



My Body, My Choice? Examining the Distinct Profiles Underlying Attitudes Toward Abortion and COVID-19 Mandates

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Abstract

Protestors recently repurposed the abortion rights’ mantra, “my body, my choice,” to oppose COVID-19 mandates. But do those who oppose public health mandates fully support the right to choose? We answer this question by using exploratory analyses to identify the unique response patterns underlying support for abortion and COVID-19 mandates in random samples from the United States (Study 1; $N=2,331$) and New Zealand (Study 2; $N=33,310$). Latent profile analyses revealed a small subgroup in both countries (12.6% and 3.4% of the respective samples) who opposed mandates. Yet contrary to the “my body, my choice” rhetoric seen at anti-mandate protests, they also opposed abortion. Across both studies, those in the *Anti-Mandate* profile tended to be more religious, conservative, and distrustful of institutions. In Study 2, they were also low on cognitive consistency and high on conspiracy belief. Finally, the *Anti-Mandate* profile was opposed to free speech critical of both the United States and religion (Study 1), high on sexual prejudice (both studies), unsupportive of progressive protests (but supportive of reactionary protests; Study 2), and likely to vote for conservative parties (both studies). These results reveal the mobilization potential of the anti-mandate movement, uncover important contradictions within its members, and illustrate the nuanced ways in which opposition to gender policies (i.e., reproductive rights) coalesce with reactionary protests.

Keywords Abortion · Reproductive rights · Health mandates · Reactionary movements · Ideology · Conservatism

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“Pro-choice.” “Freedom to choose.” “My body, my choice.” You would be forgiven for thinking that these chants emerged at an abortion rights’ rally. But during the pandemic, governments had to choose between constraining individual rights to mitigate the transmission of COVID-19 or protecting personal freedoms by letting the virus spread. After many nations prioritized public health over individual rights, global anti-mandate protests erupted (Haddad, 2021), frequently invoking the “my body, my choice” slogan to oppose vaccine mandates (see Bluth, 2022). But do those who oppose COVID-19 mandates also support abortion rights? Or is their concern for bodily autonomy limited to the COVID-19 mandates? And most importantly from a public health standpoint, how prevalent are these views in the population? Because the likelihood of extreme epidemics is expected to increase by nearly threefold in the coming years (see Marani et al., 2021), knowing the proportion of the population who opposes mandates will help public

health officials better anticipate crucial barriers to future pandemic mitigation strategies.

Given that the anti-mandate protestors used abortion rhetoric to voice their opposition to COVID-19 mandates, it is critical to first discuss the complexities of abortion attitudes (see Osborne et al., 2022). Perhaps most notably, public opinion differentiates between two distinct scenarios surrounding the decision to terminate a pregnancy: Elective and traumatic abortion (see Cook et al., 1992). Whereas elective abortion includes pregnancies that are terminated because the pregnant person (a) cannot afford to raise a child, (b) does not want to marry the father, or (c) does not want to give birth, traumatic abortion consists of pregnancies that are terminated because (a) the pregnant person's life is endangered by the pregnancy, (b) the pregnancy is the result of rape or incest, or (c) the foetus has a serious anomaly. Given that both elective and traumatic abortion are cornerstones in the fight for bodily autonomy, support for abortion rights should, on the surface at least, coalesce with a movement that is predicated on the right to choose. Indeed, anti-mandate protestors routinely invoked the “my body, my choice” mantra—a slogan synonymous with the fight for abortion rights—to voice their opposition to health mandates designed to curb the spread of COVID-19 (e.g., see Bluth, 2022).

Although anti-mandate and pro-choice positions appear to share concern for bodily autonomy, there are reasons to question the consistency of the anti-mandate movement's use of the “my body, my choice” slogan. For one, the themes expressed at anti-mandate protests, such as support for individual rights and small government (see Liao, 2022), are core features of conservatism. Second, misinformation proliferated the anti-mandate protests (Liao, 2022). Given that then-President Trump and conservative media steadily conveyed misinformation to the public (Yang & Bennett, 2022) while governments led by progressive leaders like New Zealand's then-Prime Minister, Jacinda Ardern, listened to public health officials, the anti-mandate movement likely contained a large proportion of conservative protestors (also see Liekefett et al., 2023). Finally, COVID-19 was highly politicized, as liberals acknowledged, while conservatives downplayed, the severity of the virus (Clarke et al., 2021; Green et al., 2020; Kerr et al., 2021). As a result, liberals were more likely than conservatives to take precautionary steps to mitigate the spread of COVID-19 (Kerr et al., 2021). Given that conservatism also correlates negatively with abortion support (Huang et al., 2014; Osborne et al., 2022), those who opposed the mandates likely held a narrow view of bodily autonomy that excluded abortion support.

This would not be the first time progressive rhetoric was used to advance conservative views. For example, Dr Martin Luther King Jr.'s aspirations for a colourblind nation

have been repurposed to oppose legislation aiming to rectify past racial injustices (Yogeeswaran et al., 2018). Likewise, the push for workplace diversity can elicit either hierarchy attenuating or hierarchy enhancing decisions (Unzueta et al., 2012). Finally, research on the 2008 United States presidential election—the first election to include a Black candidate on a major party ticket—demonstrated that social dominance orientation (i.e., the preference for group-based hierarchy) correlated positively (rather than negatively) with the likelihood of voting for Barack Obama among those who believed an Obama victory would signal the end of racism (Knowles et al., 2009). Thus, both proponents and opponents of a cause can use the same rhetorical devices to advocate for antithetical outcomes.

Current Studies

We assess potential ideological contradictions in the anti-mandate movement by using latent profile analysis (LPA) to identify the unique response patterns underlying support for abortion and a range of COVID-19 mandates in nationwide random samples of the United States (Study 1) and New Zealand (Study 2). Whereas variable-centred analyses investigate relationships between variables, LPAs are an exploratory set of *person-centred* analyses that uncover unique response patterns across items and identify the proportion of the sample who belong to each profile (Collins & Lanza, 2010; Osborne & Sibley, 2017). For example, some may support both abortion and COVID-19 mandates, whereas others may oppose both issues. Conversely, some may oppose abortion and support mandates. Or, as implied by the pro-choice rhetoric seen at anti-mandate protests (Liao, 2022), another subgroup may support abortion and oppose mandates. LPA identifies whether these (and other) response patterns exist, as well as their prevalence in the population.

To better understand the emergent profiles, we also explore the demographic correlates of profile membership. Given the prominent role of religion in the abortion debate (Jozkowski et al., 2018), religious identification should correlate positively with membership in the profile(s) most opposed to abortion. Also, because both abortion (Osborne et al., 2022) and COVID-19 (Green et al., 2020; Kerr et al., 2021) are highly politicized, conservatism should correlate positively with membership in the profile(s) most opposed to abortion and/or the COVID-19 mandates. Additionally, restrictions to mitigate the spread of COVID-19 were informed by science and enforced by governments. As such, confidence/trust in institutions should correlate positively with membership in the profile(s) that support the COVID-19 mandates. Conversely, conspiracy belief—a shared

feature across anti-lockdown protestors (see Liekefett et al., 2023)—should correlate positively with membership in profiles opposed to mandates. We test these predictions while adjusting for gender, ethnicity, age, income, and educational status given their correlations with abortion support (for a review, see Osborne et al., 2022).

Finally, we examined potential differences across profiles in their attitudes towards key socio-political issues. Given that the “my body, my choice” rhetoric seen at anti-mandate protests advocated for individual freedoms (see Liao, 2022), we assess differences in support for free speech (Studies 1 and 2) and collective action for both structurally advantaged and disadvantaged ethnic groups (Study 2). To further probe their ostensible support for the right to choose, we also examine differences in sexual prejudice across profiles. Finally, given the highly politicised nature of abortion (Osborne et al., 2022) and COVID-19 (Kerr et al., 2021), we examined whether the odds of voting for a conservative party varied across profiles. By assessing the demographic correlates of profile membership, as well as differences in support for key socio-political issues across profiles, we increase understanding of the recent rise of reactionary protests (see Thomas & Osborne, 2022), uncover the mobilization potential of the anti-mandate movement (see Stürmer & Simon, 2004), and expose potential contradictions in attitudes toward abortion and COVID-19 mandates. Our work also illustrates yet another way in which opposition to gender policies (namely, reproductive rights) has become embedded in anti-government reactionary movements (see also Agius et al., 2020).

Study 1

Study 1 examined our research questions in the United States. During data collection, anti-mandate protestors began using the “my body, my choice” rhetoric to oppose COVID-19 mandates (Liao, 2022). Despite using a well-known slogan synonymous with reproductive rights, the anti-mandate protestors were ostensibly motivated by conservative leaders who downplayed the severity of the virus (Yang & Bennett, 2022). Thus, the movement’s roots in conservatism seem incompatible with reproductive rights (e.g., see Rulli & Campbell, 2022). But did the anti-mandate protestors nevertheless support reproductive rights? Identifying the unique response patterns underlying support for abortion and COVID-19 mandates allows us to answer this question at a time when the ostensibly pro-choice rhetoric was highly salient at anti-mandate protests both in the United States and globally.

