electoral Roll; Māori Politics; Māori Identity; NZAVS

Introduction

Those with Māori ancestry can choose to be on either of two electoral rolls: the general roll or the Māori roll. Yet, only 55% of those who identify as being of Māori descent opt to vote in one of the seven Māori electorates (Electoral Commission, 2013a). To be clear, electoral roll choice has substantive political implications. If everyone in Aotearoa with Māori whakapapa had enrolled to vote on the Māori roll, in 2002 there would have been a total of 15 Māori seats, which would have likely increased Māori political power (Xanthaki & O'Sullivan, 2009).

The idea for this paper was conceived by the first author (Lara Greaves), who identifies as Māori (Ngāti Kuri, Ngāpuhi)/Pākehā. Originally I was enrolled on the general roll but chose to switch to the Māori roll during the five-yearly, four-month long Māori electoral roll option window. My enrolment pack arrived late, and not at the address I lived at: instead, it went to my parent's house (research shows that Māori are a mobile population; Statistics New Zealand, 2006). By the time I had received the forms, completed and posted them back, the option window had closed. I received a letter informing me that I was to remain on the general roll. This meant waiting another five years, and two elections. Upon reflection, if, as a political psychology student I had not found the time or motivation to change rolls then how likely were others to do so? Encouraged by my PhD supervisors (Houkamau, Sibley, and Osborne) I then started to think of a way to answer a broader research question about what predicts electoral roll choice for Māori.

Our aim in this paper is to consider ways to increase Māori political representation within the current political system. We hope that these findings may be useful for those looking to implement policies to increase Māori enrolment. Alongside the potential for an increase in Māori seats, understanding the factors that contribute to enrolment choice is important as every few years a political party or movement gains national attention through arguing for the abolition of the Māori seats—which would likely decrease Māori political representation (Barber, 2008; Xanthaki & O'Sullivan, 2009; as a disclaimer, these Members of Parliament do not have to be Māori, however, by convention those elected have been).

We take a post-positivist quantitative approach, acknowledging that our positions and values have influenced the knowledge generated. Statistics are often used as a way to disempower Māori and other Indigenous peoples (Kukutai & Walter, 2015; Walter & Andersen, 2013) and are often cited as a reason to abolish the Māori seats. However, our aim here is to use statistics to show patterns of enrolment behaviour across a wide range of Māori (from a sample randomly selected from the electoral roll). We seek to identify the factors that predict enrolment type. In our first model, we test a range of key demographic variables (e.g., age, income, being urban/rural, ethnic affiliation as Pākehā) and in our second model we extend our analyses to include a subjective measure of Māori identity, the Multidimensional Model of Māori Identity and Cultural Engagement. We aim to contribute to the literature that indicates why Māori choose the Māori or general roll.

The Māori Electoral Roll

While it is beyond the scope of this article to provide a detailed survey of the literature on the history of the Māori seats, we nevertheless provide a brief summary. The Māori electorates were established in 1867 as a geographically super-imposed, dual-constituency system alongside what were called the ‘European’ seats. The Māori seats were originally a temporary measure to provide guaranteed representation for Māori, since Māori men were theoretically allowed to vote. However, land ownership restrictions for voting meant that those who collectively-owned land (as Māori did through iwi) were unable to participate in elections (Royal Commission, 1986). The Māori electorates were an attempt to solve this land-ownership based disenfranchisement where Māori were paying taxes and living under government laws but unable to vote (Geddis, 2006; Parliamentary Library, 2009). However, the number of seats allocated to Māori vastly underrepresented their proportion of the population at the time, which has led some to posit that they were an initiative designed to limit Māori representation (McDowell, 2013). Parliament originally intended that the Māori electorates would only be needed until Māori assimilated and converted Māori land to individual ownership (Parliamentary Library, 2009). However, by 1876 it

was resolved to keep the seats indefinitely as such presumed ‘assimilation’ was not occurring (Parliamentary Library, 2009; Xanthaki & O’Sullivan, 2009).

Prior to 1975, enrolment on the Māori electoral roll was by so-called “blood quantum” (Geddis, 2006). To enrol on the Māori roll, one had to be either a “full Māori”, a “half-caste”, or “a person intermediate between half-caste and a person from that race” (Metge, 1976, p. 41). Only those who were ‘half-caste’ were able to choose to be on either the Māori roll or the ‘European’ roll. Post-1975 the legal minimum requirement became being descended from Māori. Thus, those with Māori ancestry were able to choose between the Māori and the newly-named ‘general’ roll (Geddis, 2006). From 1993, the change to a Mixed Member Proportional (MMP) electoral system in New Zealand likely made the decision to change to the Māori roll easier. With the change in system came a change in proportionality: more Māori on the roll would increase the number of Māori seats (Sullivan, 2003). Additionally, under MMP voters received an electorate vote *and* a party vote. At the time, the Māori seats were considered safe Labour seats, the switch to MMP meant that Māori roll voters were able to cast an additional party vote with a wider range of choice (Sullivan, 2003).

One thing that has not changed over the years is controversy over the Māori seats, as many attempts have been made to abolish them. In the contemporary setting, low levels of enrolment have been cited as a reason for eliminating these seats (Geddis, 2006) although, enrolment has actually been *increasing* over the years (Electoral Commission, 2013a). Other recent arguments for abolishing the Māori seats include: wanting to remove the Māori seats because they constitute “positive discrimination” (Barber, 2008), which has been said by some politicians (e.g., Brash, 2004), to be inconsistent with modern New Zealand values. Some have argued that the Māori seats are no longer needed due to the adoption of MMP and the existence of the Māori Party (for a summary of arguments see Geddis, 2006). Indeed, Māori now comprise 1/5th of the Members of Parliament (Parliamentary Library, 2015), although the extent to which these politicians represent Māori interests is debatable.

In practice, voters who indicate that they are of Māori descent when enrolling can choose to enrol on either the general roll or the Māori roll (Electoral Commission, 2014a). Once enrolled, voters can only change between the rolls every five years when the Māori Electoral Option is open for approximately four months (Electoral Commission, 2013b). The Māori Electoral Option itself has not been without controversy. In 1994, it was alleged that the Government did not provide enough funding to promote the option (Waitangi Tribunal, 1994). Although financial support may now be sufficient, underfunding could have consequences for Māori political power. Indeed, the number of Māori seats is based on how many Māori choose the Māori roll (Comrie, Gillies, & Day, 2002).

Past Survey Research on the Māori Roll

Two survey studies have elucidated the factors that influence Māori enrolment choice. Banducci, Donovan, and Karp (2004) found that those on the Māori roll tended to have lower incomes than Māori on the general roll. Banducci and colleagues also explored Māori representation and found that voters enrolled on the Māori roll had greater feelings of political efficacy, were more likely to vote, had a higher political interest, and felt they had more representation. Those on the Māori roll were also more critical of Māori Members of Parliament. Banducci et al. argued that those on the Māori roll may have purposefully chosen to enrol to further the representation of Māori in parliament by increasing the number of Māori seats.

In a report to the Electoral Commission, Fitzgerald, Stevenson, and Tapiata (2007) explored various aspects of Māori political participation, including cultural identity, as predictors of enrolment on the Māori roll. They measured cultural identity by totalling a score based on self-identification, te reo ability, involvement with whānau, knowledge of whakapapa, contact with other Māori, marae participation, and Māori land interests. Māori who scored higher in this measure were more likely to be on the Māori roll. Participants of a subsample ($n = 69$) were asked to report why they were on the Māori roll. Most said it was “an expression of being Māori” (Fitzgerald et al., 2007, p. 40). Thus, a key reason cited for choosing to be on the Māori roll was active engagement

with other Māori and Māori culture. However, there has yet to be an in depth analysis into the aspects of Māori identity that may affect electoral roll choice.

The Multidimensional Model of Māori Identity and Cultural Engagement

Fitzgerald et al.'s (2007) research is an example of quantitative efforts to 'measure' Māori identity. Past research has done this in two ways. Māori are normally identified through an ethnic group affiliation question (counting who is Māori and who is not) and treated as a homogeneous group in terms of identity and perspectives (Kukutai & Walter, 2015; Greaves, Houkamau et al., 2015). Or past measures have quantified Māori identity through measures of enculturation; the extent to which Māori engage with culture. However, the identities of Māori vary across more than affiliation and cultural engagement. As such, we use a measure that quantifies these similarities and differences in more depth, across a number of dimensions.

In this paper, we use the Multidimensional Model of Māori Identity and Cultural Engagement–Revised (or MMM-ICE2) to examine the identity predictors of enrolment choice. The MMM-ICE2 is a seven dimension, public domain, Likert-style, self-report measure created *for* Māori by Māori (Houkamau & Sibley, 2015a). The scale has the main purpose of measuring one's subjective identification as Māori in a culturally-specific and nuanced way. The scale is situated within Western theoretical paradigms, however the development of the scale was motivated by a pro-Māori agenda. Initially, the scale creators drew upon past research on Māori identity, qualitative Māori research, and similar international research, to create a pool of survey questions to create six (later seven due to community feedback) subscales that represented common themes found in the literature. These were tested with a sample of Māori and reviewed many times by Māori academics and the community.

The scale attempts to extend the capacity for a quantitative measure to tell us about Māori as a diverse group. That is, it gives expression to as many different perspectives of being Māori that is possible using a psychometric tool. The MMM-ICE2 is premised on the view that Māori live in diverse cultural worlds and there is no one measure that will ever encompass Māori identity (Durie,

1998a, 1998b). Indeed, data from the latest Census (Statistics New Zealand, 2013) shows remarkable diversity among Māori in terms of how they define themselves (e.g., 45.6% of Māori also identified with one other ethnicity – most commonly Pākehā). The measure accounts for diversity by (as far as is possible with a quantitative measure) assessing personal perceptions on a range of potential identity aspects. It makes no assumption about the right way to be Māori and treats being Māori as one aspect of a person's self-concept (other identifications and other group memberships may be salient to individuals and have more importance to people in certain contexts and times in their lives).

The scale has seven dimensions. The first dimension, called Group Membership Evaluation, relates to having positive feelings about being Māori and the extent to which being Māori is personally important. Another dimension is Socio-Political Consciousness – a belief in the continued importance of colonial history, the injustices experienced by Māori, and how much someone actively 'stands up' for Māori political rights. The dimension of Cultural Efficacy and Active Identity Engagement assesses the extent to which one believes they have the personal resources to engage with other Māori confidently in cultural contexts. The dimension, Spirituality, measures engagement with traditional Māori concepts of spirituality like recognising the importance of tūpuna and tapu. The dimension Interdependent Self-Concept, assesses the extent to which the concept of the self-as-Māori is defined by virtue of relationships with other Māori. Authenticity Beliefs assess the degree to which someone believes that Māori have to do certain things or look/act certain ways to be authentic Māori. Finally, Perceived Appearance assesses the extent to which someone believes that they have prototypical Māori physical features, in other words 'look' Māori.

Overview and Hypotheses

We present two models. In the first model, we analyse the demographic predictors of being on the Māori electoral roll with data from the wider New Zealand Attitudes and Values Study (NZAVS; $N = 1,961$). In the second model, we analyse data from a sub-sample who completed the

MMM-ICE2 questionnaire ($N = 662$) to uncover the aspects of Māori identity, above and beyond demographic variables, that may predict voter enrolment. Our hypotheses for model one are that those who identify their ethnicity as Pākehā will be less likely to be on the Māori roll, given that Houkamau and Sibley (2014) have found that Māori-Pākehā individuals tend to have patterns of policy and party support that are more similar to Pākehā. We also hypothesise that participants enrolled in the Māori electorates will have a lower likelihood of being employed, and have a higher likelihood of being from more economically deprived neighbourhoods and have a higher level of education (Banducci et al., 2004). We are unable to make predictions for the other demographics variables due to a lack of research in the area (a gap that we hope to fill with this paper).

Turning to our second model, Fitzgerald and colleagues (2007) found that the more engaged Māori were in their cultural identity, the more likely Māori were to be on the Māori roll. The dimension in the MMM-ICE2 that is most analogous to their measure is Cultural Efficacy and Active Identity Engagement (CEAIE), thus we expect higher CEAIE to lead to a higher likelihood of being on the Māori roll. Furthermore, the Socio-Political Consciousness dimension indexes the extent to which Māori feel that political/intergroup history is important in modern politics and actively stands up for Māori rights, thus we expect that higher scores will have a higher likelihood of being on the Māori roll. This prediction is based on previous literature showing that being on the Māori roll is related to belief in these two aspects of Māori rights (Banducci et al., 2004; Fitzgerald et al., 2007).

Method

Participants and Procedure

The NZAVS is an ongoing 20-year longitudinal national probability study of social attitudes, personality, and health outcomes that started in 2009. The data for this paper were drawn from the 2012/13 (Time 4) wave. Detailed information about the NZAVS questionnaires and sampling are provided on the NZAVS website (Sibley, 2014a).

Model One

Participants were those in the NZAVS who indicated they were of Māori descent ($N = 1,961$). We matched the contact details from each participant to the 2014 electoral roll. We included only participants who had answered “yes” to the question on the roll: “Are you a New Zealand Māori or a descendant of a New Zealand Māori?” We chose to use this as an indicator of Māori descent because answering yes to this question is what is required by the Electoral Act for someone to be on the Māori roll. We collected information from the electoral roll on whether the participants were on the Māori ($n = 995$; 50.7%) or general roll ($n = 966$; 49.3%). Thus, the participants were 1,271 women and 690 men whose mean age was 46.16 ($SD = 13.46$). Only 90.9% of the sample (who indicated being of Māori descent on the electoral roll) identified Māori ($n = 1,782$) as their ethnic group(s) in our survey. Participants were often from more than one ethnic group: 63.2% of the sample identified as Pākehā ($n = 1,240$), 5.5% identified as Pasifika ($n = 107$), 1.2% identified with an Asian ethnicity ($n = 23$), and 2.7% identified with another ethnicity or did not answer ($n = 53$).

Additionally, 68.3% of the sample ($n = 1,339$) were employed, 82.2% were parents ($n = 1,611$), and 62.4% were in a serious romantic relationship ($n = 1,223$). Less than half of participants (45.8%, $n = 898$) identified with a religion or spiritual group. Education was coded according to the NZQA education level the participant had attained (Statistics New Zealand, 2016) where 0 represents no qualification, 3 the end of secondary education, 7 a bachelor’s degree, and 10 represents a doctorate. The mean qualification level the sample had attained was 3.69 ($SD = 2.78$), or a sample average of a level 4 certificate. The mean score for the NZ Deprivation Index in our sample was 6.43 ($SD = 2.91$; Atkinson et al., 2014). People living in urban areas constituted 54.8% of the sample ($n = 1,075$).

Model Two

Participants in the second model were those who completed the MMM-ICE2 questions as part of the Māori Focus sub-sample survey ($N = 662$). These participants were also included in the

first model. As part of the Time 4 NZAVS sampling design, we included a booster sample aimed at recruiting Māori participants. This sample consisted of 9,000 people randomly selected from those who indicated on the 2012 electoral roll that they were of Māori descent. A total of 690 participants responded: adjusting for the address accuracy of the electoral roll, this represents a response rate of 7.78%. The questionnaire was similar to the standard NZAVS questionnaire, except it included additional questions designed for Māori, and the cover letter introduced the survey as the “Māori Identity Focus Questionnaire.” The lead researcher and point of contact was Māori, and was introduced to participants in the cover letter by listing iwi affiliations.

As with model one, we matched the participants to the 2014 electoral roll, finding contact details for 662 participants; 256 (38.7%) were on the general roll and 406 (61.3%) on the Māori roll. Participants were 417 women and 245 men with a mean age of 44.22 ($SD = 12.98$). The participants identified as Māori, however, 55.1% also identified as Pākehā ($n = 365$), 5.9% as Pasifika ($n = 39$), 1.4% as Asian ($n = 9$), and 1.4% as another ethnicity ($n = 9$). Turning to other demographics 45.8% of the sample identified as religious ($n = 303$), 66.6% were employed ($n = 441$), 85.8% were parents ($n = 568$), 57.1% were in a committed romantic partnership ($n = 378$), and 53.6% lived in urban areas. The mean education level for this sample was 3.48 ($SD = 2.63$), with a mean NZ Deprivation index score of 6.74 ($SD = 2.77$).

Participants included in model two completed the full 54 item MMM-ICE2 (Houkamau & Sibley, 2014a). Group Membership Evaluation was assessed by eight items ($\alpha = .843$). These included: “I love the fact I am Māori” and “Being Māori is NOT important to who I am as a person” (reverse coded). The Cultural Efficacy and Active Identity Engagement subscale also used eight items ($\alpha = .858$), including: “I can’t do Māori cultural stuff properly” (reverse coded). The subscale for Interdependent Self-Concept used seven items ($\alpha = .810$) including: “My Māori identity is fundamentally about my relationships with other Māori” and “My relationships with other Māori people (friends and family) are what make me Māori.” Spirituality was assessed using eight items ($\alpha = .810$), including: “I feel a strong spiritual association with the land” and “I don’t believe in that

Māori spiritual stuff” (reverse coded). We looked at Socio-Political Consciousness with eight items ($\alpha = .882$) including: “I stand up for Māori rights” and “Māori would be heaps better off if they just forgot about the past and moved on” (reverse coded). Authenticity Beliefs were assessed using the eight items ($\alpha = .603$) including: “You can tell a true Māori just by looking at them” and “Real Māori put their whānau first.” The final dimension, Perceived Appearance, was assessed with seven items ($\alpha = .918$), including: “You only need to look at me to see that I am Māori.”

Analytic Strategy

This paper uses binomial logistic regression. In logistic regression, the outcome variable is categorical (in our case, whether someone is enrolled to vote on the Māori roll, or on the general roll). Our logistic regressions model the likelihood of someone being on the Māori roll versus being on the general roll across a number of predictor variables (e.g., age, gender, economic deprivation, MMM-ICE2 scores). These analyses are also a type of multiple regression because more than one predictor variable is used to predict the outcome variable, while controlling for the shared variance between the predictor variables. This means that each beta coefficient represents the unique effect of each predictor (e.g., age) on the outcome variable (the likelihood of being on the Māori roll) while taking the effects of the other predictor variables that could somehow affect the relationship between variables (e.g., economic deprivation, living in an urban or rural area, or is a parent/partnered) into account (for more on regression see Field, 2012, Chapter Eight).

Results

Model One: Demographics

We conducted a binomial logistic regression to examine which demographic variables were associated with being enrolled to vote on the Māori electoral roll. As shown in Table 13, the demographic model predicting the likelihood of being on the Māori electoral roll explained 15.4% of the variance in electoral roll choice ($R^2 = .154$, $SE = .018$, $z = 8.587$, $p < .001$). A number of demographic variables were significant predictors of enrolment. Age was negatively associated with being on the Māori roll ($b = -.013$, $SE = .004$, $z = -3.299$, $OR = .987$, $p < .01$), suggesting that those

on the Māori roll tended to be younger. Education was positively associated with enrolment on the Māori roll ($b = .056$, $SE = .020$, $z = 2.847$, $OR = 1.058$, $p < .01$), indicating that people who had attained a higher level of education were more likely to be on the Māori roll.

Table 13.

Logistic Regression Model of Demographics Predicting the Likelihood of Being on the Māori Roll (Versus the General Roll).

	<i>b</i>	<i>SE</i>	<i>OR</i>	<i>95% CI of b</i>	<i>z</i>
Intercept/Threshold	-.467	.298			
Gender (0 women, 1 men)	-.012	.104	.988	[-.214, .191]	-.112
Age (years)	-.013	.004	.987	[-.021, -.005]	-3.299**
Education (0 to 10)	.056	.020	1.058	[.017, .095]	2.847**
Employment (0 no, 1 yes)	-.044	.112	.957	[-.263, .176]	-.390
Parent (0 no, 1 yes)	.357	.144	1.429	[.074, .640]	2.474*
Religious (0 no, 1 yes)	.193	.101	1.213	[-.006, .392]	1.904
Relationship (0 no, 1 yes)	-.167	.108	.846	[-.380, .045]	-1.545
Urban neighbourhood (0 no, 1 yes)	-.084	.100	.919	[-.280, .112]	-.839
NZDep Index 2013 (1 low – 10 high)	.090	.019	1.095	[.054, .127]	4.876***
Pākehā (0 no, 1 yes)	-1.246	.108	.288	[-1.458, -1.034]	-11.537***

Note. $R^2 = .154$, $SE = .018$, $z = 8.587$, $p < .001$. * $p < .05$, ** $p < .01$, *** $p < .001$, $N = 1,961$. Missing data were estimated using multiple imputation.

Being a parent was positively associated with being on the Māori roll ($b = .357$, $SE = .144$, $z = 2.474$, $OR = 1.429$, $p < .05$). Participants from more deprived areas had a higher likelihood of being on the Māori roll ($b = .090$, $SE = .019$, $z = 4.876$, $OR = 1.095$, $p < .001$). Lastly, people who also identified their ethnicity as Pākehā were less likely to be on the Māori electoral roll ($b = -1.246$, $SE = .108$, $z = -11.537$, $OR = .288$, $p < .001$). Stating one's ethnicity as Pākehā (either alone or in addition to being Māori) meant that someone was only .29 times as likely as those who did not identify as Pākehā to be on the Māori roll. Gender, employment status, whether one was religious, relationship status, and whether someone was from an urban or rural neighbourhood were unassociated with roll choice.

Model Two: Demographics and Identity

Similar to model one, we conducted a binomial logistic regression. However, in model two, alongside demographic variables, we added the seven dimensions of the MMM-ICE2 (Houkamau

& Sibley, 2015a). As shown in Table 14, the demographic-identity model predicted 30.5% of the variance in enrolment choice ($R^2 = .305$, $SE = .040$, $z = 7.610$, $p < .001$). Recall that the demographics-only model explained only 15.4% of the variance in electoral roll decision. In this second model, with the addition of the seven dimensions of the MMM-ICE2, the only demographic variable that was still significant was identifying as Pākehā ($b = -.635$, $SE = .209$, $z = -3.034$, $OR = .530$, $p < .01$). Indeed, those identifying Pākehā as one of their ethnicities were around half (.53) as likely as those who did not to be on the Māori roll. Two of the seven dimensions of the MMM-ICE2 were significantly associated with a higher likelihood of being on the Māori roll. Increased Group Membership Evaluation was associated with having an increased likelihood of being on the Māori roll ($b = .292$, $SE = .130$, $z = 2.251$, $OR = 1.340$, $p < .05$). The second dimension linked with an increased likelihood of being on the Māori roll was having a higher score on Socio-Political Consciousness ($b = .266$, $SE = .086$, $z = 3.075$, $OR = 1.304$, $p < .01$).

Table 14.

Logistic Regression Model Using Both Demographic and the MMM-ICE2 to Predict the Likelihood of Being on the Māori Roll (Versus the General Roll).

	<i>b</i>	<i>SE</i>	<i>OR</i>	<i>95% CI of b</i>	<i>z</i>
Intercept/Threshold	3.654	.821			
Gender (0 women, 1 men)	.244	.203	1.237	[-.154, .642]	.1202
Age (years)	-.006	.009	.991	[-.023, .011]	-.712
Education (0 to 10)	-.030	.041	.924	[-.110, .050]	-.734
Employment (0 no, 1 yes)	-.018	.214	.883	[-.437, .400]	-.086
Parent (0 no, 1 yes)	.102	.349	1.252	[-.581, .786]	.293
Religious (0 no, 1 yes)	-.114	.202	.841	[-.510, .281]	-.567
Relationship (0 no, 1 yes)	-.058	.211	1.013	[-.471, .355]	-.276
Urban neighbourhood (0 no, 1 yes)	-.056	.189	.911	[-.427, .315]	-.294
NZDep Index 2013 (1 low – 10 high)	.040	.038	1.047	[-.035, .114]	1.041
Pākehā (0 no, 1 yes)	-.635	.209	.461	[-1.046, -.225]	-3.034**
Group Membership Evaluation	.292	.130	1.131	[.038, .547]	2.251*
Cultural Efficacy	.160	.100	1.260	[-.037, .356]	1.593
Spirituality	.088	.091	1.089	[-.091, .266]	.959
Interdependent Self-Concept	.046	.089	1.129	[-.129, .220]	.514
Authenticity Beliefs	-.005	.105	.919	[-.210, .200]	-.045
Perceived Appearance	.068	.059	1.107	[-.048, .185]	1.152
Socio-Political Consciousness	.266	.086	1.324	[.096, .435]	3.075**

Note. $R^2 = .305$, $SE = .040$, $z = 7.610$, $p < .001$. * $p < .05$, ** $p < .01$, *** $p < .001$, $N = 662$. Missing data were estimated using multiple imputation.

Discussion

This paper represents one of the few quantitative investigations of being on the Māori roll. Such studies are important, given relatively low enrolment numbers are often cited in reoccurring political discourses around abolition of the Māori seats. A key point of interest was that only 90.9% of the people who identified as being of Māori ancestry on the electoral roll actually identified Māori as their ethnicity (or one of their ethnicities) in the NZAVS. This shows that a number of people who said they had Māori whakapapa when enrolling to vote, do not identify their ethnicity as Māori. We believe these people would be unlikely to enrol to vote on the Māori roll, as they do not actively identify themselves as Māori. Although official statistics say 55% of Māori are enrolled on the general roll, this proportion would be higher when accounting for this 9.1%. This finding also indicates that identity is important in enrolment choice.

In our examination of the demographic predictors of being on the Māori roll, several variables were related to electoral roll decision. We found that being younger, more educated, a parent, or from a more economically deprived area meant people were more like to be on the Māori roll. Yet participants who identified their ethnicity as Pākehā (solely, or alongside other ethnicities including Māori) were less likely to be on the Māori roll. Notably, these findings were largely consistent with our hypotheses.

The large array of demographic variables that were significant in model one were no longer associated with enrolment on the Māori roll when we controlled for the seven-dimensions of the MMM-ICE2. The exception to this finding concerned those with dual ethnic affiliations. Participants who identified their ethnicity as Māori and Pākehā were less likely to be on the Māori roll than their counterparts who solely identified as Māori. Research from Houkamau and Sibley (2014) suggests that those who identify as Māori and Pākehā may have political views more similar to Pākehā. They found that compared to sole-identifying Māori, Māori-Pākehā had higher support for the National Party (who do not stand candidates in the Māori seats) and lower support for the Māori Party (who focus on the Māori seats).

In terms of identity-based predictions, higher scores on the Socio-Political Consciousness dimension were (as predicted) positively associated with being on the Māori roll. Additionally, a higher score on Group Membership Evaluation (the view that being Māori is an important and positive aspect of one's identity) was positively associated with being on the Māori roll. Thus, the results from model two corroborate past research showing that believing in the importance of Māori political issues is a key predictor of enrolling to vote in a Māori electorate.

Unexpectedly, Cultural Efficacy and Active Identity Engagement (CEAIE) was not a significant predictor of enrolment. The discrepancy between our findings and that of Fitzgerald et al. (2007) may be due to the differences in measurement: they largely used indicators of behaviour, whereas we have used a measure of ethnic identity. Nevertheless, CEAIE has been shown to predict engagement in aspects of culture like self-reported te reo fluency and marae visits (Houkamau &

Sibley, 2010). It may be that the broad measure Fitzgerald and colleagues called “cultural identity” encompasses more aspects of identity than what CEAIE alone measures. We can see several dimensions of the MMM-ICE2 that could index similar aspects. In future, we expect that the MMM-ICE2 will be further tested on some of the cultural identity indicators that Fitzgerald and colleagues used.

Put simply, our results show that, if we exclusively examine demographic variables, younger people have a higher chance of being on the Māori roll. Likewise, those who (a) solely identify as Māori, (b) have a higher level of education, (c) have children, or (d) reside in an impoverished area are more likely to be on the Māori roll. These analyses have shown which demographic features might lead people to enrol to vote on the Māori roll. Nevertheless, we thought that this may have been missing something. Therefore, we conducted a second set of analyses that included seven dimensions of a scale designed to measure different aspects of Māori identity. When we included these subscales, the demographic variables listed above were no longer significant predictors (the exception being identifying as Pākehā). This demonstrates that the scale of Māori identity better explains people’s enrolment choice than basic demographic variables. Specifically, endorsing statements that one stands up for Māori rights and believes in the importance of past injustices (Socio-Political Consciousness), and that being Māori is an important and positive part of one’s identity (Group Membership Evaluation) relates to a higher likelihood of being on the Māori roll. This helps to answer our initial research question of what might lead people to enrol to vote on the Māori roll. However, because these analyses are from one time point, we cannot say these are the cause of enrolment choice. Indeed, these analyses merely indicate that people who score higher in these dimensions, or who do not identify as Pākehā, tend to be on the Māori roll at higher rates than those who do not. Nevertheless, this provides valuable information on who is choosing to be on the Māori roll and provides a good starting point for future research.

Limitations and Future Research Directions

It is important to keep in mind that Māori voter enrolment, and ultimately, voting are perhaps less important parts of political participation for Māori. Bargh (2013) suggested that the definition of political participation for Māori should be broadened. It may be that many Māori are very politically active in tribal organisations and treaty settlement contexts, but that this participation is not often recognised by scholars. For example, Bargh (2013) explains that many Māori participate through volunteering at marae and informing friends and whānau about political matters concerning them. Additionally, Fitzgerald et al. (2007) posited that Māori who choose to vote on the Māori electoral roll are more involved in iwi and Māori politics. This Māori-specific political engagement, alongside expressions of dissatisfaction at Westernised national politics, may explain the lower rate of voter turnout on the Māori roll: Māori are simply engaging with politics in their own way. Future quantitative research could explore this broader type of participation, and its frequency, for Māori.

This research was quantitative and aimed to explore the broader picture of Māori voter enrolment. While research on Māori identity is generally qualitative or interview-based, there is also a place for quantitative research that can encapsulate a wide range of Māori experience at a broader level. Although, a key limitation of this research is by using a quantitative measure we may have missed some aspect of Māori identity that cannot be measured. Additionally, quantitative research cannot provide individual, personal stories that are rich in detail. However, it has allowed us to look at broader group—in the case of this paper, a national sample—albeit at a level that may lack certain in-depth explanations. Perhaps our research could be followed up with qualitative research that asks Māori why they choose to be on the Māori or general roll.

We did not explore attitudes towards the Māori seats themselves. To what extent are these seen as relevant to Māori political advancement to a wide range of Māori? In the future, we intend to examine Māori and, more broadly, other New Zealander's attitudes towards the Māori seats. It is unclear, other than from media reports and commentary, what the Māori seats *actually mean* to

Māori. Previous research has hinted at their symbolic power and ability to spur political movements to advance Māori rights (McDowell, 2013). However, although crucial, the majority of research into Māori politics has asked the politically active for their views rather than the average person, probably due to issues of access. A broad survey of Māori views of the Māori seats would be an important undertaking as would further research in the area.

A limitation of our study is the possibility that there are systematic weaknesses in the Māori Focus subsample. The sample had a relatively low response rate to the survey (7.78% when electoral roll address accuracy adjusted). Although the idea that participants were opting into a 16 year longitudinal survey may have been off-putting, survey response rates have been dropping over time and the effect is particularly pronounced for Māori (see Fink et al., 2011; Sibley, 2014a). One problem with this low response rate is that we cannot know if our sample differs in views or identity to non-respondents, although the sample is reasonably representative when compared with Census data on Māori (notwithstanding gender; Sibley et al., 2014). It may be that there is a group of Māori who are resistant to surveys, a Western concept that they may view as being linked to government. Additionally, the survey was only sent in English and not te reo Māori. We hope to remedy these limitations in future iterations of the study.

Concluding Remarks

Research into what motivates Māori enrolment is important as the Māori seats hold symbolic and real power in politics (Geddis, 2006; McDowell, 2013). Everyone that makes the choice to enrol on the Māori roll not only has the option to ‘have their say’ by voting for a Māori Member of Parliament on election day, but also ‘votes with their feet’ by choosing to be on the Māori roll. Simply making the decision to be on the Māori roll is a vote in and of itself as the number of Māori enrolled can increase the number of Māori seats, which means an increase in Māori representation and perhaps an increase in Māori political power.

We wrote this paper intending to provide information on how to encourage more Māori into enrolling on the Māori electoral roll. We hope that this information might be of assistance to those

working on increasing enrolment (who may even today still lack the resources to carry out such research). We also hope that these findings help to provide statistics to combat the discourses and official statistics used against Māori when it comes to arguing for abolition of the Māori seats. These findings provide a response to deficit-based (relatively low enrolment) arguments for abolition of the Māori seats: around 10 percent of people that are eligible to be on the Māori roll do not actually identify as being Māori, and another key predictor of choosing the general roll is identifying as Pākehā. This means that a large proportion of those eligible for the Māori roll might not identify strongly enough with their Māori whakapapa to make the decision to enrol. This is especially pertinent since we have shown that for those who identify as Māori, feeling that one's identity as Māori is positive and personally important is a key predictor of roll choice. Additionally, believing in the continued importance of the Treaty of Waitangi and standing up for Māori political rights was predictive of being on the Māori roll.

Bridging Comments

To summarise, in the first part of Study Four I analysed electoral roll choice for Māori by exploring the demographic differences within those who had indicated they had whakapapa when enrolling to vote with the Electoral Commission (a simple, *etic* measure of Māori identity). A range of basic demographics predicted roll choice: age, education, parental status, socio-economic deprivation, and whether one also identified as Pākehā. For the second set of analyses I included all of these demographics and added the *emic* Māori identity measure, the MMM-ICE2. In this second model, the only significant demographic predictor was identifying as Pākehā (in addition to Māori), which shows that ethnic identity plays a key role in electoral roll choice. Indeed, two MMM-ICE2 dimensions were shown to have predictive power in electoral roll choice. One was Socio-Political Consciousness (SPC), which should, considering its political contents, predict political outcomes for Māori. The other was Group Membership Evaluation, which indicates that people who believed that being Māori was an important and valued part of their identity were more likely to be enrolled to vote on the Māori electoral roll.

