

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

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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 utilizing 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

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; Lusitini & Crothers, 2013; Park, 2006; Vowles, 1998, 2002a, 2014). Our aim here is to document not only the social and demographic variables, but also the psychological variables associated with voter sentiment¹ 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 dialled 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 on 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 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

¹ 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 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 socio-economic 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 notoriously hard to survey. 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, Lusitini 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 past sexual or romantic behaviour (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 than 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 5 or 6 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 a 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, & Sibley, 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 United States. 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-Brunswick, 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, Frenkel-Brunswik, Levinson, & Sanford, 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; Lusitini & 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 hypothesize, 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 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 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 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 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 1

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 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 1 for the Labour Party, Table 2 for the Green Party, and Table 3 for NZ First.

As seen in Tables 1-3, 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 ($b=.1885$, $se=.169$, $OR=6.586$, $z=11.185$, $p<.001$). 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.

Table 1. Multinomial logistic regression for Study 1, 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 1 Ns for intended vote: National = 4,433, Labour = 2,170.

Table 2. Multinomial logistic regression for Study 1, 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 1 Ns for intended vote: National = 4,433, Greens = 807.

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

Table 3. Multinomial logistic regression for Study 1, 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 1 Ns for intended vote: National = 4,433, NZ First = 420.

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 1 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 2

Study 2 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, 2015a).

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 ($n=2,087$).

Participants' 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, Salmond, & Crampton, 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, 2015b). 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 4 for the Labour Party, Table 5 for the Green Party, and Table 6 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.

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 1 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 1, 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.

Table 4. Multinomial logistic regressions for Study 2 (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>	95% <i>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 2 Ns for intended vote: National = 5,345, Labour = 2,631. Model loglikelihood = -120203.19, AIC = 20568.38, BIC = 21156.50.

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 1.

Table 5. Multinomial logistic regressions for Study 2 (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>	95% <i>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. * $p < .01$, ** $p < .001$. 2 Ns for intended vote: National = 5,345, Greens = 2,153. Model loglikelihood = -120203.19, AIC = 20568.38, BIC = 21156.50.

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 hypothesized. 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

Table 6. Multinomial logistic regressions for Study 2 (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>	95% <i>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 2 Ns for intended vote: National = 5345, NZ First = 389. Model loglikelihood = -120203.19, AIC = 20568.38, BIC = 21156.50.

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 (Lusitini & Crothers, 2013). We did not, however, find significant differences in support for the NZ First party in Study 1. 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, a notoriously hard-to-sample population. Asian peoples² 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.

Our paper also provides a rare insight into the voting behaviour of LGB individuals. Those who identify as lesbian, gay, bisexual, or of another minority sexual orientation 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 United States, 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 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.

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,

² 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 (2015).

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 2 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, 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.

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 1 and 2) and added to the literature by including sexual orientation. Moreover, Study 2 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.

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References

- Adorno, T. W., Frenkel-Brunswick, E., Levinson, D., & Sanford, N. (1950). *The Authoritarian personality*. New York: Harper.
- 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: Auckland University Press.
- 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), 539-557.
- Atkinson, J., Salmond, C. E., & Crampton, P. (2014). *NZDep2013 index of deprivation*. Wellington, New Zealand: Department of Public Health, University of Otago.
- Bar-Tal, D., & Staub, E. (1997). *Patriotism in the lives of individuals and nations*. Chicago: Nelson-Hall.
- Coffe, H. (2013). Gender and party choice at the 2011 New Zealand general election. *Political Science*, 65(1), 25-45.
- 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: Institute for Governance and Policy Studies.
- 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.
- 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.
- 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.
- Greaves, L. M., Barlow, F. K., Lee, C., Matika, C., Wang, W., Lindsay, C., ... Sibley, C. G. (2016). The Diversity and Prevalence of Sexual Orientation Self-Labels in a New Zealand National Sample. *Archives of Sexual Behavior*. Advance online publication.
- 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).
- Hechter, M. (2000). *Containing nationalism*. Oxford: 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.
- Hertzog, M. (1996). *The lavender vote: Lesbians, gay men, and bisexuals in American electoral politics*. New York: New York University Press.
- Iusitini, L., & Crothers, C. (2013). Turnout and voting choices at general elections of Pacific peoples in New Zealand. *Political Science*, 65(2), 157-177.
- 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), 883-899.
- 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), 363-377.
- 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(03).
- Kosterman, R., & Feshbach, S. (1989). Toward a Measure of Patriotic and Nationalistic Attitudes. *Political Psychology*, 10(2), 257.
- Laumann, E. O., Gagnon, J., Michael, R. T., & Michaels, S. (1994). *The social organization of sexuality: Sexual practices in the United States*. Chicago: University of Chicago Press.
- Lubbers, M., & Coenders, M. (2017). Nationalistic attitudes and voting for the radical right in Europe. *European Union Politics*, 18(1), 98-118.
- Manuela, S., & Sibley, C. G. (2015). The Pacific identity and wellbeing scale-revised (PIWBS-R). *Cultural Diversity and Ethnic Minority Psychology*, 21(1), 146-155.
- McCrae, R. R., & Costa, P. T. (1997). Personality trait structure as a human universal. *American Psychologist*, 52(5), 509-516.
- 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), 936-944.
- Mummendey, A., Klink, A., & Brown, R. (2001). A rejoinder to our critics and some of their misapprehensions. *British Journal of Social Psychology*, 40(2), 187-191.
- 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>
- 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*. Advance Online Publication.
- 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), 743-751.
- Osborne, D., Wootton, L. W., & Sibley, C. G. (2013). Are liberals agreeable or not? *Social Psychology*, 44(5), 354-360.
- 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: 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(01), 193-217.
- 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.
- 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: Springer.
- Schaffner, B., & Senic, N. (2006). Rights or benefits? Explaining the sexual identity gap in American political behavior. *Political Research Quarterly*, 59(1), 123-132.
- Schatz, R. T., Staub, E., & Lavine, H. (1999). On the Varieties of National Attachment: Blind Versus Constructive Patriotism. *Political Psychology*, 20(1), 151-174.
- 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. (2015a). *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. (2015b). *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., 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., 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.
- 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., 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.
- 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), 700-713.
- 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: Oxford University Press.
- Singh, H., & Ball, A. (April 17, 2013). Marriage equality bill - how MPs voted. <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.
- 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> (accessed January 3, 2016).
- 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>
- Sullivan, J. L., Fried, A., & Dietz, M. G. (1992). Patriotism, politics, and the presidential election of 1988. *American Journal of Political Science*, 36(1), 200-234.
- Tesler, M. (2010, April). *Patriot priming in presidential elections: When and why American patriotism matters in voting for president*. Paper prepared for presentation at the annual meeting of the Midwest Political Science Association, Chicago, USA. Retrieved from http://mst.michaeltesler.com/uploads/Sample_3.pdf
- 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: Auckland University Press.
- Vowles, J. (2000). The New Zealand Election Study. *Political Science*,

52(2), 150-157.

- 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: Auckland University Press.
- Vowles, J. (2002b). Offsetting the PR Effect? Party Mobilization and Turnout Decline in New Zealand, 1996-99. *Party Politics*, 8(5), 587-605.
- Vowles, J. (2010). Electoral System Change, Generations, Competitiveness and Turnout in New Zealand, 1963-2005. *British Journal of Political Science*, 40(04), 875-895.
- 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: Institute for Governance and Policy Studies.
- 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), 319-332.

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