Method

Open Science Declaration and Power Analyses

We report all sample sizes; exclusions occurred only for missing data. Specifically, because we use full information maximum likelihood estimates to handle missing data (see Enders & Bandalos, 2001), our analyses make full use of the available data. Exclusions only occurred when the data required for a specific analysis were missing. Although we are unable to make the data for Study 2 publicly available, the OSF has a trimmed dataset and syntax for Study 1 (for the complete dataset, see <https://gss.norc.org/>), as well as the syntax for Study 2: <https://osf.io/52tpa/>. A deidentified dataset for Study 2 is, however, available on request for replication purposes. Given the exploratory nature of our research questions, we did not pre-register our analyses. Rather, we followed standard protocol for estimating LPAs and identifying the appropriate number of response patterns in one’s data (see Johnson, 2021; Osborne & Sibley, 2017). Although statistical power for LPAs is under-studied (Tein et al., 2013), samples with $N \geq 500$ are often adequately powered (Nylund et al., 2007). Both studies thus have the power to detect the profiles underlying support for abortion and COVID-19 mandates.

Sampling Procedure

Data come from the 2022 General Social Survey (GSS) and contained 3,544 participants (response rate = 50.5%) recruited from a multi-stage random sample of non-institutionalized adults (see Davern et al., 2024). Participants completed the GSS between 5 May and 20 December 2022 via face-to-face interviews (53.7%), an online survey (38.0%), telephone (3.0%), or multiple modes (5.3%). Consistent with previous GSSs, participants completed one of three ballots comprised of core items given to all participants and topical modules given to random subsets of the sample. We focus on participants who completed both the core module and the International Social Survey Program’s (ISSP) Health and Healthcare module.

Participants

Of the 3,544 participants who completed the 2022 GSS, 2,331 (i.e., 65.8% of the full sample) provided partial or complete responses to our focal variables. Participants were an average of 49.03 years old ($SD = 18.05$), a slight majority of whom identified as women ($n = 1,237$, 53.1%). As for ethnicity, participants identified as White ($n = 1,652$, 70.9%), Black ($n = 369$, 16.1%), or another group ($n = 276$, 12.0%).

Measures

Our focal measures were embedded within the 2022 GSS. To facilitate comparisons across analyses and place our measures on a common metric, all variables were recoded from their original scale to range from 0 to 1.

Indicators of Profile Membership

Elective abortion support was measured using four items asking if a pregnant person should be able “to obtain a legal abortion” if (a) “she is married and does not want any more children,” (b) “the family has a very low income and cannot afford any more children,” (c) “she is not married and does not want to marry the man,” and (d) “the woman wants it for any reason.” Responses (*no* = 0, *yes* = 1) were summed to form a single index ranging from 0 to 4 ($\alpha = 0.95$). The first three items have been used to assess support for elective abortion by the GSS since 1972, while the fourth item was added in 1977 (see Osborne et al., 2022).

Traumatic abortion support was measured using three items asking if a pregnant person should be able “to obtain a legal abortion” if (a) “the woman’s own health is seriously endangered by the pregnancy,” (b) “she becomes pregnant as a result of rape,” and (c) “there is a strong chance of serious defect in the baby.” Responses (*no* = 0, *yes* = 1) were summed to form a single index ranging from 0 to 3 ($\alpha = 0.80$). These three items have been used to assess support for traumatic abortion in the GSS since 1972 (see Osborne et al., 2022).

COVID-19 mandate support was assessed with five items asking participants if they “think the United States government should or should not have the right to do the following at times of severe epidemics”: (a) “require people to wear face masks,” (b) “demand that people stay at home,” (c) “use digital (mobile phone) surveillance to track infected people,” (d) “shut down businesses and places of employment,” and (e) “ban public gatherings.” Responses were coded on a 1 (*Definitely should have the right*) to 4 (*Definitely should not have the right*; reverse-scored) scale. These items were included in the ISSP Health and Healthcare module administered to a random one-third of participants.

Demographic Correlates of Profile Membership

We also examined the demographic correlates of profile membership. These include gender (0 = man, 1 = woman), minority status (0 = White, 1 = ethnic minority), and age, as well as household income, highest year of school completed, religious identification, and conservatism. Religious identification was assessed by asking if participants

“consider themselves to be a religious person” on a 1 (*Very religious*) to 4 (*Not religious at all*; reverse-scored) scale, whereas conservatism was assessed by having participants report their political views on a 1 (*Extremely liberal*) to 7 (*Extremely conservative*) scale. A random two-thirds of the sample were also asked to report their confidence in “the people running” various institutions in the United States on a 1 (*A great deal*) to 3 (*Hardly any*; reverse-scored) scale. We focused on these three institutions: (a) Congress, (b) the press, and (c) the scientific community.

Socio-Political Attitudes

Finally, we explored the possibility that profiles differed in their support for six relevant socio-political attitudes. Four items assessed free speech support, whereas two items examined sexual prejudice and vote choice in the 2020 presidential election. The four free speech items asked participants if someone should be allowed “to make a speech...” in their “community” or “city/town/community” (a) “against churches and religion,” (b) “claiming that Blacks are inferior,” and if the person was (c) “an admitted Communist” or (d) “a Muslim clergyman who preaches hatred of the United States.” Each item was assessed using a “No” (0) or “Yes” (1) format. Sexual prejudice was assessed with one item asking participants’ views on “sexual relations between two adults of the same sex” on a 1 (*always wrong*) to 4 (*Not wrong at all*; reverse-scored) scale. Finally, vote choice was assessed by asking if participants voted for Biden (0) or Trump (1) in the 2020 presidential election. If participants did not cast a vote in the 2020 presidential election, we included who they would “have voted for” (0 = Biden, 1 = Trump).

Results

Identifying Unique Response Patterns

To identify the unique response patterns underlying support for abortion and COVID-19 mandates, we followed Johnson’s (2021) recommendations and used *Mplus version 8.10* to estimate LPAs with between one and four profiles under four different variance-covariance specifications (see Table S1 in the online supplement). Each model was estimated with 5,000 initial stage starts, 500 initial stage iterations, and 20 final stage optimizations. The best fitting model emerged with a Type 1 variance-covariance structure in which the variances for all congeneric indicators (e.g., elective abortion support) were constrained to be equal across all profiles and no residual covariances were allowed (see Figure S1 in the online supplement). As shown in Table 1, model fit under the Type 1 variance-covariance structure

Table 1 Model Fit for Solutions Ranging Between One and Four Profiles

	ΔBIC							Percentage of sample in latent profile			
	AIC	aBIC	BIC	(k-1) - k	Entropy	LMR	BLRT	1	2	3	4
1 Profile	8275.87	8311.95	8356.43	----	----	----	----	100.0			
2 Profiles	3757.08	3813.77	3883.67	4472.76	0.97	4462.85***	4534.79***	61.3	38.7		
3 Profiles	1267.83	1345.14	1440.45	2443.21	0.97	2465.50***	2505.25***	59.0	28.4	12.6	
4 Profiles ^a	-2570.84	-2472.92	-2352.18	3792.64	0.99	3793.52 [†]	3854.67***	78.8	8.2	6.5	6.5

Note. AIC = Akaike Information Criterion; aBIC = Sample-size adjusted Bayesian Information Criterion; BIC = Bayesian Information Criterion; LMR = Lo-Mendell-Rubin adjusted likelihood ratio test; BLRT = Bootstrapped Likelihood-ratio test. Data come from the 2022 General Social Survey (N = 2,331)

^aNon-positive definite first-order derivative product matrix

[†]p < .010; *** p < .001

Table 2 Average Latent Profile Probabilities for Most Likely Latent Profile Membership (Row) by Latent Profile (Column)

	Profile name	Estimated N	%	1	2	3
1. Profile 1	Anti-Mandate	294	12.6	0.98	0.02	0.00
2. Profile 2	Conditional Pro-Choice/Pro-Mandate	662	28.4	0.01	0.96	0.03
3. Profile 3	Pro-Choice/Pro-Mandate	1,375	59.0	0.00	0.00	0.99

Note. Data come from the 2022 General Social Survey (N = 2,331)

improved when moving from a model with one to two profiles (ΔBIC = 4472.76). The model with three profiles also fit better than the two-profile solution. Although the four-profile solution further improved model fit, the model had a first-order derivative product matrix that was non-positive definite. After determining that the estimation error occurred because there was no variance in the mean levels of support for traumatic abortion in one of the profiles, we opted for a three-profile solution to balance model fit with model parsimony (see Osborne & Sibley, 2017).

