

PROFILING AUTHORITARIAN LEADERS AND FOLLOWERS

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Research has long suggested that there may be distinct subpopulations of authoritarian leaders and followers within the broader population. We describe a latent profile analysis of right-wing authoritarianism (RWA) and social dominance orientation (SDO) in a New Zealand national probability sample ($N = 18,248$) that — for the first time — reliably identifies these two types. Consistent with the positive correlation between SDO and RWA, most people in New Zealand (about 91.2%) expressed comparable levels of RWA and SDO (i.e., moderate-moderate or low-low, but no high-high profile). Two small and distinct subpopulations diverted from this pattern, instead fitting a high-SDO/low-RWA authoritarian leader (1.2%) or low-SDO/high-RWA authoritarian follower (7.6%) profile. Authoritarian leaders tended to show the least concern for human rights, and were least willing to make personal sacrifices for the environment, but tended to support same-sex marriage, while authoritarian followers were particularly opposed to same-sex marriage, and yet highly supportive of human rights. These two profiles represent distinct subpopulations of people within society who are predisposed to seek dominance over others and those predisposed to unquestioningly follow them.

Key words: Right-wing authoritarianism; Social dominance orientation; Latent profile analysis; Authoritarian followers.

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Let me draw you a Venn diagram with two circles in it, denoting sets of individuals. They overlap: the greedy ones and the authoritarian ones. Let's shade in the intersecting area in a different color, and label it dangerous: Greed isn't automatically dangerous on its own, and petty authoritarians aren't usually dangerous outside their immediate vicinity — but when you combine the two . . .
(Stross, 2010, p. 202)

Two decades ago, Altemeyer (1998) commented that “if you want to explain the many kinds of prejudice [. . .] they are largely matters of personality. And only two kinds of personality are basically involved: The social dominator and the right-wing authoritarian” (p. 60). Although the exact status of these constructs as personality traits remains up for debate, there is little doubt that right-wing authoritarianism (RWA) and social dominance orientation (SDO) are powerful predictors of numerous social and political attitudes (e.g., Duckitt & Sibley, 2016; Sidanius, Cotterill, Sheehy-Skeffington, Kteily, & Carvacho, 2017). Whereas RWA captures an inclination toward conventionalism, authoritarian submission, and aggression toward those who disagree with the authorities whom the person favors (Altemeyer, 1981), SDO measures individual differences in the preference for hierarchical (vs. egalitarian) group relations (Pratto, Sidanius, Stallworth, & Malle, 1994). Or, in the pithy observation offered by author Charles Stross, this can be thought of as the duality between the greedy ones and the authoritarian ones. Altemeyer (1998) presented an expressive characterization of what he viewed as the core difference in types between people high in SDO and RWA as follows:

Right-wing authoritarians, who do not score high on [the Personal Power, Meanness, and Dominance Scale], seem to be highly prejudiced mainly because they were raised to travel in tight, ethnocentric circles; and they fear that authority and conventions are crumbling so quickly that civilization will collapse and they will be eaten in the resulting jungle. In contrast, high SDOs *already* see life as “dog eat dog” and — compared with most people — are determined to do the eating (p. 99).

More specifically, Altemeyer (1998) argued that SDO and RWA capture different and quite opposite types of people; those who wish to dominate and those who wish to submit, respectively. Also of interest to Altemeyer (2004) was the participants who fell into the high-end of both SDO and RWA, or “double-highs,” who were thought to be the most prejudiced individuals (a characteristic also alluded to in the opening quote from Charles Stross). Despite the presentation of SDO and RWA as “types” of authoritarians implicit in Altemeyer’s (1998) portrayal, these two variables are usually examined as distinct and continuous in most research, with an emphasis on their differing antecedents and consequences. Indeed, there has been little empirical investigation into or evidence of the prevalence of such authoritarian types, or profiles, in a population. This is understandable given that, the positive (albeit modest) correlation of about $r = .30$, documented in numerous studies and meta-analyses (see e.g., Duriez, Van Hiel, & Kossowska, 2005; Roccato & Ricolfi, 2005; Sibley & Duckitt, 2008), suggests that there is a general tendency for SDO and RWA scores to be similar for a given individual.

Here, we examine the possibility (as implied by Altemeyer, 1998) that there are distinct subtypes (or patterns) of people who are low in RWA but high in SDO (or vice versa) using latent profile analysis. We thus diverge from research that has examined these variables mostly independently to pose the question of whether, hidden within the vast majority of people who tend to endorse similar levels of both these variables, there are distinct (but presumably small) proportions of people who fit the profile of an authoritarian follower (“right-wing authoritarians who do not score high on personal power, meanness, and dominance, . . .”) or that of an authoritarian leader (high SDO and low RWA). As we outline below, we think there is good reason to expect that a small proportion of the population will run contrary to the simple SDO-RWA combination assumed from the positive correlation between SDO and RWA.

CONCEPTUALIZATIONS OF SDO AND RWA

In the past few years, the bulk of the literature on RWA and SDO has focused on their different roots and consequences. For instance, the related perspectives offered by social dominance theory (SDT; Sidanius & Pratto, 1999) and the dual process model of ideology and prejudice (DPM; Duckitt, 2001; Duckitt & Sibley, 2016) argue that SDO and RWA have different antecedents and predict prejudice in quite different domains (via distinct mechanisms). Whereas RWA appears to be rooted in punitive socialization practices that foster a belief that the world is a dangerous place, SDO is believed to develop from unaffectionate parenting practices that socialize one to see the world through the lens of competition (Duckitt, 2001).