While this study contributed to the scant literature on Māori enrolment choice, and provided successful validation of SPC in one political outcome, SPC needed to be tested over a broader array of attitudes and behaviours. Thus, the next step was to explore the links between the MMM-ICE2 and a greater selection of political variables. The aims of this next paper were similar to the last. One key aim was to validate the SPC dimension, but also add to the literature on Māori (and Indigenous) political mobilisation and attitudes more generally. Please note that the following article was positioned for an international journal, thus it positions Māori as part of a superordinate ‘Indigenous’ group to a greater degree than some of the other studies in my thesis. This is to help readers see the applications of the results beyond Aotearoa.

Study Five: Māori, a Politicised Identity: Indigenous Identity, Voter Turnout, Protest, and Political Party Support in Aotearoa New Zealand

The article that follows is an unpublished manuscript.

Greaves, L. M., Sengupta, N. K., Townrow, C. S., Osborne, D., Houkamau, C. A., & Sibley, C. G. (2017). Māori, a politicised identity: Indigenous identity, voter turnout, protest, and political party support in Aotearoa New Zealand. *Manuscript Submitted for Publication*.

Abstract

Political struggles are important to the identities of many Indigenous peoples. This paper examines identity as a predictor of crucial political outcomes—voter turnout, support for protest, and political party support—for Māori, the Indigenous peoples of Aotearoa (New Zealand). We analysed data from a national probability sample of Māori ($N = 663$) which included a scale of subjective identification with various aspects of Māori identity: the Multidimensional Model of Māori Identity and Cultural Engagement. Use of the scale allowed us to examine the specific facets of ethnic identity that predict political mobilisation for Indigenous peoples. As expected, the identity domain relating to political struggle, Socio-Political Consciousness, was positively associated with support for left-wing parties and Māori rights protest, but negatively associated with support for the right-wing party. However, Socio-Political Consciousness did not relate to voter turnout. These results demonstrate the importance of ethnic identity as a key predictor of political behaviours for Indigenous peoples.

Keywords: Ethnic Identity; Indigenous; Māori Identity; Voting; Voter Turnout; Political Rights

Introduction

“For some Māori people, to get up in the morning is a political act!”

-Mahinekura Reinfelds (2000, as quoted in Pihama 2001, p. 82)

Indigenous identities and politics are inextricably linked. Most Indigenous peoples worldwide are in some kind of conflict with their colonial oppressors (Alfred, 1995; Minde, 2003; L. T. Smith, 2012; Sibley & Osborne, 2016; R. Walker, 2004). For Māori in Aotearoa (New Zealand), this has meant working largely within the colonial political system to incrementally recover rights (Sullivan, 2003). Māori, over the past fifty years, have been through somewhat of a ‘cultural Renaissance’ (Derby, 2011; Taonui, 2012; R. Walker, 2004). Through collective action and involvement in ‘mainstream’ politics, in an imported political system, Māori have achieved (sometimes incremental) victories in language retention, education, treaty settlements, and political and cultural representation (Sullivan, 2003). As a result, what it means to be Māori is inextricably linked to politics. Indeed, Indigenous identities in the literature are constantly linked to political action (Alfred, 1995; Durie, 1998a; Walker, 2004). Correspondingly, past research has shown that the socio-political context has affected the lived experience of many Māori (Houkamau, 2010; Rata, Liu, & Hanke 2008). For example, the most comprehensive scale of Māori identity to date includes this political proclivity as a facet of subjective ethnic identity (namely, Socio-Political Consciousness; Houkamau & Sibley, 2010, 2015a).

In this paper, we use the Multidimensional Model of Māori Identity and Cultural Engagement – Revised edition (hereafter referred to as the MMM-ICE2) as a measure of one’s subjective identification as Māori (Houkamau & Sibley, 2010, 2015a). The MMM-ICE2 is a seven dimension, public domain, quantitative, Likert-style, self-report measure created for Māori by Māori (Houkamau & Sibley, 2010, 2015a). For full dimension descriptions see Table 15. The scale has been linked to a wide range of outcomes for Māori including home-ownership (Houkamau & Sibley, 2015b), marae visits and fluency in te reo Māori (Houkamau & Sibley, 2010), perceptions of National and Personal well-being (Houkamau & Sibley 2011), environmental values (Cowie et

al., 2016), and mental health (Muriwai et al., 2015). However, the scale has yet to be linked to political attitudes and behaviour.

Table 15.

Construct Definitions for the Seven Factors Indexed by the MMM-ICE2. Adapted from Houkamau and Sibley (2015a).

Group Membership Evaluation (GME)

The extent to which the individual positively evaluates their membership in the social category Māori and views their membership as Māori as a personally important or central aspect of their self-concept versus the extent to which the individual negatively evaluates their membership in the social category Māori and views their membership as Māori as peripheral or irrelevant to their self-concept

Cultural Efficacy and Active Identity Engagement (CEAIE)

The extent to which the individual perceives that they have the personal resources required (i.e. the personal efficacy) to engage appropriately with other Māori in Māori social and cultural contexts versus the extent to which the individual perceives that they lack the personal resources and ability to engage appropriately with other Māori in Māori social and cultural contexts

Interdependent Self-Concept (ISC)

The extent to which the concept of the self-as-Māori is defined by virtue of relationships with other Māori people versus the extent to which the concept of the self-as-Māori is viewed as being defined as solely unique and independent to the individual rather than as part of the social group.

Spirituality (S)

The extent to which the individual is engaged with, and has a belief in, certain Māori concepts of spirituality, including a strong connection with ancestors, Māori traditions, the sensation and experience of *waahi tapu* (sacred places), and a strong spiritual attachment and feeling of connectedness with the land versus the extent to which the individual is disengaged from or does not believe in Māori concepts of spirituality.

Socio-Political Consciousness (SPC)

The extent to which the individual perceives historical factors as being of continued importance for understanding contemporary intergroup relations between Māori and other ethnic groups in New Zealand; and how actively engaged the individual is in promoting and defending Māori rights given the context of the Treaty of Waitangi versus the extent to which the individual perceives historical factors and injustices experienced by Māori as being irrelevant in contemporary society.

Authenticity Beliefs (AB)

The extent to which the individual believes that to be a ‘real’ or ‘authentic’ member of the social category Māori one must display specific (stereotypical) features, knowledge and behaviour versus the extent to which the individual believes that Māori identity is fluid rather than fixed, and produced through lived experience.

Perceived Appearance (PA)

The extent to which people subjectively evaluate their appearance as having clear and visible features that signalling their ethnicity and ancestry as Māori (or high Māori prototypicality) versus the extent to which people evaluate their appearance as less indicative of having Māori ancestry (low Māori prototypicality).

A key aim of this paper is to demonstrate the predictive validity of the scale by examining the ability of the Socio-Political Consciousness subscale to predict crucial political attitudes and behaviours. That is, if the MMM-ICE2 has useful, predictive power as a scale of Māori identity, it should uniquely predict political attitudes and behaviour. Of particular importance is the subscale of Socio-Political Consciousness, which indexes one's beliefs in the importance of historical injustices and standing up for Māori political rights. In the only study relating Socio-Political Consciousness to political behaviours to date, this dimension was positively associated with the likelihood of being enrolled to vote on the Māori-specific electoral roll (Aotearoa has a dual-constituency system where Māori can choose to vote in a Māori ancestry only electorate; Greaves, Osborne et al., 2017). This dimension should, however, predict a wider array of political attitudes and behaviours. Additionally, identification with a marginalised group is a key motivator of collective action. (van Zomeren, Postmes, & Spears, 2008; also see Jost et al., 2017). Nevertheless, little attention has been paid to culturally-specific aspects of identity as predictors of voter turnout or support for collective action (for a similar argument regarding ideologies that develop within a specific cultural context, see Osborne, Yogeewaran, & Sibley, 2017). The *emic* (specific to the culture being studied), multi-dimensional nature of the MMM-ICE2 gives us a unique opportunity to identify the culturally-specific aspects of a marginalised group's identity that predict political mobilisation.

Māori and Colonial Politics

Although it is beyond the scope of the current paper to provide a review of the political history of Māori, we nevertheless wish to provide a brief overview for readers unfamiliar with the context. Aotearoa was first visited by the British in 1769. In the years following, Pākehā (New Zealanders of European descent) brought with them various things that impacted negatively upon Māori: muskets, alcohol, disease, and Christianity (King, 2003; R. Walker, 2004). Pākehā also imported their own ideas of sovereignty. To meet this ideal and protect their rights, Māori declared official independence in 1835 and became a collective, sovereign nation, in light of competing interests in Aotearoa from the British, Americans, and French (King, 2003; R. Walker, 2004).

According to Pākehā, that sovereignty was subsequently ceded to the British in 1840 with the Treaty of Waitangi. However, the te reo Māori version of the Treaty, which has since been affirmed as the correct version by international law, did not cede this sovereignty. A key source of contention is the translation of the Treaty, as the te reo Māori (referred to as te Tiriti o Waitangi) and English versions (the Treaty of Waitangi) have different meanings (Mutu, 2010; Orange, 2011). In particular, there are inconsistent terms used for the idea of sovereignty (supreme power and authority). In the first article of te Tiriti a transliterated word, without cultural precedent, *kāwanatanga*, is used to refer to sovereignty, but this word is made up of the terms *kāwana*- (or governor-) and *-tanga* (or -ship). The issue with this translation is that the English version intended to give sovereignty or control over Aotearoa to the Queen, but the te reo Māori version simply indicated that there would be a governor in the country (Mutu, 2010). However, this is vastly inconsistent with the second article, where the words *tino* (self) *rangatiratanga* (chieftanship) were used, which indicated that Māori would have been able to keep independence and control over their own affairs (Mutu, 2010). In summary, Māori were led to believe that te Tiriti/the Treaty would protect their culture, self-governance, and rights over their own lands and affairs. However, this did not play out in the reality of Māori-Crown relations (Awatere, 1984; Belgrave, 2005).

In the years post-Treaty, the Pākehā-dominated government created a system of laws based on British principles that ignored Māori customs (R. Walker, 2004). Incidents with settlers resulted in the New Zealand land wars, land confiscations became rampant, and conflicts broke out as a result of ‘civil disobedience’ (Orange 2011; Riseborough, 1989; Taonui, 2012; R. Walker 2004). Māori faced ‘demographic swamping’: because of the large number of Pākehā that had migrated, combined with the effects of intermarriage and disease, Māori became a minority with reduced political voice (King, 2003; Pool, 1991). For the remaining Māori, there was mass migration away from ancestral lands to urban areas for economic opportunities (Taonui, 2012). Māori also faced government policies which encouraged assimilation into Pākehā culture. For example, it became policy to ‘pepper pot’ state housing (dispersing Māori families throughout Pākehā ones), speaking

te reo Māori in schools became a punishable offence, and the amount of land owned by Māori was vastly reduced (Belgrave, 2005; R. Walker, 2004).

The 'Māori Renaissance' is a phrase used to refer to a period in New Zealand history from the late 1960s until the 1990s where Māori fought back against the forces of assimilation (Derby, 2011; Taonui, 2012). The urbanisation that contributed to a weakening of traditional Māori identity (Durie, 1998a; Houkamau, 2006, 2010) also aided in the creation of this movement, as over the years, Māori became more concentrated in urban centres (Taonui, 2012). This population was based in a location more convenient for collective action and allowed for greater access to Pākehā tertiary education. As had happened in the period post-Treaty, a number of incidents led to an increased Māori consciousness of injustice (Taonui, 2012). As such, political activism produced key events like the Māori land march of 1975.

These events raised Māori consciousness about injustice and led them to take action. And to an extent, the government listened. Two central actions helped Māori gain rights throughout this period: firstly, a move towards policies supporting Māori culture and, secondly, the establishment of the Waitangi Tribunal (Durie, 1998a; Taonui, 2012; R. Walker, 2004). Motivated by well-founded fears of the declining fluency rates of te reo, official language promotion and school programs were put in place (O'Regan, 2012). Moreover, the Waitangi Tribunal was established in 1975 to resolve claims about violations of the Treaty of Waitangi for Māori, and was later extended to allow Māori to make claims on behalf of their ancestors (Belgrave, 2005). This meant that iwi could achieve both a symbolic victory in recognition of Treaty violations and a material victory in the form of compensation or returned lands. These developments have helped Māori gain back some of what was lost through colonisation, although Māori remain in a disadvantaged position on many government indicators (Ministry of Social Development, 2016). One area where Māori are framed as trailing Pākehā is in voter turnout, yet Māori simultaneously hold a reputation for efficacious protest (R. Walker, 2004).

Political Participation: Voter Turnout and Rights Protests

Limited research has been conducted on Indigenous voter turnout worldwide, although extant research suggests that Indigenous peoples are less likely to vote due to feeling disenfranchised by the political system. Overall, international research shows that Indigenous peoples are less likely to vote (de Rooij & Green, 2016; Hill & Alport, 2010; Ladner & McCrossan, 2007) and research in Aotearoa shows that Māori are no different (Townrow, 2015). However, there is little empirical research examining the predictors of voter turnout *within* Indigenous groups or *why* Indigenous peoples do not vote (de Rooij & Green, 2016; Evans, 2014; Harrell, Panagos, & Matthews, 2013). Demographic variables such as income, socio-economic status, and education have been cited as explanations (Fournier & Loewen, 2011; Luna, 2000; Silver, Keeper, & MacKenzie, 2006). However, controlling for these demographics, the research still shows lower turnout for Indigenous peoples (Silver et al., 2006).

A clear theme in the international literature on Indigenous voter turnout is that Indigenous peoples feel disenfranchised by the political system and have feelings of distrust (Clymer & Falk, 2004; Evans, 2014; Harrell et al., 2013; Hill & Alport, 2010; Rahn & Rudolph, 2005). Many Indigenous peoples worldwide live under political systems that they view as unfair, dominating, and oppressing (Hill & Alport, 2010; Ladner, 2003; Sengupta, Osborne, & Sibley, 2015). Some may feel that to vote is to be complicit with a system that is colonising your own people (Harrell et al., 2013; Ladner, 2003). Indeed, research shows that Māori distrust the system and (even Māori) elected officials at higher rates than other ethnic groups in Aotearoa (Banducci et al., 2004; Fitzgerald et al., 2007). Canadian research has also found that, especially for young Aboriginal Canadians, distrust and dissatisfaction towards relations with the state decreases the likelihood of voting in federal elections (Jacobs, 2013; Harrell et al., 2013). As such, the extent to which belief in standing up for Indigenous rights and attempting to gain restitution for colonisation are motivating factors in voter turnout is unclear.

A shared experience of Indigenous peoples is the use of collective action in the face of political struggle (Evans, 2014). As noted earlier, Māori have a history of memorable—and successful—collective action (R. Walker, 2004). However, notable collective action by Indigenous peoples is not limited to Māori, international examples include: the Alta conflict involving the Sami people of Norway (Minde, 2003), the recent Dakota Access Pipeline protests (Standing Rock Sioux Tribe, 2017), the 1990 *levantamiento* in Ecuador (Rice, 2012), and many more. Indigenous peoples have been found to be more supportive of protest when compared with other ethnicities in their country, even of violent action (Madrid, 2005).

Research exploring differences within Indigenous groups show that education and identity predict support for, and engagement in, collective action. In a sample of Native Americans, Huyser, Sanchez, and Vargas (2016) found that education predicted civic engagement behaviours like boycotting and participation in organisations. For Māori, general measures of ethnic identity positively correlate with support for Māori rights protest in a longitudinal national sample (Stronge et al., 2015). Extending this past research, here we sought to examine which culturally-specific aspects of ethnic identity relate to political mobilisation for Indigenous participants. Specifically, we test if it is solely the political aspects of Indigenous ethnic identity that predict support for protest, voter turnout, and political party support.

Political Party Support

Aotearoa has a multiparty electoral system (Mixed Member Proportional; Sullivan, 2003), as multiple parties are represented in parliament. As such, governments must typically be formed through coalition in order to reach the necessary 51% majority rule. The people of Aotearoa get two votes: one for the constituent to represent their geographical area, and another for the political party of their choice (Sullivan, 2003). Those with Māori ancestry are also able to choose whether to vote in their local constituency on the general roll or on the geographically-superimposed, Māori-specific electoral roll (Electoral Commission, 2014a; Sullivan, 2003). At the time of data collection for this study, eight parties were represented in parliament; and many of these parties have had a

tenuous history with Māori. In this paper, we analysed support for five of these parties: the National (47.0% of the vote in the 2014 general election and 60 seats), Labour (25.1%, 32 seats), Green (10.7%, 14 seats), Māori (1.3%, two seats), and Mana (1.4%, no seats; Electoral Commission, 2014b) parties.

In the centre of the political spectrum in Aotearoa are two ‘major’ political parties: National, the centre-right/conservative party, and Labour, the centre-left/liberal party (Sibley & M. S. Wilson, 2007; M. S. Wilson, 1999). Past research has shown that Māori are less likely to vote for the National Party versus Labour or the Greens (Greaves, Robertson et al., 2017). The National Party, while containing many Members of Parliament who are of Māori descent, does not stand candidates in the Māori seats. Many National Party supporters endorse ideas that Māori are seeking ‘special treatment’ (Brash, 2004; Evans, 2014). Research has shown that increases in support for the National Party over time was related to increases in the endorsement of ideologies that negate claims of historical injustice and oppose inclusion of Māori culture as part of the national identity (Greaves, Osborne, Sengupta, Milojev, & Sibley, 2014). Although there are many cultural identity-based reasons why Māori may not support National, Māori have traditionally opted to support the centre-left Labour Party. Māori had been strong Labour supporters since an alliance with the Rātana movement (a church and pro-Māori political movement) in the 1930s (Sullivan, 2003; Sullivan & Vowles, 1998). However, Māori have had a tenuous relationship with the Labour Party in recent years since controversy and debate around ownership of the seabed and foreshore (Belgrave, 2014).

This paper also examines support for three smaller parties: the Green, Māori and Mana parties. Past research on Green Party supporters have found that they are primarily socially liberal, but also value the environment (Cowie, Greaves, & Sibley 2015). Green supporters also tend to support claims to remedy historical injustice and the inclusion of Māori culture as part of the national identity (Cowie et al., 2015; Greaves et al., 2014). Aotearoa has two parties that aim to represent Māori values. Formed first was the Māori Party, which was created after Labour Government Minister Tariana Turia resigned over the seabed and foreshore controversy (Belgrave,

2014). The second party was also created after further seabed and foreshore-related controversy in which Hone Harawira resigned from the Māori Party to create the Mana Party (Waitoa, Scheyvens, & Warren, 2015). The Mana Party has only ever held one seat of parliament (Harawira's northernmost Māori roll seat). However, this party does carry some support among Māori and differs from the Māori Party through a greater focus on decreasing poverty and economic inequality (Mana, n.d.).

Overview and Hypotheses

We aim to identify the aspects of Indigenous ethnic identity of Māori (as indexed by the MMM-ICE2) that predict support for political mobilisation and political party support. We expect that Socio-Political Consciousness will positively correlate with likelihood of voting and support for Māori rights protest. Socio-Political Consciousness should also positively correlate with support for the centre-left Labour Party, the further-left Green Party, the Māori Party, and the Mana Party. In contrast, Socio-Political Consciousness should negatively correlate with National Party support. Although we have no specific predictions, some of the other six dimensions of the MMM-ICE2 may also correlate with these political outcomes.

We also examine the demographic correlates of support for rights protest, turnout, and political party support for Māori. Few empirical analyses actually explore differences *within* Māori in political views and behaviour rather than the differences *across* ethnic groups. Here, we examine differences between Māori that may lead them to differentially participate in political action. Due to the lack of research examining Māori specifically, our expectations are speculative and based on the demographic predictors of these outcomes in other populations. To these ends, voter turnout is typically predicted by higher socio-economic status, older age, and greater education (Fournier & Loewen, 2011; Harrell et al., 2013; Silver et al., 2006; Townrow, 2015). Support for Māori rights protest may be predicted by education (Huyser et al., 2016). Research (Coffé, 2013; Greaves, Robertson et al., 2017) also suggests that those who earn more, are religious, and of Pākehā ethnicity generally support the centre-right National Party. Labour supporters may be older, and

may be more likely to be women. Green supporters have been found to be more educated, younger, less religious, and women at higher rates. There is a lack of research on Māori and Mana Party support.

Method

Sampling Procedure

The data analysed in this paper were drawn from two different waves of the NZAVS. This is because not all of the measures of interest were included in one questionnaire. For the models predicting voter turnout and support for Māori protest, participants were those who responded to a specially-designed Māori Focus NZAVS questionnaire. Those included in the models predicting political party support responded to both the Māori Focus questionnaire (for demographic variables and MMM-ICE scores) and the general Time 5 NZAVS questionnaire (political party support) sent to them approximately one year later.

Prior to the fourth wave of questionnaires for the national probability panel sample, as part of the Time 4 (2012) NZAVS sampling design, we included a booster sample aimed specifically at recruiting Māori participants. This sample frame consisted of 9,000 people randomly selected from those who indicated on the 2012 electoral roll that they were of Māori descent. A total of 690 participants responded to this booster sample. Approximately one year after this questionnaire, participants were sent the standard NZAVS Time 5 questionnaire, 422 of whom completed this second survey.

Adjusting for the overall address accuracy of the electoral roll as a whole, this represents a response rate of 7.78%. It should be noted that this response rate is lower than that observed for the main (full random probability) sample frames used in the NZAVS, which achieve responses rates of up to 16%. The low response rate for this sample likely indicates many factors, among the most influential being the overall reduced likelihood of Māori to respond to postal surveys in general (see also Fink et al., 2011; Paine et al., 2013), combined with the possibility that contact details for Māori in the electoral roll may, on average, have a lower level of accuracy. It is likely that this

relatively low response rate is also partially affected by the fact that people were opting into a 16 year longitudinal study. Thus, responding to the initial survey indicated that they were willing to be contacted by us to complete similar questionnaires for the next 15 years.

The questionnaire administered to the NZAVS Māori booster sample was similar in format and content to the standard NZAVS questionnaire, except it included questions specifically designed for Māori, and the cover letter introduced the survey as a “The NZAVS – Māori Identity Focus Questionnaire.” The lead researcher and point of contact for this sample frame was of Māori descent, and was introduced to participants in the cover letter by listing iwi affiliations. Participants were informed that they had been randomly sampled for this study from among those who indicated that they were of Māori descent on the electoral roll (the New Zealand electoral roll asks for Māori descent to give voters a chance to opt into one of seven Māori-only electorates; Electoral Commission, 2014a).

Participant Details

Participants were 417 women and 246 men with a mean age of 43.84 ($SD=13.02$; missing data were estimated using multiple imputation; note that the sample size for the political party support models are smaller due to using political party support questions from a follow up survey). We sampled participants who identified as Māori, however, 55.2% also identified as Pākehā (New Zealanders of European descent; $n = 366$), 5.0% as Pasifika ($n = 33$), 1.2% as Asian ($n = 8$), and 0.9% as another ethnicity ($n = 6$). Participants were asked if they identified with a religion or spiritual group, 45.6% of the sample identified as religious ($n = 302$). Most participants were parents (85.1%; $n = 564$) and the majority had romantic partners (57.3%; $n = 380$). Education was coded according to the qualification level the participant had attained (the NZREG system; Statistics New Zealand, 2016), where 0 represents no qualification and 10 represents a doctorate. The mean level of qualification level the sample had attained was 3.53 ($SD = 2.69$). For the sake of reference, a level 3 qualification is equivalent to successfully completing the final year of secondary education. Two-thirds of participants were employed (67.3%; $n = 446$).

Participants' postal addresses were used to identify the level of economic deprivation of their neighbourhood (NZDep; Atkinson et al., 2014), their socio-economic index score (NZSEI; based on age, income, and education; Milne, Byun, & Lee, 2013) and whether they resided in either an urban or rural ward as defined by the Local Government Act 2002 (Statistics New Zealand, 2014). The NZDep2013 is an ordinal indicator where 1 represents the 10% of neighbourhoods with the lowest levels of deprivation, and 10 the 10% of neighbourhoods that are the most deprived. The mean score on the NZDep2013 measure in our sample was 6.74 ($SD = 2.77$), where the national mean is a 5. The NZSEI mean of the sample was 45.76 on a scale from 10-90 ($SD = 16.08$). Additionally, slightly more than half of the participants ($n = 355$; 53.5%) lived in an urban ward, the remainder resided in a rural district. Participants were matched to the electoral roll to count whether they were enrolled to vote on the general roll, or the Māori roll ($n = 406$; 61.2%).

Questionnaire Measures

Participants completed the full 54 item MMM-ICE2 including reverse-scored items and subscales for all seven subscales (Houkamau & Sibley 2015a). Group Membership Evaluation (GME) was assessed by eight items ($\alpha = .843$), example items include: "I love the fact I am Māori" and "Being Māori is NOT important to who I am as a person" (reverse coded). The Cultural Efficacy and Active Identity Engagement (CEAIE) subscale also used eight items ($\alpha = .858$), including: "I can't do Māori cultural stuff properly" (reverse coded). The subscale for Interdependent Self-Concept used seven items ($\alpha = .810$) including: "My Māori identity is fundamentally about my relationships with other Māori" and "My relationships with other Māori people (friends and family) are what make me Māori." Spirituality was assessed using eight items ($\alpha = .810$), for example: "I feel a strong spiritual association with the land" and "I don't believe in that Māori spiritual stuff" (reverse coded). We looked at Socio-Political Consciousness by using eight items ($\alpha = .882$) including the items: "I stand up for Māori rights" and "Māori would be heaps better off if they just forgot about the past and moved on" (reverse coded). Authenticity Beliefs were assessed by using the eight item scale ($\alpha = .603$), including items like: "You can tell a true

Māori just by looking at them” and “Real Māori put their whānau first.” The final dimension, Perceived Appearance was assessed with seven items ($\alpha = .918$), examples include: “You only need to look at me to see that I am Māori.”

Support for Māori rights protest was measured with one item, developed by Osborne and Sibley (2013). The item: “Protest marches and public demonstrations supporting the rights of Māori” was rated by participants on a scale of 1 (strongly oppose) to 7 (strongly support). Additionally, we asked participants “Did you vote in the last (2011) New Zealand general election?” To assess political party support (in the later time point), participants were asked to rate their levels of support on a 1 (strongly oppose) to 7 (strongly support) scale for a range of active political parties.

Results

Voter Turnout

We conducted a binomial logistic regression to examine which demographic and identity variables were associated with voting. The results of these analyses are presented in Table 16. The model explained 31.1% of the variance in voter turnout ($R^2 = .311$, $SE = .061$, $z = 5.122$, $p < .001$). The only significant demographic predictor of voter turnout was age: none of the identity variables significantly predicted voting. Age was positively associated with a higher likelihood of voting ($b = .049$, $SE = .014$, $z = 3.628$, $OR = 1.050$, $p < .001$), suggesting that older Māori tend to vote at higher rates.

Table 16.

Logistic Regression Model Using Both Demographics and the MMM-ICE2 to Predict the Likelihood of Māori Voting (Versus not Voting).

	<i>b</i>	<i>SE</i>	<i>OR</i>	<i>95% CI of b</i>	<i>z</i>
Intercept/Threshold	.233	1.907			
Gender (0 women, 1 men)	.565	.325	1.759	[-.072, 1.202]	1.738
Age (years)	.049	.014	1.050	[.023, .076]	3.628**
Pākehā/NZ European (0 no, 1 yes)	-.293	.345	.746	[-.969, .382]	-.851
Religious (0 no, 1 yes)	.559	.285	1.748	[.001, 1.116]	1.963
Parent (0 no, 1 yes)	.728	.403	2.071	[-.063, 1.519]	1.804
Partner (0 no, 1 yes)	.526	.317	1.692	[-.096, 1.148]	1.657
Urban neighbourhood (0 no, 1 yes)	.396	.278	1.485	[-.149, .941]	1.423
Education (0 low to 10 high)	.151	.079	1.163	[-.003, .305]	1.920
Deprivation (1 low to 10 high)	-.038	.061	.963	[-.158, .082]	-.615
Employed (0 no, 1 yes)	.175	.332	1.191	[-.476, .825]	.527
NZ Socioeconomic Index (10 to 90)	.004	.012	1.004	[-.020, .027]	.299
Income (\$)	-.130	.142	.878	[-.409, .148]	-.917
Māori electoral roll (0 no, 1 yes)	-.286	.337	.751	[-.946, .373]	-.850
Group Membership Evaluation	.182	.173	1.200	[-.157, .522]	1.052
Cultural Efficacy	-.130	.142	.878	[-.408, .148]	-.917
Spirituality	.314	.146	1.369	[.028, .599]	2.154
Interdependent Self-Concept	-.123	.144	.884	[-.405, .158]	-.859
Authenticity Beliefs	-.182	.146	.834	[-.469, .105]	-1.242
Perceived Appearance	-.196	.090	.822	[-.372, -.020]	-2.177
Socio-Political Consciousness	.032	.123	1.033	[-.209, .274]	.123

Note. $R^2 = .311$, $SE = .061$, $z = 5.122$, $p < .001$; * $p < .01$, ** $p < .001$; $N = 663$.

Māori Rights Protest

We conducted a multiple regression analysis to uncover which demographic and identity variables were significantly associated with support for Māori rights protests. Presented in Table 17, the model explained 43.6% of the variance in support for Māori rights protests ($R^2 = .436$, $SE = .030$, $z = 14.703$, $p < .001$). One demographic variable was a significant predictor: Māori who lived in more economically deprived areas were more supportive of Māori rights protests ($b = .066$, $SE = .020$, $z = 3.327$, $p = .006$). One identity subscale, Socio-Political Consciousness, predicted support for Māori rights protests. Those with higher scores had a higher level of support for protest ($b = .584$, $SE = .047$, $z = 12.391$, $p < .001$).

Table 17.

Regression Models Using Both Demographics and the MMM-ICE2 to Predict Support for Māori Rights Protest, the National Party, and the Labour Party Among Māori.

	Support for Protest			National Party Support			Labour Party Support		
	<i>b</i>	<i>SE</i>	95% <i>CI of b</i>	<i>b</i>	<i>SE</i>	95% <i>CI of b</i>	<i>b</i>	<i>SE</i>	95% <i>CI of b</i>
Intercept/Threshold	2.402	.587		2.775	1.514		2.512	1.642	
Gender (0 women, 1 men)	.026	.101	[-.173, .225]	.267	.191	[-.108, .642]	-.563*	.195	[-.251, -.048]
Age (years)	-.004	.004	[-.012, .005]	.000	.009	[-.017, .017]	.021*	.008	[.043, .260]
Pākehā/NZ European (0 no, 1 yes)	.120	.111	[-.097, .337]	.143	.192	[-.234, .520]	.255	.197	[-.036, .176]
Religious (0 no, 1 yes)	-.016	.101	[-.215, .182]	.130	.191	[-.244, .503]	.015	.194	[-.101, .110]
Parent (0 no, 1 yes)	-.135	.170	[-.467, .198]	.821*	.293	[.246, 1.395]	-.447	.293	[-.214, .027]
Partner (0 no, 1 yes)	.046	.112	[-.175, .266]	-.381	.207	[-.786, .025]	-.302	.211	[-.197, .031]
Urban neighbourhood (0 no, 1 yes)	.098	.098	[-.093, .290]	-.204	.183	[-.563, .156]	.134	.182	[-.062, .136]
Education (0 low to 10 high)	-.006	.024	[-.053, .042]	.013	.045	[-.075, .100]	-.029	.042	[-.173, .084]
Deprivation (1 low to 10 high)	.066	.020	[.027, .105]	-.189**	.037	[-.261, -.117]	-.005	.039	[-.122, .108]
Employed (0 no, 1 yes)	-.152	.113	[-.374, .071]	.025	.215	[-.396, .447]	-.197	.224	[-.164, .062]
NZ Socioeconomic Index (10 to 90)	-.001	.004	[-.008, .007]	.005	.007	[-.009, .019]	-.010	.007	[-.209, .031]
Income (\$)	-.063	.044	[-.149, .024]	.154	.119	[-.078, .387]	.067	.137	[-.125, .207]
Māori electoral roll (0 no, 1 yes)	.284	.114	[.060, .507]	-.210	.218	[-.637, .217]	.222	.197	[-.045, .166]
Group Membership Evaluation	.043	.073	[-.099, .186]	.159	.128	[-.093, .410]	.218	.128	[-.020, .288]
Cultural Efficacy	-.004	.050	[-.103, .094]	.086	.091	[-.092, .263]	-.107	.095	[-.224, .060]
Spirituality	.013	.049	[-.083, .109]	-.135	.089	[-.309, .039]	.097	.086	[-.059, .216]
Interdependent Self-Concept	.058	.047	[-.034, .149]	-.043	.084	[-.207, .120]	.040	.089	[-.099, .159]
Authenticity Beliefs	-.048	.055	[-.155, .060]	.244	.095	[.057, .431]	-.038	.098	[-.124, .083]
Perceived Appearance	.008	.030	[-.051, .067]	-.022	.058	[-.136, .092]	.039	.057	[-.077, .158]
Socio-Political Consciousness	.584**	.047	[.492, .676]	-.441**	.087	[-.611, -.297]	.020	.082	[-.114, .146]

Note. Support for Protest model: $R^2 = .436$, $SE = .030$, $z = 14.703$, $p < .001$; * $p < .01$, ** $p < .001$; $N = 655$. National Party Support model: $R^2 = .249$, $SE = .039$, $z = 6.322$, $p < .001$; * $p < .01$, ** $p < .001$; $N = 390$. Labour Party Support model: $R^2 = .103$, $SE = .031$, $z = 3.349$, $p = .001$; * $p < .01$, ** $p < .001$; $N = 388$.