Table 2 displays the average latent profile probabilities for participants’ most likely latent profile membership by latent profile. On-diagonal values capture the probability of being categorised correctly, whereas off-diagonal values indicate the probability of being miscategorised. For example, the probability that participants assigned to Profile 1 belonged in Profile 1 was high (0.98) and the probability of being misclassified in Profile 2 was low (0.02). Similar high probabilities of correct classification and low probabilities of incorrect classification emerged for the two remaining profiles.

Figure 1 displays the mean support for abortion and COVID-19 mandates by profile membership. The largest profile (n = 1,375, 59.0% of the sample) supported both abortion scenarios and all but one COVID-19 mandate (the exception was support for government tracking the sick). Given their strong support for six of the seven issues, we labelled this the *Pro-Choice/Pro-Mandate* profile. The next largest profile (n = 662, 28.4% of the sample) opposed elective abortion but strongly supported traumatic abortion. That said, these participants only moderately supported four of the five mandates and opposed tracking the sick. Thus,

we labelled this the *Conditional Pro-Choice/Pro-Mandate* profile. Finally, the smallest profile (n = 294, 12.6% of the sample) was the least supportive of both abortion scenarios and all five mandates. Accordingly, we labelled this the *Anti-Mandate* profile.

Demographic Correlates of Profile Membership

To better understand these unique response patterns, we used a three-step approach to identify the demographic correlates of profile membership using the *Anti-Mandate* profile as our reference profile (see Asparouhov & Muthén, 2013). Table 3 reveals that the odds of being in the *Pro-Choice/Pro-Mandate* profile instead of the *Anti-Mandate* profile were 1.63 times greater for minorities (vs. Whites; p = .027), 6.30 times greater for those with the most (vs. least) education (p = .008), and 2.78 times greater for the wealthiest (vs. poorest) in the sample (p = .014). Conversely, the odds of being in the *Pro-Choice/Pro-Mandate* profile instead of the *Anti-Mandate* profile were nearly non-existent for the most (vs. least) religious and conservative (ps < .001). Re-running these analyses on the subset who also reported their confidence in three institutions in the United States reveals that the odds of being in the *Pro-Choice/Pro-Mandate* profile instead of the *Anti-Mandate* profile was 0.75 lower for those with the most (vs. least) confidence in Congress (p = .007), but 3.88 times greater and 8.96 times greater for those with the most (vs. least) confidence in the press (p = .013) and science (p < .001), respectively.

Table 3 also shows the demographic correlates of membership in the *Conditional Pro-Choice/Pro-Mandate* profile. Specifically, the odds of being in the *Conditional*

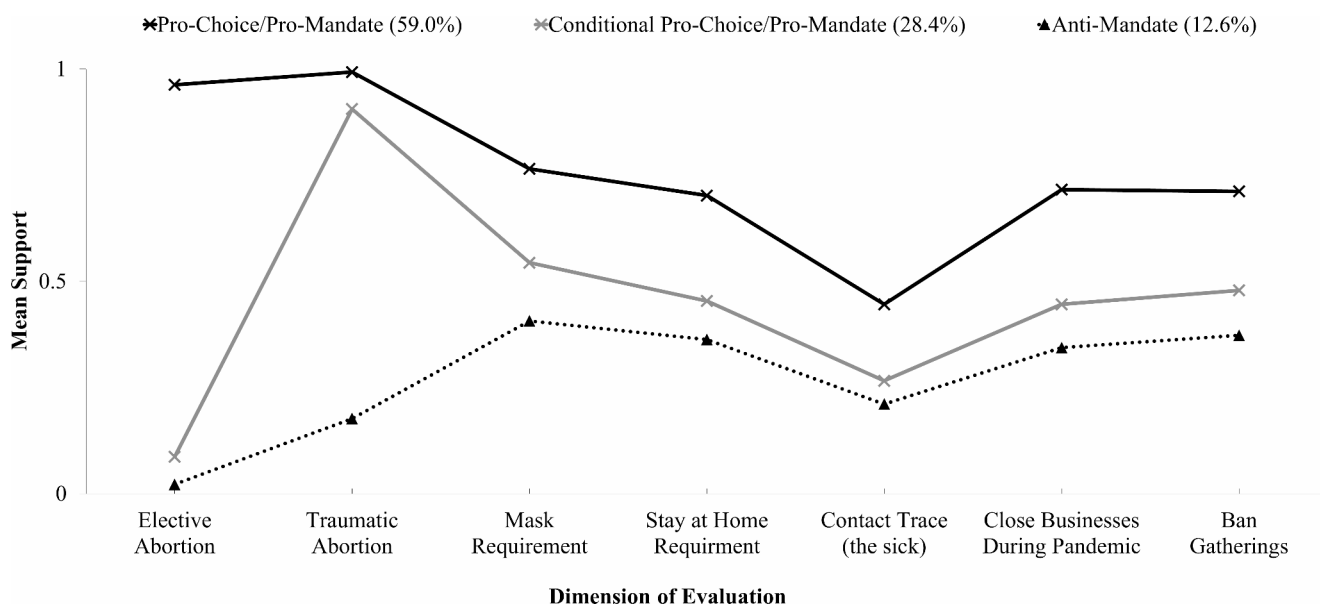


Fig. 1 Estimated Mean Level of Support for the Given Item as a Function of Latent Profile Membership. Note. Data come from the 2022 General Social Survey (N=2,331). All variables were recoded to range from 0 (minimum) to 1 (maximum)

Table 3 Multinomial Logistic Regression Predicting Latent Profile Membership as a Function of Covariates

	<i>Pro-choice/pro-mandate</i> (vs. anti-mandaters)				<i>Conditional pro-choice/pro-mandate</i> (vs. anti-mandaters)				
	<i>b</i>	<i>SE</i>	Odds Ratio	95% CI [Lower, Upper]	<i>b</i>	<i>SE</i>	Odds Ratio	95% CI [Lower, Upper]	
Full Sample (N=1892)									
Gender ^a	0.04	0.18	1.05	[0.74, 1.48]	-0.40*	0.18	0.67	[0.48, 0.95]	
Minority ^b	0.49*	0.22	1.63	[1.06, 2.51]	0.24	0.22	1.27	[0.83, 1.94]	
Religious	-3.39***	0.34	0.03	[0.02, 0.07]	-1.79***	0.34	0.18	[0.09, 0.32]	
Income	1.02*	0.41	2.78	[1.23, 6.25]	0.59	0.40	1.81	[0.83, 3.92]	
Age	0.51	0.34	1.66	[0.85, 3.26]	0.54	0.34	1.72	[0.88, 3.36]	
Education	1.84**	0.70	6.30	[1.61, 24.72]	-0.34	0.66	0.72	[0.20, 2.58]	
Conservatism	-4.73***	0.50	0.01	[0.00, 0.02]	-1.19*	0.47	0.31	[0.12, 0.76]	
Subsample (N=929)									
Gender ^a	0.43	0.28	1.54	[0.89, 2.65]	-0.10	0.27	0.91	[0.53, 1.54]	
Minority ^b	0.53	0.34	1.70	[0.88, 3.29]	0.51	0.34	1.66	[0.85, 3.22]	
Religious	-3.94***	0.57	0.02	[0.01, 0.06]	-2.36***	0.58	0.09	[0.03, 0.29]	
Income	0.82	0.57	2.26	[0.75, 6.83]	0.85	0.58	2.34	[0.76, 7.24]	
Age	0.03	0.52	1.03	[0.37, 2.87]	0.67	0.51	1.95	[0.71, 5.35]	
Education	0.94	1.03	2.56	[0.34, 19.31]	-0.98	0.94	0.38	[0.06, 2.39]	
Conservatism	-3.44***	0.79	0.03	[0.01, 0.15]	-0.16	0.76	0.85	[0.19, 3.76]	
Confidence in Congress	-1.40**	0.52	0.25	[0.09, 0.69]	0.03	0.51	1.03	[0.38, 2.81]	
Confidence in the Press	1.36*	0.55	3.88	[1.32, 11.37]	-0.06	0.56	0.94	[0.32, 2.80]	
Confidence in Science	2.19***	0.47	8.96	[3.57, 22.50]	1.10*	0.44	2.99	[1.25, 7.15]	

Note. Data come from the 2022 General Social Survey

^aGender (0 = man; 1 = woman) and ^bminority (0 = White; 1 = minority) were dummy-coded. All other variables were recoded to range from 0 (minimum) to 1 (maximum)

p* < .05; *p* < .01; ****p* < .001

Pro-Choice/Pro-Mandate profile vs. the *Anti-Mandate* profile were one-third lower for women vis-à-vis men (*p* = .024), over four-fifths lower for the most (vs. least) religious (*p* < .001), and nearly two-thirds lower for the

most (vs. least) conservative (*p* = .011). Additional analyses demonstrate that the odds of being in the *Conditional Pro-Choice/Pro-Mandate* profile instead of the *Anti-Mandate* profile were 2.99 times greater for those with the most (vs.