Given their distinct antecedents, it follows that RWA and SDO may predict somewhat different social and political attitudes. Consistent with this view, RWA (but not SDO) is positively correlated with negativity toward dangerous groups, whereas SDO (but not RWA) predicts negative attitudes toward socially-derogated groups (Duckitt & Sibley, 2007). Other research demonstrates that people scoring high on RWA are concerned with maintaining social and cultural values, whereas people scoring high on SDO are characterized by opposition to equality and support for group-based hierarchy (e.g., Duriez & Van Hiel, 2002; Duriez et al., 2005; Sidanius & Pratto, 1999). These findings map nicely onto the distinction made between noneconomic (i.e., cultural or social) and economic conservatism, respectively (see e.g., Midden-dorp, 1978). Perry and Sibley (2013) have further shown that attitudes toward social policy are primarily associated with RWA, and economic policy attitudes are primarily associated with SDO.

Although RWA and SDO have distinct origins and are associated with different outcomes (Duckitt, 2001), research has repeatedly shown that they are moderately correlated (e.g., Duriez et al., 2005; Sibley & Duckitt, 2008). Recently, Hodson, MacInnis, and Busseri (2017) have suggested and shown that this covariation may occur because both RWA and SDO are indicative of underlying generalized authoritarianism reflecting the tendency to dominate and submit (high generalized authoritarianism in this case would likely parallel the double-high type outlined by Altemeyer, 2004). The present research is not dissimilar to this in that it considers SDO and RWA scores in combination with one another but differs in that it uses a categorical approach that also focuses on profiles underlying differing levels of SDO and RWA, rather than their convergence on a single continuous latent dimension.

SDO AND RWA AS INDICATORS OF AUTHORITARIAN PROFILES

Contrary to the writing about an orthogonal or positive relationship between RWA and SDO, Altemeyer (1998) portrayed RWA and SDO as opposites in *type* by suggesting that there are authoritarian followers and authoritarian leaders, respectively. Specifically, Altemeyer (1998) argued that high RWA people are those who blindly follow authorities, whereas high SDO people are those who wish to *be* the authorities and dominate others. Altemeyer's (1998) perspective thus departs from the classic SDT perspective by suggesting that SDO is associated with seeking dominance-based leadership positions within the group. SDT, in contrast, emphasizes that SDO predicts a desire for group-based hierarchies in particular, not individual ones (Sidanius & Pratto, 1999). From our viewpoint, both perspectives have merit and are not mutually exclusive. Here, we focus on the possible antecedents and consequences of SDO and RWA for an *intragroup* function; that is, their possible role in determining people's tendency to adopt authoritarian leader versus authoritarian follower roles within the group.

Several scholars have suggested that the combination of high SDO people in power and high RWA people as followers is particularly insidious (e.g., Altemeyer, 1998, 2003; Son Hing, Bobocel, Zanna, & McBride, 2007). In line with this suggestion, empirical data shows that people high on RWA and SDO take different positions in groups and that these different combinations have an important impact on group decisions concerning moral issues (Altemeyer, 2003; Son Hing et al., 2007). Using dilemmas in which participants had to choose between either profits or ethics, Son Hing et al. (2007) showed that when participants were asked to take either a superordinate or subordinate role, high SDO individuals were more likely to take the leader role. This was especially clear when high SDO individuals were paired with high RWA persons. They also found that the constellation of a high SDO person as a leader and high RWA people as followers resulted in more exploitive decision making.

The observation that people high on RWA and SDO tend to take different roles within the group suggests that high RWA and SDO people would constitute *categories* of people that may be mutually exclusive. Indeed, both Altemeyer (2003) and Son Hing et al. (2007) took a categorical approach to analyzing the interplay between people with certain scores on RWA and SDO. This makes sense to the extent that one assumes that there should be a *distinct* subset of people who are especially predisposed to seek to climb to the top, exert their dominance, and lead the group, whereas others may be “born to follow.” These methods however considered pairings of people low or high in SDO or RWA, rather than examining these scores within each individual to indicate different categories.

One group of individuals that has been of particular interest to Altemeyer (2004) are those labeled as “double highs” — the 8% of people who scored in the top quartile of both the SDO and RWA scales in his samples. In Altemeyer’s (2004) view, this group seemed to “combine the worst elements of each kind of personality [or ideology], being power hungry, unsupportive of equality, manipulative, and amoral, as social dominators are in general, while also being religiously ethnocentric and dogmatic, as right-wing authoritarians tend to be” (p. 421). Altemeyer (2004) also noted the paradoxical nature of this category of individuals, with conflicting motives to dominate (driven by high levels of SDO) and submit (driven by high RWA), as well as a tendency to be religious and moral on the one hand (RWA) but not on the other (SDO). One explanation Altemeyer (1998; 2004) has suggested is that double-highs (or dominating authoritarians) see themselves as the power they believe others should submit to, thus endorsing both SDO and RWA.

Despite finding support for the notion that dominating authoritarians tend to express the highest levels of prejudice (see Altemeyer, 2004), interaction effects in more recent research have only reached significance when predicting political ideology rather than prejudice (see Sibley, Robertson, & Wilson, 2006; Wilson & Sibley, 2013). Thus, if double-highs are a type of authoritarian in the general population, they may not be any more prejudiced than high SDOs or high RWAs (although they may still be more *broadly* prejudiced, expressing prejudice toward a broader range of groups, an explanation consistent with the findings by Hodson et al., 2017). Indeed, despite there being strong theoretical grounds for the existence of multiple authoritarian profiles or orientations within the population, there is a need for stronger empirical evidence of their existence and how the characteristics of each orientation may differ.