Political Party Support

We conducted five multiple regression analyses to examine which demographic and identity variables were related to political party support for the National, Labour, Green, Māori, and Mana political parties (see Tables 17 and 18). The model predicting National Party support explained 24.9% of the variance ($R^2 = .249$, $SE = .039$, $z = 6.322$, $p < .001$; see Table 17). Parents were more supportive of the National Party ($b = .821$, $SE = .293$, $z = 2.799$, $p = .005$). Participants who lived in neighbourhoods that were less economically deprived were more supportive of the National Party ($b = -.189$, $SE = .037$, $z = -5.128$, $p < .001$). After accounting for these effects, Socio-Political Consciousness was negatively associated with support for the National Party ($b = -.441$, $SE = .087$, $z = -5.059$, $p < .001$).

The model predicting support for the Labour Party amongst Māori explained 10.3% of the variance in support ($R^2 = .103$, $SE = .031$, $z = 3.349$, $p < .001$; see Table 17). Two demographic variables were significant predictors. Māori women ($b = -.563$, $SE = .195$, $z = -2.879$, $p = .004$) and older Māori ($b = .021$, $SE = .008$, $z = 2.710$, $p = .007$) were more supportive of Labour. In contrast, none of the identity subscales significantly predicted Labour Party support. The Green Party model predicted 22.6% of the variance in support for the Greens among Māori ($R^2 = .226$, $SE = .041$, $z = 5.531$, $p < .001$; see Table 18). Socio-Political Consciousness was the only significant predictor in the model. Specifically, Socio-Political Consciousness was positively associated with support for the Greens ($b = .254$, $SE = .078$, $z = 3.266$, $p = .001$).

Table 18.

Regression Models Using Both Demographics and the MMM-ICE2 to Predict Support for the Green Party, the Māori Party, and the Mana Party Among Māori.

	Green Party Support			Māori Party Support			Mana Party Support		
	<i>b</i>	<i>SE</i>	95% <i>CI of b</i>	<i>b</i>	<i>SE</i>	95% <i>CI of b</i>	<i>b</i>	<i>SE</i>	95% <i>CI of b</i>
Intercept/Threshold	4.798	1.531		.972	1.308		3.436	1.370	
Gender (0 women, 1 men)	-.203	.186	[-.567, .161]	.146	.172	[-.190, .483]	-.170	.184	[-.529, .190]
Age (years)	-.007	.007	[-.021, .008]	-.013	.008	[-.028, .002]	-.008	.008	[-.023, .008]
Pākehā/NZ European (0 no, 1 yes)	-.205	.193	[-.584, .173]	-.016	.184	[-.376, .344]	.043	.207	[-.361, .448]
Religious (0 no, 1 yes)	-.440	.188	[-.810, -.071]	-.121	.169	[-.453, .211]	-.094	.187	[-.460, .272]
Parent (0 no, 1 yes)	-.377	.276	[-.918, .163]	.134	.280	[-.415, .683]	-.119	.311	[-.728, .491]
Partner (0 no, 1 yes)	.242	.212	[-.174, .659]	-.019	.205	[-.421, .384]	.074	.217	[-.351, .499]
Urban neighbourhood (0 no, 1 yes)	.148	.179	[-.204, .499]	.192	.164	[-.129, .514]	.074	.180	[-.280, .427]
Education (0 low to 10 high)	.042	.043	[-.042, .127]	-.022	.041	[-.102, .057]	.017	.045	[-.071, .104]
Deprivation (1 low to 10 high)	-.016	.035	[-.085, .053]	-.015	.032	[-.076, .047]	.024	.035	[-.046, .093]
Employed (0 no, 1 yes)	-.158	.216	[-.581, .265]	-.056	.200	[-.448, .336]	-.183	.218	[-.611, .245]
NZ Socioeconomic Index (10 to 90)	-.005	.007	[-.019, .009]	-.008	.006	[-.020, .004]	-.003	.007	[-.018, .011]
Income (\$)	-.061	.124	[-.304, .182]	.058	.104	[-.145, .261]	-.199	.110	[-.414, .016]
Māori electoral roll (0 no, 1 yes)	.407	.205	[-.005, .809]	.740**	.188	[-.371, 1.108]	.970**	.195	[-.588, 1.352]
Group Membership Evaluation	.016	.118	[-.216, .248]	.169	.115	[-.057, .395]	.103	.125	[-.143, .348]
Cultural Efficacy	-.048	.100	[-.243, .148]	.116	.092	[-.064, .296]	.105	.095	[-.081, .292]
Spirituality	.069	.082	[-.092, .230]	-.060	.074	[-.206, .085]	-.065	.081	[-.224, .093]
Interdependent Self-Concept	.060	.096	[-.128, .248]	.130	.081	[-.028, .288]	.111	.092	[-.069, .292]
Authenticity Beliefs	-.076	.098	[-.268, .116]	.075	.091	[-.103, .254]	-.034	.104	[-.237, .170]
Perceived Appearance	-.031	.056	[-.141, .080]	-.169*	.054	[-.275, -.063]	-.120	.056	[-.230, -.009]
Socio-Political Consciousness	.254*	.078	[-.102, .406]	.378**	.079	[-.223, .532]	.315**	.084	[-.149, .480]

Note. Green Party model: $R^2 = .226$, $SE = .041$, $z = 5.531$, $p < .001$; * $p < .01$, ** $p < .001$; $N = 388$. Māori Party model: $R^2 = .263$, $SE = .040$, $z = 6.641$, $p < .001$; * $p < .01$, ** $p < .001$; $N = 391$. Mana Party model: $R^2 = .229$, $SE = .036$, $z = 6.295$, $p < .001$; * $p < .05$, ** $p < .01$; $N = 385$.

Finally, we analysed support for the two parties whose main aim is representing Māori: the Māori and Mana parties. The Māori Party model explained 26.3% of the variance in support for the Māori Party ($R^2 = .263$, $SE = .040$, $z = 6.641$, $p < .001$). Those who were enrolled to vote on the Māori electoral roll had higher support for the Māori Party ($b = .740$, $SE = .188$, $z = 3.934$, $p < .001$). Two identity subscales predicted Māori Party support. Those with lower scores on the Perceived Appearance subscale were less likely to support the Māori Party ($b = -.169$, $SE = .054$, $z = -3.119$, $p = .002$). In contrast, Socio-Political Consciousness was positively associated with support for the Māori Party ($b = .378$, $SE = .079$, $z = 4.790$, $p < .001$). The Mana Party model explained 22.9% of the variance in support for the party ($R^2 = .229$, $SE = .036$, $z = 6.295$, $p < .001$). Again, those who were enrolled to vote on the Māori electoral roll had higher support for the Mana Party ($b = .970$, $SE = .195$, $z = 4.977$, $p < .001$). Lastly, higher Socio-Political Consciousness predicted a higher level of support for the Mana Party ($b = .315$, $SE = .084$, $z = 6.295$, $p < .001$).

Discussion

In this paper, we sought to examine the relationship between the MMM-ICE2 and crucial political variables. This was to provide further validation of the scale, especially the Socio-Political Consciousness dimension. Furthermore, we sought to explore which sub-dimensions of ethnic identity predicted political mobilisation, using a scale designed specifically for the Indigenous Māori peoples. As expected, Socio-Political Consciousness predicted lower support for the right-wing National Party, but higher support for Māori rights protests, the left-wing Green Party, and two Māori-issue based parties: the Māori Party and the Mana Party. This indicates that Māori supporters of protests and supporters of these three parties have higher levels of belief in the continued importance of the Treaty of Waitangi and historical injustices in modern politics, and endorse the idea that they personally, actively promote and defend Māori political rights.

Our results also indicate that Māori who live in areas that are less economically deprived are more supportive of the National Party. Taken alongside the finding that lower Socio-Political Consciousness scores were related to higher National Party support, these findings reinforce

international research that socio-economic status is a key variable in Indigenous right-wing voting. Min and Savage (2012, 2014) found that, although Native American were more supportive of the Democratic Party overall, income was positively associated with Republican Party support. Furthermore, those who said that cultural ties were the most important factor in voting tended to vote for the Democratic Party (see also Cornthassel & Wittmer, 2008). However, cultural ties were the most important factor for a relatively low proportion of participants (20%) and the authors posited that this may be because American politicians did not campaign on native issues (see also Madrid, 2005).

In Aotearoa, Indigenous issues are constant in the political discourse (Sibley & Osborne, 2016). Thus, this study provided a context that allowed ethnic or cultural identity to be highly influential. Therefore, these results contribute to the literature by showing that Indigenous people who vote for right-wing parties may not only be prioritising their economic position over their cultural ties when voting, but rejecting some of the political aspects of cultural identity. Future longitudinal research could seek to disentangle the causal effects of increased income, and decreased Socio-Political Consciousness, on increases in right-wing political party support over time.

Māori who lived in more deprived areas were more supportive of Māori rights protests. This may indicate that Māori who live in more economically deprived neighbourhoods are recognising the financial inequality that they see around them and, as a consequence, are supportive of protests for their political rights. Indeed, neighbourhood-level inequality is positively associated with ethnic identification for Māori (Osborne, Sibley, & Sengupta, 2015). The significant results for neighbourhood-level economic deprivation could also be related to higher in-group contact. More Māori live in neighbourhoods which score higher on the New Zealand deprivation index, thus deprivation scores may be indicative of increased contact with other Māori (Atkinson et al., 2014). Research by Sengupta and colleagues (Sengupta, Barlow, & Sibley, 2012; Sengupta et al., 2015) has shown that Māori who have more contact with other Māori tend to be more supportive of

symbolic and resource based policies. In contrast, positive contact with Pākehā negatively correlates with support for symbolic representations of culture and reparative policies (Sengupta et al., 2012; Sengupta & Sibley, 2013).

Unexpectedly, we found that Socio-Political Consciousness did not predict support for the Labour Party. Instead, older Māori and Māori women were more supportive of Labour, mirroring results found in the general population (Greaves, Robertson et al., 2017). These results may be a legacy of the 2004 struggles over the seabed and foreshore legislation that led to the creation of the Māori Party. Māori who are particularly politically conscious may not have forgiven Labour over their betrayal—they may instead vote for or support other parties—i.e. the Green, Māori, or Mana Party. That said, the Labour Party won the majority of the Māori seats in the election after data collection for this survey. Although, we found here that those who were enrolled to vote on the Māori roll were more supportive of the Māori and Mana parties. It could be that other factors led Māori to vote for those candidates. Indeed, the individual candidate's relationship to the Indigenous community may be more important than their party (Huyser et al., 2016).

Only one other identity subscale predicted political engagement across our analyses. Higher scores on the Perceived Appearance dimension predicted higher support for the Māori Party. Perceived Appearance indexes the extent to which someone evaluates their own appearance as having features that signals their ethnicity and ancestry as Māori. Past research has linked higher scores on this subscale to higher levels of perceived discrimination (Houkamau & Sibley, 2015a), a lower likelihood of home ownership (Houkamau & Sibley, 2015b), and a higher likelihood of smoking (Muriwai et al., 2016). While past findings have been attributed to racism in New Zealand society, Muriwai (2016) added that smoking might be a reaction to racism in that those who perceived rejection from society for their Māoriness might cluster together (the rejection identification model; Branscombe, Schmitt, & Harvey, 1999; Stronge et al., 2015). In the case of Muriwai's (2016) research, it was over a cigarette. However, higher Perceived Appearance may

also lead Māori to support a party created by Māori in response to the centre-left Labour Party's rejection of the voices of Māori over a crucial issue.

Surprisingly, the only significant predictor of voter turnout was age. Older Māori were more likely to vote. The likelihood of voting increasing with age is a common finding across the voter turnout literature (Harrell et al., 2013; Miller & Shanks, 1996; Stoker & Jennings, 1995; Townrow, 2015). Why was age the only significant predictor of voting and not Māori identity? This may relate to the overall reluctance of Indigenous peoples to vote. It may be that Māori do not vote because they feel disenfranchised and do not trust the system, as previous research has found (Banducci et al., 2004; Fitzgerald et al., 2007). However, it has also been suggested by Bargh (2013) that Māori may be engaging in politics in other ways which are not commonly measured in surveys (Clarke, 2015). There is also evidence to suggest that Māori, especially young Māori, are engaging in political activism through social media (Waitoa et al., 2015). Indeed, online social activism is becoming an increasingly common outlet for Indigenous peoples and allies (Alfred, Pitawanakwat, & Price, 2007; Frain, 2016; Standing Rock Sioux Tribe, 2017). This may explain why political scientists often find that Indigenous peoples are not engaging with politics; researchers may be looking at inappropriate indicators of engagement for Indigenous populations. Future survey research could look to uncover levels of participation in other political behaviours for Māori, for example, helping put together treaty claims, other iwi and marae level politics, and online activism and engagement. Future research could also attempt to relate these behaviours to the MMM-ICE2 scale.

Limitations and Future Research Directions

A limitation of this study is the relatively low response rate to the survey (7.78% after adjusting for the address accuracy of the electoral roll). Although the sample looks reasonably representative compared with Census data on the Māori population (notwithstanding gender; Sibley et al., 2014), one problem with this low response rate is that we cannot know if our sample differs to non-respondents in views or identity. It may also be the case that there is a group of Māori who are

resistant to surveys, which are a Western invention that are less common in Māori research. Additionally, they may view surveys and other research as being linked to the government (L. T. Smith, 2012). Thus, those who did not respond may have different political views to those who did. Additionally, in the wave analysed here, the survey was only sent in English and not te reo Māori (it has since been translated; see Houkamaui & Sibley, in press). There may also have been biases in address accuracy; some aspect of identity might predict moving house more often and so we may have under-sampled an important group. However, these explanations are all speculative, and we hope to follow up on these ideas in future work.

The data analysed here represents a single time point. Thus, we cannot say if increases in endorsement of the Socio-Political Consciousness dimension leads to stronger political engagement. Future longitudinal research could explore the causal relationship between Māori identity and political party support, and support for protests. Research could also link Māori identity to self-reported protest behaviour and frequency, rather than simply support for protests. There could also be scope to conduct analyses across iwi, as Māori and other Indigenous peoples are often treated as politically homogenous, yet there may be differences across these smaller, meaningful groupings (Harrell et al., 2013; Luna, 2000).

While this paper contributes to the little survey research there is on Indigenous political views, relatively more research has been completed with Māori in Aotearoa compared to other Indigenous peoples worldwide (Evans, 2014). Māori are undoubtedly different from many other groups due to the Māori electoral roll, Treaty of Waitangi, relative population size, and lower levels of geographic dispersal. Encouragingly, there is a growing body of research on political participation and views amongst Native American and First Nations Canadian populations. However, future research could conduct similar survey studies on political views in other Indigenous populations.

Conclusion

In conclusion, we conducted analyses to uncover which aspects of ethnic identity predicted political mobilisation, in the form of voter turnout and support for rights protest, and also political party support for Māori. Investigations of these attitudes and behaviours often compare Indigenous populations to non-Indigenous groups, if they are included at all. We found that Socio-Political Consciousness, as part of identity, is a key predictor of support for protest and many political parties. However, identity did not predict turnout. This result adds to the growing body of literature on Indigenous voter turnout and shows that belief in injustice and standing up for Māori political rights may relate to attitudes but does not lead to actual voting. We hope that future research will look to find other predictors of voter turnout for Māori and other political behaviours that Māori may be engaged in.

Bridging Comments

In this final study of the thesis I examined how the MMM-ICE2 related to political attitudes and behaviours. The key goals were to explore identity and demographic predictors of political outcomes broadly, and also to validate the Socio-Political Consciousness (SPC) dimension. That is, SPC should have predicted the majority of the political attitudes and behaviours if it measures what it intends to measure (continued belief in the importance of political history and actively standing up for Māori political rights). As expected, higher SPC predicted support for Māori rights protest, the left-wing Green Party, and the Māori-issues based Māori and Mana parties. Additionally, higher support for the centre-right National Party was predicted by lower SPC scores. However, SPC scores did not relate to voter turnout, or support for the centre-left Labour Party. In the paper, I argued that SPC may not have predicted voter turnout because of other factors, for instance trust, or because Māori participate in ways that most political scientists do not measure. Unexpectedly, Perceived Appearance had a positive relationship with Māori Party support. Taken together, the identity and demographic results from this paper contribute to the literature by showing the predictors of political attitudes and behaviours for Māori. As explicated in the paper, these results may generalise to other Indigenous peoples, but more research needs to be done.

The proceeding, fifth paper of this thesis represents the final part of the analysis section of my thesis. I now move on to the final section: the general discussion, where I will summarise the findings, contributions to the literature, limitations, future research directions, my reflections from throughout the process, and conclude.

CHAPTER FIVE

General Discussion, Contribution to the Literature, and Practical Implications

In this thesis, I presented five stand-alone papers that were connected by two overall aims. These were to: (1) continue the validation of the MMM-ICE2 as a psychometric tool, including the construct validity of the Socio-Political Consciousness dimension, and (2) explore the connection between identity and politics for Māori by predicting a range of political attitudes and behaviours. To do this, I conducted a wide range of analyses, using a variety of methods, *etic* and *emic* measures, and multiple data sets. In this next section, I will briefly summarise the findings of each paper. Additionally, I will summarise the contribution that each paper and my overall thesis makes to the literature. I will also discuss the practical applications of this thesis and reflect on the process.

Chapter Two: Scale Development

It is important that any measurement tool has been rigorously tested with the most up-to-date psychometric techniques possible. Thus, the purpose of this section was to test the Multidimensional Model of Māori Identity and Cultural Engagement (MMM-ICE2) using Random Intercept Exploratory Factor Analysis (RIEFA) and multigroup confirmatory factor analysis. In Study One, I used RIEFA to show that the scale is not particularly affected by acquiescent response bias (or yea-saying). This was an area of concern because (a) the scale attempts to translate Māori cultural concepts into English, (b) the subscales of the MMM-ICE2 are not semantically balanced (this is particularly difficult when dealing with identity as reverse-worded items could sound insulting), and (c) past research has shown that participants from collectivist cultures are more likely to acquiesce in surveys (Māori culture has been referred to as collectivist; Johnson et al., 2005; Harrington & Liu, 2002; Tassell et al., 2010; van Herk et al., 2004). Overall, I found that the factor structure was reliably recovered when adjusting for acquiescent responding. However, four of the 54 items showed areas for potential future improvement: some did not load strongly on to their hypothesised factor and one item loaded onto two subscales. The paper makes a wider contribution because it presents the MMM-ICE2 as a case study. From this we recommended that other

researchers using multidimensional scales with varying levels of semantic balancing should test their work with RIEFA (see also Aichholzer, 2014). The paper also illustrated that RIEFA is an important step in the development of future scales of *emic* and Indigenous ethnic identity, and scales looking to measure identity in other stigmatised groups (e.g., it could be used in the development of sexual identity scales).

In Study Two, I used multigroup confirmatory factor analysis to demonstrate the measurement equivalence of the scale across several diverse groups. Māori are not a homogenous group and we are becoming increasingly diverse (Durie, 1998b; Greaves, Houkamau et al., 2015; Houkamau, 2006, 2010; Williams, 2001). Thus, it is important for any scale that purports to measure ‘Māori identity’ to reliably measure actual identity differences (or similarities) across groups, rather than just detect measurement invariance across groups. I tested the scale across age groups (40 and under, 41-54, and 55 and over), gender (women, men), ethnicity (as dual identified Māori-Pākehā or sole-identified Māori), and whether someone was urban or rural. Although we found reasonable measurement equivalence across groups, again, we found areas of the scale that could be improved in future. Namely, the intercepts on particular items for the comparisons across younger and older (55 and older) Māori, and across sole- and mixed-Māori may not be equivalent. In future, researchers could explore partial measurement invariance to find the particular items that are causing the scalar invariance we found in the paper and seek to remedy this issue (Byrne et al., 1989).

The individual contributions of these papers provide confidence to the growing number of researchers using the MMM-ICE2 that it is measuring: (a) identity accurately when taking into account the possibility of yea-saying, and (b) the same concepts across the diverse Māori population. They also contributed to the development of the scale by finding weaker points which researchers may be able to improve in further iterations of the scale. The scale has been revised once due to community feedback and will no doubt continue to be improved in future versions (Houkamau & Sibley, in press). Additionally, Study Two was written in 2015, and a key point that I

made in the discussion of the paper was that the scale needed to be translated into te reo Māori. This was because the results of the MCFA suggested that the responses of older and sole-identifying Māori were the weaker areas for the scale. These groups are most likely to be fluent in te reo Māori (Statistics New Zealand, 2013). This was one of the reasons why Houkamau and Sibley (in press) have now had this scale translated into te reo Māori (for a copy see Appendix B). As a result, hopefully future research will explore the measurement equivalence across te reo Māori and English to see if the scalar invariance is still present.

Chapters Three and Four: Māori me Tōrangapū

Chapters Three and Four focussed on Māori identity and politics. There is little extant quantitative research on who Māori vote for. This is especially the case for research controlling for the many variables shown to influence vote choice, which is the problem with reaching conclusions from political polling alone. Although there had been some quantitative academic research on vote choice for Māori, it has been largely based on the New Zealand Election Study. Although it is an excellent source of data, the NZES is simply one study, is much smaller than the NZAVS, and may over-represent politically active people. In Study Three, I wanted to add to this literature by analysing data from two large datasets to establish a baseline for who Māori intended to vote for (and likely voted for). Overall, the results showed that Māori were more likely to prefer any party over National. The effect held even when controlling for a very broad range of demographic and social psychological variables, including socio-economic status, which normally influences voting. The only exception is that we found that Māori were not more likely to vote for the Greens over National in the NZAVS analyses. Those enrolled to vote in the Māori seats were also less likely to vote for National. These results provide a baseline for Studies Four and Five, in that we now know who Māori prefer overall in comparison to other voters in Aotearoa.

The fourth study of the thesis sought to uncover the predictors of enrolment on the Māori electoral roll. This paper had two parts. The first study of the paper examined the demographic variables that predicted enrolment for those with Māori ancestry in the broader NZAVS dataset.

This used an *etic* measure of ethnic identity: simply whether one had Māori ancestry or not, as indicated by their response when they enrolled to vote on the electoral roll. I found that being younger, more educated, a parent, and living in a more socio-economically deprived area predicted a higher likelihood of being on the Māori roll. Yet, identifying as Pākehā in addition to Māori predicted a lower likelihood of being on the Māori roll.

The second study of the paper illustrated the usefulness of *emic* measures and the importance of identity, by using the MMM-ICE2 to predict Māori electoral roll choice. When including the seven-dimension MMM-ICE2 in the second model (analysing responses from the NZAVS Māori Focus questionnaire), I found that only being of mixed-Māori/Pākehā ethnicity remained to be a significant predictor of enrolment choice. Instead, two dimensions of identity predicted a higher likelihood of being enrolled on the Māori roll. Higher Socio-Political Consciousness was one of them, providing evidence for the construct validity of this measure. The other was Group Membership Evaluation, basically the belief that being Māori is a positive and important part of one's identity. This is a logical finding as someone enrolling to vote on the *Māori roll* is actively choosing to embrace this aspect of their identity. In sum, this paper contributed to the literature by indicating what predicts Māori voter enrolment and by showing that identity relates to enrolment choice. Another key point is that it showed the utility of *emic* measures like the MMM-ICE2 in predicting outcomes for Māori beyond simple demographics. In the paper, the MMM-ICE2 helped to complete the picture for electoral roll choice.

In Study Five, I explored the relationship between the various aspects of Māori identity and political party preference (for National, Labour, the Green Party, the Māori Party, and Mana), voter turnout, and support for Māori rights protests. This paper had two key aims. Firstly, to investigate which demographics and aspects of the MMM-ICE2 scale would be related to political attitudes and behaviours for Māori. Secondly, to validate the Socio-Political consciousness dimension beyond that demonstrated for the one outcome (electoral roll choice) shown in Study Four. That is, I expected that Socio-Political Consciousness (the extent to which one believes in the continued

relevance of intergroup history in Aotearoa and actively stands up for Māori political rights) would predict all of these outcomes. The results showed that Socio-Political Consciousness predicted support for Māori rights protests, and the National, Green, Māori, and Mana parties. However, it did not predict support for the Labour Party or a higher likelihood of voting (voter turnout). In the paper, I posit that this may be because of other variables such as trust – i.e. Māori no longer trust Labour and do not trust the system enough to put the effort into voting – or that Māori are simply engaging in other areas of politics not commonly measured in surveys. An intriguing finding was also that those higher in Perceived Appearance had higher levels of support for the Māori Party. This paper contributes to the literature by showing which aspects of identity relate to political party support and mobilisation for Māori, and perhaps for Indigenous peoples more broadly.

Practical Applications and Contributions

I hope that the results from this body of research can provide evidence that helps Māori. This thesis was informed by several principles of Kaupapa Māori Research (KMR). The overarching goal of KMR is that the research results will be of benefit to Māori and used to justify positive change for Māori communities (Mane, 2009; Pihama et al., 2002; G. Smith, 1997; L. T. Smith, 2012; L. T. Smith & Reid, 2000). Indeed, it has been posited that Māori academics have obligations beyond simply publishing our work in academic journals (Hall, 2014; Roa, Beggs, Williams, & Moller, 2009; Tawhai, Pihera, & Bruce-Ferguson, 2004).

The first aim of my thesis was one of scale validation: the results from the first two papers provide further confidence that the MMM-ICE2 is a valid measurement tool, and the overall thesis validates the Socio-Political Consciousness dimension. Further validating the MMM-ICE2 scale is important, as it has been used to predict a range of outcomes (e.g., Cowie et al., 2016; Greaves, Houkamau et al., 2015; Houkamau & Sibley, 2010, 2011, 2015a, 2015b, in press; Matika et al., in press; Muriwai et al., 2015, 2017; Te Huia, 2013) and was initially designed as a tool to influence policy (Houkamau & Sibley, 2010, in press). Indeed, Studies One and Two provided evidence for the need to translate the scale into te reo Māori (Houkamau & Sibley, in press) and showed areas

where the scale could be improved in future. These results also indicated areas where researchers should be more cautious with their findings (e.g., when analysing responses from older Māori and sole-identified Māori). In summary, the scale will continue to be used by researchers in examining important outcomes that have practical implications for Māori. These first two papers contributed to the literature by further validating the scale.

The later three studies of my thesis specifically focussed on Māori and our political behaviours and attitudes. Study Three provided a baseline of sorts by showing who Māori prefer to vote for, whereas Studies Four and Five built on this by utilising the *emic* MMM-ICE2. Working from the assumption that participation is good (which I discuss below), these papers sought to find the demographics and aspects of identity which related to positive political outcomes for Māori. The third study showed that Māori (both those of Māori ethnicity and those enrolled to vote on the Māori roll) are unlikely to vote for the right-wing National Party, who have previously engaged in discourse that attempted to deny Māori rights as tangata whenua (e.g., Brash, 2004; Moewaka Barnes et al., 2012; Sibley & Osborne, 2016). I followed up this finding in Study Five, which showed that those Māori who are supportive of National are lower on the Socio-Political Consciousness (SPC) scale and wealthier. Those who supported the left-wing Greens, and the Māori interest-based Māori and Mana parties were higher in Socio-Political Consciousness. These parties have a strong interest in advancing Māori issues (Cowie et al., 2015; Waitoa et al., 2015). As such, identifying the predictors of their support may help such parties (with small research budgets) by uncovering which variables and facets of identity predict party support. Practically, raising SPC through education may lead more Māori to support these parties, and thus advance Māori political power. Study Five also showed that higher SPC is related to support for Māori rights protest, thus practically, promoting SPC by increased education around historical injustice may lead to more support for collective action.

Again, working from the standpoint that voting is a positive action, studies on voter turnout have practical applications. The Electoral Commission seem to be especially interested in exploring

Māori voter turnout (Fitzgerald et al., 2007). Thus, Study Five may also be useful for those seeking to promote voter turnout. This study showed that the only significant predictor of voter turnout for Māori was being older in age. However, the predictors that were not significant were also interesting. Null findings can be less exciting for researchers, yet practically, this study shows that none of the aspects of Māori identity indexed by the MMM-ICE2 are related to propensity to vote. These findings suggest that promoting voting by e.g., making it seem like taking a stand for Māori rights (SPC), a relational act (Interdependent Self Concept), or a positive part of our culture (Group Membership Evaluation), may not be a good use of resources.

However, Study Four showed that two aspects of Māori identity do relate to electoral behaviour. Higher scores on SPC and Group Membership Evaluation were related to a higher likelihood of being on the Māori electoral roll. As discussed in Study Four, more Māori on the Māori roll means more MPs to represent Māori, and a likely increase in political power. The practical applications of these findings may be that promoting being on the Māori roll as something that proud Māori do (Group Membership Evaluation) and as an act of standing up for Māori rights and history (SPC) may be positive steps to increase enrolment.

Additionally, Studies Four and Five provided more evidence for the utility of the MMM-ICE2 by demonstrating the construct validity of the SPC dimension. That is, the subscale successfully predicted many political attitudes and behaviours (support for parties, support for protest and the likelihood of being on the Māori roll) above and beyond demographics or *etic* indicators. This means that there is now a base for other research to use the MMM-ICE2 to investigate further political outcome variables in the future or longitudinally.

Caveats, Limitations, and Future Research Directions

As is common practice, I will now outline the limitations of the work in this thesis and future research directions.

Longitudinal Research. Going forward, researchers should look to conduct longitudinal research using the MMM-ICE2 scale. There were plans to follow up on the participants of the 2012

Māori Focus Questionnaire with further surveys that included the MMM-ICE2. Unfortunately, these plans were not realised due to the high costs of survey research. However, longitudinal research using the MMM-ICE2 should be a goal for researchers. There are many unanswered questions about ethnic identity change and basic demographic variables, for example age, let alone exploring health, financial, or political variables. For example, how does ethnic identity change as people age? While current research with the MMM-ICE2 has shown cohort differences, it will be interesting to follow up these effects with longitudinal research that model the changes in individuals as they age (Sibley & Houkamau, 2013; Greaves, Houkamau et al., 2015).

Iwi, Heterogeneity, and Intersectionality. One key identity variable that was not examined in this thesis was iwi affiliation. A theoretical debate underlying the literature on Māori identity is the existence of Māoritanga (Māori culture, practices and beliefs, Māoriness, the Māori way of life), or a united Māori identity, especially since ‘Māori’ as a collective identity was only formed once Pākehā arrived (Durie, 1998a; Kukutai, 2012; McClean, 2012; Rangihau, 1975; MacDonald, 2016). However, one could argue that Pākehā arrival was quite some time ago, and while Māori are certainly not a homogenous group, many of us belong to multiple iwi (Statistics New Zealand, 2013). Thus, it would be interesting to investigate differences in MMM-ICE2 scores across iwi affiliation. Researchers using the MMM-ICE2 are yet to collect a sample large enough to be able to break down patterns of identity by iwi affiliation. Hopefully, future research will ask more Māori to fill out the MMM-ICE2, and thus be able to test differences across iwi affiliations.

As previously mentioned (including in Study Two), it is important to explore identity patterns by socio-demographic variables, such as age and gender. However, other identities like sexual orientation, socio-economic status, and whether one is mixed ethnicity (across a variety of ethnicities) should also be explored in more depth. Many of us experience the intersection of multiple identities, which leads us to varying life experiences (Crenshaw, 1991; Davis, 1981). This intersectionality may affect identity development, and socio-political consciousness for Māori (Houkamau, 2006, 2010; Pihama, 2001). For example, other research that I have completed with

NZAVS data has shown that fewer Māori than Pākehā identify with a heterosexual sexual orientation (Greaves, Barlow et al., 2017). This may be a legacy of less rigid gender and sexuality roles for Māori prior to colonisation (Aspin, 2011; Aspin & Hutchings, 2007; Te Awekotuku, 2001; Wall, 2007). Again, researchers will need to collect a larger sample of people responding to the MMM-ICE2 in order to be able to analyse many of these differences.

Response Rate and Other Survey Challenges. The majority of the data analysed in this thesis were collected as part of the Time 4 Māori Focus Questionnaire of the New Zealand Attitudes and Values Study (Studies One, Two, half of Four, and Study Five). The survey was sent to a random sample of 9,000 people who indicated that they had Māori whakapapa on the electoral roll. The response rate (once address accuracy adjusted) for the sample was 7.78% (Sibley, 2014a). As highlighted in many of the preceding discussion sections, this response rate may seem low, but it likely reflects two things. Firstly, not all participants who have Māori descent, or indicate Māori descent on the electoral roll identify as Māori. Study Four of this thesis demonstrated that 9.9% of people who indicated Māori whakapapa on the electoral roll did not identify Māori as one of their ethnic affiliations when they filled out the NZAVS. Those who are of Māori descent, but do not identify as Māori, were probably not going to fill out a survey called “The Māori Focus Questionnaire.” A survey which contained many items relating to an identity that they did not hold. Additionally, there would be no motivation for Māori who do not feel particularly connected to their Māori identities to fill out a Māori identity questionnaire including the MMM-ICE2 scale. These groups would be interesting to follow over time. An existing way of testing for this would be longitudinal research with the general NZAVS survey, which contains ethnic group affiliation measures, and other scales of *etic* ethnic identity (Sibley & Greaves, 2014).

Secondly, the Māori Focus questionnaire aimed to recruit people to the broader NZAVS. The cover letter mentioned that if people completed the survey, they were opting into a 16 year longitudinal study, and so were consenting to being contacted for another 15 years. Researchers know that longitudinal studies have lower response rates than single time point studies (e.g.,

Watson & Wooden, 2009; although the empirical literature on this is lacking). Thus, our relatively low response rate likely reflects this.