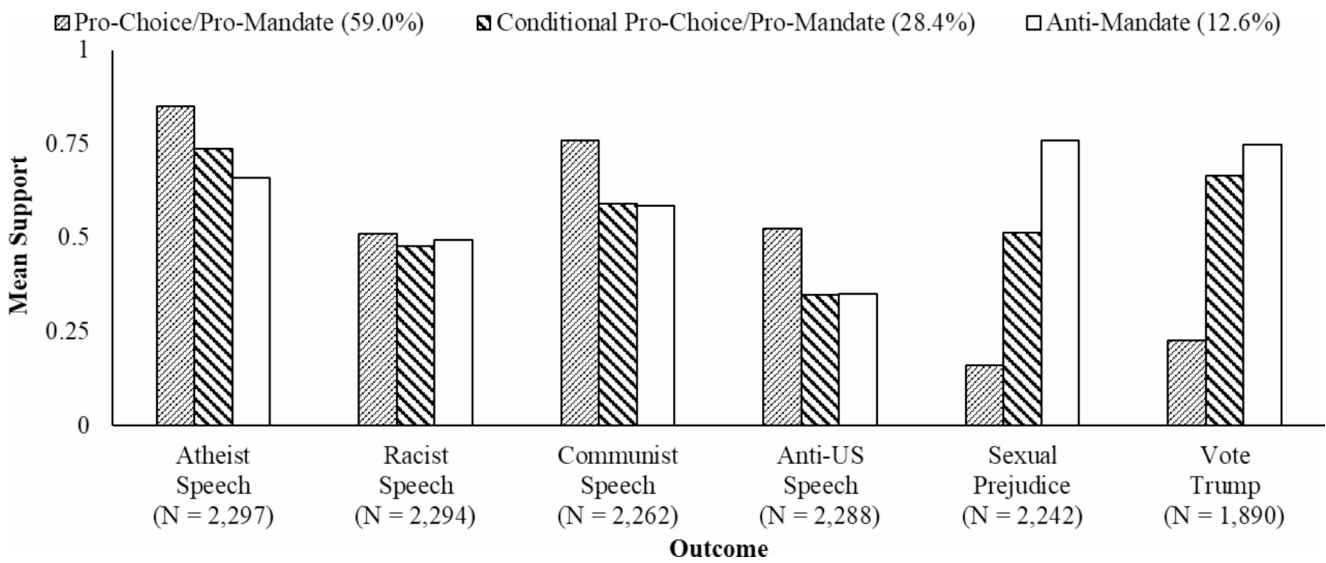


Fig. 2 Mean Support for the Given Issue as a Function of Latent Profile Membership. Note. Data come from the 2022 General Social Survey (N=2,331). All variables were recoded to range from 0 (minimum) to 1 (maximum)

Table 4 Mean Probability of Supporting the Given Issue as a Function of Profile Membership

	$\chi^2_{(2)}$	Pro-choice/pro-mandate (59.0%)	Conditional pro-choice/pro-mandate (28.4%)	Anti-mandate (12.6%)
Atheist Speech (N=2,297)	59.26***	0.849 (0.010) ^a OR: 1.000	0.738 (0.018) ^a OR: 0.503	0.661 (0.028) ^a OR: 0.348
Racist Speech (N=2,294)	2.11	0.512 (0.014) ^a OR: 1.000	0.477 (0.020) ^b OR: 0.868	0.493 (0.030) ^c OR: 0.927
Communist Speech (N=2,262)	69.53***	0.758 (0.012) ^{ab} OR: 1.000	0.590 (0.020) ^b OR: 0.458	0.586 (0.029) ^a OR: 0.452
Anti-US Speech (N=2,288)	69.67***	0.525 (0.014) ^{ab} OR: 1.000	0.347 (0.019) ^b OR: 0.482	0.352 (0.028) ^a OR: 0.491
Sexual Prejudice (N=2,242)	716.47***	0.160 (0.009) ^a	0.513 (0.019) ^a	0.758 (0.024) ^a
Vote Trump (N=1,890)	481.07***	0.228 (0.012) ^a OR: 1.000	0.666 (0.021) ^a OR: 6.747	0.747 (0.030) ^a OR: 10.000

Note. Except for sexual prejudice (which ranged from 0 (minimum) to 1 (maximum)), responses were dummy-coded (0=no, 1=yes). OR = Odds Ratio. Estimates that share a superscript in the same row are significantly different from each other ($p \leq .030$). Data come from the 2022 General Social Survey

*** $p < .001$

least) confidence in the scientific community ($p = .014$). No other variables correlated significantly with the odds of being in the *Conditional Pro-Choice/Pro-Mandate* profile relative to the *Anti-Mandate* profile.

Differences in Socio-Political Attitudes Across Profiles

Finally, we followed Lanza and colleagues’ (2013) distal three-step approach to investigate potential differences in socio-political attitudes across profiles. Figure 2; Table 4 illustrate the significant variability in support for free speech on behalf of atheists across profiles. Specifically, the probability of supporting an atheist’s right to speak was higher

among the *Pro-Choice/Pro-Mandate* profile than in either the *Conditional Pro-Choice/Pro-Mandate* or *Anti-Mandate* profiles ($ps < .001$). The probability of supporting an atheist’s right to speak was also higher in the *Conditional Pro-Choice/Pro-Mandate* profile vs. the *Anti-Mandate* profile ($p = .023$).

Although profile membership was not associated with support for free speech on behalf of racists ($p = .348$), the probability of supporting the right for both communists and an anti-United States Muslim clergy person to speak varied across profiles ($ps < .001$). Specifically, the probability of supporting a communist’s right to speak was higher in the *Pro-Choice/Pro-Mandate* profile vis-à-vis the *Conditional Pro-Choice/Pro-Mandate* and *Anti-Mandate* profiles

($ps < .001$). The probability of supporting free speech for communists did not, however, differ between the *Conditional Pro-Choice/Pro-Mandate* and *Anti-Mandate* profiles ($p = .924$). Similarly, the probability of supporting an anti-United States Muslim clergy person's right to free speech was higher in the *Pro-Choice/Pro-Mandate* profile than in the *Conditional Pro-Choice/Pro-Mandate* and the *Anti-Mandate* profiles ($ps < .001$). The probability of supporting an anti-United States Muslim clergy person's right to free speech was, however, similar across the *Conditional Pro-Choice/Pro-Mandate* and *Anti-Mandate* profiles ($p = .896$).

Finally, sexual prejudice and the probability of voting for Trump in the 2020 presidential election also varied across profiles ($ps < .001$). Sexual prejudice was highest in the *Anti-Mandate* profile, followed by the *Conditional Pro-Choice/Pro-Mandate* profile, and the *Pro-Choice/Pro-Mandate* profile ($ps < .001$). The probability of voting for Trump over Biden was also higher in the *Anti-Mandate* profile vis-à-vis the *Conditional Pro-Choice/Pro-Mandate* ($p = .030$) and the *Pro-Choice/Pro-Mandate* ($p < .001$) profiles. The probability of voting for Trump over Biden was also higher in the *Conditional Pro-Choice/Pro-Mandate* profile vs. the *Pro-Choice/Pro-Mandate* profile ($p < .001$).

Summary

These results identify the proportion of the United States population whose views resonated with the anti-mandate protests, as well as the demographic composition of those within this profile. Namely, the odds of being in the *Anti-Mandate* (vs. *Pro-Choice/Pro-Mandate*) profile were higher for White, religious, conservative, less educated and lower income participants vs. their ethnic minority, non-religious, liberal, educated, and wealthy counterparts, respectively. Those who lacked confidence in the press and scientific community (but were confident in Congress) were also more likely to be in the *Anti-Mandate* profile vs. the *Pro-Choice/Pro-Mandate* profile. Finally, socio-political views varied between profiles, as those in the *Anti-Mandate* profile were the least supportive of free speech that was critical of the (a) United States and (b) religion, (c) highest on sexual prejudice, and (d) most likely to vote for Trump in the 2020 presidential election.

Discussion

Study 1 reveals the mobilization potential of the anti-mandate movement (see Stürmer & Simon, 2004) by showing that 12.6% of participants oppose the COVID-19 mandates. But contrary to the “my body, my choice” rhetoric seen at anti-mandate protests (Bluth, 2022), participants

were not “pro-choice” in the traditional sense. Indeed, the *Anti-Mandate* profile was the *least* supportive of reproductive rights. The *Anti-Mandate* profile also opposed other free choice scenarios and were the least tolerant of same-sex relationships. These results expose contradictions in the anti-mandate movement and show that a non-trivial portion of the United States may be mobilised under the “my body, my choice” banner during future public health crises. Study 1 also demonstrates that opposition to gender policies (namely, reproductive rights) has become closely intertwined with reactionary movements (also see Agius et al., 2020; Kováts, 2017; Lombardo et al., 2021).