LATENT PROFILE ANALYSIS

Latent profile analysis (LPA) involves grouping together common response patterns to two or more continuous variables into different latent profiles of a latent variable, with generally similar response patterns falling into the same latent profile (Collins & Lanza, 2010). In other words, latent profiles can be

identified by particular types of responding, such as high scores on one variable and low scores on another (see, for example, Stronge, Cichoka, & Sibley, 2016, for an LPA of self-esteem and sense of entitlement, and Greaves, Houkamau, & Sibley, 2015 who examined differing Māori ethnic identity profiles). Thus, instead of defining and analyzing every possible combination of responses across a set of variables, LPA allows for the reduction in the number of combinations into fewer, similar patterns grouped within profiles (Masyn, 2013). The latent profiles uncovered are naturally occurring in the sample (and population if the data is representative), rather than reflecting artificially defined categories (such as splitting the data based off means or frequencies) imposed by the researcher; a method that is statistically ill-advised (see e.g., Cohen, 1983; MacCallum, Zhang, Preacher, & Rucker, 2002; Maxwell & Delaney, 1993).

These qualities of LPA make the technique ideal for identifying and examining different profiles of authoritarian orientation and their prevalence. Implicit in Altemeyer's (1998) conception of authoritarian leaders and followers is that they should be high on SDO and low on RWA or low on SDO and high on RWA, respectively. Notably however, Altemeyer's (1998) descriptions of these profiles suggest they were only ever operationalized as in the upper quartiles of SDO (in the case of leaders) or RWA (in the case of followers). Using LPA, we provide a more robust way of detecting these profiles. Because of their characterization of wishing to dominate and climb to the top, an authoritarian leader profile should be identified by high levels of SDO. However, it remains an open question as to whether authoritarian leaders would also endorse RWA, as RWA tends to be related to the perception of fear and the motivation for cohesion (Duckitt, 2001). These are characteristics that authoritarian leaders may seek to promote in their followers, but that they may not necessarily endorse themselves internally. Conversely, authoritarian followers should be identified through low levels of SDO and high levels of RWA (due to their receptiveness to, and willingness to follow authority). In light of the positive correlation between SDO and RWA, the remaining profiles of authoritarian orientation are likely to index similar levels of RWA and SDO (such as a low-low profile). This may include the notorious double-high (or dominating authoritarian) profile.

OVERVIEW OF PRESENT STUDY

Here, we apply LPA to a large, nationally representative sample in order to identify the different types or profiles of authoritarian orientations that have long been hypothesized (e.g., Altemeyer 1998; 2003; 2004). In line with Altemeyer's (1998) reasoning that RWA and SDO tap submissive and dominant tendencies, respectively, we expected to find at least two subpopulations of people who do not follow the general trend towards a positive relationship between RWA and SDO. Specifically, we expected to find a number of people who constitute what we refer to as "genuine" followers; that is, submissive individuals (henceforth authoritarian followers) who have high RWA scores and low scores on SDO. We also expected to find "genuine" dominant persons (henceforth authoritarian leaders) who score high on SDO and relatively low on RWA. In addition to the "genuine" RWA and SDO profiles, we expected other profiles to capture those with similar, possibly low-low, mid-mid, and double-high pairings of RWA and SDO.

To validate the expected latent profiles of SDO and RWA, we conducted a multinomial logistic regression model using a three-step weighting procedure. This allowed us to assess the extent to which demographic factors predicted the likelihood of profile membership while recognizing that profile membership itself was also probabilistic (rather than representing a set of categories for whom the membership for each individual was definitively known). We predicted that religious people would be especially overrepresented among authoritarian followers (see Altemeyer, 2004). In contrast, we expected to find few religious

people among authoritarian leaders. We further predicted that authoritarian leaders would be more likely to be members of the ethnic majority group (New Zealanders of European descent) and that they would also be more likely to be men. These predictions are derived from SDT (Sidanius & Pratto, 1999), which asserts that members of the dominant groups in society should tend to be higher in SDO overall. Extending this, we expect that not only should they be higher overall, but more likely to be classified as members of the discrete authoritarian leader (high-SDO) profile.

Finally, we also examined differences between profiles with respect to attitudes toward four pressing social issues: concern for human rights, support for same-sex marriage, willingness to go to war for one's country, and willingness to make personal sacrifices for the environment. Because SDO and RWA index uniquely motivated prejudices, the latent profiles identified here have important consequences for social attitudes. Specifically, we expected profiles with higher levels of RWA (i.e., authoritarian followers) to be the least supportive of same-sex marriage as it should be perceived as threatening traditional moral values by those high in RWA. With regard to concern for human rights, we expected authoritarian leaders to be the least concerned, resulting from preferences for hierarchical relations between groups driven by competitive worldviews. We also expected authoritarian leaders to be the least likely to make personal sacrifices for the environment. Indeed, research has shown that SDO is associated with lower regard for the environment (Milfont, Richter, Sibley, Wilson, & Fischer, 2013) and low support for environmentally-friendly actions that may attenuate existing group hierarchies (Milfont & Sibley, 2014).