Nonetheless, when comparing the sample to demographics found in the Census, the NZAVS and the Māori Focus Questionnaire perform well, albeit under-sampling men (Sibley et al., 2014; Sibley, 2014c). However, we cannot know how those who responded to the survey are different from those who did in terms of attitudes and identity. In comparison to those who may not identify as Māori yet have Māori whakapapa, on the other side of the enculturation spectrum, some Māori may be suspicious of surveys and research more generally (L. T. Smith, 2012). This may mean that Māori with certain political views, behaviours, or identity characteristics are less likely to respond. These are important considerations when one of our aims as researchers collecting national probability samples is broad representation of Māori. Future research in this area could look to the literature on non-response follow-up surveys (Groves, 2006; Olson & Montaquilla, 2012). For example, researchers could conduct a very brief follow-up survey that gives non-responders a chance to enter a prize draw (Neiger, 2017). It would be interesting to find out some of the social-attitudinal characteristics of Māori who do not respond to surveys, but may be willing to fill out this short postcard, including on dimensions such as trust.

However, response rates are generally lower for Māori than for other groups and they seem to be dropping over time (Sibley, 2014a). Future research needs to look into reasons for this. Research on retention rates in the NZAVS has shown that Māori, compared to Pākehā, drop out at higher rates over time (Satherley et al., 2015). Preliminary findings seem to indicate that there are many ways that researchers can go about increasing Māori response rates. One way is to oversample Māori relative to other groups (a strategy successfully adopted in other national sample studies I have run with the team at COMPASS, including the International Social Survey Programme and New Zealand Election Study). However, researchers are beginning to engage with other strategies, including some inspired by Kaupapa Māori research.

Survey researchers in the US have taken to utilising differential recruitment strategies when conducting research with groups known to have lower response rates in the US, such as younger people, Latinx, and African American populations (although largely through varying financial incentives; Trussell & Lavrakas, 2004; Lavrakas, 2017; see also Greaves, 2017a). Differential recruitment strategies are starting to be used in Aotearoa to ensure more representative samples of hard-to-reach groups, including Māori. For example, Paine and colleagues (2013) report having to change their recruitment strategies for the Maternal Health and Sleep Study when they found that Māori were being underrepresented. They embraced the Kaupapa Māori Research principles of whanaungatanga, manaakitanga (hospitality, kindness, support - the process of showing respect, generosity and care for others), and kaitiakitanga (guardianship, stewardship, trusteeship) to build trusting and respectful relationships with Māori women. However, their surveys were completed over the phone, which allows for more personal contact.

In terms of the limitations of the current research, much of my data collection did not allow for such whakawhanaungatanga (identifying, maintaining, and forming relationships), the relationships principles of Kaupapa Māori Research (KMR), which in practice typically consists kanohi-ki-te-kanohi contact (which is a lot easier to engage with in most qualitative research designs; Mane, 2009; L. T. Smith, 2012). The importance of whakawhanaungatanga, and ata (growing respectful relationships; Pohatu, 2005) are emphasised in any guide to KMR (Mane, 2009; S. Walker et al., 2006). These relationships lead to accountability, mutual respect, and reciprocity (L. T. Smith, 2012). In practice, this broad principle relates to several research practices: “aroha ki te tāngata (a respect for people)”, “kanohi kitea (the seen face, that is present yourself to people face to face)”, “manaaki ki te tāngata (share and host people, be generous)”, “titiro, whakarongo ... kōrero (look, listen, speak)”, and “kaua e māhaki (don’t flaunt your knowledge)”, which are normally associated with qualitative KMR (Cram, 2009; L. T. Smith, 2012, p. 124; see also Mane, 2009). While I have been able to create and nurture relationships with Māori researchers during the

research process, this is a part of KMR where the current (survey) research is limited in terms of this principle is the lack of kanohi-ki-te-kanohi interaction with participants.

Specifically, in this thesis I analysed responses from several surveys, one “Māori Focus” survey sent to those who identified as being a descendant of (a) Māori on the electoral roll (Studies One, Two, part of Four, and Five), a couple of time points of the New Zealand Attitudes and Values Study (Study Three and part of Study Four), and phone polling data from the market research firm Colmar Brunton (Study Three). As the phone polling data analysed in Study Three was collected by a commercial firm, this data collection process was not designed with KMR principles in mind. Nor was the data collected as part of the main NZAVS project that was analysed in Study Three and part of Study Four particularly sensitive to KMR principles.

The Māori Focus questionnaire, on the other hand, made attempts to connect to Māori by introducing the researchers in more detail, including their whakapapa connections. For future postal survey research, researchers may send a different set of materials to Māori participants, which includes at least some te reo Māori and introduces the Māori researchers involved on the project through their whakapapa (S. Walker et al., 2006). However, when using the electoral roll as a sampling method (which indicates Māori descent), researchers may find that this does not suit all Māori. Māori are a diverse group, many of us do not have the gift of te reo Māori or feel confident with Māori culture, or even identify as Māori (see Study Four; also Statistics New Zealand, 2013). Research needs to explore whether the trade-off between not recruiting less-enculturated Māori, yet managing to recruit those typically less likely to complete surveys is worthwhile.

Ultimately, survey researchers should look to do better to be able to represent a wider range of Māori voices and to make Māori more comfortable with the medium. Taking inspiration from Kaupapa Māori methodology will be a positive step. In future research I will take up this wero (challenge). As previously mentioned, some level of use of te reo Māori should increase comfort with surveys for Māori and the MMM-ICE2 research team have had the scale translated (Houkamau & Sibley, in press). Survey research could also look to the KMR principle of “manaaki ki te tāngata

(share and host people, be generous)”, by providing some kind of koha (gift, offering, donation, contribution) or kai (food, a meal) in exchange for participation, whether it be a small financial incentive, a teabag, or chocolate.

Kūpapa and Participation as Assimilation. In this thesis, I worked from the standpoint that participation in (Western) political activities such as voting, are positive actions. However, for some Māori these might not be perceived in this way. Indeed, under early colonial governments Māori political participation was seen as to be an important goal of assimilation (McDowell, 2013; R. Walker, 2004). That being said, Māori have found ways to interact with the political system in recent decades to create change for Māori communities (R. Walker, 2004). For example, the existence of the Mana Motuhake, Māori, and Mana parties to provide Māori voices (McDowell, 2013). Yet Māori who have worked within the system have been called derogatory terms like ‘sell-out’ or ‘kūpapa’ (collaborator, ally – a term that has become more derogatory over the years and is typically applied to Māori who side with Pākehā opposition or the government; Bargh, 2012; McDowell, 2013).

I continue to be interested in the concept of trust in government or ideas around the legitimacy of the government for Māori. Extant research suggests that a lot of the so-called ‘participation gap’ in voting is actually due to Māori, and Indigenous peoples more broadly, not trusting the government (Banducci et al., 2004; Clymer & Falk, 2004; Evans, 2014; Fitzgerald et al., 2007; Harrell et al., 2013; Hill & Alport, 2010; Ladner, 2003; Rahn & Rudolph, 2005). Given the way Indigenous peoples have been treated by colonisers, this is unsurprising. There also may be a perceived difference in the ‘Māoriness’ of various forms of political participation, for example, in the difference between voting and protesting (e.g., hīkoi [a protest march or walk]) as forms of assimilation. However, more empirical research could be completed in this area, with national samples, which may be difficult given the issues with Māori response rates explicated above. As a follow-up study, I am currently working on analyses of the 2016 International Social Survey Programme Role of Government module to uncover ethnic group differences in view of

government in Aotearoa and the effects these views have on the likelihood of voting (Greaves, 2017b). Additionally, a meaningful gap in the literature remains to complete more in-depth research as to the reasons why some Māori choose to not vote. I also have plans to conduct KMR-informed interviews of Māori non-voters as an avenue of further inquiry.

Reflexive Considerations

Inspired by the common reflexive qualitative research practice of keeping a journal (Lapan, Quartaroli, & Riemer, 2011; Meloy, 1994; Ryan & Golden, 2006; Tufford & Newman, 2012), throughout the thesis process I kept notes on the thoughts that I had at the different stages of researching and writing. Therefore, this penultimate section of my thesis comprises a reflection on the methodologies that guided my thesis and my position as a researcher.

Indigenous Statistics and Kaupapa Māori Influences

The dominant discourses in society in Aotearoa, throughout (*even*) my lifetime have certainly privileged the Pākehā worldview (McCreanor et al., 2014; Moewaka Barnes et al., 2012; Moewaka Barnes, Taiapa, Borell, & McCreanor, 2013; Nairn et al., 2012). When writing a thesis on Māori identity and politics this can manifest itself in small details. As Pihama (2001, p. 38) states: “Often when writing academic work I feel a constant pressure to write for an audience that exists outside myself, an audience that is that group which constructs us as the ‘other’.” Positioning Māori as the default, rather than the ‘other’ is an important, decolonising part of Kaupapa Māori research (Pihama et al., 2002). However, many times I have had to use the impersonal ‘they’ or start articles/sentences with something along the lines of or “Māori are the Indigenous peoples of New Zealand”, which privileges the outsider perspective (e.g., in Studies One and Five especially; L. T. Smith, 2012). Sometimes this was necessary, as an international audience needs this background knowledge, and sometimes this was just the convention. I was not aware of these small details until I began writing my PhD, and to some extent this is an issue I am still grappling with. Additionally, in comparative *etic* research like Study Three in this thesis, the main goals were to explore various group differences, which meant that it was hard to position Māori as the default in language

(especially considering that Māori are a numerical minority in Aotearoa). Reflecting on Study Three, this paper in particular was not as Māori-centred as I would have liked it to be (L. T. Smith & Reid, 2000). As such, my goal with Study Five was to follow up the paper with further work into the reasons behind why Māori vote for certain parties.

A component of KMR is making sure that your research gives back to the Māori community and part of that is readability (Pihama, 2001; L. T. Smith, 2012). Often it has been hard to reconcile these two competing interests: to be successful as an academic and obtain an academic position after finishing my PhD I needed to publish in journals (including international journals). However, it was also important to make sure that my research was understandable and accessible to the broader Māori community (Roa et al., 2009; Hall, 2014). Research has found this is a common dilemma for Māori researchers, in that they must publish in ‘good’ journals to meet Western academic standards, i.e. meet the expectations of their employers, but balance this with influencing change for the community (Hall, 2014). Not that I am trying to claim that my thesis *is* KMR, but on reading the literature I found it interesting that some even argue that research cannot be Kaupapa Māori if it is presented for a global audience (Tawhai et al., 2004).

Other awareness of my writing and positioning came through learning about the deficit focuses that had definitely been ingrained in me through my psychology and politics degrees (e.g., Valencia, 1997, 2010). Further assistance in this area however, came through publishing a paper (Study Four of this thesis) in the Indigenous-focused *MAI Journal*. Another area where it was difficult to balance KMR with the international research norms was in the idea of “kia tūpato (be cautious)” (Cram, 2009; L. T. Smith, 2012). There was and is very little quantitative research in the area of Māori and politics. Thus, it was difficult to not play up the idea of Māori as this ‘other’ group, or remove the historical and social context of Aotearoa to argue for the merit of the work internationally.

Maumahara ki tou Mana Ake

I have also felt insecure throughout a lot of the process but taken comfort in the supportive words of Rangimarie Rose Pere to Kathie Irwin (1992, p. 59; Pere, 1988, p. 14) “Maumahara ki tou mana ake” (“remember your absolute uniqueness”). This whakataukī was pinned to my home office wall for a lot of this thesis process. In social situations, upon telling people my background (including even iwi affiliations), what my thesis topic was and why, I have had the reaction to the effect of: “yeah, it seems a lot of Pākehā are doing topics like that.” Additionally, I have definitely internalised discourse throughout my life around who counts as a genuine Māori, or genuine Indigenous person and who does not. This situation is said to be fairly common among Māori academics and probably stems from authenticity narratives (Borell, 2005; Chadwick, 1998; Hall, 2014; Moewaka Barnes et al., 2012; Nakata, 2006; L. T. Smith, 2012). However, I tried my best to not let these narratives get to me, as along my journey into the literature I learnt that these ideas exist to oppress Māori and to stop us from acting. That being said, these feelings were likely compounded due to my choice of methods.

It has been hard to reconcile statistics and Indigenous research methods. The bulk of Māori researchers use qualitative methods because they seem to align more naturally with Māori culture and Kaupapa Māori research, not to mention the colonising history of statistics (Moewaka Barnes, 2006; Pihama, 2001; Pohatu, 2005; L. T. Smith, 1996). However, sometimes this manifests as hostility. This includes a situation where I attended a Māori research symposium and had a professor say something to the effect of “*real* Māori identity, not the kind you can measure with some scale.” There is some merit in this line of thinking. As such, there was a need to recognise the legitimacy of indigenous views towards statistics, yet still utilise them in the thesis. To reconcile the use of statistics and indigenous research in this thesis, I was very fortunate to have the Indigenous Statistics framework as a methodology (Walter & Andersen, 2013) recommended to me by the editors of *MAI Journal* early on in the thesis process. There is a need for quantitative reflexivity beyond Indigenous research, and *definitely* for researchers conducting projects with or analysing

data from participants who identify with marginalised groups (Babones, 2015; Baxter, 2012; Ryan & Golden, 2006). In short: “models do not build themselves any more than they interpret themselves” (Greiffenhagen, Mair, & Sharrock, 2011, p. 103; see also Baxter, 2012). We need to recognise this and I believe this is an area where Indigenous researchers are leading the world. That being said, quantitative and qualitative research can coexist in Indigenous research spaces, especially when decolonising frames have been applied to the use of statistics. The aforementioned professor went on to lament that policy professionals tend to not listen to qualitative research. I believe that the ability for Māori to utilise methods that tauiwi (non-Māori, i.e. those with no iwi) prefer means that we can use them to promote Māori aspirations in the public policy sphere.

I will continue work along the lines of the Indigenous Statistics methodology in the future. As an emerging researcher interested in identity, whether it be political, sexual, or ethnic identity, it is important to make sure that I use statistics appropriately with suitable language and framing (Walter & Andersen, 2013). Methodologies or interpretative frameworks inspired by Kaupapa Māori and Indigenous Statistics should be used by a broader range of researchers than *just* the Indigenous or those working in partnership with us. The number of times throughout my PhD that I opened an article which started with an onslaught of negative ‘facts’ about one of the identities I hold dear was distressing. Often, especially quantitative researchers, have come from the privileged groups in society and probably have not noticed this as the discourse has not targeted one of their groups (white/Pākehā, middle or upper class, cisgender, heterosexual, men; Curtin, 2013; Hall, 2014; Shaw & Stanton, 2012; L. T. Smith, 2012; van de Vijver, 2013; Walter & Andersen, 2013). However, what I see around me is a diverse range of people coming into psychology and the social sciences, reflecting a growing pattern of diversity in academia more generally over time (Curtin, 2013; Maher & Thompson Tetreault, 2013; S. N. Williams, Thakore, & McGee, 2016; van de Vijver, 2013). Hence, I hope to see a more conscious use of statistics in future years and across generations of researchers. I will also take up this wero myself for the rest of my research career.

Final Comments

I started this thesis out of annoyance with the unfairness of being stuck on the general roll. To me it seemed like a very small administrative effort, I mean, people move house all the time and change electorates, why can't Māori change to the Māori roll? As I am writing this, years later, I am still on the general roll! This sense of injustice led me to write this thesis. The Westernised political system in Aotearoa has excluded Māori at various points of its existence and still does in subtle ways (Bargh, 2012; Durie, 1998a; Galicki, 2016; McDowell, 2013; R. Walker, 2004; J. Wilson, 2010). Although it is often framed as a deficit, it is no wonder that we vote at lower rates than other ethnic groups in Aotearoa. However, despite our lower rate of voting, over the generations Māori have made (re)gains through efficacious collective action (Derby, 2014; Durie, 1998a; Hill, 2009; Taonui, 2012; R. Walker, 2004). These struggles have influenced our identities and will continue to (Durie, 1998a; Houkamau, 2006, 2010; R. Walker, 2004). They have even influenced distinctly Māori (Kaupapa Māori; Pihama, 2001; Pohatu, 2005; L. T. Smith, 1996; 2012; L. T. Smith & Reid, 2000; S. Walker, 1996) and Indigenous (Walter & Andersen, 2013) research methods. Socio-Political Consciousness, as demonstrated in this thesis, is a core part of the identities of many Māori and influences our political attitudes and (some) political behaviours.

I began this thesis with the remarks of Metiria Turei in her maiden speech to parliament. I wanted to end with the remarks of another wahine toa; Iriaka Rātana, the first Māori woman MP, who led a truly inspiring life. After being widowed for the second time, Iriaka contested her deceased husband's Western Māori seat in 1949. At the time of her win, she was heavily pregnant with her seventh child, having spent many years of her life running the household and the farm. While in parliament, she worked hard for twenty years to give voice to urban and impoverished Māori. Wāhine toa, like Iriaka, like my tupuna Zelda, who experienced challenges that politicised their identities, influenced the whakataukī included in the title of this thesis: he pōkēkē Uenuku i tū ai. This roughly translates to: against the dark cloud the rainbow stands out brightly (Mead &

Grove, 2001). Their influence, like that of Metiria's, will continue to be felt by further generations for many, even after their passing.

To find Iriaka's words, on a stormy evening I headed into the library to rummage through the old parliamentary debates. I eventually found the quote that ends this thesis in her valedictory speech in 1969. With her words fresh in my head, I set off for the bus stop only to come upon a group of slightly inebriated (it was only 6pm after all), rowdy young men at the pedestrian lights. In the weeks preceding, the University of Auckland had been in the media due to the attempted formation of a club called the "European Students Association." Their main argument being that Māori and Pacific students have clubs and 'special' rights, so they should too. One of the young men told me he wanted to start up a European students society. Avoiding confrontation, I proceeded on my way. Unfortunately, our paths met again when I heard them yelling racist sentiment at no one in particular and loudly saying the 'N word'. What struck me was the idea that during Iriaka's life Māori were dealing with the same type of thing. That in the years after she left parliament, there was the 'Māori Renaissance' and a whole other generation of socio-political action, striving for things Māori should already have, including cultural respect (i.e. the University of Auckland Haka party incident in 1979). Yet, as long as this inter-group struggle exists, and these discourses exist in our society, a part of Māori identity will be this Socio-Political Consciousness. We *still* can't go fast enough.

"Some may feel that the Māori people have gone ahead too fast, but in times when some people can travel to the moon I do not think they have gone fast enough."

Iriaka Rātana (1969, p. 3872)

References

- Adorno, T. W., Frenkel-Brunswik, E., Levinson, D., & Sanford, N. (1950). *The authoritarian personality*. New York City, NY: Harper.
- Aichholzer, J. (2014). Random intercept EFA of personality scales. *Journal of Research in Personality*, 53, 1-4. doi: 10.1016/j.jrp.2014.07.001
- Aimer, P. & Vowles, J. (2004). What happened at the 2002 election? In J. Vowles, P. Aimer, S. Banducci, J. Karp, & R. Miller (Eds.), *Voter's veto: The 2002 election in New Zealand and the consolidation of minority government* (pp. 16-32). Auckland, New Zealand: Auckland University Press.
- Alfred, G. R. (1995). *Heeding the voices of our ancestors: Kahnawake Mohawk politics and the rise of native nationalism*. Ontario, Canada: Oxford University Press.
- Alfred, G. R., Pitawanakwat, B., & Price, J. (2007). *The meaning of political participation for Indigenous youth*. Ontario: Canadian Policy Research Networks. Retrieved from http://rcrpp.org/documents/48503_EN.pdf
- Andersen, C. (2008). From nation to population: the racialisation of 'Métis' in the Canadian Census. *Nations and Nationalism*, 14(2), 347-368. doi: 10.1111/j.1469-8129.2008.00331.x
- Ariely, G. (2011). Globalization, immigration and national identity: How the level of globalization affects the relations between nationalism, constructive patriotism and attitudes toward immigrants? *Group Processes & Intergroup Relations*, 15(4), 539-57. doi: 10.1177/1368430211430518
- Aspin, C. (2011). Exploring Takatāpui identity within the Māori community. In Q. Driskill, C. Finley, B. J. Gilley, & S. L. Morgensen (Eds.), *Queer Indigenous studies: Critical interventions in theory, politics, and literature*, (pp. 113-122). Tucson, AZ: University of Arizona Press.

- Aspin, C., & Hutchings, J. (2007). Reclaiming the past to inform the future: Contemporary views of Māori sexuality. *Culture, Health & Sexuality*, 9(4), 415-27. doi: 10.1080/13691050701195119
- Atkinson, J., Salmond, C. E., & Crampton, P. (2014). *NZDep2013 index of deprivation*. Wellington, New Zealand: Department of Public Health, University of Otago. Retrieved from <http://www.otago.ac.nz/wellington/otago069936.pdf>
- Awatere, D. (1984). *Māori sovereignty*. Auckland, New Zealand: Broadsheet Publications.
- Babones, S. (2016). Interpretive quantitative methods for the social sciences. *Sociology*, 50(3), 453-69. doi: 10.1177/0038038515583637
- Balter, M. (2014). Geneticists decry book on race and evolution. *Science Magazine*. Retrieved from <http://www.sciencemag.org/news/2014/08/geneticists-decry-book-race-and-evolution>
- Banducci, S. A., Donovan, T., & Karp, J. A. (2004). Minority representation, empowerment, and participation. *Journal of Politics*, 66(2), 534-56. doi: 10.1111/j.1468-2508.2004.00163.x
- Bar-Tal, D., & Staub, E. (1997). *Patriotism in the lives of individuals and nations*. Chicago, IL: Nelson-Hall.
- Barber, K. (2008). 'Indigenous rights' or 'racial privileges': The rhetoric of 'race' in New Zealand politics. *The Asia Pacific Journal of Anthropology*, 9(2), 141-56. doi: 10.1080/14442210802023665
- Bargh, M. (2010). Lessons from the Māori Parliament. In M. Bargh (Ed.), *Māori and parliament: Diverse strategies and compromises* (pp. 17-30). Wellington, New Zealand: Huia.
- Bargh, M. (2012). New Māori politics. In D. Keenan (Ed.), *Huia histories of Māori: Ngā tāhuhu kōrero* (pp. 277-292). Wellington, New Zealand: Huia.
- Bargh, M. (2013). Multiple sites of Māori political participation. *Australian Journal of Political Science*, 48(4), 445-55. doi: 10.1080/10361146.2013.841123
- Barlow, C. (1991). *Tikanga whakaaro: Key concepts in Māori culture*. Auckland, New Zealand: Oxford University Press.

- Barrett, P. (2007). Structural equation modelling: Adjudging model fit. *Personality and Individual Differences*, 42(5), 815-24. doi: 10.1016/j.paid.2006.09.018
- Baumgartner, H., & Steenkamp, J. B. E. (2001). Response styles in marketing research: A cross-national investigation. *Journal of Marketing Research*, 38(2), 143-56. doi: 10.1509/jmkr.38.2.143.18840
- Baxter, J. (2012). Kaupapa Māori research, epidemiology and Māori mental health: Challenges, opportunities and insights. In R. Nairn, P. Pehi, R. Black, & W. Waitoki (Eds.), *Ka tū, ka oho: Visions of a bicultural partnership in psychology* (pp. 123-146). Wellington, New Zealand: New Zealand Psychological Society.
- Belich, J. (1996). *Making peoples: A history of the New Zealanders*. Auckland, New Zealand: Allen Lane.
- Belgrave, M. (2005). *Historical frictions: Māori claims and reinvented histories*. Auckland, New Zealand: Auckland University Press.
- Belgrave, M. (2014). Beyond the Treaty of Waitangi: Māori tribal aspirations in an era of reform, 1984–2014. *The Journal of Pacific History*, 49(2), 193-213. doi: 10.1080/00223344.2014.898232
- Bentler, P. M. (2007). On tests and indices for evaluating structural models. *Personality and Individual Differences*, 42(5), 825-9. doi: 10.1016/j.paid.2006.09.024
- Berry, J. W. (1989). Imposed etics—emics—derived etics: The operationalization of a compelling idea. *International Journal of Psychology*, 24(6), 721-35. doi: 10.1080/00207598908246808
- Biermann, S., & Townsend-Cross, M. (2008). Indigenous pedagogy as a force for change. *The Australian Journal of Indigenous Education*, 37(S1), 146-54. doi: 10.1375/s132601110000048x
- Billet, J. B. & McClendon, M. J. (2000). Modeling acquiescence in measurement models for two balanced sets of items. *Structural Equation Modeling*, 7(4), 608-28. doi: /10.1207/s15328007sem0704_5

- Bishop, R. (1996). Addressing issues of self-determination and legitimation in Kaupapa Māori research. In B. Webber (Ed.), *He paepae korero: research perspectives in Māori education* (pp. 143-160). Wellington New Zealand: New Zealand Council for Educational Research.
- Bishop, R. (1998). Freeing ourselves from neo-colonial domination in research: A Māori approach to creating knowledge. *International Journal of Qualitative Studies in Education*, 11(2), 199-219. doi: 10.1080/095183998236674
- Bishop, R. (2010). Diversity and educational disparities: The role of teacher education. In T. Burns & V. Shadoian-Gersing (Eds.), *Educating teachers for diversity: Meeting the challenge* (pp. 119-136). Paris, France: OECD Press.
- Borell, B. (2005). *Living in the city ain't so bad: Cultural diversity of South Auckland rangatahi* (Unpublished master's thesis). Massey University, New Zealand.
- Borell, B. (2014). When the marginalised research the privileged: One Māori group's experience. *International Journal of Critical Indigenous Studies*, 7(2), 1-11.
- Branscombe, N. R., Schmitt, M. T., & Harvey, R. D. (1999). Perceiving pervasive discrimination among African Americans: Implications for group identification and well-being. *Journal of Personality and Social Psychology*, 77(1), 135-49. doi: 10.1037//0022-3514.77.1.135
- Brash, D. (2004, January). *Nationhood*. Speech given to the Orewa Rotary Club, Orewa, New Zealand. Retrieved from <http://www.scoop.co.nz/stories/PA0401/S00220.htm>
- Brass, S. I. (2000). *Put on the kettle: Study on identifying theoretical premises of Muskego and Asini Cree counselling methods* (Unpublished master's thesis). University of Saskatchewan, Canada.
- Brittain, E. (2016). *Whai tikanga: In pursuit of justice. Māori interactions with the criminal justice system and experiences of institutional racism* (Unpublished master's thesis). Massey University, New Zealand.
- Brougham, A. E. & Reed, A. W. (2012). *The raupō book of Māori proverbs: Te kohikohinga whakataukī a raupō*. Auckland, New Zealand: Penguin Books.

- Burden, B. C. (2000). Voter turnout and the national election studies. *Political Analysis*, 8(4), 389-98. doi: 10.1093/oxfordjournals.pan.a029823
- Byrne, B. M., Shavelson, R. J., & Muthén, B. (1989). Testing for the equivalence of factor covariance and mean structures: The issue of partial measurement invariance. *Psychological Bulletin*, 105(3), 456-66. doi: 10.1037//0033-2909.105.3.456
- Carter, S. M., & Little, M. (2007). Justifying knowledge, justifying method, taking action: Epistemologies, methodologies, and methods in qualitative research. *Qualitative Health Research*, 17(10), 1316-28. doi: 10.1177/1049732307306927
- Chadwick, A. (1998). Blood as narrative/Narrative as blood: Declaring a fourth world. *Narrative*, 6(3), 236-255.
- Chapple, S. (2000). Māori socio-economic disparity. *Political Science*, 52(2), 101-15. doi: 0.1177/003231870005200201
- Cheung, G. W., & Rensvold, R. B. (2002). Evaluating goodness-of-fit indexes for testing measurement invariance. *Structural Equation Modeling*, 9(2), 233-55. doi: 10.1207/s15328007sem0902_5
- Çinlar, N., & Dowse, J. (2008). *Human resource trends in the tertiary academic workforce: A working paper contributing to the independent strategic review of the Performance-Based Research Fund*. Wellington, New Zealand: Tertiary Education Commission. Retrieved from: <https://akoatearora.ac.nz/download/ng/file/group-189/human-resource-trends-in-the-tertiary-academic-workforce.pdf>
- Clark, T. C., Robinson, E., Crengle, S., Sheridan, J., Jackson, N., & Ameratunga, S. (2013). Binge drinking among Māori secondary school students in New Zealand: Associations with source, exposure and perceptions of alcohol use. *The New Zealand Medical Journal (Online)*, 126(1370), 55-69.

- Clarke, J. (2015). *Māori participation and representation: An investigation into Māori reported experiences of participation and representation within the policy process post-MMP* (Unpublished master's thesis). University of Canterbury, New Zealand.
- Clarke, D. E., & Jensen, M. A. (1997). The effects of social support, life events, and demographic factors on depression among Māori and Europeans in New Zealand rural, town, and urban environments. *Journal of Community Psychology*, 25(4), 303-23. doi: 10.1002/(sici)1520-6629(199707)25:4<303::aid-jcop1>3.0.co;2-v
- Clymer, A. & Falk, E. (2004). *A polling microscope: The national Annenberg election survey measures opinions of groups too small for any other poll to see clearly (Asians, Native Americans, and sub-groups of Latinos)*. Paper presented at the Annual Meeting of the American Political Science Association, Chicago. Retrieved from http://citation.allacademic.com/meta/p_mla_apa_research_citation/0/6/0/8/1/pages60813/p60813-1.php.
- Coburn, E. (2015). A review of Indigenous Statistics: A quantitative research methodology. *Decolonisation: Indigeneity, Education & Society*, 4(2), 123-33.
- Coffé, H. (2013). Gender and party choice at the 2011 New Zealand general election. *Political Science*, 65(1), 25-45. doi: 10.1177/0032318713485346
- Comrie, M., Gillies, A., & Day, M. (2002). The Māori electoral option campaign: Problems of measuring 'success'. *Political Science*, 54(2), 45-57. doi: 10.1177/003231870205400203
- Cormack, D., & Robson, C. (2010). *Classification and output of multiple ethnicities: considerations for monitoring Māori health*. Wellington, New Zealand: Te Rōpū Rangahau Hauora a Eru Pōmare. Retrieved from <https://www.fmhs.auckland.ac.nz/assets/fmhs/Te%20Kupenga%20Hauora%20M%C4%81ori/docs/classification.pdf>
- Cornetassel, J. & Witmer, R. C. (2008). *Forced federalism: Contemporary challenges to Indigenous nationhood* (Vol. 3). Norman, OK: University of Oklahoma Press.

- Cowie, L. J. (2017). *"It's always best to sort of speak up, but..." Exploring how students who support ethnic-specific equity programmes at university respond to anti-equity challenges* (Unpublished master's thesis). University of Auckland, New Zealand.
- Cowie, L.J., Greaves, L.M., Milfont, T.L., Houkamau, C.A. & Sibley, C.G. (2016) Indigenous identity and environmental values: Do spirituality and political consciousness predict environmental regard among Māori? *International Perspectives in Psychology: Research, Practice, Consultation*, 5(4), 228-44. doi: 10.1037/ipp0000059
- Cowie, L. J., Greaves, L. M., & Sibley, C. G. (2015). Identifying distinct subgroups of Green voters: A latent profile analysis of crux values relating to Green Party support. *New Zealand Journal of Psychology*, 44(1), 46-59.
- Cram, F. (2011). Poverty. In T. McIntosh & M. Mulholland (Eds.), *Māori and social issues* (Vol. 1). Wellington, New Zealand: Huia.
- Crengle, S., Lay-Yee, R., Davis, P., & Pearson, J. (2005). *A comparison of Māori and non-Māori patient visits to doctors: The National Primary Medical Care Survey* (NatMedCa: 2001/02, Report 6). Retrieved from <http://www.health.govt.nz/system/files/documents/publications/natmedcareport6dec2005.pdf>
- Crenshaw, K. (1991). Mapping the margins: Intersectionality, identity politics, and violence against women of color. *Stanford Law Review*, 43(6) 1241-99. doi: 10.2307/1229039
- Creswell, J. W. (2007). *Qualitative inquiry and research design: Choosing among five approaches* (2nd ed.). Thousand Oaks, CA: Sage.
- Cronbach, L. J., & Meehl, P. E. (1955). Construct validity in psychological tests. *Psychological Bulletin*, 52(4), 281-302. doi: 10.1037/h0040957
- Curtin, J. (2013). Women and political science in New Zealand: The state of the discipline. *Political Science*, 65(1), 63-83. doi: 10.1177/0032318713484922

- Curtin, J. (2014). From presence to absence? Where were women in 2011? In J. Vowles (Ed.), *The new electoral politics in New Zealand: The significance of the 2011 election* (pp. 125-140). Wellington, New Zealand: Institute for Governance and Policy Studies.
- Curtis, E., Wikaire, E., Jiang, Y., McMillan, L., Loto, R., & Reid, P. (2015). A tertiary approach to improving equity in health: Quantitative analysis of the Māori and Pacific Admission Scheme (MAPAS) process, 2008–2012. *International Journal for Equity in Health*, 14(1). doi: 10.1186/s12939-015-0133-7
- Curtis, E., Wikaire, E., Stokes, K., & Reid, P. (2012). Addressing Indigenous health workforce inequities: A literature review exploring ‘best’ practice for recruitment into tertiary health programmes. *International Journal for Equity in Health*, 11(1). doi: 10.1186/1475-9276-11-13
- Davis, A. Y. (1981). *Women, race, and class*. London, United Kingdom: The Women’s Press Ltd.
- Denzin, N. K., & Lincoln, Y. S. (2008). *Strategies of qualitative inquiry* (Vol. 2). Thousand Oaks, CA: Sage.
- De Rooij, E. A. & Green, D. P. (2016). Radio public service announcements and voter participation among Native Americans: Evidence from two field experiments. *Political Behavior*, 39(2), 1-20. doi: 10.1007/s11109-016-9358-4
- Derby, M. (2014). *Māori–Pākehā relations - Māori renaissance: Te Ara - The Encyclopedia of New Zealand*. Retrieved from <http://www.teara.govt.nz/en/Māori-Pākehā-relations/page-6>
- Duffy, M., & Chenail, R. J. (2009). Values in qualitative and quantitative research. *Counseling and Values*, 53(1), 22-38. doi: 10.1002/j.2161-007x.2009.tb00111.x
- Durie, A. E. (1993). *Report on the evaluation of the "tihei mauri ora" teacher development contract*. Massey University, New Zealand: Educational Research and Development Centre.
- Durie, M. (1995). Te hoe nuku roa framework: A Māori identity measure. *The Journal of Polynesian Society*, 104(4), 461-470.