Study 2

Although Study 1 identifies the mobilization potential of the *Anti-Mandate* protestors, the United States was marred by historically high levels of polarization during the pandemic (e.g., see Iyengar, 2022). Indeed, the pandemic was quickly politicised by political elites (see Green et al., 2020), which resulted in the polarization of pandemic mitigation strategies between liberals and conservatives (Kerr et al., 2021). Moreover, the United States was led by a uniquely conservative president, Donald Trump, who spread misinformation (Yang & Bennett, 2022) and generally mismanaged the crisis (Kapucu & Moynihan, 2021). Thus, the profiles identified in Study 1 may be exclusive to the United States population.

Study 2 addresses these limitations by examining the response patterns underlying support for abortion and COVID-19 mandates in a different national context: New Zealand. Whereas the pandemic response in the United States was fractious and marred by extensive misinformation (Peterson & Iyengar, 2022), the New Zealand government received acclaim for their proactive, albeit highly restrictive, approach towards COVID-19 (for an overview, see Zubielevitch et al., 2024). Indeed, Jacinda Ardern, New Zealand's then-Prime Minister, praised the “Team of 5 million” during her regular media appearances and listened to public health officials. Despite this emphasis on national unity, misinformation spread to New Zealand, culminating in a small, but vocal, anti-mandate protest at parliament (Thomas et al., 2024). New Zealand therefore provides an ideal context to examine the replicability of Study 1 in a nation that approached the pandemic differently than the United States but nevertheless experienced vocal opposition to government-imposed restrictions. Finally, given the decline in sexism over the last decade in New Zealand (see Huang et al., 2019), Study 2 provides a particularly stringent test of the extent to which opposition to gender policies has become intertwined with reactionary movements.

Our New Zealand-based data also included additional relevant correlates of profile membership. Given the contradiction of opposing COVID-19 mandates under the pro-choice banner while opposing abortion, the odds of being in the *Anti-Mandate* profile should be lower for those with a high need for cognitive consistency. The odds of being in the *Anti-Mandate* profile should also be greater for those high on conspiracy belief given that belief in conspiracies predicts general vaccine hesitancy (e.g., see Hornsey et al., 2018) and unified the anti-mandate protests (Liefkefett et al., 2023; Thomas et al., 2024). Finally, given that New Zealand's pandemic response emphasized national unity, the odds of being in the *Anti-Mandate* profile should be lower for those high on patriotism and nationalism.

Method

Sampling Procedure

Prior to data collection, The University of Auckland Human Participants Ethics Committee reviewed and approved the NZAVS (Reference Number: 014889). Given that abortion attitudes and COVID-19 compliance were assessed in different years (i.e., COVID-19 compliance was only assessed at Time 12; Time 11 was the last pre-pandemic assessment of abortion attitudes), data for Study 2 come from two time points of the NZAVS: Time 11 (2019–2020) and Time 12 (2020–2021). Sampling for these two timepoints occurred on seven separate occasions, beginning with a random sample of adults from the electoral roll which yielded 6,518 participants (16.6% response rate). A non-random booster sample at Time 3 (2011–2012), followed by four additional random booster samples at Time 4 (2012–2013), Time 5 (2013–2014), Time 8 (2016–2017), and Time 10 (2018–2019), were pursued to increase the size and diversity of our sample. The seventh sampling occasion occurred at Time 11 (2019–2020) via a non-random paid promotion on social media during the nation-wide COVID-19 lockdown, yielding 4,734 new participants. Thus, Time 12 (2020–2021) included 38,551 participants, 33,318 of whom were retained from Time 11 (retention rate = 78.10%) and an additional 5,233 who were retained from prior waves (but did not complete Time 11). Notably, data collection for Time 12 concluded just as the anti-mandate protests began to take hold in New Zealand (see Salman, 2023). For further information on our sampling procedure, see Sibley (2024).

Participants

Of the 33,318 participants who completed Times 11 and 12, we examine the 33,310 (i.e., 99.9% of the sample) who

provided partial or complete responses to our focal variables. Participants were an average of 54.11 years old ($SD = 13.61$) at Time 12 and identified as women ($n = 21,253$, 63.8%), men ($n = 11,819$, 35.5%), or gender diverse ($n = 238$, 0.7%). As for ethnicity, participants identified as New Zealand European ($n = 27,819$, 83.5%), Māori ($n = 3,342$, 10.0%), Pasifika ($n = 682$, 2.0%), or Asian ($n = 1,236$, 3.7%).

Measures

Our focal measures were embedded within a large, omnibus survey. Unless noted, items were assessed at Time 12 and rated on a 1 (*Strongly Disagree*) to 7 (*Strongly Agree*) scale. To facilitate comparisons across analyses and place our measures on a common metric, all variables were recoded from their original scale to range from 0 to 1.

Indicators of Profile Membership

Elective abortion support was assessed at Time 11 with an item adapted from Smith and colleagues (2011): “Legalised abortion for women, regardless of the reason.” Responses were provided on a 1 (*Strongly Oppose*) to 7 (*Strongly Support*) scale.

Traumatic abortion support was assessed at Time 11 with an item adapted from Smith and colleagues (2011): “Legalised abortion when the woman’s life is endangered.” Responses were provided on a 1 (*Strongly Oppose*) to 7 (*Strongly Support*) scale.

COVID-19 compliance was assessed by six items asking participants’ the following: (a) “take a COVID-19 test if offered one by a health professional,” (b) “wear a face mask to help stop the spread of COVID-19,” (c) “stay at home to help stop the spread of COVID-19,” (d) “use a COVID-19 contact tracing app,” (e) “strictly follow any and all guidelines provided by the Ministry of Health for managing COVID-19 in New Zealand,” and (f) “get vaccinated for COVID-19 once an approved vaccine is available.”

Demographic Correlates of Profile Membership

Demographic variables including gender (open-ended), ethnicity (0 = *majority group*, 1 = *minority*), and religious identification (0 = *no*, 1 = *yes*) were assessed, along with age (open-ended), educational attainment (0 = *No qualification*; 10 = *Doctorate*), and annual household income (open-ended). We also measured cognitive consistency via Nichols and Webster’s (2014) single-item measure: “I make an effort to appear consistent to others.” Because we only assessed this variable at Time 6 (2014), we imputed missing values for the 25,736 participants who had yet to join the

study. Specifically, we imputed missing values for cognitive consistency by running a model in *Mplus version 8.10* that included (a) elective abortion support, (b) traumatic abortion support, (c) six COVID-19 compliance items, (d) demographic correlates of profile membership, and (e) various socio-political attitudes (see below). We imputed 1,000 datasets with a thinning interval of 200 and constrained our measure of cognitive consistency to range from 1 to 7 (which we later rescaled to range from 0 to 1). Notably, results do not change when excluding cognitive consistency from our model (see Table S2 in the online supplement).

Given the proliferation of misinformation and conspiracies during the pandemic (e.g., see Liekefett et al., 2023; Thomas et al., 2024), we also assessed conspiracy belief, trust in science and politicians, and satisfaction with the government. Conspiracy belief was assessed with one item from Lantian and colleagues (2016): “I think that the official version of major world events given by authorities often hides the truth.” Trust in science was assessed with an item from Nisbet and colleagues (2015) and an item from Hartman and colleagues (2017), respectively: (a) “I have a high degree of confidence in the scientific community” and (b) “our society places too much emphasis on science” (reverse-scored; $\alpha = .67$). One item developed by Sibley and colleagues (2020) assessed trust in politicians: “Politicians in New Zealand can generally be trusted.” Government satisfaction was assessed with one item from Tiliouine and colleagues (2006) asking participants to evaluate “The performance of the current New Zealand government” on a 0 (*Completely Dissatisfied*) to 10 (*Completely Satisfied*) scale.

Finally, we assessed conservatism, as well as measures of patriotism and nationalism. Conservatism was measured by asking participants to identify “how politically liberal versus conservative” they were on a 1 (*Extremely Liberal*) to 7 (*Extremely Conservative*) scale. Four items from Kosterman and Feshbach (1989) assessed patriotism and nationalism. The two patriotism items were: “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” ($\alpha = 0.69$). The two nationalism items were: “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” ($\alpha = 0.52$).

Socio-Political Attitudes

Free speech support was assessed with an item developed by Doré and colleagues (2023): “Although I may disagree with the opinions that other people hold, they should be allowed to express those views publicly.”

Support for banning hate speech was assessed with an item developed by Doré and colleagues (2023): “People who hold opinions that are harmful or offensive to minority groups should be banned from expressing those views publicly.”

Support for protests on behalf of Māori was assessed with an item from Osborne and Sibley (2013). Participants were asked to indicate their support for “protest marches and public demonstrations supporting the rights of Māori” on a 1 (*Strongly Oppose*) to 7 (*Strongly Support*) scale.