Lastly, we expected authoritarian followers to have the highest willingness to go to war. Past research has shown both RWA and (to a lesser extent) SDO to be positively associated with Americans' support for the U.S. war on Iraq, through perceptions of threat from Iraq and low regard for the human cost of war respectively (McFarland, 2005). Furthermore, in New Zealand, RWA is a stronger positive predictor of nationalism over time than SDO (Osborne, Milojev, & Sibley, 2017). As such, we expected authoritarian followers (high in RWA) to be particularly motivated to fight for their country personally. On the whole, profiles low in both SDO and RWA should express the most prosocial attitudes with regards to the measures assessed here.

METHOD

Sampling Procedure and Participants

This study analyzed data from the 2013 (Time 5) New Zealand Attitudes and Values Study. The Time 5 NZAVS contained responses from 18,264 participants, of which 10,502 were retained from previous waves of the NZAVS, and 7,581 were new participants obtained from booster sampling. Participants were entered into a prize draw for grocery vouchers, while nonrespondents were phoned and emailed. Booster samples were collected using the New Zealand electoral roll. The electoral roll lists all registered voters over the age of 18, where registration is compulsory. One booster sample consisted of 70,000 New Zealanders aged 18-60 and currently residing in New Zealand, randomly sampled from the electoral roll. A second booster sample (also sampled from the electoral roll) consisted of 1,500 New Zealanders who reported being of Māori ancestry, aged 18-60, and currently residing in New Zealand. Adjusting for the 98.6% accuracy of the electoral roll, the response rates for the booster samples were 10.9% and 6.2% respectively.

Our analyses were limited to the 18,248 participants who provided complete responses to the items assessing RWA and SDO (11,453 women, 6,792 men, 3 unreported). Of those analyzed, 85.5% were New Zealand European ($n = 15,598$), 12.8% of the sample were Māori ($n = 2,328$), 3.4% were of Pacific Nations ancestry ($n = 625$), 4.5% were of Asian ancestry ($n = 813$), and 5.1% were coded as “other” ($n = 928$). Note that these percentages sum to more than 100% as people could identify with more than one ethnic group. The average age of participants was 47.65 years ($SD = 14.06$). The percentage identifying as religious was 39.4% ($n = 6,877$).

Socioeconomic status was estimated using the NZDep 2013 index (Atkinson, Salmond, & Cramp-ton, 2014), a measure of regional/neighborhood deprivation. Specifically, the New Zealand deprivation index allocates a deprivation score to each neighbourhood-level meshblock based on a principal components analysis of nine variables from census data. These are (in weighted order): proportion of adults receiving a means-tested Government supplied benefit, household income, proportion not owning their own home, proportion of single-parent families, proportion unemployed, proportion lacking qualifications, proportion living under crowded household conditions, proportion with no telephone access, and proportion with no car access. The index thus reflects the average level of deprivation in different neighbourhoods across the country. Using the participants’ postal address provided in the contact details, we used the percentile deprivation index to assign an ordinal score from 1 (*most affluent*) to 10 (*most deprived*) for each meshblock area unit based on 2013 census data. The mean score on this measure of deprivation in our sample was 4.81 ($SD = 2.79$).

Questionnaire Measures

SDO was assessed using six balanced items from Pratto et al. (1994). RWA was assessed using six items from Altemeyer (1996). Two example items for SDO are: “It’s OK if some groups have more of a chance in life than others,” and “We should have increased social equality” (reverse scored). Example items for RWA are: “It would be best for everyone if the proper authorities censored magazines so that people could not get their hands on trashy and disgusting material,” and “Our country will be destroyed someday if we do not smash the perversions eating away at our moral fibre and traditional beliefs.” Items assessing SDO and RWA were rated on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*) and averaged to give scale scores. Given their brevity, these scales formed reasonably internally consistent indicators of SDO ($\alpha = .69$) and RWA ($\alpha = .69$).

Support for human rights was assessed using a two-item scale adapted from McFarland and Mathews (2005), rated on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*). These items were “Everyone has the right to just and reasonable pay for the work they perform,” and “Everyone has the right to food, clothing, housing and medicine, no matter what” ($r = .27$).

Willingness to make personal sacrifices for the environment and fight for one’s country (Inglehart, Basanez, Daez-Medrano, Halman, & Luijckx, 2004) were both rated on a scale from 1 (*definitely no*) to 7 (*definitely yes*). Willingness to make sacrifices for the environment was assessed with the item “Are you willing to make sacrifices to your standard of living (e.g., accept higher prices, drive less, conserve energy) in order to protect the environment?” while willingness to fight for one’s country was assessed with the item “Of course, we all hope that there will not be another war, but if it were to come to that, would you be willing to fight for your country?”. Finally, participants rated their support for “same-sex marriage in New Zealand (The Marriage Amendment Act, 2013)” on a scale from 1 (*strongly oppose*) to 7 (*strongly support*).

Results

Descriptive Statistics

Sample weighted estimates of SDO ($M = 2.38$, $SD = 0.89$) and RWA ($M = 3.43$, $SD = 1.16$) were weakly positively correlated at the bivariate level, $r(18,243) = .151$, $p < .001$. Crucially, this positive correlation does not preclude the possibility that there may be distinct subgroups within the population with different low/high combinations of SDO and RWA, and for whom these two motivational goals may be negatively, or positively correlated.