- Durie, M. (1998a). *Te mana, te kawanatanga: The politics of Māori self-determination*. Victoria, Australia: Oxford University Press.
- Durie, M. (1998b). *Whaiora: Māori health development* (2nd ed.). Victoria, Australia: Oxford University Press.
- Edelman, M. (1993). Understanding the gay and lesbian vote in '92. *The Public Perspective*, 4(3), 32–33.
- Egan, P. J. (2008). Explaining the distinctiveness of lesbians, gays, and bisexuals in American politics. *SSRN Electronic Journal*, 03/2008.
- Electoral Commission (2013a). *Results*. Retrieved from <http://www.elections.org.nz/events/Māori-electoral-option-2013/results>
- Electoral Commission (2013b). *Last Chance to choose between Māori and general roll*. Retrieved from <http://www.elections.org.nz/news-media/last-chance-choose-between-Māori-and-general-roll>
- Electoral Commission (2014a). *Enrol and vote as a New Zealand Māori*. Retrieved from <http://www.elections.org.nz/voters/get-ready-enrol-and-vote/enrol-and-vote-new-zealand-Māori-english>
- Electoral Commission (2014b). *New Zealand 2014 general election official results*. Retrieved from <http://www.elections.org.nz/news-media/new-zealand-2014-general-election-official-results>
- Evans, L. E. (2014). Tribal-State relations in the Anglosphere. *Annual Review of Political Science*, 17(1), 273-89. doi: 10.1146/annurev-polisci-073012-112513
- Fergusson, D. M., Horwood, L. J., & Swain-Campbell, N. (2003). Ethnicity and criminal convictions: Results of a 21-year longitudinal study. *Australian & New Zealand Journal of Criminology*, 36(3), 354-367. doi: 10.1375/acri.36.3.354
- Field, A. (2012). *Discovering statistics using IBM SPSS Statistics* (4th ed.). London, United Kingdom: Sage.

- Fink, J. W., Paine, S. J., Gander, P. H., Harris, R. B., & Purdie, G. (2011). Changing response rates from Māori and non-Māori in national sleep health surveys. *Journal of the New Zealand Medical Association*, 124(1328), 52-63.
- Fitzgerald, E., Stevenson, B., & Tapiata, J. (2007). *Māori electoral participation: a report produced for the Electoral Commission*. Massey University, New Zealand: School of Māori Studies, Massey University. Retrieved from http://www.elections.org.nz/sites/default/files/plain-page/attachments/massey_report.pdf
- Fournier, P. & Loewen, P. J. (2011). *Aboriginal electoral participation in Canada*. Ottawa, Ontario: Elections Canada.
- Frain, S. C. (2016). Resisting political colonisation and American militarization in the Marianas Archipelago. *AlterNative: An International Journal of Indigenous Peoples*, 12(3), 298-315. doi: 10.20507/alternative.2016.12.3.7
- Galicki, C. (2016, November). *Experiences and perceptions of the cost of voting among low socioeconomic, young and migrant voters in New Zealand: Findings from focus groups*. Paper presented at the New Zealand Political Studies Association conference, University of Waikato, Hamilton, New Zealand.
- Geddis, A. (2006). A dual track democracy? The symbolic role of the Māori seats in New Zealand's electoral system. *Election Law Journal*, 5(4), 347-52. doi: 10.1089/elj.2006.5.347
- Gerber, A. S., Huber, G. A., Doherty, D., & Dowling, C. M. (2011). The big five personality traits in the political arena. *Annual Review of Political Science*, 14(1), 265-287. doi: 10.1146/annurev-polisci-051010-111659
- Greaves, L. M. (2014). *Māori identity signatures: A latent profile analysis of the types of Māori identity* (Unpublished master's thesis). University of Auckland, New Zealand.
- Greaves, L. M., Barlow, F. K., Lee, C. H., Matika, C. M., Wang, W., Lindsay, C. J., ... & Stronge, S. (2017). The diversity and prevalence of sexual orientation self-labels in a New Zealand

national sample. *Archives of Sexual Behavior*, 46(5), 1325-36. doi: 10.1007/s10508-016-0857-5

Greaves, L. M., Barlow, F. K., Cowie, L. J., Manuela, S., Houkama, C. A., & Sibley, C. G. (2017). Colonised and queer: Ethnicity and sexual orientation in a New Zealand national sample. *Manuscript in Preparation*.

Greaves, L. M., Houkama, C., & Sibley, C. G. (2015). Māori identity signatures: A latent profile analysis of the types of Māori identity. *Cultural Diversity and Ethnic Minority Psychology*, 21(4), 541-9. doi: 10.1037/cdp0000033

Greaves, L. M., Houkama, C. A., & Sibley, C. G. (2017). Random intercept exploratory factor analysis of the multidimensional model of Māori identity and cultural engagement. *Personality and Individual Differences*, 105, 14-8. doi: 10.1016/j.paid.2016.09.026

Greaves, L. M. (2017a). An investigation into the feasibility of an online national probability panel study in New Zealand. Retrieved from <https://cdn.auckland.ac.nz/assets/arts/research-centres/compass/documents/panel-prefeasibility-report.pdf>

Greaves, L. M. (2017b). Māori views of government: Results from a national survey. *Manuscript in Preparation*.

Greaves, L. M., Manuela, S., Muriwai, E., Cowie, L. J., Lindsay, C., Matika, C. M., Houkama, C. A., & Sibley, C. G. (2017). The Multidimensional Model of Māori Identity and Cultural Engagement: Measurement equivalence across diverse Māori groups. *New Zealand Journal of Psychology*, 46(1), 24-35.

Greaves, L. M., Osborne, D., Houkama, C. A., & Sibley, C. G. (2017). Identity and demographics predict voter enrolment on the Māori electoral roll: Findings from a national sample. *MAI Journal*, 6(1) 3-16. doi: 10.20507/maijournal.2017.6.1.1

Greaves, L. M., Osborne, D., Sengupta, N. K., Milojev, P., & Sibley, C. G. (2014). Politics and post-colonial ideology: historical negation and symbolic exclusion predict political party preference. *New Zealand Journal of Psychology*, 43(3), 39-54.

- Greaves, L. M., Osborne, D., & Sibley, C. G. (2015). Profiling the Fence-Sitters in New Zealand Elections: A Latent Profile Model of Political Voting Blocs. *New Zealand Journal of Psychology*, 44(2), 43-56.
- Greaves, L. M., Robertson, A., Cowie, L. J., Osborne, D., Houkamau, C. A., & Sibley, C. G. (2017). Predicting party vote sentiment: Identifying the demographic and psychological correlates of party preference in two large datasets. *New Zealand Journal of Psychology*, 46(3), 48-61.
- Greaves, L. M., Sengupta, N. K., Townrow, C. S., Houkamau, C. A., & Sibley, C. G. (2017). Māori, a politicised identity: Indigenous identity, voter turnout, protest, and political party support in Aotearoa New Zealand. *Manuscript Submitted for Publication*.
- Green, D. P., Palmquist, B., & Schickler, E. (2002). *Partisan hearts and minds: Political parties and the social identities of voters*. New Haven, CT: Yale University Press.
- Greiffenhagen, C., Mair, M., & Sharrock, W. (2011). From methodology to methodography: A study of qualitative and quantitative reasoning in practice. *Methodological Innovations Online*, 6(3), 93-107. doi: 10.4256/mio.2011.009
- Groves, R. M. (2006). Nonresponse rates and nonresponse bias in household surveys. *Public Opinion Quarterly*, 70(5) 646-75. doi: 10.1093/poq/nfl033
- Hall, M. (2014). *Rethinking Māori academic development in New Zealand universities* (Unpublished doctoral thesis). Victoria University of Wellington, New Zealand.
- Harell, A., Panagos, D., & Matthews, J. S. (2009). Explaining Aboriginal turnout in federal elections: Evidence from Alberta, Saskatchewan, and Manitoba . In J. Peters, J. White, D. Beavon, & P. Dinsdale (Eds.), *Aboriginal policy research, volume 10: Voting, governance, and research methodology* (pp. 3-24). Ontario, Canada: Thompson Educational Publishing.
- Harrington, L., & Liu, J. H. (2002). Self-enhancement and attitudes toward high achievers: A bicultural view of the independent and interdependent self. *Journal of Cross-Cultural Psychology*, 33(1), 37-55. doi: 10.1177/0022022102033001003

- Harris, R., Tobias, M., Jeffreys, M., Waldegrave, K., Karlsen, S., & Nazroo, J. (2006). Racism and health: The relationship between experience of racial discrimination and health in New Zealand. *Social Science & Medicine*, 63(6), 1428-41. doi: 10.1016/j.socscimed.2006.04.009
- Harris, R. B., Cormack, D. M., & Stanley, J. (2013). The relationship between socially-assigned ethnicity, health and experience of racial discrimination for Māori: Analysis of the 2006/07 New Zealand Health Survey. *BMC Public Health*, 13(844). doi: 10.1186/1471-2458-13-844
- Hart, M. A. (2010). Indigenous worldviews, knowledge, and research: The development of an Indigenous research paradigm. *Journal of Indigenous Voices in Social Work*, 1(1), 1-16.
- Hayduk, L., Cummings, G., Boadu, K., Pazderka-Robinson, H., & Boulianne, S. (2007). Testing! Testing! One, two, three—Testing the theory in structural equation models!. *Personality and Individual Differences*, 42(5), 841-50. doi: 10.1016/j.paid.2006.10.001
- Hechter, M. (2000). *Containing nationalism*. Oxford, United Kingdom: Oxford University Press.
- Herek, G. M., Norton, A. T., Allen, T. J., & Sims, C. L. (2010). Demographic, psychological, and social characteristics of self-identified lesbian, gay, and bisexual adults in a US probability sample. *Sexuality Research and Social Policy*, 7(3), 176-200. doi: 10.1007/s13178-010-0017-y
- Hertzog, M. (1996). *The lavender vote: Lesbians, gay men, and bisexuals in American electoral politics*. New York City, NY: New York University Press.
- Hill, R. S. (2009). *Māori and the state: Crown-Māori relations in New Zealand/Aotearoa, 1950-2000*. Wellington, New Zealand: Victoria University Press.
- Hill, L. & Alport, K. (2010). Voting attitudes and behavior among Aboriginal peoples: Reports from Anangu women. *Australian Journal of Politics and History*, 56(2), 242-58. doi: 10.1111/j.1467-8497.2010.01552.x
- Hodgkin, E., Hamlin, M. J., Ross, J. J., & Peters, F. (2010). Obesity, energy intake and physical activity in rural and urban New Zealand children. *Rural Remote Health*, 10(2), 1336.

- Hook, G. R. (2009). Does the Domestic Violence Act discriminate against Māori? *MAI Review*, 1(7), 1-12.
- Houkamau, C. A. (2006). *Identity and socio-historical context: Transformations and change among Māori women* (Unpublished PhD thesis). University of Auckland, New Zealand.
- Houkamau, C. A. (2010). Identity construction and reconstruction: the role of socio-historical contexts in shaping Māori women's identity. *Social Identities*, 16(2), 179-96. doi: 10.1080/13504631003688872
- Houkamau, C. A., & Sibley, C. G. (2010). The multi-dimensional model of Māori identity and cultural engagement. *New Zealand Journal of Psychology*, 39(1), 8-28.
- Houkamau, C. A., & Sibley, C. G. (2011). Māori cultural efficacy and subjective wellbeing: A psychological model and research agenda. *Social Indicators Research*, 103(3), 379-98. doi: 10.1007/s11205-010-9705-5
- Houkamau, C. A., & Sibley, C. G. (2014). Social identity and differences in psychological and economic outcomes for mixed and sole-identified Māori. *International Journal of Intercultural Relations*, 40, 113-25. doi: 10.1016/j.ijintrel.2014.03.001
- Houkamau, C. A., & Sibley, C. G. (2015a). The revised multidimensional model of Māori identity and cultural engagement (MMM-ICE2). *Social Indicators Research*, 122(1), 279-96. doi: 10.1371/journal.pone.0118540
- Houkamau, C. A., & Sibley, C. G. (2015b). Looking Māori predicts decreased rates of home ownership: Institutional racism in housing based on perceived appearance. *PLoS ONE*, 10(3). doi: 10.1371/journal.pone.0118540
- Houkamau, C. A., & Sibley, C. G. (in press). Mixed methods and the scientific study of Māori identity: The story behind the multi-dimensional model of Māori identity and cultural engagement. In R. Bendl, L. A. E. Booyesen, & J. Pringle (Eds.), *Research methods on diversity management, equality and inclusion at work*. Northampton, MA: Edward Elgar Publishing.

- Houkamau, C. A., & Sibley, C. G. (2016). Cultural connection predicts perceptions of financial security for Māori. *Social Indicators Research*, 133(1), 395-412. doi: 10.1007/s11205-016-1367-5
- Hu, L. T., & Bentler, P. M. (1998). Fit indices in covariance structure modeling: Sensitivity to underparameterized model misspecification. *Psychological Methods*, 3(4), 424-53. doi: 10.1037//1082-989x.3.4.424
- Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, 6(1), 1-55. doi: 10.1080/10705519909540118
- Huyser, K. R., Sanchez, G. R., & Vargas, E. D. (2016). Civic engagement and political participation among American Indians and Alaska Natives in the US. *Politics, Groups, and Identities*, 5(4), 1-18. doi: 10.1080/21565503.2016.1148058
- Hynds, A., Sleeter, C., Hindle, R., Savage, C., Penetito, W., & Meyer, L. H. (2011). Te Kotahitanga: A case study of a repositioning approach to teacher professional development for culturally responsive pedagogies. *Asia-Pacific Journal of Teacher Education*, 39(4), 339-51. doi: 10.1080/1359866x.2011.614684
- Irwin, K. (1992). Becoming an academic: Contradictions and dilemmas of a Māori feminist. In S. Middleton & A. Jones (Eds.), *Women and education in Aotearoa 2* (pp. 52-67). Wellington, New Zealand: Bridget Williams Books.
- Iusitini, L., & Crothers, C. (2013). Turnout and voting choices at general elections of Pacific peoples in New Zealand. *Political Science*, 65(2), 157-77. doi: 10.1177/0032318713507206
- Jacobs, L. A. (2009). Mapping the legal consciousness of First Nations voters: Understanding voting rights mobilisation. In J. Peters, J. White, D. Beavon, & P. Dinsdale (Eds.), *Aboriginal policy research, volume 10: Voting, governance, and research methodology* (pp. 25-43). Ontario, Canada: Thompson Educational Publishing.

- Jackson, M. & Mutu, M. (2016) *He whakaaro here whakaumu mō Aotearoa: The report of Matike Mai Aotearoa – the Independent Working Group on Constitutional Transformation*. Auckland: University of Auckland and National Iwi Chairs Forum. Retrieved from <http://www.converge.org.nz/pma/MatikeMaiAotearoaReport.pdf>
- Jansen, P., Bacal, K., & Buetow, S. (2011). A comparison of Māori and non-Māori experiences of general practice. *The New Zealand Medical Journal*, 124(1330), 24-29.
- Johnson, T., Kulesa, P., Cho, Y. I., & Shavitt, S. (2005). The relation between culture and response styles: Evidence from 19 countries. *Journal of Cross-Cultural Psychology*, 36(2), 264-77. doi: 10.1177/0022022104272905
- Jost, J. T., Becker, J. C., Osborne, D., & Badaan, V. (2017). Missing in (collective) action: Ideology, system justification, and the motivational antecedents of protest behavior. *Current Directions in Psychological Science*, 26(2), 99-108. doi: 10.1177/0963721417690633
- Kalmoe, N. P., & Gross, K. (2016). Cueing patriotism, prejudice, and partisanship in the age of Obama: Experimental tests of US flag imagery effects in presidential elections. *Political Psychology*, 37(6), 883-99. doi: 10.1111/pops.12305
- Kam, C. C. S., & Zhou, M. (2014). Does acquiescence affect individual items consistently? *Educational and Psychological Measurement*, 75(5), 764-84. doi: 10.1177/0013164414560817
- Kaplan, A. (1964). *The conduct of inquiry: Methodology for behavioral science*. San Francisco, CA: Chandler.
- Karp, J. A., & Banducci, S. A. (1999). The impact of proportional representation on turnout: Evidence from New Zealand. *Australian Journal of Political Science*, 34(3), 363-77. doi: 10.1080/10361149950281
- Karp, J. A., & Brockington, D. (2005). Social desirability and response validity: A comparative analysis of overreporting voter turnout in five countries. *The Journal of Politics*, 67(3), 825-40. doi: 10.1111/j.1468-2508.2005.00341.x

- Kashima, E.S., & Hardie, E.A. (2000). The development and validation of the relational, individual, and collective self-aspects (RIC) scale. *Asian Journal of Social Psychology*, 3(1), 19-48. doi: 10.1111/1467-839x.00053
- Kauanui, J. K. (1999). "For Get" Hawaiian entitlement: Configurations of land, "blood", and Americanization in the Hawaiian Homes Commission Act of 1921. *Social Text*, 59 (Summer 1999), 123-144.
- Kawharu, M. (2008). *Tāhuhu korero: The sayings of Taitokerau*. Auckland, New Zealand: Auckland University Press.
- Kickett-Tucker, C. S., Christensen, D., Lawrence, D., Zubrick, S. R., Johnson, D. J., & Stanley, F. (2015). Development and validation of the Australian Aboriginal racial identity and self-esteem survey for 8–12 year old children (IRISE_C). *International Journal for Equity in Health*, 14(103). doi: 10.1186/s12939-015-0234-3
- King, M. (1999). *Being Pākehā now: Reflection and recollections of a white native*. Auckland, New Zealand: Penguin Books.
- King, M. (2003). *The Penguin history of New Zealand*. Auckland, New Zealand: Penguin Books.
- Kirk, S. (2017, July 26). Winston Peters takes issue with the use of Te Reo Māori in parliament. *Stuff.co.nz*. Retrieved from <https://www.stuff.co.nz/national/politics/95132721/winston-peters-takes-issue-with-the-use-of-te-reo-Māori-in-parliament>
- Knowles, E. S., & Nathan, K. T. (1997). Acquiescent responding in self-reports: Cognitive style or social concern? *Journal of Research in Personality*, 31(2), 293-301. doi: 10.1006/jrpe.1997.2180
- Kosterman, R., & Feshbach, S. (1989). Toward a measure of patriotic and nationalistic attitudes. *Political Psychology*, 10(2), 257-74. doi: 10.2307/3791647
- Kovach, M. (2009). *Indigenous methodologies: Characteristics, conversations and contexts*. Toronto, Canada: University of Toronto Press.

- Kukutai, T. (2004). The problem of defining an ethnic group for public policy: Who is Māori and why does it matter? *Social Policy Journal of New Zealand*, 23, 86-108.
- Kukutai, T. H. (2007). White mothers, Brown children: Ethnic identification of Māori-European children in New Zealand. *Journal of Marriage and Family*, 69(5), 1150-1161. doi: 10.1111/j.1741-3737.2007.00438.x
- Kukutai, T. (2008). *Ethnic self-prioritisation of dual and multi-ethnic youth in New Zealand: A discussion paper*. Wellington, New Zealand: Statistics New Zealand.
- Kukutai, T. (2012). Quantum Māori, Māori quantum: Representations of Māori identities in the Census, 1857/8-2006. In R. McClean, B. Patterson, & D. Swain (Eds.), *Counting stories, moving ethnicities: Studies from Aotearoa New Zealand*, (pp. 27-51). Hamilton, New Zealand: University of Waikato.
- Kukutai, T. (2013). Building ethnic boundaries in New Zealand: Representations of Māori identity in the Census. In Axelsson, P., & Skold, P., (Eds.), *Indigenous peoples and demography: The complex relation between identity and statistics*, (pp. 33-54) New York City, NY: Berghahn Books.
- Kukutai, T., & Callister, P. (2009). A “main” ethnic group? Ethnic self-prioritisation among New Zealand youth. *Social Policy Journal of New Zealand*, 36, 16-31.
- Kukutai, T., & Walter, M. (2015). Recognition and indigenizing official statistics: Reflections from Aotearoa New Zealand and Australia. *Statistical Journal of the IAOS*, 31(2), 317-326. doi: 10.3233/sji-150896
- Lapan, S. D., Quartaroli, M. T., & Riemer, F. J. (2011). *Qualitative research: An introduction to methods and designs*. Hoboken, NJ: John Wiley & Sons.
- Ladner, K. L. (2003). The alienation of nation: Understanding Aboriginal electoral participation. *Electoral Insight*, 5(3), 21-6.
- Ladner, K. L., & McCrossan, M. (2007). *The electoral participation of Aboriginal people*. Ottawa, Canada: Elections Canada.

- Laumann, E. O., Gagnon, J., Michael, R. T., & Michaels, S. (1994). *The social organization of sexuality: Sexual practices in the United States*. Chicago, IL: University of Chicago Press.
- Lavrakas, P. (2017, August 15). *Response propensity modelling (RPM) to allocate differential recruitment strategies*. Workshop presented at the Social Research Centre, Melbourne, Australia.
- Lee, C. H. J., Duck, I. M., & Sibley, C. G. (2017). Ethnic inequality in diagnosis with depression and anxiety disorders. *New Zealand Medical Journal*, 130(1454), 10-20. Le Grice, J. (2014). *Māori and reproduction, sexuality education, maternity, and abortion* (Unpublished PhD thesis). University of Auckland, New Zealand.
- Levine, S. & Roberts, N. S. (2010). Exit, voice and loyalty in action: Māori representation in the New Zealand Parliament. In M. Bargh (Ed.), *Māori and parliament: Diverse strategies and compromises* (pp. 115-48). Wellington, New Zealand: Huia.
- Lubbers, M., & Coenders, M. (2017). Nationalistic attitudes and voting for the radical right in Europe. *European Union Politics*, 18(1), 98-118. doi: 10.1177/1465116516678932
- Luhtanen, R., & Crocker, J. (1992). A collective self-esteem scale: Self-evaluation of one's social identity. *Personality and Social Psychology Bulletin*, 18(3), 302-18. doi: 10.1177/0146167292183006
- Luna, E. M. (2000). Mobilizing the unrepresented: Indian voting patterns and the implications for tribal sovereignty. *Wicazo Sa Review*, 15(1), 91–115.
- Maaka, R., & Fleras, A. (2005). *The politics of indigeneity: Challenging the state in Canada and Aotearoa New Zealand*. Otago, New Zealand: Otago University Press.
- MacDonald, L. T. A. O. T. (2016). Decolonisation starts in a name: Moving on from the colonial pretence that 'Māori' or 'Indigenous peoples' are explanatory frames. *Political Science*, 68(2), 105-23. doi: 10.1177/0032318716675654
- Madrid, R. L. (2005). Indigenous parties and democracy in Latin America. *Latin American Politics and Society*, 47(4), 161-179. doi: 10.1353/lap.2005.0048

- Maher, F. A., & Thompson Tetreault, M. K. (2013). *Privilege and diversity in the academy*. New York City, NY: Routledge.
- Mana. (n.d.). *MANA – Te waka whakareia o te iwi*. Retrieved from <http://mana.org.nz/>
- Mane, J. (2009). Kaupapa Māori: A community approach. *MAI Review*, (3), 1-9.
- Manuela, S., & Sibley, C. G. (2013). The Pacific Identity and Wellbeing Scale (PIWBS): A culturally-appropriate self-report measure for Pacific peoples in New Zealand. *Social Indicators Research*, 112(1), 83-103. doi: 10.1007/s11205-012-0041-9
- Manuela, S., & Sibley, C. G. (2015a). The Pacific identity and wellbeing scale-revised (PIWBS-R). *Cultural Diversity and Ethnic Minority Psychology*, 21(1), 146-55. doi: 10.1037/a0037536
- Manuela, S., & Sibley, C. G. (2015b). The Pacific identity and wellbeing scale-revised: Comparisons across Pacific groups. *New Zealand Journal of Psychology*, 44(1), 60-71.
- Māori Dictionary. (2018). *Māori dictionary online*. Retrieved from <http://www.māoridictionary.co.nz/>
- Marsden, M. (1975). God, man and universe: A Māori view. In M. King (Ed.), *Te ao hurihuri: The world moves on* (pp. 191-219). Wellington, New Zealand: Hick, Smith, and Sons.
- Marsh, H. W., Hau, K. T., & Wen, Z. (2004). In search of golden rules: Comment on hypothesis-testing approaches to setting cutoff values for fit indexes and dangers in overgeneralizing Hu and Bentler's (1999) findings. *Structural Equation Modeling*, 11(3), 320-41. doi: 10.1207/s15328007sem1103_2
- Matika, C. M., Manuela, S., Muriwai, E., Houkamau, C. A., & Sibley, C. G. (in press). Cultural efficacy predicts increased self-esteem for Māori: The mediating effect of rumination. *New Zealand Journal of Psychology*.
- Maydeu-Olivares, A., & Coffman, D. L. (2006). Random intercept item factor analysis. *Psychological Methods*, 11(4), 344-62. doi: 10.1037/1082-989x.11.4.344

- McClellan, R. (2012). Stories. Counting. Ethnicity. In R. McClellan, B. Patterson, & D. Swain (Eds.), *Counting Stories, Moving Ethnicities: Studies from Aotearoa New Zealand*, (pp. 1-26). Hamilton, New Zealand: University of Waikato.
- McCrae, R. R., & Costa, P. T. (1997). Personality trait structure as a human universal. *American Psychologist*, 52(5), 509-16. doi: 10.1037//0003-066x.52.5.509
- McCreanor, T., Rankine, J., Moewaka Barnes, A., Borell, B., Nairn, R., & McManus, A. (2014). The association of crime stories and Māori in Aotearoa New Zealand print media. *Sites*, 11(1), 121–144. doi: 10.11157/sites-vol1iss2id240
- McDowell, T. (2013). *Te ana o te raiona: Māori political movements and the Māori seats in parliament, 1867 – 2008* (Unpublished PhD thesis). University of Auckland, New Zealand.
- Mead, H. M. & Grove, N. (2001). *Ngā pēpeha a ngā tīpuna: The sayings of the ancestors*. Wellington, New Zealand: Victoria University Press.
- Meloy, J. M. (1994). *Writing the qualitative dissertations: Understanding by doing*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Messick, S. (1991). Psychology and methodology of response styles. In R. E. Snow & D. E. Wiley (Eds.), *Improving the Inquiry in Social Science: A Volume in Honor of Lee J. Cronbach* (pp. 161–200). Hillsdale, NJ: Erlbaum.
- Metge, J. (1976). *The Māoris of New Zealand: Rautahi*. Boston, MA: Routledge & K. Paul.
- Mikaere, A. (2011). *Colonising myths-Māori realities: He rukuruku whakaaro*. Wellington, New Zealand: Huia.
- Milfont, T. L., & Fischer, R. (2015). Testing measurement invariance across groups: Applications in cross-cultural research. *International Journal of Psychological Research*, 3(1), 111-30. doi: 10.21500/20112084.857

- Milojev, P., Osborne, D., Greaves, L. M., Barlow, F. K., & Sibley, C. G. (2013). The Mini-IPIP6: Tiny yet highly stable markers of Big Six personality. *Journal of Research in Personality*, 47(6), 936-44. doi: 10.1016/j.jrp.2013.09.004
- Miller, W. E., & Shanks, J. M. (1996). *The new American voter*. Cambridge, MA: Harvard University Press.
- Milne, B. J., Byun, U., & Lee, A. (2013). *New Zealand socio-economic index 2006*. Wellington, New Zealand: Statistics New Zealand.
- Min, J., & Savage, D. (2012). The influence of socio-economic characteristics on the political attitudes of American Indians. *The Social Science Journal*, 49(4), 494-502. doi: 10.1016/j.soscij.2012.10.002
- Min, J., & Savage, D. (2014). Why do American Indians vote Democratic? *The Social Science Journal*, 51(2), 167-80. doi: 10.1016/j.soscij.2013.10.015
- Minde, H. (2003). The Challenge of Indigenism: The struggle for Sami land rights and self-government in Norway 1960–1990. In S. Jentoff, H. Minde, & R. Nilsen (Eds.), *Indigenous Peoples: Resource Management and Global Rights* (pp. 75-104). Chicago, IL: Eburon.
- Ministry of Social Development (2016). *The social report*. Retrieved from <http://socialreport.msd.govt.nz/index.html>
- Ministry for Culture and Heritage. (2014). *Parliament in te reo*. Retrieved from <https://nzhistory.govt.nz/politics/the-work-of-government/history-of-parliament/parliament-in-te-reo>
- Moewaka Barnes, H. (2006). Transforming science: how our structures limit innovation. *Social Policy Journal of New Zealand*, 29, 1-16.
- Moewaka Barnes, A. Borell, B., Taiapa, K., Rankine, J., Nairn, R., & McCreanor, T. (2012). Anti-Māori themes in New Zealand journalism-toward alternative practice. *Pacific Journalism Review*, 18(1), 195-216. doi: 10.24135/pjr.v18i1.296

- Moewaka Barnes, A., Taiapa, K., Borell, B., & McCreanor, T. (2013). Māori experiences and responses to racism in Aotearoa New Zealand. *Mai Journal*, 2(2), 63-77.
- Morrison, A. (1999). *Space for Māori in tertiary institutions: Exploring two sites at the University of Auckland* (Unpublished master's thesis). University of Auckland, New Zealand.
- Mummendey, A., Klink, A., & Brown, R. (2001). A rejoinder to our critics and some of their misapprehensions. *British Journal of Social Psychology*, 40(2), 187-91. doi: 10.1348/014466601164803
- Muriwai, E. (2016). *Smoking, not our Tikanga: An analysis of Māori identity and smoking behavior* (Master's thesis). University of Auckland, New Zealand.
- Muriwai, E., Houkamau, C. A., & Sibley, C. G. (2015). Culture as Cure? The Protective Function of Māori Cultural Efficacy on Psychological Distress. *New Zealand Journal of Psychology*, 44(2), 14-24.
- Muriwai, E., Houkamau, C. A., & Sibley, C. G. (2016). Looking like a smoker, a smokescreen to racism? Māori perceived appearance linked to smoking status. *Ethnicity & Health*, 1-14. doi: 10.1080/13557858.2016.1263288
- Muthén, L. K., & Muthén, B. O. (1998-2015). *Mplus user's guide* (6th ed.). Los Angeles, CA: Muthén & Muthén.
- Mutu, M. (2010). Constitutional intentions: The Treaty of Waitangi texts. In M. Mulholland & V. Tawhai (Eds), *Weeping waters: The Treaty of Waitangi and constitutional change* (pp. 13-40). Wellington, New Zealand: Huia.
- Nairn, R. G. (2012). Psychology becoming bicultural – Māori keynote address: Was there something we missed? In R. Nairn, P. Pehi, R. Black, & W. Waitoki (Eds.), *Ka tū, ka oho: Visions of a bicultural partnership in psychology* (pp. 55-74). Wellington, New Zealand: New Zealand Psychological Society.

- Nairn, R. G., & McCreanor, T. N. (1991). Race talk and common sense: Patterns in Pākehā discourse on Māori/Pākehā relations in New Zealand. *Journal of Language and Social Psychology*, 10(4), 245-262. doi: 10.1177/0261927x911104002
- Nairn, R., Moewaka Barnes, A., Borell, B., Rankine, J., Gregory, A., & McCreanor, T. (2012). Māori news is bad news: That's certainly so on television. *Mai Journal*, 1(1), 38-49.
- Nakata, M. (2006). Australian Indigenous studies: A question of discipline. *The Australian Journal of Anthropology*, 17(3), 265-275. doi: 10.1111/j.1835-9310.2006.tb00063.x
- Neiger, D. (2017, August 15). *Response propensity modelling – Non-response adjustments*. Workshop presented at the Social Research Centre, Melbourne, Australia.
- New Zealand Election Study. (n.d.). *The New Zealand election study*. Retrieved from <http://nzes.org/>
- New Zealand First. (n.d.). *Policy: Immigration*. Retrieved from <http://nzfirst.org.nz/policy/immigration>
- Newton, L. (2009). Reflexivity, validity and roses. *Complicity: An International Journal of Complexity and Education*, 6(2), 104-12.
- Nicholls, R. (2009). Research and Indigenous participation: Critical reflexive methods. *International Journal of Social Research Methodology*, 12(2), 117-26. doi: 10.1080/13645570902727698
- Montaquila, J. M., & Olson, K. M. (2012, April). *Practical tools for nonresponse bias studies*. SRMS/AAPOR Webinar. Retrieved from <http://www.amstat.org/sections/srms/webinarfiles/NRBiasWebinarApril2012.pdf>.
- O'Regan, H. (2012). The fate of customary language. In D. Keenan (Ed.), *Huia histories of Māori: Ngā tāhuhu kōrero* (pp. 297-324). Wellington, New Zealand: Huia.
- Onwuegbuzie, A. J., & Leech, N. L. (2005). On becoming a pragmatic researcher: The importance of combining quantitative and qualitative research methodologies. *International Journal of Social Research Methodology*, 8(5), 375-87. doi: 10.1080/13645570500402447

- Orange, C. (2011). *The Treaty of Waitangi* (2nd ed.). Wellington, New Zealand: Bridget Williams Books.
- Osborne, D., & Sibley, C. G. (2013). Through rose-colored glasses: System-justifying beliefs dampen the effects of relative deprivation on well-being and political mobilisation. *Personality and Social Psychology Bulletin*, 39(8), 991–1004. doi: 10.1177/0146167213487997
- Osborne, D., Milojev, P., & Sibley, C. G. (2017). Authoritarianism and national identity: Examining the longitudinal effects of SDO and RWA on nationalism and patriotism. *Personality and Social Psychology Bulletin*, 43(8), 1086-99. doi: 10.1177/0146167217704196
- Osborne, D., Sibley, C. G., & Sengupta, N. K. (2015). Income and neighbourhood-level inequality predict self-esteem and ethnic identity centrality through individual- and group-based relative deprivation: A multilevel path analysis. *European Journal of Social Psychology*, 45(3), 368-77. doi:10.1002/ejsp.2087
- Osborne, D., & Sibley, C. G. (2012). Does personality matter? Openness correlates with vote choice, but particularly for politically sophisticated voters. *Journal of Research in Personality*, 46(6), 743-51. doi: 10.1016/j.jrp.2012.09.001
- Osborne, D., Yogeeswaran, K., & Sibley, C. G. (2017). Culture-specific ideologies undermine collective action support: Examining the legitimizing effects of postcolonial belief systems. *Group Processes & Intergroup Relations*, 20(3), 333-49. doi:10.1177/1368430216682352
- Osborne, D., Wootton, L. W., & Sibley, C. G. (2013). Are liberals agreeable or not? *Social Psychology*, 44(5), 354-60. doi: 10.1027/1864-9335/a000132
- Paine, S. J., Priston, M., Signal, T. L., Sweeney, B. M., & Muller, D. P. (2013). Developing new approaches for the recruitment and retention of Indigenous participants in longitudinal research. *MAI Journal*, 2(2), 121-32.