Support for protests on behalf of New Zealand Europeans was assessed with an item adapted from Osborne and Sibley (2013). Participants were asked to indicate their support for “protest marches and public demonstrations supporting the rights of New Zealand Europeans” on a 1 (*Strongly Oppose*) to 7 (*Strongly Support*) scale.

Sexual prejudice was assessed with one item adapted from the Pew Research Center (2008): “I think homosexuality should be accepted by society” (reverse-scored).

Conservative party vote was assessed by asking participants who they voted for in the 2020 General Election. We re-coded participants’ responses to capture votes for the two centre-left parties (Labour and Green = 0) and the two centre-right parties (National and ACT = 1) that reached the 5% party threshold in the 2020 General Election.

Results

Identifying Unique Response Patterns

Consistent with Study 1, we followed Johnson’s (2021) recommendations and used *Mplus version 8.10* to estimate LPAs with between one and seven profiles under four distinct variance-covariance specifications (see Table S3 in the online supplement). The best fitting model emerged for a Type 1 variance-covariance structure in which the variances for a given indicator (e.g., elective abortion support) were constrained to be equal across all profiles and no residual covariances were allowed (see Figure S2 in the online supplement). As shown in Table 5, improvements to model fit under the Type 1 variance-covariance structure plateaued after four profiles. Although the entropy in our model improved when estimating a fifth profile, the additional profile only captured small mean differences across issues rather than a meaningful and distinct response pattern. Moreover, the six-profile solution produced a first-order derivative product matrix that was non-positive definite and, as such, yielded an unstable solution that is uninterpretable. Thus, we followed standard recommendations in the literature to balance model parsimony with model fit (see Osborne & Sibley, 2017) and selected a four-profile solution. Table 6

Table 5 Model Fit for Solutions Ranging Between One and Five Profiles

	ΔBIC					Percentage of sample in latent profile					
	aBIC	BIC	(k-1)-k	Entropy	LMR	BLRT	1	2	3	4	5
1 Profile	-23699.26	-23615.49	----	----	----	----	100				
2 Profiles	-122139.55	-122008.66	98364.57	0.98	97418.85***	98458.29**	91.0	9.0			
3 Profiles	-156544.43	-156366.41	34329.15	0.96	34059.47***	34422.87***	83.3	13.2	3.5		
4 Profiles	-175580.70	-175355.57	18960.55	0.96	18853.11***	19054.27***	78.0	11.5	7.1	3.4	
5 Profiles	-190158.69	-189886.44	14502.27	0.97	14441.90***	14595.99***	74.2	13.2	5.6	4.8	2.2

Note. AIC = Akaike Information Criterion; aBIC = Sample-size adjusted Bayesian Information Criterion; BIC = Bayesian Information Criterion; LMR = Lo-Mendell-Rubin adjusted likelihood ratio test; BLRT = Bootstrapped Likelihood-ratio test. Data are from Times 11 and 12 of the New Zealand Attitudes and Values Study (N=33,310)

corroborates the four-profile solution, as the probability of correctly classifying participants was high, whereas the probability of misclassifying participants was low.

Figure 3 displays the average support for abortion and COVID-19 mandates by profile membership. Consistent with Study 1, the largest profile ($n = 25,967$, 78.0% of the sample) supported all the issues. We therefore named this the *Pro-Choice/Pro-Mandate* profile. Relative to the *Pro-Choice/Pro-Mandate* profile, the second largest profile ($n = 3,828$, 11.5% of the sample) expressed less support for both abortion scenarios and the COVID-19 mandates. But given their hesitancy to use the COVID-19 tracer app, we labelled this the *App-Opposed* profile. Another 7.1% of the sample ($n = 2,372$) supported all six mandates but opposed abortion. We therefore labelled this the *Anti-Abortion/Pro-Mandate* profile. Again, replicating the results from Study 1, the smallest profile ($n = 1,143$, 3.4% of the sample) decidedly opposed the mandates. Although this group was more unsure of abortion than the *Anti-Mandate* profile in Study 1, we labelled this the *Anti-Mandate* profile given their clear opposition to the mandates and lack of support for abortion relative to the *Pro-Choice/Pro-Mandate* and *App-Opposed* profiles.

Demographic Correlates of Profile Membership

To better understand these unique response patterns, we used a three-step approach to identify the demographic correlates of profile membership (with the *Anti-Mandate profile* as the reference profile). Table 7 shows that the odds of being in the *Pro-Choice/Pro-Mandate* profile vs. the *Anti-Mandate* profile were slightly over one-half lower for women (vs. men) and roughly one-third lower for the religious (vs. non-religious; $ps < .001$). The odds of being in the *Pro-Choice/Pro-Mandate* vs. the *Anti-Mandate* profile were also lower for those highest (vs. lowest) on conspiracy belief and conservatism (vs. liberalism; $ps < .001$). Conversely, the odds of being in the *Pro-Choice/Pro-Mandate* profile vis-à-vis the *Anti-Mandate* profile were 6.77 times greater for the oldest (vs. youngest) participants and 2.80 times greater for those highest (vs. lowest) on need for cognitive consistency ($ps < .001$). The odds of being in the *Pro-Choice/Pro-Mandate* profile vs. the *Anti-Mandate* profile were also greater for those with the most (vs. least) trust in politicians and science, as well as the most (vs. least) satisfied with government ($ps < .001$). Finally, the odds of being in the *Pro-Choice/Pro-Mandate* profile vs. the *Anti-Mandate* profile were 9.91 times greater and 1.61 times greater for those highest (vs. lowest) on patriotism ($p < .001$) and nationalism ($p = .017$), respectively.

Table 7 also displays the demographic correlates of membership in the *App-Opposed* profile vs. the *Anti-Mandate*

Table 6 Average Latent Profile Probabilities for Most Likely Latent Profile Membership (Row) by Latent Profile (Column)

	Profile name	Estimated <i>N</i>	%	1	2	3	4
1. Profile 1	App-Opposed	3,818	11.5	0.94	0.01	0.01	0.04
2. Profile 2	Anti-Abortion/Pro-Mandate	2,374	7.1	0.01	0.95	0.00	0.04
3. Profile 3	Anti-Mandate	1,142	3.4	0.02	0.00	0.98	0.00
4. Profile 4	Pro-Choice/Pro-Mandate	25,976	78.0	0.01	0.01	0.00	0.98

Note. Data are from Times 11 and 12 of the New Zealand Attitudes and Values Study (*N*=33,310)

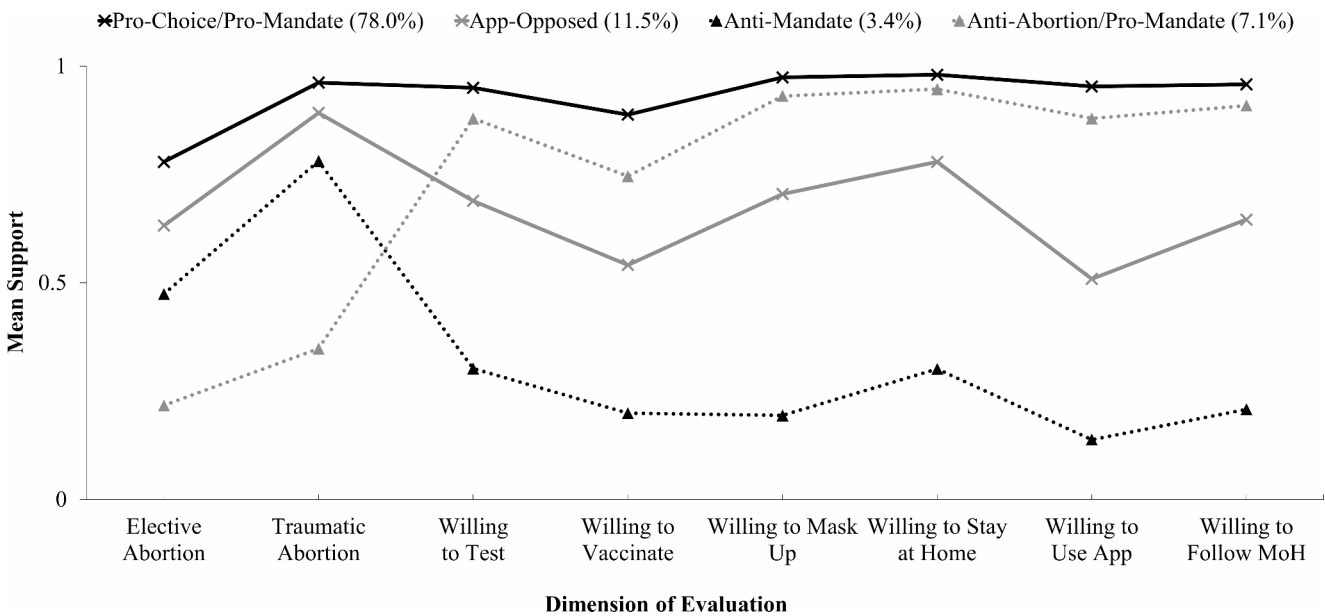


Fig. 3 Estimated Mean Level of Support for the Given Item as a Function of Latent Profile Membership.