Model Estimation

We conducted a LPA using Mplus 8.0 (Muthén & Muthén, 1998-2017) examining whether we could identify distinct profiles of people who expressed different combinations of low/moderate/high SDO and RWA (e.g., see Hageaars & McCutcheon, 2002).¹ Estimates were weighted using standard NZAVS post-stratification sample weights, which adjusted for known sampling biases in gender and ethnicity (Sibley, 2014). Estimates of the proportion of people in each profile can thus be considered indicative of the New Zealand adult population. We included various demographics as predictors of class membership in a multinomial logistic regression model estimated using the three-step weighting approach. This allowed us to examine the extent to which various demographics were associated with increased or decreased odds of being in any one profile relative to a reference profile (as per a multinomial regression), without the demographic information itself affecting the estimation of the latent profiles. Finally, we also compared each profile for mean level differences in support for social issues.

Model Selection

We considered solutions that ranged from 3-7 profiles, allowing for the possibility that more or less distinct profiles would be uncovered than expected. Table 1 presents fit indices: the Akaike information criterion (AIC), the Bayesian information criterion (BIC), the sample size adjusted BIC (aBIC), and the entropy for the different solutions. Also displayed is the Lo-Mendell-Rubin adjusted likelihood ratio (LRT) test, which indicates whether a given k -profile solution significantly improves upon the $k-1$ profile solution (see Lo, Mendell, & Rubin, 2001). As shown in Table 1, each additional profile resulted in a reduction in the AIC and BIC values. However, the addition of a sixth profile did not improve fit significantly over a five-profile solution ($LRT = 178.298$, $p = .107$). As such, we opted for the five-profile solution based on only trivial improvements in model fit from six profiles onwards. The preferred five-class model approached reasonable fit (entropy = .682). Entropy values can range from 0 to 1.0, with higher values indicating lower classification error. Values close to 1.0 (usually above .70-.80) indicate that there is a clear separation of classes, or in other words, that the model clearly separates the data into distinct profiles (Collins & Lanza, 2010). As shown in Table 2, the probability (averaged across participants) that a participant belonged to a given profile for our preferred five-class solution ranged from about .71 to .84, indicating a small average likelihood of misclassification.

TABLE 1
Model fit for the different profile solutions of the LPA

	AIC	aBIC	BIC	Δ BIC ($k-1$) - k	LMR test	Entropy
1 Profile	104842.903	104861.438	104874.150	----		----
2 Profiles	104003.202	104035.639	104057.885	816.265	817.914***	.545
3 Profiles	103219.945	103266.284	103298.064	759.821	763.325***	.513
4 Profiles	102565.825	102626.065	102667.379	630.685	638.431***	.644
5 Profiles	102250.660	102324.802	102375.649	291.730	310.613*	.682
6 Profiles	102072.305	102160.349	102220.730	154.919	178.298	.713
7 Profiles	101939.770	102041.715	102111.630	109.100	133.984	.678

Note. AIC = Akaike information criterion; aBIC = sample-size adjusted Bayesian information criterion; BIC = Bayesian information criterion; LMR = Lo-Mendell-Rubin (adjusted likelihood ratio) test.
* $p < .05$. ** $p < .01$. *** $p < .001$.

TABLE 2
Average latent profile probabilities for most likely latent profile membership (row)
by latent profile (column)

	Estimated N	1	2	3	4	5
1. Authoritarian leaders	214	.841	.159	.000	.000	.000
2. Moderates	2,829	.020	.768	.212	.000	.000
3. Milds	7,719	.000	.078	.779	.094	.049
4. Lows	6,101	.000	.000	.106	.830	.064
5. Authoritarian followers	1,385	.000	.000	.138	.152	.710

Note. Bolded cells represent the probability of members of a profile (column) being correctly classified in that profile.

Profiles

Estimated mean levels of SDO and RWA for the preferred five-profile solution are presented in Figure 1. The preferred solution identified three classes with similar levels of both traits, a *lows* ($M_{\text{SDO}} = 1.59$, $M_{\text{RWA}} = 2.72$) profile (33.4%), a *milds* ($M_{\text{SDO}} = 2.62$, $M_{\text{RWA}} = 3.59$) profile (42.3%), and a *moderates* ($M_{\text{SDO}} = 3.61$, $M_{\text{RWA}} = 3.64$) profile (15.5%). These profiles show that roughly 91.2% of the New Zealand population generally have low levels of both SDO and RWA. However, consistent with our focal hypothesis, we reliably detected a class of *authoritarian leaders* (1.2% of the population) who scored high on SDO and moderate on RWA ($M_{\text{SDO}} = 5.02$, $M_{\text{RWA}} = 3.34$). We also detected another class fitting Altemeyer's (2004) description of *authoritarian followers* (7.6% of the population) who were high on RWA, but low on SDO ($M_{\text{SDO}} = 1.73$, $M_{\text{RWA}} = 4.89$). However, Altemeyer's "double highs" were notably absent from the model.