- Parliamentary Library. (2009). *The origins of the Māori Seats* (Parliamentary Library Research Paper). Wellington, New Zealand: New Zealand Parliament. Retrieved from <http://www.victoria.ac.nz/stout-centre/about/events/events-past-conferences/publications/8th-Parlconference-Wilson.pdf>
- Parliamentary Library. (2015). *The 2014 New Zealand general election: Final results and voting statistics* (Parliamentary Library Research Paper). Wellington, New Zealand: New Zealand Parliament. Retrieved from <http://www.parliament.nz/en-nz/parl-support/research-papers/00PLLawRP2015011/final-results-2014-general-election>
- Park, S. (2006). *Political participation of “Asian” New Zealanders: A case study of ethnic Chinese and Korean New Zealanders* (Unpublished PhD thesis). University of Auckland, New Zealand.
- Parker, C. S., Sawyer, M. Q., & Towler, C. (2009). A Black man in the White House? *Du Bois Review: Social Science Research on Race*, 6(1), 193-217. doi: 10.1017/s1742058x09090031
- Paulhus, D. L. (1991). Measurement and control of response bias. *Measures of Personality and Social Psychological Attitudes*, 1, 17-59. doi: 10.1016/b978-0-12-590241-0.50006-x
- Pere, R. (1988). Te wheke: Whaia temaramatanga me te aroha. In S. Middleton (Ed.), *Women and education in Aotearoa* (pp. 6-19). Sydney, Australia: Allen & Unwin.
- Perrella, A. M., Brown, S. D., & Kay, B. J. (2012). Voting behaviour among the gay, lesbian, bisexual and transgendered Electorate. *Canadian Journal of Political Science*, 45(1), 89-117. doi: 10.1017/s000842391100093x
- Phinney, J. S. (1990). Ethnic identity in adolescents and adults: Review of research. *Psychological Bulletin*, 108(3), 499-514. doi: 10.1037//0033-2909.108.3.499
- Phinney, J. S. (1991). Ethnic identity and self-esteem: A review and integration. *Hispanic Journal of Behavioral Sciences*, 13(2), 193-208. doi: 10.1177/07399863910132005
- Phinney, J. S. (1992). The multigroup ethnic identity measure a new scale for use with diverse groups. *Journal of Adolescent Research*, 7(2), 156-76. doi: 10.1177/074355489272003

- Phinney, J. S., & Chavira, V. (1992). Ethnic identity and self-esteem: An exploratory longitudinal study. *Journal of Adolescence*, 15(3), 271-81. doi: 10.1016/0140-1971(92)90030-9
- Phinney, J. S., & Ong, A. D. (2007). Conceptualization and measurement of ethnic identity: Current status and future directions. *Journal of Counseling Psychology*, 54(3), 271-281. doi: 10.1037/0022-0167.54.3.271
- Pihama, L. (1993). *Tungia te ururua, kia tupu whakaritorito te tupu o te harakeke: A critical analysis of parents as first teachers* (Unpublished master's thesis). University of Auckland, New Zealand.
- Pihama, L. (2001). *Tīhei mauri ora: honouring our voices: mana wahine as a Kaupapa Māori: theoretical framework* (Unpublished doctoral dissertation). University of Auckland, New Zealand.
- Pihama, L., Cram, F., & Walker, S. (2002). Creating methodological space: A literature review of Kaupapa Māori research. *Canadian Journal of Native Education*, 26(1), 30-43.
- Pike, K. L. (1967). *Language in relation to a unified theory of the structure of human behaviour* (2nd. ed.). The Hague, Netherlands: Mouton.
- Pohatu, T. W. (2005). Ata: Growing respectful relationships. *Unpublished Manuscript*. Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.617.5762&rep=rep1&type=pdf>
- Pool, I. (1991). *Te iwi Māori: a New Zealand population, past, present & projected*. Auckland, New Zealand: Auckland University Press.
- Quince, K. (2007). Māori and the criminal justice system in New Zealand. In J. Tolmie & W. Brookbanks (Eds.), *Criminal justice in New Zealand* (pp. 333-358). Auckland, New Zealand: LexisNexis.
- Rahn, W. M., & Rudolph, T. J. (2005). A tale of political trust in American Cities. *Public Opinion Quarterly*, 69(4), 530–60. doi: 10.1093/poq/nfi056

- Rangihau, J. (1975). Being Māori. In M. King (Eds.), *Te ao hurihuri: The world moves on* (pp. 221-223). Wellington, New Zealand: Hicks Smith and Sons.
- Rata, A., Liu, J. H., & Hanke, K. (2008). Te ara hohou rongo (the path to peace): Māori conceptualisations of inter-group. *New Zealand Journal of Psychology*, 37(2), 18-30.
- Rātana, I. (1969). Valedictory. *New Zealand Parliamentary Debates*, 364, 3872.
- Ratima, M. M., Potaka, U. K., Durie, M. H., & Ratima, K. H. (1993). Acculturation and a Māori identity scale. *Te Pumanawa Hauora, TPH*, 93(6).
- Ratima, M., Brown, R., Garrett, N., Wikaire, E., Ngawati, R., Aspin, C., & Potaka, U. (2008). *Rauringa Raupa: Recruitment and retention of Māori in the health and disability workforce*. Auckland, New Zealand: Taupua Waiora, Division of Public Health and Psychosocial Studies, Faculty of Health and Environmental Sciences, AUT. Retrieved from <http://www.health.govt.nz/publication/rauringa-raupa-recruitment-and-retention-maori-health-and-disability-workforce>
- Rice, R. (2012). *The new politics of protest: Indigenous mobilisation in Latin America's neoliberal era*. Tucson, AZ: University of Arizona Press.
- Riseborough, H. (1989). *Days of darkness: Taranaki, 1878-1884*. Auckland, New Zealand: Allen & Unwin.
- Roa, T., Beggs, J. R., Williams, J., & Moller, H. (2009). New Zealand's performance based research funding (PBRF) model undermines Māori research. *Journal of the Royal Society of New Zealand*, 39(4), 233-8. doi: 10.1080/03014220909510587
- Robson, B., Cormack, D., & Purdie, G. (2010). *Unequal impact II: Māori and Non-Māori cancer statistics by deprivation and rural-urban status 2002-2006*. Wellington, New Zealand: Ministry of Health. Retrieved from <http://www.health.govt.nz/system/files/documents/publications/unequal-impact-ii..pdf>

- Royal Commission. (1986). *Report of the Royal Commission on the electoral system: Towards a better democracy*. Retrieved from <http://www.elections.org.nz/voting-system/mmp-voting-system/report-royal-commission-electoral-system-1986>
- Ryan, L., & Golden, A. (2006). 'Tick the box please': A reflexive approach to doing quantitative social research. *Sociology*, 40(6), 1191-200. doi: 10.1177/0038038506072287
- Said, E. W. (1978). *Orientalism*. London, United Kingdom: Penguin Group.
- Satherley, N., Milojev, P., Greaves, L. M., Huang, Y., Osborne, D., Bulbulia, J., & Sibley, C. G. (2015). Demographic and psychological predictors of panel attrition: evidence from the New Zealand attitudes and values study. *PloS ONE*, 10(3). doi: 10.1371/journal.pone.0121950
- Savin-Williams, R. C. (2009). How many gays are there? It depends. In D. A. Hope (Ed.), *Contemporary perspectives on lesbian, gay, and bisexual identities* (pp. 5-41). New York City, NY: Springer. doi: 10.1007/978-0-387-09556-1_2
- Schaffner, B., & Senic, N. (2006). Rights or benefits? Explaining the sexual identity gap in American political behavior. *Political Research Quarterly*, 59(1), 123-32. doi: 10.1177/106591290605900111
- Schatz, R. T., Staub, E., & Lavine, H. (1999). On the varieties of national attachment: Blind versus constructive patriotism. *Political Psychology*, 20(1), 151-74. doi: 10.1111/0162-895x.00140
- Sellers, R. M., Smith, M. A., Shelton, J. N., Rowley, S. A. J., & Chavous, T. M. (1998). Multidimensional model of racial identity: A reconceptualization of African American racial identity. *Personality and Social Psychology Review*, 2(1), 18-39. doi: 10.1207/s15327957pspr0201_2
- Sengupta, N. K., Barlow, F. K., & Sibley, C. G. (2012). Intergroup contact and post-colonial ideology: Outgroup contact ameliorates symbolic exclusion but not historical negation. *International Journal of Intercultural Relations*, 36(4), 506-17. doi: 10.1016/j.ijintrel.2011.12.011

- Sengupta, N. K., & Sibley, C. G. (2013). Perpetuating one's own disadvantage intergroup contact enables the ideological legitimization of inequality. *Personality and Social Psychology Bulletin*, 39(11), 1391-403. doi: 10.1177/0146167213497593
- Sengupta, N. K., Osborne, D., & Sibley, C. G. (2015). The status-legitimacy hypothesis revisited: Ethnic group differences in general and dimension-specific legitimacy. *British Journal of Social Psychology*, 54(2), 324-40. doi: 10.1111/bjso.12080
- Shaw, A. K., & Stanton, D. E. (2012). Leaks in the pipeline: Separating demographic inertia from ongoing gender differences in academia. *Proceedings of the Royal Society of London B: Biological Sciences*, 279(1743), 3736-41. doi: 10.1098/rspb.2012.0822
- Sibley, C. G. (2010). The dark duo of post-colonial ideology: A model of symbolic exclusion and historical negation. *International Journal of Conflict and Violence*, 4(1), 107-23.
- Sibley, C. G. (2012). The Mini-IPIP6: Item response theory analysis of a short measure of the big-six factors of personality in New Zealand. *New Zealand Journal of Psychology*, 41(3), 21-31.
- Sibley, C. G. (2014a) *Sampling procedure and sample details for the New Zealand attitudes and values study* (NZAVS Technical Documents, e01). Retrieved from <https://cdn.auckland.ac.nz/assets/psych/about/our-research/nzavs/NZAVSTechnicalDocuments/NZAVS-Technical-Documents-e01-Sampling-Procedure-and-Sample-Details.pdf>
- Sibley, C. G. (2014b). *Procedures for estimating post-stratification NZAVS sample weights* (NZAVS Technical Documents, e08). Retrieved from <https://cdn.auckland.ac.nz/assets/psych/about/our-research/nzavs/NZAVSTechnicalDocuments/NZAVS-Technical-Documents-e08-Procedures-for-Estimating-Sample-Weights.pdf>
- Sibley, C. G. (2014c). *Comparison of demographics in the NZAVS and New Zealand Census*. (NZAVS Technical Documents, e22). Retrieved from

<https://cdn.auckland.ac.nz/assets/psych/about/our-research/nzavs/NZAVSTechnicalDocuments/NZAVS-Technical-Documents-e22-Comparison-Demographic-Proportions.pdf>

- Sibley, C. G., & Greaves, L., M. (2014). *Item content and database keys* (NZAVS Technical Documents, e03). Retrieved from <https://cdn.auckland.ac.nz/assets/psych/about/our-research/nzavs/NZAVSTechnicalDocuments/NZAVS-Technical-Documents-e03-Item-Content-and-Database-Key.xlsx>
- Sibley, C. G., & Houkamau, C. A. (2013). The multi-dimensional model of Māori identity: Item response theory analysis of scale properties. *Cultural Diversity and Ethnic Minority Psychology, 19*(1), 97-110. doi: 10.1037/a0031113
- Sibley, C. G., Houkamau, C. A., & Hoverd, W. J. (2011). Ethnic group labels and intergroup attitudes in New Zealand: Naming preferences predict distinct ingroup and outgroup biases. *Analyses of Social Issues and Public Policy, 11*(1), 201-20. doi: 10.1111/j.1530-2415.2011.01244.x
- Sibley, C. G., Liu, J. H., Duckitt, J., & Khan, S. S. (2008). Social representations of history and the legitimization of social inequality: The form and function of historical negation. *European Journal of Social Psychology, 38*(3), 542-65. doi: 10.1002/ejsp.449
- Sibley, C. G., Luyten, N., Purnomo, M., Moberly, A., Wootton, L. W., Hammond, M. D., ... Robertson, A. (2011). The Mini-IPIP6: Validation and extension of a short measure of the Big-Six factors of personality in New Zealand. *New Zealand Journal of Psychology, 40*(3), 142-59.
- Sibley, C. G., Muriwai, E., & Greaves, L., M. (2014). *Appendix of consecutive NZAVS sample frequencies and New Zealand Census data* (NZAVS Technical Documents, e04). Retrieved from <https://cdn.auckland.ac.nz/assets/psych/about/our-research/nzavs/NZAVSTechnicalDocuments/NZAVS-Technical-Documents-e04-Comparison-of-NZAVS-and-Census-Proportions.xlsx>

- Sibley, C. G., Osborne, D., & Duckitt, J. (2012). Personality and political orientation: Meta-analysis and test of a threat-constraint model. *Journal of Research in Personality*, 46(6), 664-677.
doi: 10.1016/j.jrp.2012.08.002
- Sibley, C. G., & Osborne, D. (2016). Ideology and post-colonial society. *Political Psychology*, 37 (Suppl. 1), 115-161. doi: 10.1111/pops.12323
- Sibley, C. G., & Pirie, D. J. (2013). Personality in New Zealand: Scale norms and demographic differences in the mini-IPIP6. *New Zealand Journal of Psychology*, 42(1), 13-30.
- Sibley, C. G., Robertson, A., Osborne, D., Huang, Y., Milojev, P., ... & Barlow, F. K. (2017). Bias and tracking accuracy in voting projections using the New Zealand attitudes and values study. *Political Science*, 69(1), 1-19. doi: 10.1080/00323187.2017.1321589
- Sibley, C. G., & Ward, C. (2013). Measuring the preconditions for a successful multicultural society: A barometer test of New Zealand. *International Journal of Intercultural Relations*, 37(6), 700-13. doi: 10.1016/j.ijintrel.2013.09.008
- Sibley, C. G., & Wilson, M. S. (2007). Political attitudes and the ideology of equality: Differentiating support for liberal and conservative political parties in New Zealand. *New Zealand Journal of Psychology*, 36(2), 72-84.
- Sidanius, J., & Petrocik, J. R. (2001). Communal and national identity in a multiethnic state. In Richard D. Ashmore, Lee Jussim, & David Wilder (Eds.), *Social identity, intergroup conflict and conflict resolution* (pp. 101-127). New York City, NY: Oxford University Press.
- Silver, J., Keeper, C., & Mackenzie, M. (2006). A very hostile system in which to live: Aboriginal electoral participation. In J. Silver (Ed.), *Their own voices: Building urban aboriginal communities*. Halifax, Canada: Fernwood Publishing.
- Simmonds, N. (2011). Mana wahine: Decolonising politics. *Women's Studies Journal*, 25(2), 11-25.
- Singh, H., & Ball, A. (2013, April 17). Marriage equality bill - how MPs voted. *Stuff.co.nz*.
Retrieved from <http://www.stuff.co.nz/data/8564068/Marriage-equality-bill-How-MPs-voted>.

- Skitka, L. J. (2005). Patriotism or nationalism? Understanding post-September 11, 2001, flag-display behavior. *Journal of Applied Social Psychology*, 35(10), 1995-2011. doi: 10.1111/j.1559-1816.2005.tb02206.x
- Smith, G. H. (1997). *The development of Kaupapa Māori: Theory and practice* (Unpublished doctoral dissertation). University of Auckland, New Zealand.
- Smith, L. T. (1992). Māori women: discourses, projects and mana wahine. In S. Middleton & A. Jones (Eds.), *Women and education in Aotearoa 2* (pp. 33-51). Wellington, New Zealand: Bridget Williams Books.
- Smith, L. T. (1996). *Nga aho o te kakahu matauranga: The multiple layers of struggle by Māori in education* (Unpublished doctoral dissertation). University of Auckland, New Zealand.
- Smith, L. T. (2012). *Decolonizing methodologies: Research and Indigenous peoples* (2nd ed.). London, United Kingdom: Zed books.
- Smith, L. T., & Reid, P. (2000). *Māori research development: Kaupapa Māori principles and practices a literature review*. Wellington, New Zealand: Te Puni Kōkiri.
- Smith, T. B., & Silva, L. (2011). Ethnic identity and personal well-being of people of color: A meta-analysis. *Journal of Counselling Psychology*, 58(1), 42-60. doi: 10.1037/a0021528
- Spoonley, P. (1995). The challenges of post-colonialism. *Sites*, 30, 48-68.
- Sporle, A. (2016, July 18). *Data, development and sovereignty*. Seminar presented at COMPASS, the University of Auckland, New Zealand.
- Standing Rock Sioux Tribe. (2017). *Stand with Standing Rock*. Retrieved from <http://standwithstandingrock.net/>
- Statistics New Zealand. (2006). *Māori mobility in NZ*. Retrieved from http://www.stats.govt.nz/browse_for_stats/population/Migration/internal-migration/Māori-mobility/where-are-Māori-moving-to.aspx

- Statistics New Zealand (2013). *2013 Census quickStats about Māori*. Retrieved from <http://www.stats.govt.nz/Census/2013-census/profile-and-summary-reports/quickstats-about-Māori-english/population.aspx>
- Statistics New Zealand. (2014). *Territorial authority*. Retrieved from <http://www.stats.govt.nz/methods/classifications-and-standards/classification-related-stats-standards/territorial-authority/definition.aspx>
- Statistics New Zealand. (2016). *Qualifications*. Retrieved from <http://www.stats.govt.nz/methods/classifications-and-standards/classification-related-stats-standards/qualifications/classification-and-coding-process.aspx>
- Steenkamp, J. B. E., & Baumgartner, H. (1998). Assessing measurement invariance in cross-national consumer research. *Journal of Consumer Research*, 25(1), 78-90. doi: 10.1086/209528
- Stoker, L., & Jennings, K. M. (1995). Life-cycle transitions and political participation: The case of marriage. *American Political Science Review*, 89(2), 421-33. doi: 10.2307/208243
- Stokes, E. (1992). The treaty of Waitangi and the Waitangi tribunal: Māori claims in New Zealand. *Applied Geography*, 12(2), 176-91. doi: 10.1016/0143-6228(92)90006-9
- Stronge, S., Sengupta, N. K., Barlow, F. K., Osborne, D., Houkamau, C. A., & Sibley, C. G. (2015). Perceived discrimination predicts increased support for political rights and life satisfaction mediated by ethnic identity: A longitudinal analysis. *Cultural Diversity and Ethnic Minority Psychology*, 22(3), 359-68. doi: 10.1037/cdp0000074
- Sullivan, A. (2003). Effecting change through electoral politics: Cultural identity and the Māori franchise. *The Journal of the Polynesian Society*, 112(3), 219-37.
- Sullivan, J. L., Fried, A., & Dietz, M. G. (1992). Patriotism, politics, and the presidential election of 1988. *American Journal of Political Science*, 36(1), 200-34. doi: 10.2307/2111430
- Sullivan, A., & Vowles, J. (1998). Realignment? Māori and the 1996 election. In J. Vowles, P. Aimer, S. Banducci, & J. Karp (Eds.), *Voters' victory? New Zealand's first election under*

proportional representation (pp. 171-91). Auckland, New Zealand: Auckland University Press.

Swain, S. D., Weathers, D., & Niedrich, R. W. (2008) Assessing three sources of misresponse to reversed likert items. *Journal of Marketing Research*, 45(1), 116-31. doi: 10.1509/jmkr.45.1.116

Tait, M. (2007, June 12). Small parties sign parliamentary code of conduct. *The New Zealand Herald*. Retrieved from http://www.nzherald.co.nz/politics/news/article.cfm?c_id=280&objectid=10445231

Tajfel, H. (1981). *Human groups and social categories*. Cambridge, United Kingdom: Cambridge University Press.

Tajfel, H., & Turner, J. C. (1979). An integrative theory of intergroup conflict. In W. G. Austin & S. Worchel (Eds.), *The social psychology of intergroup relations*, (pp. 33-47). Pacific Grove, CA: Brooks Cole Publishing Company.

Tallbear, K. (2013). *Native American DNA: Tribal belonging and the false promise of genetic science*. Minneapolis, MN: University of Minnesota Press.

Taonui, R. (2006, September 28). Party and instrument for Māori voicelessness. *The New Zealand Herald*. Retrieved from http://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=10403277

Taonui, R. (2012). Māori urban protest movements. In D. Keenan (Ed.), *Huia histories of Māori: Ngā tāhuhu kōrero* (pp. 229-260). Wellington, New Zealand: Huia Press.

Tassell, N. A., Flett, R. A., & Gavala, J. R. (2010). Individualism/collectivism and academic self-enhancement in New Zealand Māori university students. *Journal of Pacific Rim Psychology*, 4(2), 138-51. doi: 10.1375/prp.4.2.138

Tate, C., & Audette, D. (2001). Theory and research on 'race' as a natural kind variable in psychology. *Theory & Psychology*, 11(4), 495-520. doi: 10.1177/09593543011114005

- Tawhai, V., Pihera, K., & Bruce Ferguson, P. (2004, July). *Does the PBRF need reshaping? A new Māori educational institution's perspective*. Paper presented at the 27th HERDSA Annual Conference: Transforming Knowledge into Wisdom, Sarawak, Malaysia. Retrieved from <http://www.herdsa.org.au/wpcontent/uploads/conference/2004/PDF/P055-jt.pdf>
- Te Awekotuku, N. (2001). Hinemoa: Retelling a famous romance. *Journal of Lesbian Studies*, 5(1-2), 1-11. doi: 10.1300/j155v05n01_01
- Te Huia, A. (2013). *Whāia te iti kahurangi, ki te tuohu koe me he maunga teitei: Establishing psychological foundations for higher levels of Māori language proficiency* (Unpublished PhD thesis). Victoria University of Wellington, New Zealand.
- Tesler, M. (2010, April). *Patriot priming in presidential elections: When and why American patriotism matters in voting for president*. Paper presented at the Annual Meeting of the Midwest Political Science Association, Chicago, USA. Retrieved from http://mst.michaeltlesler.com/uploads/Sample_3.pdf
- Thiong'o, N. W. (1986). *Decolonizing the mind: The politics of language in African literature*. London, United Kingdom: James Currey.
- Thomas, D. (1988). Development of a test of Māori knowledge. *New Zealand Journal of Psychology*, 17(2), 59-67.
- Thomas, D. R., & Nikora, L. W. (1996). Māori, Pakeha and New Zealander: Ethnic and national identity among New Zealand students. *Journal of Intercultural Studies*, 17(1-2), 29-40. doi: 10.1080/07256868.1996.9963431
- Townrow, C. S. (2015). *Inequality and voter turnout: Examining the impact of subjective experiences of inequality on voter abstention* (Unpublished master's thesis). University of Auckland, New Zealand.
- Treharne, G. J. (2011). Questioning sex/gender and sexuality: Reflections on recruitment and stratification. *Gay and Lesbian Issues and Psychology Review*, 7(2), 132-51.

- Trussell, N., & Lavrakas, P. J. (2004). The influence of incremental increases in token cash incentives on mail survey response: Is there an optimal amount? *Public Opinion Quarterly*, 68(3), 349-67. doi: 10.1093/poq/nfh022
- Tufford, L., & Newman, P. (2012). Bracketing in qualitative research. *Qualitative Social Work*, 11(1), 80-96. doi: 10.1177/1473325010368316
- Turei, M. (2002). *Maiden speech of Metiria Turei*. Retrieved from <https://home.greens.org.nz/speeches/maiden-speech-metiria-turei>
- Turner, H. (2013). *Teacher expectations, ethnicity and the achievement gap* (Unpublished master's thesis). University of Auckland, New Zealand.
- Valencia, R. (1997). *The evolution of deficit thinking: Educational thought and practice*. London, United Kingdom: Falmer Press.
- Valencia, R. (2010). *Dismantling contemporary deficit thinking*. New York City, NY: Routledge.
- van de Vijver, F. J. (2013). Contributions of internationalization to psychology: Toward a global and inclusive discipline. *American Psychologist*, 68(8), 761-70. doi: 10.1037/a0033762
- van Herk, H., Poortinga, Y. H., & Verhallen, T. M. M. (2004). Response styles in rating scales: Evidence of method bias in data from Six EU countries. *Journal of Cross-Cultural Psychology*, 35(3), 346-60. doi: 10.1177/0022022104264126
- van Sonderen, E., Sanderman, R., & Coyne, J. C. (2013) Correction: Ineffectiveness of Reverse Wording of Questionnaire Items: Let's Learn from Cows in the Rain. *PLoS ONE* 8(9). doi: 10.1371/annotation/af78b324-7b44-4f89-b932-e851fe04a8e5
- Van Zomeren, M., Postmes, T., & Spears, R. (2008). Toward an integrative social identity model of collective action: a quantitative research synthesis of three socio-psychological perspectives. *Psychological Bulletin*, 134(4), 504-35. doi: 10.1037/0033-2909.134.4.504
- Vandenberg, R. J., & Lance, C. E. (2000). A review and synthesis of the measurement invariance literature: Suggestions, practices, and recommendations for organizational research. *Organizational Research Methods*, 3(1), 4-70. doi: 10.1177/109442810031002

- Vowles, J. (1998). A new post-MMP party system? In J. Vowles, P. Aimer, S. Banducci, & J. Karp (Eds), *Voter's victory? New Zealand's first election under proportional representation* (pp. 28-47). Auckland, New Zealand: Auckland University Press.
- Vowles, J. (2000). The New Zealand election study. *Political Science*, 52(2), 150-157. doi: 10.1177/003231870005200205
- Vowles, J. (2002a). What happened in the 1999 election? In J. Vowles, P. Aimer, J. Karp, S. Banducci, R. Miller, & A. Sullivan (Eds). *Proportional representation on trial: The 1999 New Zealand general election and the fate of MMP* (pp. 83-98). Auckland, New Zealand: Auckland University Press.
- Vowles, J. (2002b). Offsetting the PR effect? Party mobilisation and turnout decline in New Zealand, 1996-99. *Party Politics*, 8(5), 587-605. doi: 10.1177/1354068802008005005
- Vowles, J. (2010). Electoral system change, generations, competitiveness and turnout in New Zealand, 1963–2005. *British Journal of Political Science*, 40(4), 875-95. doi: 10.1017/s0007123409990342
- Vowles, J. (2014a). *The new electoral politics in New Zealand: The significance of the 2011 election*. Wellington, New Zealand: Institute for Governance and Policy Studies.
- Vowles, J. (2014). Putting the 2011 election in its place. In J. Vowles (Ed.), *The New electoral politics in New Zealand: The significance of the 2011 election* (pp. 27-52). Wellington, New Zealand: Institute for Governance and Policy Studies.
- Vowles, J., Aimer, P., Karp, J, Banducci, S., & Miller, R. (2004). *Voters' veto: The 2002 election in New Zealand and the consolidation of minority government*. Auckland, New Zealand: Auckland University Press.
- Wagner, U., Becker, J. C., Christ, O., Pettigrew, T. F., & Schmidt, P. (2010). A longitudinal test of the relation between German nationalism, patriotism, and outgroup derogation. *European Sociological Review*, 28(3), 319-32. doi: 10.1093/esr/jcq066

- Wahyuni, D. (2012). The research design maze: Understanding paradigms, cases, methods and methodologies. *Journal of Applied Management Accounting Research*, 10(1), 69-80.
- Waitangi Tribunal. (1994). *Māori electoral option report* (WAI 413, Waitangi Tribunal Report 7). Wellington, New Zealand: Waitangi Tribunal. Retrieved from http://www.justice.govt.nz/tribunals/waitangi-tribunal/Reports/wai0413/doc_001
- Waitoa, J., Scheyvens, R., & Warren, T. (2015). E-whanaungatanga: The role of social media in Māori political empowerment. *AlterNative: An International Journal of Indigenous Peoples*, 11(1), 45-58. doi: 10.1177/117718011501100104
- Walker, R. (2004). *Ka whawhai tonu matou: Struggle without end* (2nd ed.). Auckland, New Zealand: Penguin Books.
- Walker, S. (1996). *Kia tau te Rangimarie: Kaupapa Māori theory as a resistance against the construction of Māori as the 'other'* (Unpublished master's thesis). University of Auckland, New Zealand.
- Walker, S., Eketone, A., & Gibbs, A. (2006). An exploration of Kaupapa Māori research, its principles, processes and applications. *International Journal of Social Research Methodology*, 9(4), 331-44. doi: 10.1080/13645570600916049
- Wall, L. (2007). Takatāpui: An identity of choice or a gift from my tūpuna? In J. Hutchings & C. Aspin (Eds.), *Sexuality and the stories of Indigenous people* (pp. 44-54). Wellington, New Zealand: Huia.
- Walter, M., & Andersen, C. (2013). *Indigenous statistics: A quantitative research methodology*. Walnut Creek, CA: Left Coast Press.
- Walters, K. L. (1999). Urban American Indian identity attitudes and acculturation styles. *Journal of Human Behavior in the Social Environment*, 2(1-2), 163-178. doi: 10.1300/j137v02n01_11
- Ward, A. (1974). *Show of justice: Racial amalgamation in nineteenth century New Zealand*. Auckland, New Zealand: Auckland University Press.

- Weijters, B., Geuens, M., & Schillewaert, N. (2010). The individual consistency of acquiescence and extreme response style in self-report questionnaires. *Applied Psychological Measurement*, 34(2), 105-21. doi: 10.1177/0146621609338593
- Wenzel, E., Böhnke, J. R., & Brown, A. (2016). Response biases. In F. T. L. Leong, D. Bartram, F. Cheung, K. F. Geisinger, & D. Iliescu (Eds.), *The ITC international handbook of testing and assessment* (pp. 349-363). New York City, NY: Oxford University Press.
- White, P., & Le Grice, J. (2008). *Participation and performance by Māori and Pacific peoples researchers in the Performance-Based Research Fund, 2003–2006: A working paper contributing to the independent strategic review of the Performance-Based Research Fund*. Wellington, New Zealand: Tertiary Education Commission.
- Wikaire, E., Curtis, E., Cormack, D., Jiang, Y., McMillan, L., Loto, R., & Reid, P. (2016). Patterns of privilege: A total cohort analysis of admission and academic outcomes for Māori, Pacific and non-Māori non-Pacific health professional students. *BMC Medical Education*, 16(1). doi: 10.1186/s12909-016-0782-2
- Williams, D. (2001). *Crown policy affecting Māori knowledge systems and cultural practices*. Wellington, New Zealand: Waitangi Tribunal.
- Williams, S. N., Thakore, B. K., & McGee, R. (2016). Coaching to augment mentoring to achieve faculty diversity: a randomized controlled trial. *Academic Medicine*, 91(8), 1128-35. doi: 10.1097/acm.0000000000001026
- Willig, C. (2013). *Introducing qualitative research in psychology*. London, United Kingdom: McGraw-Hill Education.
- Wilson, J. (2010). The origins of the Māori seats. In M. Bargh (Ed.), *Māori and parliament: Diverse strategies and compromises* (pp. 37-71). Wellington, New Zealand: Huia.
- Wilson, M. S. (1999). *The social representational theory of symbolic politics* (Unpublished PhD thesis). Victoria University of Wellington, New Zealand.

- Wilson, S. (2001). What is an Indigenous research methodology? *Canadian Journal of Native Education*, 25(2), 175-9.
- Watson, N., & Wooden, M. (2009). Identifying factors affecting longitudinal survey response. In P. Lynn (Ed.), *Methodology of longitudinal surveys* (pp. 157-182). Hoboken, NJ: Wiley. doi: 10.1002/9780470743874.ch10
- Workman, K. (2011, April). *Redemption Denied: Aspects of Māori overrepresentation in the criminal justice system*. Paper presented at Justice in the Round Conference, University of Waikato, Hamilton, New Zealand. Retrieved from http://www.rethinking.org.nz/assets/Papers%20and%20Presentations/Redemption_Denied.pdf
- Xanthaki, A., & O'Sullivan, D. (2009). Indigenous participation in elective bodies: the Māori in New Zealand. *International Journal on Minority and Group Rights*, 16(2), 181-207. doi: 10.1163/157181109x427734
- Yilmaz, K. (2013). Comparison of quantitative and qualitative research traditions: Epistemological, theoretical, and methodological differences. *European Journal of Education*, 48(2), 311-25. doi: 10.1111/ejed.12014
- Zuberi, T., & Bonilla-Silva, E. (Eds.). (2008). *White logic, White methods: Racism and methodology*. Lanham, MD: Rowman & Littlefield Publishers.