Note. Data are from Times 11 and 12 of the New Zealand Attitudes and

Values Study (*N*=33,310). All variables were recoded to range from 0 (minimum) to 1 (maximum)

profile. Notably, the odds of being in the *App-Opposed* profile relative to the *Anti-Mandate* profile were one-fourth lower for those who were religious (vs. non-religious; $p = .001$), roughly one-third lower for the most (vs. least) educated ($p = .011$), approximately nine-tenths lower for those highest (vs. lowest) on conspiracy belief ($p < .001$), and over one-half lower for those highest (vs. lowest) on conservatism ($p < .001$). Conversely, the odds of being in the *App-Opposed* profile vs. the *Anti-Mandate* profile were 2.26 times greater for the oldest (vs. youngest) participants ($p < .001$), 1.88 times greater for those highest (vs. lowest) on the need for cognitive consistency ($p = .002$), and 11.96 times greater for the most (vs. least) satisfied with the government ($p < .001$). Finally, the odds of being in the *App-Opposed* profile relative to the *Anti-Mandate* profile were 1.54 times ($p = .036$) and 2.45 times ($p < .001$) greater for those with the most (vs. least) trust in politicians and science (respectively), and 1.53 times ($p = .042$) and 2.10 times ($p < .001$) greater for those with the highest (vs. lowest) levels of patriotism and nationalism, respectively.

Turning to the third largest profile, the odds of being in the *Anti-Abortion/Pro-Mandate* profile vs. the *Anti-Mandate*

profile were nearly one-half lower for men (vs. men; $p < .001$). Conversely, the odds of being in the *Anti-Abortion/Pro-Mandate* profile vs. the *Anti-Mandate* profile were 4.96 times greater for the religious (vs. non-religious), 3.17 times greater for the oldest (vs. youngest), and 3.22 times greater for those with the highest (vs. lowest) need for cognitive consistency ($ps < .001$). The odds of belonging in the *Anti-Abortion/Pro-Mandate* profile over the *Anti-Mandate* profile were also noticeably small for those highest (vs. lowest) on conspiracy belief, whereas the odds were 2.34 and 2.86 times greater for those with the most (vs. least) trust in politicians and science, respectively ($ps < .001$). Finally, the odds of being in the *Anti-Abortion/Pro-Mandate* profile over the *Anti-Mandate* profile were 47.62 times greater for those most (vs. least) satisfied with the government ($p < .001$), 2.18 times greater for the most (vs. least) conservative ($p < .001$), 2.99 times greater for those highest (vs. lowest) on patriotism ($p < .001$), and 1.62 times greater for those highest (vs. lowest) on nationalism ($p = .031$).

Table 7 Multinomial Logistic Regression Predicting Latent Profile Membership as a Function of Covariates

	Pro-choice/pro-mandate (vs. anti-mandaters)				App-opposed (vs. anti-mandaters)				Anti-abortion/pro-mandate (vs. anti-mandaters)			
	b	SE	Odds Ratio	95% CI [Low, Up]	b	SE	Odds Ratio	95% CI [Low, Up]	b	SE	Odds Ratio	95% CI [Low, Up]
Gender ^a	-0.74***	0.08	0.48	[0.41, 0.56]	-0.08	0.08	0.92	[0.79, 1.08]	-0.64***	0.09	0.53	[0.44, 0.63]
Minority ^b	0.19†	0.11	1.21	[0.97, 1.50]	0.06	0.11	1.06	[0.85, 1.33]	0.23†	0.12	1.26	[0.99, 1.61]
Religious ^c	-0.38***	0.08	0.69	[0.58, 0.81]	-0.27**	0.08	0.76	[0.65, 0.90]	1.60***	0.10	4.96	[4.08, 6.03]
Income	2.49†	1.36	12.10	[0.84, 174.34]	0.44	1.49	1.55	[0.08, 28.79]	-0.67	1.71	0.51	[0.02, 14.59]
Age	1.91***	0.23	6.77	[4.32, 10.61]	0.81**	0.24	2.26	[1.42, 3.59]	1.15***	0.27	3.17	[1.89, 5.33]
Education	-0.21	0.16	0.81	[0.59, 1.11]	-0.42*	0.16	0.66	[0.48, 0.91]	0.06	0.19	1.07	[0.74, 1.53]
Cognitive Consistency	1.03***	0.20	2.80	[1.90, 4.13]	0.63**	0.20	1.88	[1.27, 2.80]	1.17***	0.23	3.22	[2.04, 5.07]
Conspiracy Ideation	-3.23***	0.25	0.04	[0.02, 0.06]	-2.14***	0.25	0.12	[0.07, 0.19]	-2.99***	0.26	0.05	[0.03, 0.08]
Trust in Politicians	1.10***	0.20	3.00	[2.02, 4.44]	0.43*	0.21	1.54	[1.03, 2.31]	0.85***	0.22	2.34	[1.51, 3.62]
Trust in Science	3.64***	0.18	37.94	[26.64, 54.04]	0.89***	0.18	2.45	[1.73, 3.47]	1.05***	0.20	2.86	[1.92, 4.26]
Government Satisfaction	4.18***	0.20	65.53	[44.31, 96.92]	2.48***	0.21	11.96	[8.01, 17.87]	3.86***	0.22	47.62	[31.02, 73.10]
Conservatism	-1.94***	0.20	0.14	[0.10, 0.21]	-0.81***	0.20	0.44	[0.30, 0.66]	0.78***	0.22	2.18	[1.42, 3.36]
Patriotism	2.29***	0.22	9.91	[6.49, 15.12]	0.42*	0.21	1.53	[1.02, 2.30]	1.10***	0.26	2.99	[1.79, 5.00]
Nationalism	0.48*	0.20	1.61	[1.09, 2.38]	0.74***	0.20	2.10	[1.41, 3.13]	0.48*	0.22	1.62	[1.04, 2.51]

Note. ^aGender (0 = man; 1 = woman), ^bminority (0 = New Zealand European; 1 = minority) and ^creligious (0 = non-religious; 1 = religious) were dummy-coded. All other variables were recoded to range from 0 (minimum) to 1 (maximum). Data are from Times 11 and 12 of the New Zealand Attitudes and Values Study (N = 29,962). †p < .10; *p < .05; **p < .01; ***p < .001

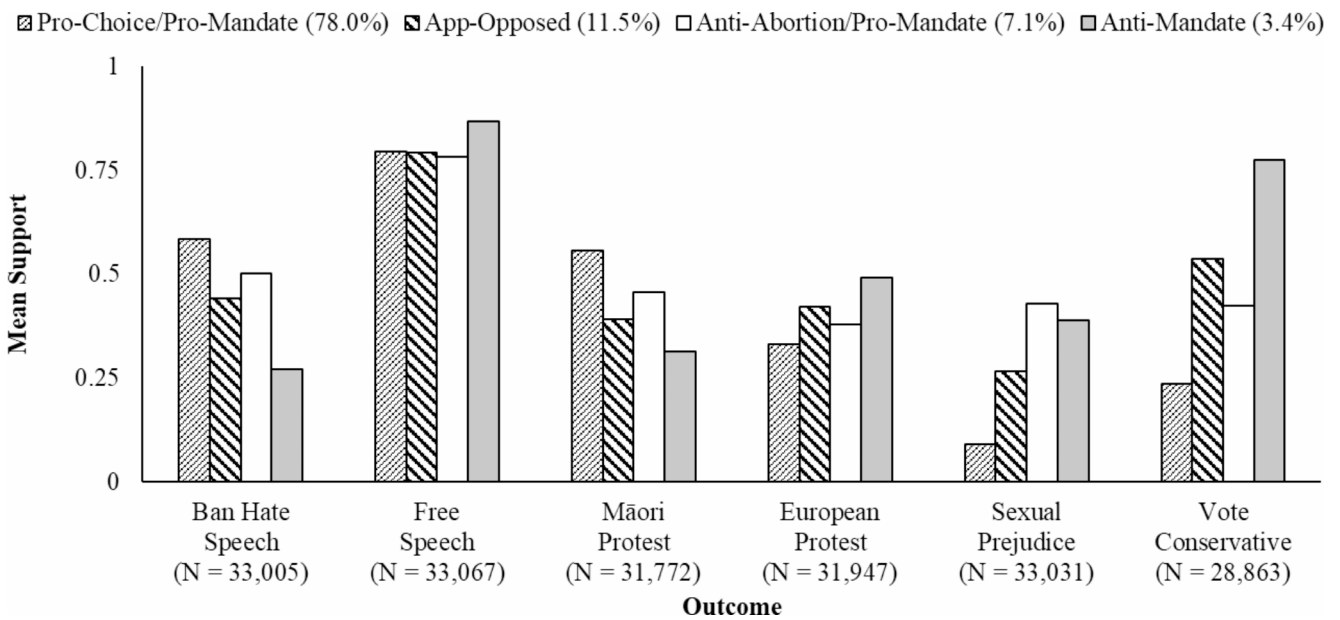


Fig. 4 Mean Support for the Given Issue as a Function of Latent Profile Membership. Values Study (N = 33,310). All variables were recoded to range from 0 (minimum) to 1 (maximum)
 Note. Data are from Times 11 and 12 of the New Zealand Attitudes and