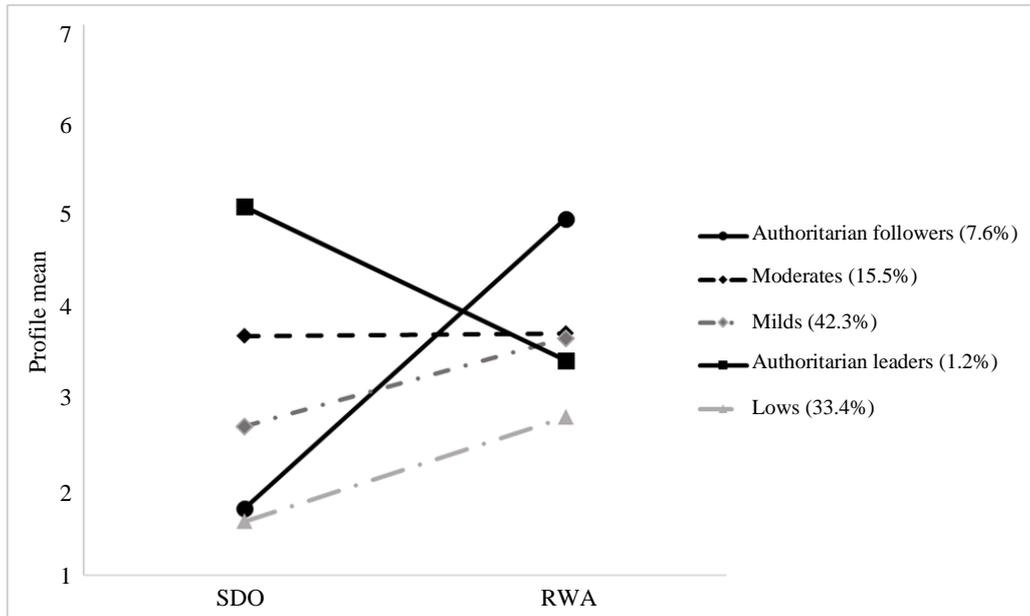


FIGURE 1
 Mean levels of SDO and RWA for each profile.

Demographic Differences

Results from the three-step weighted multinomial logistic regression model assessing differences in the likelihood of profile membership are presented in Table 3. This approach estimated the (positive or negative) log odds of latent profile membership associated with each demographic covariate, relative to the authoritarian leader profile (the reference category), with the results being weighted to adjust for misclassification in profile membership.

As reported in Table 3, men were more likely to be classified as authoritarian leaders than any other profile (except for moderates), relative to women. Ethnic group differences between profiles were evident when comparing authoritarian leaders and followers; New Zealand Europeans, the ethnic majority group, had lower log odds of being in the authoritarian followers group relative to the authoritarian leaders group ($b = -1.28$, $OR = .28$, $p = .005$). Notably, those who were religious were much more likely to be classified as authoritarian followers relative to leaders ($b = 4.94$, $OR = 139.35$, $p < .001$), and were also more likely to be classified as moderates and milds, relative to leaders ($ps < .01$). Authoritarian leaders tended to be younger than each of the other latent profiles (with increases in age predicting increased log odds of being classified as each other latent profile, except for the lows). Deprivation and education were generally not associated with profile membership, although higher levels of education were associated with increased odds of belonging to the lows profile, relative to the authoritarian leaders profile ($b = .25$, $OR = 1.29$, $p < .001$).

Attitudes Toward Social Issues

Figure 2 displays the mean levels of support for each of the assessed social issues expressed by each profile. Authoritarian leaders did not differ from milds ($\chi^2 = .87$, $p = .351$) or moderates ($\chi^2 = .00$, $p = .962$)

TABLE 3
 Multinomial logistic regression predicting the likelihood of belonging to the given profile (relative to the authoritarian leaders profile)
 as a function of demographic covariates

	Authoritarian followers (vs. authoritarian leaders)			Moderates (vs. authoritarian leaders)			Milds (vs. authoritarian leaders)			Lows (vs. authoritarian leaders)		
	<i>B</i>	<i>SE</i>	OR	<i>B</i>	<i>SE</i>	OR	<i>B</i>	<i>SE</i>	OR	<i>B</i>	<i>SE</i>	OR
Gender ^a	-1.196***	0.240	0.302	-0.313	0.230	0.731	-0.896***	0.211	0.408	-1.243***	0.212	0.289
European ^b	-1.283**	0.461	0.277	-0.950*	0.460	0.387	-0.717	0.440	0.488	0.201	0.448	1.223
Religious ^c	4.937***	1.022	139.352	0.929**	0.290	2.532	0.884**	0.274	2.421	0.036	0.278	1.037
Age	0.022*	0.010	1.022	0.029**	0.010	1.029	0.023*	0.009	1.023	0.010	0.009	1.010
Education	0.070	0.043	1.073	0.059	0.040	1.061	0.086*	0.037	1.090	0.253***	0.037	1.288
Deprived	0.081*	0.039	1.084	0.014	0.037	1.014	0.001	0.034	1.001	0.039	0.034	1.040

Note. *SE* = standard error; OR = odds ratio. It should be noted that the minor discrepancies in the coefficients reported here compared to those reported by Osborne and Sibley (2017) resulted from minor updates to the Time 5 NZAVS database, and do not change the interpretation of the results in any substantive way.

^aGender was dummy-coded (0 = woman; 1 = man).

^bEuropean was dummy-coded (0 = non-New Zealand European; 1 = New Zealand European).

^cReligious was dummy-coded (0 = nonreligious; 1 = religious).

* $p < .05$. ** $p < .01$. *** $p < .001$.

in their levels of willingness to go to war, but all other differences in social issue support for each of the profile comparisons were significant ($ps < .01$). Authoritarian leaders showed the lowest regard for human rights ($\chi^2 \geq 68.01, ps < .001$), and were the least supportive of making personal sacrifices for the environment ($\chi^2 \geq 44.97, ps < .001$), but tended to support same-sex marriage. Authoritarian followers by contrast were marked by their particularly low support for same-sex marriage ($\chi^2 \geq 1588.93, ps < .001$) but were also highly supportive of human rights. Lows consistently expressed the most prosocial attitudes (i.e., they were most supportive of human rights, same-sex marriage, and most willing to make sacrifices for the environment).