Appendix A

Responses to Reviewers

Response to Reviewers for Study One

Editor Comment: Manuscript Focus

The main comment from the editor and both reviewers was that the structure and focus of the manuscript was unclear.

For example, the editor summarised it well, saying: “I think that the reviewers are exactly correct when they say that they find it hard to tell whether you most interested advocating a new method of analysis, or developing a scale. It would help if you were to say a little more about the logic of random intercept EFA (and perhaps how it differs from the bifactor model) but then refer the interested reader to a more technical paper for all of the detail. Maydeu-Olivares & Coffman (2006) perhaps? But after that is out of the way, just focus on your scale.”

Reviewer One said: “What I think is the biggest flaw here is the dual (and thus undecided) focus of the article. It is unclear to me if the authors present the empirical structure of a questionnaire (which, if it's the case, seems to have been presented already in earlier research, thus making the research less novel), or if the authors are presenting the example of a statistical method (and in my opinion, although RI-EFA is very new, it has already been advocated for in earlier research, notably Aichholzer (2004), and it is not clearly how this questionnaire in particular would further advocate for RI-EFA than previous research.”

Reviewer Two clarified to us what they thought the focus should be: “If the overall purpose of the study was to validate this Māori identity measure, the Introduction should give a thorough review of theories and measures of Māori identity and justify the inclusion of the seven dimensions and the need for a new measure.” On the other hand, if the overall purpose was to demonstrate the application of the random intercepts EFA, the Introduction

needs to give a comprehensive review of statistical models and methods that have been used to address the issue of acquiescent response bias and more details about statistical model and procedure involved in random intercepts EFA need to be presented.

It was clear from both of the reviewers and the editor that we needed to rewrite the introduction so that we focussed more on acquiescent responding to the MMM-ICE scale rather than RIEFA. We have substantially rewritten the introduction section.

Additionally, we now briefly clarify another key difference between common factor models, like the bifactor model, as the editor suggested. We also refer the interested reader to the Maydeu-Olivares and Coffman (2006) paper as the editor suggested:

“Random intercept models also differ from common factor models, like the bifactor model, as they allow the intercepts of the model to change across participants. In short, common factor models assume that participants have invariant response patterns, whereas random intercept models allow intercepts to be estimated based on the variance in the population (for more information, see Maydeu-Olivares & Coffman, 2006).”

Reviewer Two further added to this point, except with an additional request: “First, the rationale of the study needs to be strengthened. The paper never explained why using random intercept EFA would help identify response bias in the Introduction. This method needs to be thoroughly reviewed and the statistical model and corresponding analyses need to be presented for a full evaluation.”

While we have restructured the introduction to refocus the article on acquiescence in the MMM-ICE, we have not altered the method section. There are a couple of reasons why we have left this as is. Firstly, we felt it was not necessary to include the extra information now the focus is not on RIEFA, and secondly, we are pressed for space in the article and feel like additional analytic information would be beyond the revised scope and aims of the paper.

Both reviewers wanted more on why the MMM-ICE may be more vulnerable to acquiescence than other questionnaires. Reviewer One said: “the authors should further explain why the questionnaire would be more exposed to acquiescence bias than most translated questionnaires, it does not really appear, although it's clearly what should justify the added sophistication of the statistical analyses.”

Reviewer Two made a similar comment “The paper also failed to justify why it's important to apply this method when assessing Māori identity. Simply mentioning collectivism of Māori people would not tell us much.”

These are great points and we have followed these suggestions in the revised version of our manuscript. Since this is part of our new focus, we now include three paragraphs on why the MMM-ICE is particularly vulnerable to acquiescent responding:

“It is vitally important that when creating measurement tools like the MMM-ICE2 that concepts do not get ‘lost in translation’. Indigenous measurement tools are fairly novel in the literature, due to a tenuous history between research and Indigenous peoples (Walter, & Andersen, 2013). Statistics have been viewed with suspicion, as part of research that has been traditionally disempowering (Smith, 1999; Walter, & Andersen, 2013). Indeed, Māori tend to respond to surveys at lower rates than other populations (Fink, Paine, Gander, Harris, & Purdie, 2011; Sibley, 2015). Scales like the MMM-ICE2, are based off qualitative research, which typically allows for face-to-face clarification. For example, if the researcher asks a question in a way that the participant does not quite understand, the two can come to a mutual understanding by trying to clarify the question or concept. This reciprocity is not possible with a printed survey. Adding to this is the complexity of having a survey of Māori cultural concepts printed largely in English. Due to colonisation, many Māori cannot speak the Māori language. Thus, it is essential to express the scale in English (Houkamau & Sibley, in press-a). These issues may culminate in an increased likelihood of misunderstanding and therefore acquiescence.

As with many multidimensional scales, the possibility remains that the MMM-ICE2 is vulnerable to acquiescent responding due to a lack of semantic balancing. However, it being a scale of Indigenous identity presents additional challenges. One often-used solution to the problem of acquiescent responding at the scale-design level has been to semantically balance items within a survey by having an even number of positively and negatively worded items. Researchers typically use one of two strategies to address this problem. They may use an antonym of a key term, which could actually change the concept that is being measured (van Sonderen, Sanderman, & Coyne, 2013). More commonly, researchers add affixial morphemes like ‘non-’ or ‘dis-’ or negative particles like ‘not’ to the survey item (Swain, Weathers, & Niedrich, 2008). For many dimensions of the MMM-ICE2 it would not be feasible to create reverse-coded items that would still make sense to participants, in terms of language, and more importantly, in terms of sentiment. To send a survey to an Indigenous population that refers to aspects of their culture in negative terms would be insulting and culturally insensitive. For example, in our view it would be very difficult to negatively word items for the subscale assessing Interdependent Self Concept, as these items largely relate to the importance of friends and family in one’s life and to one’s identity. If we were to send out a survey to a wide range of Māori (who are likely already suspicious of research) that has a number of items along the lines of “my family is not important to me”, many participants would probably not respond or be offended.

Additionally, it is important to assess the extent to which the MMM-ICE2 is contaminated by acquiescent responding because such contamination has been found to be higher in more collectivist, less individualistic cultures (Johnson, Kulesa, Cho, & Shavitt, 2005; van Herk, Poortinga, & Verhallen, 2004). Māori culture tends to be fairly collectivist in nature, at least relative to New Zealand European culture (Harrington & Liu, 2002; Tassell, Flett, & Gavala, 2010). The combination of these three concerns – the difficulty in presenting and translating Indigenous cultural concepts into a survey, the lack of semantic

balancing, and the potential for greater acquiescence due to collectivism – make it important to test the MMM-ICE2 for acquiescent responding.”

Reviewer One

The reviewer was complimentary, stating that the article is “clearly and convincingly written” and said that we explained RI-EFA well and properly analysed the data. We thank them for this encouragement and kind words.

As with the editor and reviewer 2, they found the focus of the article to be undecided, we address this above, alongside the editor’s comment. We address their other comments, in the order that they appeared, below.

The reviewer pointed out a typo: “p3. “This is particular important” -> typo.”

We thank the reviewer for spotting this, we have now fixed this error.

Reviewer One said that if our goal is to demonstrate the psychometric qualities of the MMM-ICE (which it now is), then we need to: “address other qualities, and to further address cross-loading items, and potentially explore they removal.” Furthermore, in a comment on Table 2 they said that: “Some loadings are concerning ($<(-).30$), items loading on two factors.”

In hindsight we see that we did not address this in our article. To address the points that the reviewer has made we have added the following paragraph to the discussion of our article where a limitations and future research directions paragraph would conventionally appear:

“We did, however, find areas of the scale that will need developing in future research. Some items had factor loadings below .30, these will need to be examined in future iterations of the scale. Additionally, one item “I reckon that true Māori hang out at their marae all the time” loaded onto two subscales. The MMM-ICE2 scale has been revised once subject to community feedback and will undoubtedly continually be improved in response to research (Houkamau & Sibley, in press-a). We hope that future revisions of

the scale take into account the findings of the random intercept model presented here. For the time being, our recommendations for best practice with the MMM-ICE2 would be to estimate a latent variable model based on the measurement model adjusting for acquiescent responding. However, as we do recover a very similar factor solution when using this adjustment indicates that research using mean scores is likely to be robust.”

The reviewer pointed out an embarrassing oversight in the results section: "The χ^2 test was significant, suggesting that the model fit." In factor analysis, a significant chi square indicates misfit between the model and the structure of the data (even though type I errors are frequent with chi square and a large sample)”

We have now removed this sentence.

Reviewer Two

As with the Editor and Reviewer One, Reviewer Two found the focus of the article to be undecided, we address this above, alongside the Editor’s comment. Reviewer Two had other substantive comments, which we address below.

Reviewer Two wanted us to add more information about the technical details behind RIEFA: “I wonder about the mechanism by which random intercepts EFA mitigates the measurement issues related to acquiescence. The author(s) need to present statistical evidence (models, parameter estimation, results of simulations, etc.), rather than relying on citing studies that had used this method.”

In light of the new focus of the article – on testing acquiescent responding in responses to the MMM-ICE scale, rather than just focussing on RIEFA as a tool – we have decided to not add this information to the article. This is due to space constraints, and is also in accordance with comments from the editor.

“Third, as someone who is unfamiliar with random intercepts EFA, I wonder why the raw scores of the measure can still be used even after the random intercepts EFA. If there is an acquiescence effect that can be partialled out by modeling it, how does one

effectively use the raw item scores, which cannot be averaged or summed in that case. This seems to be same issue with partial scalar invariance analyses--either we are running the measurement model each time we use it or we simply have to remove the specific items that contribute to non-invariance. Again, the author(s) need to do a better job educating readers why and how this method can be practically useful in measurement development.”

In accordance with this comment, and one from reviewer one (above, where reviewer one talks about items that are cross loading or have low factor loadings), we have expanded our discussion to include a future research directions paragraph:

“We did, however, find areas of the scale that will need developing in future research. Some items had factor loadings below .30, these will need to be examined in future iterations of the scale. Additionally, one item “I reckon that true Māori hang out at their marae all the time” loaded onto two subscales. The MMM-ICE2 scale has been revised once subject to community feedback and will undoubtedly continually be improved in response to research (Houkamau & Sibley, in press-a). We hope that future revisions of the scale take into account the findings of the random intercept model presented here. For the time being, our recommendations for best practice with the MMM-ICE2 would be to estimate a latent variable model based on the measurement model adjusting for acquiescent responding. However, as we do recover a very similar factor solution when using this adjustment indicates that research using mean scores is likely to be robust.”

We now recommend that future iterations of the scale examine the weaker items (4 out of the total 54 in the MMM-ICE2 scale), although this is beyond the scope of the current article. However, as we recovered a largely reliable factor solution we believe that earlier research using the mean scores from the scales is robust. Although, acknowledging the weaker items found in this paper, we now recommend future best practice as estimating the subscales of the MMM-ICE2 based on a measurement model adjusting for acquiescent response bias.

Response to Reviewers for Study Two

Reviewer One

Reviewer One was incredibly detailed in their feedback and was obviously very knowledgeable in the area. Addressing their comments has strengthened the manuscript considerably and furthered our education in these methods. We respond to their comments one-by-one below.

The reviewer had two major (numbered) comments and then provided detailed discussion on each point.

“1. The outcomes of the equivalence analyses were not clear-cut, and the authors concluded that their results indicated “reasonable” equivalence. This may be a fair overall assessment, but it is difficult to quantify and to draw practical implications given the somewhat limited evidence presented.”

The Reviewer commented on the presented fit statistics: “a) The authors chose to compare their nested models (configural, metric, and scalar) using the difference in χ^2 . However, this is not a straightforward solution, because the models they took as baseline (configural) had been rejected based on the χ^2 test and would be accepted mostly based on a criterion of RMSEA < .08. So, the authors used different criteria for the evaluation of their baseline model (approximate fit) versus their nested model comparison (exact fit), which is a debatable approach (Cheung & Rensvold, 2002).

A better interpretable solution for the comparison of the nested models would be to use incremental fit indices such as the CFI or TLI. Such indices have been proposed and used in the literature to evaluate different levels of measurement equivalence (e.g., Byrne & Van de Vijver, 2010; Cheung & Rensvold, 2002). Like the RMSEA and SRMR, they allow researchers to assess in a more graded way than the χ^2 test how well a model fits the data. Furthermore, guidelines exist as to when to accept a more restrictive model based on differences in CFI. Specifically, it has been suggested that when $\Delta\text{CFI} < .01$, the more restrictive model can be accepted (references above). I

am not aware of a similar specific guideline for ΔRMSEA or ΔSRMR that has been tested in research; perhaps the authors could include a reference to relevant publications.”

We thank the Reviewer for providing a clear explanation and references. As a result of these comments, we now report change in CFI in the results (starting on page 18) and evaluate the results according to the guidelines that the Reviewer mentioned. We do still report $\Delta\chi^2$ and the significance of this test for completeness, however, we rely on ΔCFI for interpretation of the results.

“As a side note, I was puzzled by the χ^2 values reported in the last two paragraphs of the Results section. The values of the differences in χ^2 do not seem to correspond to the values reported in Table 2 [Table 5]. For example, the difference between the metric (6328.04) and the configural (6307.43) model for region in Table 2 [Table 5] is 20.61, but is reported as 28.17 in the text on p. 16. Could the authors clarify this discrepancy for this and the other tested models?”

We thank the Reviewer for applying such attention to detail to our manuscript. The χ^2 difference test is not a simple difference test but based on comparisons estimated using MLR (Mplus does this automatically, only ML uses simple difference tests). We report these straight from the Mplus syntax. As a result, these do not add up.

In the second part of the results we had reported the change in χ^2 as χ^2 : “Relatedly, the tests for differences in χ^2 are now reported as χ^2 . It may be more straightforward to report the differences as $\Delta\chi^2$.”

We apologise for this error as now report it as $\Delta\chi^2$.

The Reviewer made two recommendations for explicit acknowledgements our results section: “b) I suppose that the main reason why the authors have not reported CFI or TLI is that the fit was poor, which could be attributed to the large number of items, as these tests seem to be more sensitive to the number of items than RMSEA (Cheung & Rensvold, 2002). If this was the case, I think it should be acknowledged explicitly. It would be useful to highlight the different insights drawn from different approximate goodness-of-fit indices. This would also be relevant for other researchers dealing with long inventories.”

Due to comments from this Reviewer we now include both TLI and CFI (see above). We have added the point that we likely obtained TLI and CFI scores above the .90 recommended guideline to the discussion, alongside the reference provided by the Reviewer:

“Our results showed that the scale performed well across region (urban or rural) and gender (woman or man), the only exception being that the region and gender models did not did not reach the .90 guideline for TLI or CFI at any point. However, it bears keeping in mind that TLI and CFI may have been sensitive to the large number of items on the scale (Cheung & Rensvold, 2002). The ethnicity (sole or mixed identifying Māori) and age (40 and under, 41-54, and 55 plus) models again did not meet the .90 recommended for TLI or CFI, and had an SRMR higher than the recommended .80.”

Additionally, in the revisions for this paper we have rewritten a large portion of the results, adding the insights drawn from the various fit indices (starting on page 16).

“c) The SRMR values of the models testing for equivalence (Table 2 [Table 5]) tended to be above the value of .08 taken as an indication of acceptable fit, especially in the models for age and ethnic identification. This needs to be more clearly stated in the text.”

We have followed this Reviewer’s suggestions and so we now report the TLI and CFI. We now explicitly acknowledge in our results section the SRMR of the age and ethnicity models. We also acknowledge at the configural, metric, and scalar stages of the result section that the TLI and CFI are below the recommended guideline:

Configural: “Although, the SRMR for both the age groups and ethnicity models was above the .08 generally recommended for acceptable fit. The TLI and CFI were also below the recommended .90 cut-off.”

Metric: “Again, no models had a TLI or CFI higher than the .90 cut-off value. Additionally, the SRMR for the age and ethnicity models were again well above .08.”

Scalar: “As with the configural and metric models, the scalar models for ethnicity and age had SRMR values higher than the desired .08. Again, the TLI and CFI values for each model were lower than the desired .90.”

The Reviewer requested that we examine partial measurement invariance: “d) Even if the fit of (some of) the equivalence models was relatively poor, this is not necessarily bad news. I think this study would gain in value if it could identify the individual items that decrease the fit in the different groups. This would give the readers a much better appreciation of the limits to the comparability of results across groups.” And: “e) If the relatively poor fit can be attributed to individual items in individual groups, it may be interesting to examine the possibility of partial measurement equivalence (Byrne et al., 1989).”

Due to changes in the results we have decided to not test for partial measurement invariance. We have adopted the Reviewer’s suggestion of ΔCFI as an indicator of fit (see above). There are two areas where the scale did not meet the less than .01 ΔCFI guideline across models – the comparison across sole and mixed identifying Māori and across age groups when comparing the configural and the very conservative scalar models. However at $\Delta CFI = .010$ for the ethnicity model and $\Delta CFI = .015$ for the age group model, these are barely above the rule-of-thumb value and the scale still performed relatively well. As such, we have decided to not follow up with partial measurement invariance testing as this goes beyond the scope of the current paper. However, we do acknowledge it as a potential future research direction in the discussion: “Additionally, future studies examining the scale properties of the MMM-ICE2 could explore the particular items that were invariant (Byrne, Shavelson, & Muthén, 1989).”

We appreciate the second broader point that the Reviewer had: “2. Some aspects of the manuscript make it sound at times as a purely technical report of a study that was conducted just because the data and the techniques were available. I think that the study would have farther-reaching impact if it placed a stronger emphasis on the theoretical and practical implications of the

questions addressed. I hope that some of the following suggestions may help.” We are thankful for their interest in the paper and address their specific guidance on how to do this below.

The reviewer suggested that we change the structure of the introduction and provided guidance on how to do this:

“a) The “Māori Identity: Key Influential Variables” section starts with the statement, “As expounded above, MCFA is a tool that allows us to test the factorial equivalence (...)” (p. 6). The previous three paragraphs indeed introduce MCFA in a fair amount of detail. However, I found it strange that the “tool” is presented in so much detail before the actual study questions that this tool serves to address, and which are only introduced in the following paragraphs. The text then goes on to say that, “researchers must still choose suitable groups for comparison” (p. 6), which reinforces the impression that this study started with the “tool” rather than the questions.

I find that a more convincing and better-flowing sequence would be to present the technical details of CFA and MCFA after the theoretical questions of potential group differences. In fact, some of the text of the “Testing Factor Equivalence” section already reads as if it was supposed to come at a later point in the manuscript. For example, on p. 5 it is stated that, “we would estimate fit across the three theoretically different a priori specified age categories (40 and under, 41-54, and 55 plus)”, although the age categories and their theoretical relevance were not mentioned anywhere in the preceding text.”

We have changed the order of sections in the introduction, as suggested by this Reviewer.

The Reviewer encouraged us to strengthen our section on gender differences: “b) I found the rationale for exploring gender differences weaker than for the other background variables. Could the authors identify any research on gender differences in ethnic identity — if not in Māori, perhaps in other ethnic groups?”

We have added an extra paragraph to this section. We have decided to focus on the extant qualitative literature rather than the international literature in this section. Mainly because many

researchers have explored Māori women's identity in qualitative research, so we do not need to go beyond the Māori research for this point in the paper:

“Life experiences and how people perceive one another typically differ depending on one's gender; of course this is no different for the experiences of Māori. Although, research using the MMM-ICE2 rarely finds gender differences across the scale. The most thorough investigation of gender differences being Sibley and Houkamau's (2013) examination of the stability of the scale across the lifespan by gender. They used item response theory analysis to check if there were scale reliability differences between people, and at different levels of the dimensions. The MMM-ICE2 tended to be most precise at the mean level range of each dimension, but each dimension showed an acceptable level of reliability across the scale. Importantly, across genders the results were reasonably similar.

While there is little quantitative work focusing on Māori women's identity, a body of qualitative work recognises that Māori women's experience and identity have been greatly shaped by their gender. Work completed under the mana wahine framework of kaupapa Māori research challenges the idea that women have held, or hold, a lower status position in Māori society (Pihama, 2001). Mana wahine provides a framework for research that acknowledges issues that impact specifically on Māori women and girls (Pihama, 2001; Simmonds, 2011). For example, experiences of reproduction alone are inherently life- and identity- shaping for Māori women (Le Grice, 2014). Thus, although there is little quantitative research on Māori identity and gender, extant research, combined with the qualitative and theoretical literature suggest that gender is an important category to assess the MMM-ICE2 across.”

The Reviewer also suggested a future research direction: “c) The rationale for the age groups is convincing, and the historical background is clearly relevant. Still, from a broader theoretical perspective in social identity, adolescence is another distinguishable age group where social identity may have a different composition. I suppose that the authors may not have sufficient

data to examine adolescents as a separate group, but it would be interesting to consider this as an avenue for future research.”

We have added this idea to the future research directions section of the paper:

“Furthermore, collecting data from adolescent Māori, to both compare age groups and to examine scores as they age, are potential future research directions.”

“d) As a more general point, the references to the previous research on Māori identity are relevant and helpful, but I felt that it might be useful to embed the study a bit more broadly in the international literature on social and ethnic identity.”

We thank the Reviewer for their suggestion and can see the merit in their perspective.

However, we wish to keep this manuscript New Zealand and Māori focused. We think that reviewing more literature (especially in the introduction) may distract from the main goal of the paper: testing specifically the established scale, the Multidimensional Model of Māori Identity and Cultural Engagement, for measurement invariance.

The Reviewer also provided a numbered list of “Specific Comments.” We would like to thank the Reviewer again for being so attentive to detail in their review of this manuscript.

“1. The manuscript would benefit from editing to address a few textual issues, such as:

- clauses without verbs (e.g., “An important possibility, considering that the model did not fit as well for sole-identifying and older Māori.”, p. 18);
- missing words (e.g., “It is likely that this relatively low response rate [was] also partially affected (...)”, p. 12);
- long sentences with independent clauses that could be split into separate sentences (e.g., “The sample had a mean NZ Deprivation 2013 score of 6.77 (SD = 2.78), as the index is decile ranked (each unit represents 10% of the population) from 1 to 10 (low-high) a mean score of 6.77 indicates a moderate level of deprivation relative to others in New Zealand.”, pp. 11–12).”

We apologise for these errors. We have gone through the manuscript and fixed the specific errors highlighted here by the Reviewer. We have also re-read the manuscript with the Reviewer's comments in mind and fixed other instances of these errors.

“2. Expressions similar to “as described above” are used at several points in the text, although they are discouraged by APA style guidelines, because they are unspecific.”

We thank the Reviewer for alerting us to this. We had not realised we had done this so frequently! As such, we have now removed all instances of this in the paper.

We were encouraged to remove the term “reliable”: “3. Abstract, p. 1: “the scale may be less reliable amongst older or sole-identifying Māori”; Discussion, p. 17: “the MMM-ICE2 overall is a reliable scale” — The present study did not deal directly with reliability in the technical sense.”

The Reviewer is absolutely correct here and we have changed the wording. We have removed that sentence from the abstract. The sentence in the Discussion now reads: “We hope that the groundwork laid in this paper allows for future longitudinal research to be conducted with relative confidence that the MMM-ICE2 is an efficacious measure of the broad, diverse group that are ‘Māori’.” We have also gone through the manuscript and removed other extraneous instances of use of the word “reliable.”

4. p. 2: “self-esteem environmental values” — Could the authors clarify this concept? Or is there a comma missing?

We thank the Reviewer for alerting us to this oversight – it was both a missing comma and citation “self-esteem (Matika et al., in press).”

5. p. 3: “tipuna (ancestors)” — I believe it should be spelled with a macron when used in plural (tīpuna).

The Reviewer is correct, we have fixed this error.

The Reviewer encouraged us to reference more in our section on Testing Measurement Equivalence: “6. One or two general references to the topics of equivalence analysis (presented on pp. 5–6) would be useful to unfamiliar readers.”

We have followed this advice and have added several references to this section of the paper.

The Reviewer had several concerns around our explanation of the different kinds of measurement equivalence:

“a) “each factor/subscale in the MMM-ICE2 ‘hangs together’” (p. 6) — An elaboration of this metaphor would be helpful.”

“b) “Good metric equivalence would indicate that different groups are interpreting the constructs in the same way” (p. 6) — This would be the interpretation of configural (not metric) invariance.”

“c) “It is desirable that someone who is aged 40 and under would have a similar mean score to someone aged over 55 on any given item.” — This is not an entirely correct interpretation. The implication of full scalar equivalence (or absence of item bias) would be that individuals from different groups have the same mean score, conditional on their standing on the underlying trait.”

We have thoroughly revised this section (quoted below) as a result of these comments. We thank the Reviewer for encouraging us to refine our explanations in this section. The “hangs together” metaphor has been removed due to imprecise wording. We have made our explanations of configural and metric equivalence more distinct. We have also reworked the age group example to make sure that we measure that these two example people are the same and that the scale would differentiate between them only if there was a real difference in their means.

“Configural equivalence is the least conservative measure of factor equivalence. A key purpose of configural equivalence is to establish a baseline model for more stringent tests of measurement equivalence (Vandenberg & Lance, 2000). Good configural equivalence would indicate that different groups are interpreting the construct the researcher is testing for in the same way, or that the items are measuring the same underlying concepts across groups. If researchers do not find configural equivalence, then the measure represents different constructs in different groups, and so it becomes pointless to assess metric or scalar equivalence (Vandenberg & Lance, 2000). In MCFA, the test of metric equivalence assesses the extent to which the factor loadings are

the same across the groups. Metric equivalence assesses whether the strength of the relationship between the indicators (Likert items, in our case) and the underlying latent construct are the same across different groups. If the tests of metric equivalence are satisfied then the groups can be compared with the confidence that the measurement units (in our case, the intervals of the Likert scale) are comparable across groups.

The third and most demanding test of factorial equivalence is that of scalar equivalence. Scalar equivalence extends the other model by estimating the extent to which the intercepts for the indicators are similar across groups. To return to our example of testing the scale across age cohorts, scalar equivalence would tell us if the mean scores (intercepts) of the different survey items are comparable across everyone regardless of age. For example, two people from different age groups (e.g., one under 40 and one aged 55 plus) have conceptually the same level of belief in the continued importance of the Treaty of Waitangi and both actively stand up for Māori political rights (indexed as part of the MMM-ICE2 by the subscale/construct of Socio-Political Consciousness). These two individuals should have a similar mean score on any given question in the Socio-Political Consciousness subscale. In other words, we would hope that the average construction of Māori identity for one group is not dramatically different for another when using the MMM-ICE2 scale, except when there are real mean differences between groups.”

7. p. 9: “Houkamau interviewed 35 Māori women” — Reference missing.

We have added a reference for this: “Houkamau (2006, 2010).”

The Reviewer asked for us to clarify: “8. p. 9: “found that three key periods of events in New Zealand history were salient in their descriptions of identity” — The following text refers to three age groups, not periods. A clarification would help.”

To make this clearer we have added the following sentence (underlined): “As such, age cohort groups may have had very different experiences relating to their identities. Houkamau (2006, 2010) interviewed 35 Māori women, and found that three key periods of events in New

Zealand history were salient in their descriptions of identity. These three key periods of events influenced the identity development for these three distinct age cohort groups.”

The Reviewer pointed out an area where our wording was unclear: “9. p. 9: “older people tended to have a higher level of identification with the MMM-ICE2 dimensions (...) Thus (...) age may have an influence on the structure of identity” — The rationale is not clear. The previous findings refer to differences in the level, not in the structure of identity.”

We have removed the word “structure” and changed this to: “Thus, keeping in mind the historical influences on identity and the higher level of identification that past research has found with older people, age may have an influence on MMM-ICE2 scale scores.”

The Reviewer requested more information on identification by blood-quantum: “10. p. 10: “blood-quantum based framework” — A brief explanation would be helpful.”

As a result we have revised that section, adding the underlined sentences:

“In 1974, being officially ‘Māori’ first legally moved beyond a Western blood-quantum based framework, which assumes that Māori identity and culture have a strict biological basis, to one of identification and affiliation (Cormack & Robson, 2010; Durie, 1998b; Kukutai, 2004). A blood-quantum based system meant that one had to have a minimum level of Māori ancestry to identify as Māori. For example, one had to be at least half Māori (i.e. have one Māori parent) to identify their ethnicity as Māori. However, post-1974 anyone with whakapapa (with a Māori ancestor) could be counted officially as Māori on birth certificates and documentation, on the electoral roll (from 1975), and on the Census if they wished (from 1986). Even though, in reality, Māori had been doing this for years (Durie, 1998b).”

11. p. 11, Overview and Hypotheses section — There are no individual hypotheses specified for the different models, and the rest of the text does not explicitly discuss the support or rejection of any formal hypotheses. I suggest removing the term ‘hypotheses’.

We thank the Reviewer for this suggestion and have removed the term “hypotheses” as requested.

12. p. 12: “NZAVS” — The abbreviation is not introduced earlier in the text.

Sorry for that. We now spell out NZAVS – the New Zealand Attitudes and Values Study – at first mention.

13. p. 14: “Maximum Likelihood with robust error estimation (MLR)” — A brief description would be helpful.

As a result of this comment we have added the following brief description, with a reference:

“We estimated these models using Maximum Likelihood with Robust error estimation (MLR) using MPlus 7.3. MLR is a maximum likelihood estimator that means the standard errors and chi-square test statistic are robust to non-normality and non-independence of observations (Muthén & Muthén, 2012).”

The Reviewer helped us with the accuracy of our language at one point: “14. p. 14: “one’s model is either significant (does not fit) or not (does fit)” — It may be more accurate to refer to significance of the test, not of the model.”

We thank the Reviewer for this assistance. The sentence now reads “This is because χ^2 is an indicator of exact fit: one’s test is either significant (the model does not fit) or not (the model does fit) and because we have sample sizes over 200 χ^2 will always be significant (Barrett, 2007).”

The Reviewer suggested that we remove the AIC as an indicator of model fit and provided detailed reasoning: “15. p. 15: “The AIC is a relative indicator commonly used to provide a balance between parsimony and model fit, a lower number when compared to the other models run indicates a better fitting model (Akaike 1987).” — The AIC is typically used to choose between competing models, especially when they are not nested so they cannot be directly compared using a test such as $\Delta\chi^2$ or ΔCFI . As the authors correctly note, AIC puts a premium on parsimony and penalises complexity; it could be used to choose between models with (nearly) identical fit, which differ only in complexity. It was not clear to me how AIC was relevant to the testing of the various equivalence models, which are not competing (the most restrictive and hence complex model is in principle the most desirable, if it fits the data). For example, the AIC for the models for gender suggested the

metric-equivalence model as striking the best balance between fit and complexity (Table 2 [Table 5]), but the authors (understandably) favoured the more restrictive scalar-equivalence model despite its higher AIC value. In summary, although the inclusion of different indices provides additional insights into the data, the relevance of AIC was not evident, and was not addressed further in the text. I believe that the incremental fit indices mentioned in the general comments (CFI and TLI) are more directly relevant to the equivalence analyses.”

As a result of these comments we no longer report the AIC in the paper.

The Reviewer found an area where there was an error in our explanation of the types of measurement equivalence: “16. p. 15: “metric equivalence refers to the extent to which the items are measuring the same underlying constructs across groups” — The identity of the underlying constructs is the implication of configural invariance; metric invariance refers to the strength of the relationship between the items and the underlying constructs (i.e. equivalence of the factor loadings across groups).”

We address this in their points above (6.a, 6.b, and 6.c). In short, we have rewritten this section so it is clearer and more accurate.

“17. p. 18: “survey response rates have been dropping over time and the effect is particularly pronounced for Māori” — This seems to refer to a trend in the composition of the longitudinal panel from which the current data were obtained. It is not immediately clear how this could be relevant to the results of the current study.”

We have added a clarifying sentence to this section. Our point was that the low response rate, which is getting even lower over time, may cause some kind of bias in samples. Including the sample that our study was based on.

“Another limitation is the relatively low response rate to the survey (7.78% when electoral roll address accuracy adjusted). Participants were opting into a 16 year longitudinal survey and this may have been off-putting. However, survey response rates have been dropping over time and

the effect is particularly pronounced for Māori (see Fink, Paine, Gander, Harris, & Purdie, 2011; Sibley 2014). This low response rate may mean that the sample tested here was biased in some way.

One problem is that we cannot know if our sample differs in views or identity to non-respondents, although, the sample look reasonably representative compared with Census data on the Māori population (notwithstanding gender; Sibley, Muriwai, & Greaves, 2014). However, it may be that there is a group of Māori who are resistant to surveys, a Western concept that they may view as being linked to the Government, additionally the survey was only sent in English and not te reo Māori. This may be the case, considering that the model did not fit as well for sole-identifying and older Māori, groups who may speak te reo. Alternatively, there may have been problems with address accuracy – it may be that some aspect of Māori identity predicts moving house more often and we have missed an important group – or we may have missed a group of more economically deprived Māori. However, these are all speculative, and we hope to follow up on these ideas with future analyses.”

18. “extant research suggests that people may become more enculturated as they get older (Sibley & Houkamau, 2013; Greaves, Houkamau et al., 2015)” — The cited studies seem to focus on Māori specifically. It would be good to either include additional references for different cultural groups, or qualify the statement.

As a result of this comment we have changed the sentence to “... Māori may become more enculturated as they get older...”

Reviewer Two

Reviewer Two was complimentary: “This is an interesting paper that shows a clear research history and connection to the literature on the development of the scale for Māori identity.”

However, they felt that we could enhance the discussion section “... the discussion reads a little rushed. The paper, would benefit from a more fuller discussion on the implications of the research on our understanding of Māori identity. For example, the literature review noted that older Māori were excluded from connection to their Māori culture as a result of government policies, The

findings showed that caution is needed with the MMMI-ICE2 with the 50+ age group and sole-identifying Māori - this finding is interesting and worth a bit more explanation.” They also felt as though we could provide more detail on the benefits of the findings for the scale: “Given the depth of the research done to date, and the relationships across the constructs, the discussion could be enhanced by added commentary on the benefits of the findings.”

We thank the Reviewer for this encouragement. As a consequence we have extended the discussion from around 800 to around 1200 words, and expanded the discussion of the findings for age.

Finally, we again wish to thank you as the Editor for persisting with the search for Reviewers. We also wish to thank the Reviewers for their encouraging and detailed comments. We believe that our manuscript (and as a consequence, part of my PhD!) has been considerably strengthened as a consequence of these reviews and we look forward to hearing from you again.

Response to Reviewers for Study Three

Reviewer One

The Reviewer started with some encouraging words: “This is useful paper reporting on research findings of broad interest and in one form or another much of its content deserves to be published.” They praised the large sample sizes, access to market research data, the comparisons across survey modes, and analysis of Nationalism.

However, they encouraged us to refocus our literature review with an aim towards stronger theorisation, reduce detail/tables/our reporting of frequencies, emphasise our contributions to the literature, and to split the paper into two separate papers. We respond to each of these concerns below.

Refocussing the theorisation of the paper and aims

Both Reviewers commented on the lack of theorisation in the paper and encouraged us to use the theoretical frame of the sociological/social groups model of voting. Reviewer One said: “The opening paragraph strikingly illustrates the problem of weak theorisation: this is what we would expect to find in a piece of journalistic analysis. The idea that political choices are shaped by social group membership is a staple of the sociological model of voting choice – one should start from this. If, that is, the paper is about this – but of course it is about many other things as well, much of them much more interesting.”

We agree that the paper has many potential areas of focus, many of which are interesting. We now follow this Reviewer and Reviewer Two’s suggestion of using the sociological model of vote choice as an underlying theoretical frame for this paper. This has meant that we have rewritten much of the introduction and added hypotheses based on past literature in New Zealand and other nations where NZ research was not available.

Additionally, the Reviewer suggested a more focussed direction for the paper across several comments. In summary, examining the voting preferences of groups that normally have insufficient

sample sizes in other studies, including the NZES: “Another way to progress this paper could be to focus on the large-sample advantage for probing minority group voting intentions that could include LGT, and interact these differences with age and with nationalism: with the appropriate theoretical front end, that would be an original and very useful contribution to the literature. In other words, two potentially very useful papers could come out of this.”

“Buried in the detail about what we know there are nevertheless some very useful nuggets, mostly related to the large size of the samples but also the addition of instruments not hitherto employed in the NZES. In terms of sample size, Asian and Pasifika party choices stand out as giving us much more robust data than hitherto. The Colmar-Brunton (CB) data is very useful here as its better response rate backs up the AVS findings. The AVS data on gay and lesbian intentions is also very valuable although does not get much further attention and could merit more. I suggest that all the rest of the social structure data shifts to the background of the models as controls, and the emphasis is placed on the new more robust findings.”

As such, the Reviewer suggested that we remove some of the detail that has been previously investigated in the NZES book series and cite the NZES books.

As part of the renewed focus of the paper – focussing on some of those smaller social groups that have not had adequate sample size in many previous studies – we have changed this initial claim. Indeed, we have rewritten much of the introduction of the paper. Part of this rewrite means that we now cite chapters from past NZES books in the paper.

Due to the refocus we now do not report on many of these larger groups or established effects. For example, we now spend less time on gender, education, and SES type variables. Instead, we have followed the suggestion on focussing more on LGB voters, minority ethnic groups, and Nationalism and Patriotism. We have changed the introduction, results, and discussions to focus more on these groups as a result.

However, since the focus of this paper was not on Nationalism exclusively, we have not followed the Reviewer suggestion to focus on interactions between Nationalism and age or an LGB identity. We instead include this suggestion as a direction for future research in the discussion:

“This may mean that National and NZ First voters are less supportive of immigration, although we are unsure of the causal direction here. For example, it is not clear whether those high on Nationalism are attracted to National and NZ First, or whether those who prefer National and NZ First become more Nationalistic over time to closer reflect their party’s policies. Future research could explore Nationalism, Patriotism, and politics in New Zealand longitudinally and in finer detail, including the interactions between these attitudes and other variables including demographics.”

Other comments

1. The Reviewer encouraged us to remove our Analytic Strategy section: “I don't think an article in an academic journal needs a detailed explanation of a multinomial logit (MNL) model.”

Following this suggestion, we have deleted the Analytic Strategy section.

2. The Reviewer suggested that we rescale the Likert scale variables: “However, the use of an MNL model means that one party has to be the residual against which everything else is compared. The choice of a purely tabular presentation and odds ratios means that only 1 or 0 variables can be interpreted intuitively. But an odds ratio for age as a continuous variable or for a scale of nationalism doesn't make sense.”

We have followed this suggestions and changed the results section and tables.

3. The Reviewer suggested that we plot the interactions between demographic variables: “It may be that expectations in psychology are not the same, but in political science under the influence of Gary King and many others the standard is increasingly to use post-estimation to calculate probabilities and confidence intervals, and plot them. Huge tables are consigned to appendices and we focus on the variables of interest. This lends itself to estimations of interaction effects after

controls (set at observed effects, not means, which now seems pretty much confirmed as the best approach). So could you plot an interaction of Pasifika by age on, say, vote for Labour?”

While we agree that the interactions of different demographic variables would be an interesting avenue for research, the general focus of the paper is on the relationship between the different demographic and psychological variables and voter sentiment in these two large datasets. As the paper already has many focuses (as highlighted by both Reviewers), to keep the paper simple we have decided to keep the focus on these main effects. However, we have added this suggestion to the future research directions section of the paper as these kinds of analyses are definitely worth future examination, especially given the large sample sizes of these minority groups in the NZAVS:

“This paper provides data from two independent samples that replicates many of the past findings from the NZES, giving researchers across all three studies confidence that their findings for demographics and vote choice are robust. One curious difference between past studies and the two models presented here was the lack of a gender gap in voting (Coffé, 2013; Curtin, 2014). In the NZAVS, when controlling for a wider range of demographic and with the addition of psychological variables, we found no evidence of women being more likely to vote for the Labour or Green parties over National (although they were significantly more likely to prefer National over NZ First). This is a finding that should be followed up in future iterations of the NZAVS. Additionally, in future studies, the NZAVS, due to its large sample size, could extend our analyses further by probing the interactions between various demographic variables. For example, we have shown here that Pasifika voters prefer Labour, but we have also shown that Pasifika are more likely to vote for NZ First and the Greens than National. Thus, an interesting future research question would be to see if the age pattern found in

the general population is found for Pasifika too, and if similar effects are found across ethnic groups for SES and so on.”

Additionally, as part of the paper restructure, the level of detail in the tables has been reduced, with the large 3 halving in size. We hope they are now more appropriate to include in the body of the paper as this will make it easier for the reader to refer to the tables, especially with the renewed focus of the paper meaning that we now report less detail in the results section.

4. The Reviewer commented on our analysis of personality: “The findings on personality effects are interesting but how relevant are they given that the AVS has already published similar findings before? One could justify them as controls for nationalism perhaps: but in which case the modeling strategy would be different. On the other hand, nationalism is a much more original focus and much easier to link in to an earlier discussion about the more robust findings for ethnicity.”

As a result of this comment from the Reviewer, we now spend more time focussing on the results for Patriotism and Nationalism than previously. Although this is the first analysis using NZAVS data to explore vote choice and personality, rather than political party support, we now focus less on these variables and refer the reader to other published work using NZAVS data for the personality results.

5. The Reviewer referred us to Shee-Jeong Park’s PhD thesis on Chinese and Korean voting behaviour in New Zealand.

We thank the Reviewer for this suggestion and have now read this work and refer to it in the manuscript.

6. The Reviewer had a suggestion for a further paper based on the relatively low response rate found in the NZAVS. “Comparison of the CB and AVS data is very useful to ‘validate’ the AVS against higher-quality data. The AVS is very valuable and important but its panel structure means that it starts with a very low response rate and attrition adds to the problem. The consistency of the social group findings with the CB data is very reassuring. There is a methodological article to

be published here but in a stand-alone paper, not here. It could perhaps add comparison with the 2014 NZES that is now available.”

We strongly agree with the Reviewer’s suggestion and reasoning here. During the time that this manuscript was under review at NZJP we published an article in the journal Political Science. In the paper, we showed that the NZAVS was accurate at tracking the voting preferences of New Zealanders in the lead up to the 2014 general election when compared to the Colmar Brunton polling data, which was specifically designed to track voting preference. We now reference the paper in our manuscript:

Sibley, C. G., Robertson, A., Osborne, D., Huang, Y., Milojev, P., Greaves, L. M., ... & Barlow, F. K. (2017). Bias and tracking accuracy in voting projections using the New Zealand attitudes and values study. *Political Science*, 1-19.

Reviewer Two

Reviewer Two encouraged us to make a few minor revisions.

Refocussing the theorisation of the paper and aims

In agreement with Reviewer 1, this Reviewer mentioned that we should refocus the article, starting with the opening paragraph: “The paper sets up a straw person in the introduction and is inconsistent with its characterisation of the literature. First and foremost, a scholarly work must primarily address peer-reviewed research and speak to the scholarly community – while media presentations make for good fodder, setting up the paper to contradict media portrayals of voting or to address non scholarly views of voting is suboptimal.”

As was the case with Reviewer 1, this Reviewer also encouraged us to refocus the literature review and strengthen the theorisation in the paper. Firstly, they wanted us to focus on the contribution to the literature that we could make by examining demographic and psychological variables in the unique New Zealand context. “Extant research overwhelming points toward a decrease in the importance of demographics for voting. Certainly the classics of postwar political study focused on demographics such as membership in social groups—including ethnicity, class,

and religion but the last three decades has replaced this view and focused on ideological, psychosocial, economic, global and other conditions that guide vote choice. I think the paper would make a much stronger statement by simply relying on “the fact” that while the literature has found decreased importance of demographic characteristics in advanced democracies, they remain important in NZ due to its unique historical and political context and remain understudied so you take it up here...”

The Reviewer’s second major comment on the literature review was to situate the study within the broader international literature: “For example, patriotism and nationalism are well explored predictors of vote choice in the US, UK, Europe etc (Parker, Sawyer, & Towler, 2009; Sullivan et al., 1992; Tesler, 2010 - for some very recent examples, see Kalmoe and Gross 2016, and Coenders 2017). Placing the findings from these studies and others into the paper would make for useable hypotheses and move the paper from a purely descriptive study toward research driven hypotheses testing. This is just one example of course, and I think the majority of the paper would benefit from being better situated within the academic literature.”

As a result of these comments and the comments from Reviewer One we have substantially refocused the paper. Our underlying theoretical framework is now the sociological model of voting (and related academic literature), rather than media or descriptive work. Our aims in the paper are now to 1) test the demographic and psychological characteristics that relate to voting in the unique New Zealand context reinforcing previous work completed with the NZES and 2) focus on minority groups past studies have been able to examine in detail due to small sample sizes. We now have hypotheses for most of the variables included in our models.

We have also followed the Reviewer’s comments on Patriotism and Nationalism. That is, we provide hypotheses based on these sources and reference the works that they have mentioned above.

The Reviewer made two further minor points:

“3. Effect sizes or equivalent- part of the paper does a very good job of making it clear what the effects are; for example the probabilities from the logistic regressions are easy to interpret. But other parts of the analyses are less clear. For the personality results for example, how much of the variation is explained with their addition, or what are the effect sizes? Some additional interpretation would benefit the paper and make the results more accessible.”

This comment is similar to that made by Reviewer One above – see Reviewer One, comment two. We have rescaled the Likert scale variables as 0 to 1 to aid interpretation of odds ratios.

“4. At the same time I think more caution should be used when discussing the directional effects of the personality dimensions and I would guide the author(s) to focus on openness and conscientiousness. The reason being is that extroversion, agreeableness, and emotional stability etc tend to vary on being associated with the left or right depending on the country, sample, and time. The directional effects of openness and conscientiousness however, are quite consistent across samples.”

We thank the Reviewer for pointing this out to us. We now downplay the other personality results in the discussion and make the point that the Reviewer did about context: “However, these results diverge from the typical Openness to Experience and Conscientiousness findings from most political contexts (Gerber, Huber, Doherty, & Dowling, 2011; Sibley et al., 2012). As such, it is clear that the relationship between the development of personality and who one chooses to vote for warrants further investigation over time, especially in a multi-party system.”

Response to Reviewers for Study Four

Reviewer One

Generally, this is an excellent and timely piece of research that needs no major revising. I have two corrections that should be made, however:

Page 4: The term “half blood” is used – I don’t believe that this was the historical term (it was, disgracefully, “half-caste”).

To make this consistent with the Reviewer’s comments and an earlier sentence, we have changed the wording of the sentence to: “Only those who were “half-caste” were able to choose to be on either the Māori roll or the “European” roll.”

Page 14: the author’s state that “official statistics say 55% of Māori are enrolled on the general roll ...” Actually, the last electoral option resulted in 55% of voters who indicated Māori descent choosing the Māori roll (see <http://www.elections.org.nz/news-media/results-2013-Māori-electoral-option>). This is very important in terms of debates about the seats’ future.

As a result of this Reviewer’s comment we were very careful to check these numbers from a range of documents and press releases on the Electoral Commission’s website. However, it seems as though 55% (see screenshot of table below from the link given above) is the percent of those with Māori descent that were enrolled to vote on the Māori electoral roll after the last electoral roll option.

Total Rolls at End of Option	
Māori on Māori Roll	Māori on General Roll
228,718 (55%)	184,630 (45%)

Reviewer Two

This is very important and engaging research question. The paper is generally well structured and well written. It will make a valuable contribution and I look forward to the future publications alluded to here.

I have a few suggestions for the authors to consider for final revisions:

1. The authors should remember that the Māori electorates only guarantee Māori-only voters in electorates, they do not guarantee a Māori MP will be elected; anyone can stand for election in the Māori electorates. So claims about increasing Māori representation need to be qualified – it is highly unlikely that non-Māori will be elected in the seats, but it is an important constitutional feature that non-Māori are not excluded from standing for election. If future studies are to be conducted about the electorates, this important distinction may be all the more relevant.

We thank the Reviewer for educating us on this matter, as this was a point that we had not thought of. We have added the following disclaimer to the manuscript:

“Alongside the potential for an increase in Māori seats, understanding the factors that contribute to enrolment choice is important as every few years a political party or movement gains national attention through arguing for the abolition of the Māori seats—which would likely decrease Māori political representation (Barber, 2008; Xanthaki & O’Sullivan, 2009; as a disclaimer, these Members of Parliament do not have to be Māori. However, by convention those elected have been).”

2. The introduction of the Māori option was an extremely important milestone for the electorates, as the paper discusses. But the authors should also note that just as important for the Māori option was the introduction of the party vote which is exactly the same in the general and Māori electorates. This has had the effect of leveling the playing field also for Māori and addressing the marginalising effect the seats have had on Māori political influence in the past; prior to 1993 the choice to vote in Māori electorates was (as

recognised in the paper) a political choice with very real consequences. Not only were the votes of in Māori electorates not as influential as votes in the general electorates (because there were so many more voters cast in the Māori electorates) but also because the contest in the Māori seats – safe Labour seats – had little influence on the outcome of an election. The introduction of the party vote meant that voters in the Māori electorates have just as much influence over who will form a government as voters in any other electorate. This feature of the seats is important for the authors to acknowledge on p. 4.

As suggested, we now mention these changes after the 1975 changes:

“Prior to 1975, enrolment on the Māori electoral roll was by so-called “blood quantum” (Geddis, 2006). To enrol on the Māori roll, one had to be either a “full Māori”, a “half-caste”, or “a person intermediate between half-caste and a person from that race” (Metge, 1976, p. 41). Only those who were “half-caste” were able to choose to be on either the Māori roll or the “European” roll. Post-1975 the legal minimum requirement became being descended from Māori. Thus, those with Māori ancestry were able to choose between the Māori and the newly-named “general” roll (Geddis, 2006). From 1993, the change to a Mixed Member Proportional (MMP) electoral system in New Zealand likely made the decision to change to the Māori roll easier. With the change in system came a change in proportionality: more Māori on the roll would increase the number of Māori seats (Sullivan, 2003). Additionally, under MMP voters received an electorate vote and a party vote. At the time, the Māori seats were considered safe Labour seats, the switch to MMP meant that Māori roll voters were able to cast an additional party vote with a wider range of choice (Sullivan, 2003).”

3. Given that this paper ought to reach beyond readers familiar with quantitative studies, I would encourage the authors to make sure the lay-person’s explanation is given due weight here. So, for example, at the end of the discussion section, (p.15) and again in the

conclusions (p. 17) it would be valuable for the authors to make statements like: ‘in other words’, or ‘put simply’ – with a summary of what the findings mean in accessible language which speaks directly to the research questions established at the start. It is important that the paper presents the quantitative data to speak to that audience, but equally important that it signals key findings to a broader audience as well.

We think that the Reviewer makes a good point here – that we have overlooked the explanation as it relates to the initial research questions and for those without a quantitative background. As such, we have inserted the following paragraph into the discussion, after our initial discussion of the results but before the limitations, future research directions, and conclusion sections.

“Put simply, our results show that, if we exclusively examine demographic variables, younger people have a higher chance of being on the Māori roll. Likewise, those who (a) solely identify as Māori, (b) have a higher level of education, (c) have children, or (d) reside in an impoverished area are more likely to be on the Māori roll. These analyses have shown which demographic features might lead people to enrol to vote on the Māori roll. Nevertheless, we thought that this may have been missing something. Therefore, we conducted a second set of analyses that included seven dimensions of a scale designed to measure different aspects of Māori identity. When we included these subscales, the demographic variables listed above were no longer significant predictors (the exception being identifying as Pākehā). This demonstrates that the scale of Māori identity better explains people’s enrolment choice than basic demographic variables. Specifically, endorsing statements that one stands up for Māori rights and believes in the importance of past injustices (Socio-Political Consciousness), and that being Māori is an important and positive part of one’s

identity (Group Membership Evaluation) relates to a higher likelihood of being on the Māori roll. This helps to answer our initial research question of what might lead people to enrol to vote on the Māori roll. However, because these analyses are from one time point, we cannot say these are the cause of enrolment choice. Indeed, these analyses merely indicate that people who score higher in these dimensions, or who do not identify as Pākehā, tend to be on the Māori roll at higher rates than those who do not. Nevertheless, this provides valuable information on who is choosing to be on the Māori roll and provides a good starting point for future research.”

4. As a minor point, the heading ‘Past Research’ could offer more in the terms of the describing the type research included

To make this subheading more descriptive we have changed it to: “Past Survey Research on the Māori Roll.”

I thoroughly enjoyed reviewing this paper – I look forward to further publications by these authors.

Reviewer Three

I’m unable to comment on the statistical methodologies and the validity of the conclusions drawn from these. They do seem plausible, but I defer to a referee with the appropriate methodological expertise that point.

Overall, it’s a very interesting and important topic and with some significant, but not too time-consuming revisions, it is likely to be suitable for publication.

The following general comments need to be taken into account in a review:

Avoid absolute terms like ‘undoubtedly’; a more neutral term such as ‘likely’ would be better. For example, it is possible that an increase in Māori seats could have perverse impact on the number of Māori elected from party lists.

This is a great point, we now have replaced all instances of the word “undoubtedly” with “likely” and checked the manuscript for similar absolute terms.

A ‘tool to fight fire with fire’ is too emotive. Let the evidence and reasoning make the argument.

‘Pro-Māori’ is also loaded and seems to discount the possibility that Māori might make conscious and considered choices to roll on the general roll.

We have revised this section of the manuscript to be less dramatic. We now state our position more neutrally:

“We take a post-positivist quantitative approach, acknowledging that our positions and values have influenced the knowledge generated. Statistics are often used as a way to disempower Māori and other Indigenous peoples (Kukutai & Walter, 2015; Walter & Andersen, 2013) and are often cited as a reason to abolish the Māori seats. However, our aim here is to use statistics to show patterns of enrolment behaviour across a wide range of Māori (from a sample randomly selected from the electoral roll). We seek to identify the factors that predict enrolment type. In our first model, we test a range of key demographic variables (e.g., age, income, being urban/rural, ethnic affiliation as Pākehā) and in our second model we extend our analyses to include a subjective measure of Māori identity, the Multidimensional Model of Māori Identity and Cultural Engagement. We aim to contribute to the literature that indicates why Māori choose the Māori or general roll.”

What do you mean by ‘should have increased the representativeness of Māori seats’?

We have removed this sentence as we agree that it was vague. The point we were making is now worded as: “With the change in system came a change in proportionality: more Māori on the roll would increase the number of Māori seats (Sullivan, 2003).”

Avoid non-scholarly language like ‘low uptake of the Māori roll’. You need to sound like an expert on the topic so use precise language.

We have changed the sentence that Reviewer has alerted us to, to read: “In the current-day, low levels of enrolment have been cited as a reason for eliminating these seats (Geddis, 2006).” Additionally, we have read over the manuscript and altered the wording where the language could have been interpreted as non-scholarly.

The phrase arguments ‘for eliminating the seats by politicians’ needs to be referenced. ‘Politicians’ is a broad term; say who you mean, exactly, so that the reader can contextualise the proposition.

Our original reference for this statement was Geddis (2006), and we now reference the sentence in question with this work. The specific politician we were referring to was Winston Peters, however, on further examination, we cannot find a solid reference for his remarks so the section now reads: “In the current-day, low levels of enrolment have been cited as a reason for eliminating these seats (Geddis, 2006). Although, enrolment has actually been increasing over the years (Electoral Commission, 2013).”

Cite something more recent than Geddis (2006) to support the claim that enrolment on the Māori roll is increasing. There were Māori Electoral Options in 2006 and 2013.

We have changed the reference for this to a webpage by the Electoral Commission (2013) that reports the 1997, 2001, 2006, and 2013 electoral roll option results.

The Royal Commission did not cite the existence of the Māori Party as a reason for abolishing Māori seats, the Māori Party did not exist until well after the Commission’s report.

We thank the Reviewer for alerting us to this referencing error. This sentence now states: “Some have argued that the Māori seats are no longer needed due to the adoption of MMP and the existence of the Māori Party (for a summary of arguments see Geddis, 2006).”

Use the word ‘alleged’ rather than ‘charged’.

We have made this change to the manuscript.

Officials do not provide funding for Māori Electoral Options. Funding decisions are made by governments.

Upon reading the Waitangi Tribunal report again, we agree with the Reviewer that this sentence is inaccurate. It now reads: “In 1994, it was alleged that the Government did not provide enough funding to promote the option (Waitangi Tribunal, 1994).”

What does ‘official support’ of ‘sustainable levels’ mean?

We thank the Reviewer for alerting us to this ambiguity. We have now revised this section to say: “Although financial support may now be sufficient, underfunding could have consequences for Māori political power. Indeed, the number of Māori seats is based on how many Māori choose the Māori roll (Comrie, Gillies, & Day, 2002).”

Avoid saying ‘a handful of studies’. You need to be precise and reference at least some of the studies to which you refer.

We agree that this is imprecise. We now say “Two survey studies have elucidated the factors that influence Māori enrolment choice.” We then provide an overview of both of these studies in the following two paragraphs.

Define what you mean by ‘political views more similar to Pākehā’? This can only make sense with a contextual explanation.

In accordance with this comment we have now provided more context to this statement in both the introduction and the discussion:

“Our hypotheses for model one are that those who identify their ethnicity as Pākehā will be less likely to be on the Māori roll, given that Houkamau and Sibley (2014b) have found that Māori-Pākehā individuals tend to have patterns of policy and party support that are more similar to Pākehā.”

“Research from Houkamau and Sibley (2014b) suggests that those who identify as Māori and Pākehā may have political views more similar to Pākehā. They found that compared to sole-identifying Māori, Māori-Pākehā had higher support for the National Party (who do not stand candidates in the Māori seats) and lower support for the Māori Party (who focus on the Māori seats).”

One should say ‘required by the Electoral Act’ not required by the commission.

We thank the Reviewer for alerting us to this error. It is now fixed.

What is an ‘NZQA regulation level’?

We have fixed this error in wording and expanded this area of the Method section to give a little more context for the reader: “Education was coded according to the NZQA education level the participant had attained (Statistics New Zealand, 2016). Where 0 represents no qualification, 3 the end of secondary education, 7 a bachelor’s degree, and 10 represents a doctorate. The mean level of qualification level the sample had attained was 3.69 (SD = 2.78), or a sample average of a Level 4 certificate.”

Appendix B

Te Reo Māori Translation of the MMM-ICE2 Reproduced from Houkamau and Sibley (in press)

Te Tauira Ahu-maha o te Māoritanga me Urunga ki te Ahurea

Ngā tohutohu: Kei tēnei wāhanga ētahi kōrero mō ō whakaaro ake e pā ana ki tō Māoritanga. He whakaaro noa iho ēnei kōrero. Kua whakaritea te āwhata nei i runga i te mōhio tērā ētahi kōrero ka whakaaehia mai e koe, tērā anō ētahi kōrero ka whakahētia mai e koe. I pēnei ai he hiahia nō mātou ki te āta titiro ki te whānuitanga o ngā whakaaro huhua o ngā tāngata e pā ana ki te Māoritanga ki a rātou. Kāore he whakautu tika, kāore hoki he whakautu hē, engari me whai koe kia pono ō whakautu katoa. Ko te whakautu tino pai rawa atu ko tērā i ahau mai i roto tonu i a koe, ahakoa te āhua o te whakaaro. Whakautua mai i runga i te 1 ki te 7, ko te 1 hei tohu e tino whakahē mārire ana koe ki te kōrero, ko te 7 hei tohu e tino whakaae mārire ana koe ki te kōrero.

	Strongly Disagree				Strongly Agree			
	↓							↓
1. He mea nui ki a au taku whakapapa Māori.	1	2	3	4	5	6	7	
2. He rawe te tū hei Māori.	1	2	3	4	5	6	7	
3. Kei te mōhio ahau me aha ahau i runga i te marae.	1	2	3	4	5	6	7	
4. E mārāma ana au ki tōku whakapapa Māori me te hāngaitanga mai ki a au.	1	2	3	4	5	6	7	
5. Ki a au ka taea e ngā tūpuna te kōrero mai ki te hiahia rātou.	1	2	3	4	5	6	7	
6. EHARA tōku Māoritanga i tētahi wāhanga nui o tōku tuakiri.	1	2	3	4	5	6	7	
7. Mā aku hononga ki ētahi atu Māori (ngā hoa me te whānau) e Māori ai au.	1	2	3	4	5	6	7	
8. Kāore au e mōhio me aha au i runga i te marae.	1	2	3	4	5	6	7	
9. E whakapono ana au he wāhanga nui o taku tuakiri Māori taku taha wairua.	1	2	3	4	5	6	7	
10. Karakia ai te Māori tūturu i mua i ngā kaupapa nui.	1	2	3	4	5	6	7	
11. Mā te titiro noa iho mai e mōhiotia ai au he Māori.	1	2	3	4	5	6	7	
12. He kaha taku hononga ā-wairua ki te whenua.	1	2	3	4	5	6	7	
13. Tū ai au mō ngā mōtika Māori.	1	2	3	4	5	6	7	
14. Me tū kotahi te iwi Māori ki te hiahia tātou kia whakahokia mai ngā whenua i raupatungia i mua.	1	2	3	4	5	6	7	
15. Kāore au e tino kaha ana ki te whai i te ahurea Māori.	1	2	3	4	5	6	7	
16. I Māori ai au nā taku hononga ki ētahi atu tāngata Māori, pēnei i aku hoa me tōku whānau.	1	2	3	4	5	6	7	
17. Kāore au e whakapono ana ki te taha wairua Māori.	1	2	3	4	5	6	7	
18. Ka pai noa ake te Māori mēnā i wareware ngā rā o mua, ka kōkiri whakamua kē.	1	2	3	4	5	6	7	
19. Ka nui taku aroha ki taku Māoritanga.	1	2	3	4	5	6	7	
20. E pai ana ahau ki te uru ki ngā āhuatanga o te ahurea Māori, ina mate au ki te pērā.	1	2	3	4	5	6	7	
21. Ka tūtaki ana au ki ētahi atu, me uaua ka mōhio mai rātou he Māori ahau.	1	2	3	4	5	6	7	
22. Ngana ai au ki te kōrero Māori i ngā wā katoa.	1	2	3	4	5	6	7	
23. Ko tōku katoa e whaipānga ana ki ōku hono ki ōku hoa me tōku whānau Māori.	1	2	3	4	5	6	7	
24. Kāore anō au kia rongu i tētahi hononga ā-wairua ki ōku tūpuna.	1	2	3	4	5	6	7	
25. Ki a au nei, he rite tonu te haere a ngā Māori tūturu ki te marae.	1	2	3	4	5	6	7	

	Strongly Disagree ↓				Strongly Agree ↓			
26. Kāore taku Māoritanga e pā ana ki aku hononga ki ētahi atu Māori.	1	2	3	4	5	6	7	
27. Kāore pea te tangata e mōhio he Māori ahau mā te titiro noa mai.	1	2	3	4	5	6	7	
28. Ko te mahi tauutuutu te pūtaketanga o te Māoritanga ki ahau nei.	1	2	3	4	5	6	7	
29. Ka uru ana ahau ki tētahi wāhi tapu, ka rongo ahau i te tapu.	1	2	3	4	5	6	7	
30. Ki a au, ka kitea au e ētahi atu ka mōhio noa mai rātou he whakapapa Māori ōku.	1	2	3	4	5	6	7	
31. E kore te tangata e mahara he Māori ahau mā te titiro noa mai.	1	2	3	4	5	6	7	
32. Mōhiohia tonutia atu te Māori tūturu i te tirohanga atu.	1	2	3	4	5	6	7	
33. Kāore au e mātau ana ki ngā āhuatanga o te ahurea Māori.	1	2	3	4	5	6	7	
34. He pai te tū hei Māori.	1	2	3	4	5	6	7	
35. I ōna wā kāore e tau taku noho i waenganui i ētahi atu Māori.	1	2	3	4	5	6	7	
36. Me titiro noa mai koe e mōhio mai koe he Māori ahau.	1	2	3	4	5	6	7	
37. He wā ōna ka rongo ahau i ōku tūpuna e titiro mai ana i a au.	1	2	3	4	5	6	7	
38. Ki a au, he wāhanga nui o tōku Māoritanga aku hononga ki tōku whānau.	1	2	3	4	5	6	7	
39. Kāore au e wahi i te ahurea Māori, e kōrero Māori rānei.	1	2	3	4	5	6	7	
40. EHARA tōku Māoritanga i tētahi wāhanga nui o tōku tuakiri.	1	2	3	4	5	6	7	
41. Ko te whānau te mātāmua ki te Māori tūturu.	1	2	3	4	5	6	7	
42. He horihori noa iho te tapu. Nōhea e pā ki te tangata.	1	2	3	4	5	6	7	
43. Katoa tātou, Māori mai, Pākehā mai i hē i ngā rā o mua, kāti me whakarere noa e tātou ngā mahi rā.	1	2	3	4	5	6	7	
44. Kua hōhā au i te whakarongo ki ngā kōrero mō Te Tiriti o Waitangi me ngā whenua Māori i raupatungia.	1	2	3	4	5	6	7	
45. Ehara i te mea me mōhio rawa koe ki tō reo e kīia ai koe he Māori tūturu.	1	2	3	4	5	6	7	
46. Ki ahau nei me kotahi noa iho te iwi o runga o Aotearoa, hei aha ngā wehewehenga i waenganui i te Māori me te Pākehā.	1	2	3	4	5	6	7	
47. Ko te tūāpapa o tōku Māoritanga ko aku hononga ki ētahi atu Māori.	1	2	3	4	5	6	7	
48. Kāore i te pā ki a au ngā mahi a ngā Pākehā ki ngā Māori i mua. Kāore au i reira, nō reira kāore e pā mai ki a au.	1	2	3	4	5	6	7	
49. He māmā noa iho te kite atu i te Māori tūturu i waenganui i ētahi atu Māori, he rerekē nōnā.	1	2	3	4	5	6	7	
50. Ki a au i tūkinotia te Māori i mua, nō reira me whawhai tātou mō ā tātou taonga.	1	2	3	4	5	6	7	
51. He Māori tonu koe ahakoa kāore koe e mōhio ana ki tō iwi.	1	2	3	4	5	6	7	
52. E hiahia ana ahau ki te huna i taku Māoritanga i ētahi atu.	1	2	3	4	5	6	7	
53. Ki te kore te tangata e mōhio mai ki a au, ka pōhēhē mai nō iwi kē ahau, ehara i te Māori.	1	2	3	4	5	6	7	
54. E Māori tūturu ai koe me mōhio koe ki tō whakapapa me ngā kōrero hītori mō tō iwi.	1	2	3	4	5	6	7	

Scoring key. There are a few different ways to score the MMM-ICE using Item Response Theory or Exploratory or Confirmatory Factor models (see Sibley & Houkamau, 2013; Houkamau & Sibley, 2015a). However, the easiest and most widely used way is to simply reverse score the items worded in the negative direction and then create a mean score for the items in each subscale. The items that need to be reverse scored, so that a score of 1 is coded as 7, a score of 2 coded as 6, and so on are: 15, 52, 6, 40, 8, 33, 39, 35, 26, 17, 24, 42, 18, 43, 44, 46, 48. Scale mean scores can then be calculated by taking the average of the following items for each subscale: GME = 2, 19, 34, 15, 52, 1, 6, 40. CEAIE = 8, 33, 39, 3, 20, 4, 22, 35. ISC = 7, 16, 47, 38, 23, 26, 28. S = 5, 17, 9, 29, 37, 24, 42, 12. SPC = 18, 43, 44, 46, 50, 48, 13, 14. AB = 49, 25, 10, 32, 41, 54, 51, 45. PA = 11, 36, 21, 27, 30, 31, 53.