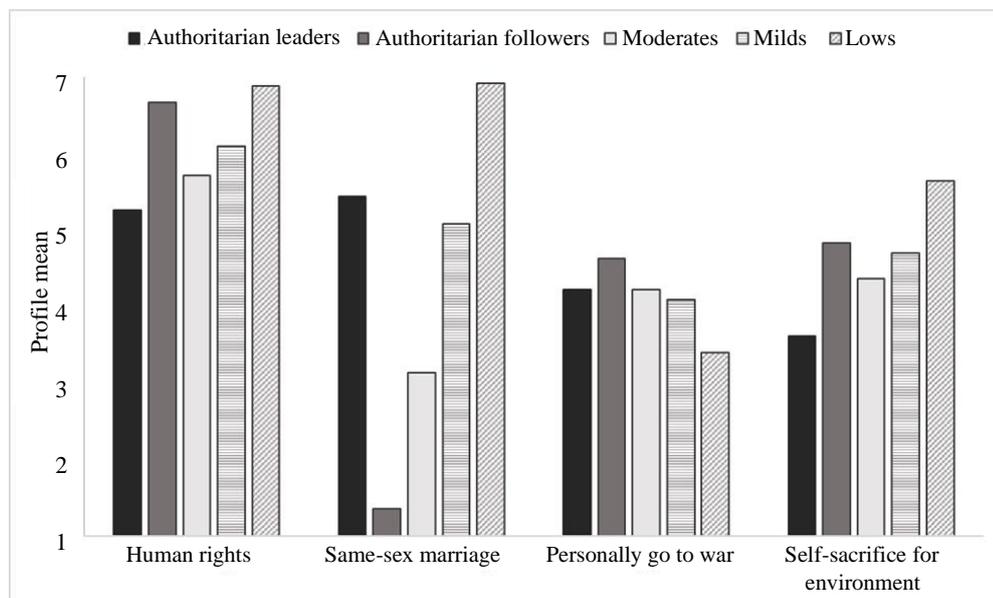


FIGURE 2
 Mean support for a given social issue for each of the estimated profiles.

DISCUSSION

The majority of previous research has modeled SDO and RWA as separate continuous variables. This is a highly useful and informative approach for examining the average (or overall) association between SDO and RWA on various outcomes. Here, we took a different approach. Specifically, we sought to complement this previous body of research by examining the possibility that there are different profiles of authoritarians (indicated by both SDO and RWA scores) that denote qualitatively distinct groups of people. More specifically, we expected to find distinct types of individuals who correspond to the genuine authoritarian followers and authoritarian leader types discussed by Altemeyer (2003, 2004). As expected, our results indicate that the majority of the population (92.1%) tend to have roughly comparable levels of SDO and RWA, and moreover, that their scores tend to be relatively low-to-neutral. It seems that the majority the variance in both SDO and RWA is in the low-to-neutral part of the scale range (corresponding to values spanning from 1-4 on a standard 7-point 1-7 Likert scale range).

However, we also detected two small, but theoretically important, profiles of people who did not fit the general low-low, moderate-moderate trend. Following Altemeyer's (2004) terminology, we labeled these as authoritarian leaders and authoritarian followers. Authoritarian leaders had dramatically higher

levels of SDO than everyone else, and also expressed moderate levels of RWA. Our sample weighted estimates indicate that authoritarian leaders represented 1.2% of the adult New Zealand population. Authoritarian followers, in contrast, had the highest levels of RWA, but were among the lowest in SDO. They formed 7.6% of the adult New Zealand population, or roughly 1 in every 13 people. We did not, however, find evidence of a “double-high” (Altemeyer, 2004) profile with high scores on both SDO and RWA. It is worth noting that this profile also did not emerge in six or seven profile solutions. Thus, based on our analyses, it may be that people who score highly on both SDO and RWA constitute a very small percentage of the population.

One should be somewhat cautious with very specific conclusions about the “true” number of profiles (and their relative sizes) in the population (see Bauer & Curran, 2004). Nonetheless, the five profiles in our final model were shown to be distinguishable with regards to a number of demographic factors. For example, when using the “lows” as the reference profile men were more likely to be in both the mild and moderate profiles, with significance found for most other variables. Thus, whereas the low, mild, and moderate profiles may all capture relatively low scores on SDO and RWA, the profiles still differ qualitatively. This suggests that the five-profile solution presented here does not suffer from redundancy in the number of profiles chosen.

The current findings also highlight some noteworthy differences across the remaining profiles in terms of ethnicity and gender. Perhaps most theoretically relevant in terms of ethnicity was the relative overrepresentation of minority groups in the authoritarian follower class. These findings make sense when combining Altemeyer’s (2004) writing with arguments from system-justification theory. System-justification theory argues that members of low status groups often defend social systems that are disadvantageous to them (e.g., Jost, Banaji, & Nosek, 2004). Indeed, among those who follow authorities without much questioning and without striving for dominance (i.e., authoritarian followers who, by definition, are high in RWA, but low in SDO), we found a surprisingly large number of individuals from ethnic minority groups.

Importantly, we are not making the claim here that members of minorities or low-status groups are more prone to justify inequalities than majorities or high-status groups. Neither do we claim that it is a universal principle that disadvantaged groups adhere to such ideologies. What we do claim, however, is that insofar as individuals do justify systems of inequalities, members of high-status groups are likely to lean more toward dominance (i.e., being overrepresented among authoritarian leaders), whereas members of low-status groups are likely to be overrepresented among authoritarian followers. This is what our data suggest and is broadly consistent with system justification theory (e.g., Jost et al., 2004).

Our study also provides novel support for the invariance hypothesis proposed by SDT. The invariance hypothesis asserts that, all else being equal, men should on average be higher than women in social dominance (Pratto, Sidanius, & Levin, 2006). In line with this idea, men were overrepresented among the authoritarian leaders, the class highest in SDO. Women, on the other hand, were overrepresented among the lows and the authoritarian followers. Whereas previous research has found clear gender differences in SDO but not RWA (see e.g., Pratto et al., 2006; Van Hiel & Mervielde, 2002), the present study contributes to the literature with the novel insight that women were not only overrepresented among those with low SDO scores, but that they were also overrepresented among those with low scores on *both* scales. This observation would be missed were one to simply examine the correlation between SDO and RWA. Moreover, in line with findings by Altemeyer (2004), religiosity was widespread among authoritarian followers, but quite uncommon among authoritarian leaders. Interestingly, lows and moderates were also characterized by an absence of religiosity.

Finally, profile membership is related to attitudes toward core social issues. As expected, authoritarian followers were marked by their high resistance to same-sex marriage, and were also most willing to personally go to war. Authoritarian leaders by contrast had the lowest regard for human rights and were least willing to make sacrifices for the environment. Notably however, both authoritarian leaders and followers exhibited some prosocial attitudes in other domains. For example, followers tended to have a high concern for human rights and willingness to make personal sacrifices for the environment, outshone only by the lows profile. Authoritarian leaders were also quite supportive of same-sex marriage, behind only the lows in terms of support. Indeed, our analyses identify nuances in the social attitudes expressed by profiles of leaders and followers, showing that both profiles have the capacity for relatively prosocial attitudes, depending the particular issue examined.

Cross-Cultural Consistency

It is also relevant to ask if the profiles and their respective percentages in the New Zealand population are universal or if they vary cross-culturally. Based on research showing that the correlation between RWA and SDO differs across cultures (e.g., Mirisola, Sibley, Boca, & Duckitt, 2007; Roccato & Ricolfi, 2005), we would expect to see some variation in latent profiles across nations. For instance, we predict that a higher percentage of respondents will fall into profiles with similar levels of both constructs in countries with stronger political contrasts. Because a stronger correlation between RWA and SDO is found in these countries (Duckitt, 2001; Roccato & Ricolfi, 2005), larger proportions of the population should also fit into clusters where higher levels on one construct are associated with higher levels on the other. Variation could also exist in the exact number of profiles underpinning the correlational trend.

Cross-cultural variability of the structure and population proportions for authoritarian leaders and followers is perhaps more relevant. As expected, the proportion of authoritarian followers was rather small in our national population sample. Nonetheless, we suggest that a proportion of around 10 to 15% of authoritarian followers in a population may reflect something close to a baseline minimum. This suggestion is based on the observation that RWA has been found to increase in response to societal threats and insecurity (e.g., Duckitt & Fisher, 2003) and also likely under authoritarian regimes. Thus, it could be that the highest proportion of authoritarian followers is found in insecure societies, whereas the lowest would emerge in safe societies. Notably, New Zealand is an extremely safe and stable society, and scored first on the Global Peace Index in 2015, for example (Institute for Economics and Peace, 2015). Given this, we suspect that the tendency toward authoritarian followership would be fairly constrained in this context and that the proportions found here should be reasonably close to a global minimum.

CONCLUSION

The reliable estimation of “types” of people with different combinations of low and high levels of SDO and RWA has not been previously documented. Despite this, there is a broad tendency in some of the work on SDO and RWA to theorize about these constructs, and their relation to one another in terms of typologies, such as high SDOs, leaders, followers, and so forth. Using LPA of a large-scale national probability sample conducted in New Zealand, we show that such profiles of individuals can for the most part be reliably detected. We also show that these profiles display meaningful differences in relation to a number of demographic factors. There is also a small body of earlier work in this area that has sought to examine such types using approaches such as median splits (e.g., Altemeyer, 2004). This earlier approach also theo-

rized about “double highs” — that group expected to be high in both SDO and RWA. We find no evidence for this type in our analysis. Instead, we identify a high SDO (leader profile), a high RWA (follower profile), and three profiles that between them make up the majority of the population and who express low to moderate levels of both SDO and RWA in combination. It is these three profiles, with their similar levels of SDO and RWA that drive the positive correlation between these two constructs that is often observed in research.

The existence of reliable distinct profiles of people who express different combinations of RWA and SDO corroborate our initial idea that there is more to the relationship between RWA and SDO than simply two positively correlated normally distributed constructs — to be sure, this positive correlation exists on average and at the overall population level, but it also misses important subtleties in the distinct pattern exhibited by authoritarian leaders and followers. These two subpopulations are relatively small and by our best estimate make up only 1.2% and 7.6% of the adult population in New Zealand, respectively. The next question to examine, then, is just how large these two groups need to be in the population, or within any specific context, in order to operate synergistically to grasp power (authoritarian leaders) and to prop up and lend unquestioning support to prop up who do so (authoritarian followers) when their authority is challenged. History would tell us, we think, that these groups may not need to be as large as one might naively think in order to enforce social hierarchy on the rest of us.

NOTE

1. Mplus syntax for the models reported here appear on the NZAVS website (<http://www.psych.auckland.ac.nz/uoa/NZAVS>).

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