Table 8 Mean Support for the Given Issue as a Function of Profile Membership

	$\chi^2_{(3)}$	Pro-choice/pro-mandate (78.0%)	App-opposed (11.5%)	Anti-abortion/pro-mandate (7.1%)	Anti-mandate (3.4%)
Ban Hate Speech (n = 33,005)	2153.119***	0.585 (0.002) ^a	0.442 (0.005) ^a	0.501 (0.006) ^a	0.271 (0.008) ^a
Free Speech (n = 33,067)	254.544***	0.795 (0.001) ^{bc}	0.792 (0.003) ^a	0.783 (0.004) ^b	0.867 (0.005) ^{abc}
Māori Protest (n = 31,772)	1708.993***	0.556 (0.002) ^a	0.392 (0.005) ^a	0.456 (0.006) ^a	0.314 (0.009) ^a
European Protest (n = 31,947)	609.111***	0.332 (0.002) ^a	0.423 (0.005) ^a	0.380 (0.006) ^a	0.493 (0.009) ^a
Sexual Prejudice (n = 33,031)	3814.901***	0.092 (0.001) ^a	0.267 (0.005) ^a	0.430 (0.007) ^a	0.390 (0.011) ^a
Vote Conservative (n = 28,863)	1935.212***	0.237 (0.003) ^a OR: 1.000	0.536 (0.011) ^a OR: 3.705	0.425 (0.012) ^a OR: 2.376	0.775 (0.015) ^a OR: 11.078

Note. Values were recoded to range from 0 (low) to 1 (high) except for Vote Conservative, which was dummy-coded (0 = no, 1 = yes). Values that share a superscript in the same row are significantly different from each other ($p \leq .003$). Data are from Times 11 and 12 of the New Zealand Attitudes and Values Study. *** $p < .001$

Differences in Socio-Political Attitudes Across Profiles

Finally, we used Lanza and colleagues’ (2013) distal three-step approach to explore differences in socio-political attitudes across profiles. Figure 4; Table 8 show that support for banning hate speech varied across profiles ($p < .001$). The Pro-Choice/Pro-Mandate profile supported banning hate speech more than the Anti-Abortion/Pro-Mandate, App-Opposed, and Anti-Mandate profiles ($ps < .001$). In turn, the Anti-Abortion/Pro-Mandate profile supported banning hate speech more than the App-Opposed and Anti-Mandate profiles ($ps < .001$). Finally, the App-Opposed profile supported

banning hate speech more than the Anti-Mandate profile ($p < .001$).

Free speech support also varied across profiles ($p < .001$). Notably, the Anti-Mandate profile supported free speech more than the Pro-Choice/Pro-Mandate, App-Opposed, and Anti-Abortion/Pro-Mandate profiles ($ps < .001$). Although the Pro-Choice/Pro-Mandate profile supported free speech more than the Anti-Abortion/Pro-Mandate profile ($p = .003$), neither the differences between the App-Opposed and the Anti-Abortion/Pro-Mandate profiles ($p = .086$), nor the App-Opposed and the Pro-Choice/Pro-Mandate profiles ($p = .286$), were significant.

Turning to collective action support, support for protests on behalf of Māori and New Zealand Europeans varied across profiles ($ps < .001$). Although the *Anti-Mandate* profile was the least supportive of protests for Māori rights ($ps < .001$), they were the *most* supportive of protests on behalf of New Zealand Europeans ($ps < .001$). Conversely, the *Pro-Choice/Pro-Mandate* profile was the most supportive of protests on behalf of Māori rights and the least supportive of protests for New Zealand Europeans ($ps < .001$). Finally, relative to the *App-Opposed* profile, the *Anti-Abortion/Pro-Mandate* profile was more supportive of protests for Māori, but less supportive of protests for New Zealand Europeans ($ps < .001$).

Sexual prejudice also varied across profiles ($p < .001$). Consistent with their tendency to include participants who identified as religious, the *Anti-Abortion/Pro-Mandate* profile reported higher levels of sexual prejudice than the *Anti-Mandate* ($p = .002$), *App-Opposed* ($p < .001$), and *Pro-Choice/Pro-Mandate* ($p < .001$) profiles. Likewise, the *Anti-Mandate* profile was higher on sexual prejudice than the *App-Opposed* and *Pro-Choice/Pro-Mandate* profiles ($ps < .001$). Finally, the *Pro-Choice/Pro-Mandate* profile expressed lower levels of sexual prejudice than the *App-Opposed* profile ($p < .001$).

The probability of voting for one of the two conservative parties to pass the 5% threshold in the 2020 General Election also varied across profiles ($p < .001$). Specifically, the probability of voting for a conservative party was higher for the *Anti-Mandate* profile relative to the *Anti-Abortion/Pro-Mandate*, *App-Opposed*, and *Pro-Choice/Pro-Mandate* profiles ($ps < .001$). The probability of voting for a conservative party was also higher in the *App-Opposed* profile vs. the *Anti-Abortion/Pro-Mandate* and *Pro-Choice/Pro-Mandate* profiles ($ps < .001$). Finally, the probability of voting for a conservative party was higher in the *Anti-Abortion/Pro-Mandate* profile relative to the *Pro-Choice/Pro-Mandate* profile ($p < .001$).

Summary

Together, these results illustrate both the size of the New Zealand population whose views corresponded with anti-mandate protestors and the demographic correlates of profile membership. Specifically, those who were men, young, distrustful of science and politicians, low on cognitive consistency, high on conspiracy ideation, dissatisfied with the government, and low on multiple forms of national identification were generally more likely than their respective counterparts to be in the *Anti-Mandate* profile (vs. the three other profiles). Those in the *Anti-Mandate* profile were not, however, uniformly conservative nor religious. Indeed, although the odds of being in the *Anti-Mandate* profile vs.

either the *Pro-Choice/Pro-Mandate* or the *App-Opposed* profiles were higher for those who identified as religious and conservative, these same characteristics were associated with *lower* odds of being in the *Anti-Mandate* profile vs. the *Anti-Abortion/Pro-Mandate* profile. Finally, numerous important socio-political attitudes varied across profile membership. Namely, the *Anti-Mandate* profile was the least willing to ban hate speech and the most supportive of free speech and protests for New Zealand Europeans. Yet they were the most opposed to collective action for Māori. *Anti-Mandaters* were also the second highest on sexual prejudice (next to the *Anti-Abortion/Pro-Mandate* profile) and the most likely to vote for either of the two conservative parties to pass the 5% threshold in the 2020 General Election.

General Discussion

Nations across the globe placed unprecedented restrictions on citizens to mitigate the spread of COVID-19. Although these mandates saved lives, protestors repurposed the “my body, my choice” mantra from abortion rights’ activists to contest the perceived violation of individual rights (Bluth, 2022; Liao, 2022). But did those who opposed the mandates simply have an expansive view of the pro-choice movement? Or were they co-opting a rhetorical device from progressive activists to advance their position? Answering these questions will help identify the mobilisation potential of the anti-mandate movement by revealing the proportion of the population whose views align with the protestors (see Stürmer & Simon, 2004), as well as uncover (potential) contradictions within a vocal reactionary movement. These questions also speak to the more general ways in which opposition to gender policies have become closely integrated into reactionary protests (see Kováts, 2017; Lombardo et al., 2021).

We leveraged data from nationwide random samples of the United States (Study 1) and New Zealand (Study 2) to identify the unique response patterns underlying support for abortion and COVID-19 mandates. Although the pandemic response varied noticeably across both countries, our results revealed that the mobilization potential of the anti-mandate movement was limited to a small, but vocal, subgroup of respondents. Namely, 12.6% of participants from the United States and 3.4% of participants from New Zealand belonged in profiles opposed to the COVID-19 mandates. But contrary to the pro-choice rhetoric displayed at anti-mandate protests (Liao, 2022), the *Anti-Mandate* profile simultaneously opposed both elective (Studies 1 and 2) and traumatic (Study 1) abortion. These results reveal key contradictions

in the anti-mandate movement and expose its anti-feminist underpinnings (see also Agius et al., 2020).

Further contradictions within the *Anti-Mandate* profile emerged when examining the socio-political correlates of profile membership. Despite opposing the mandates because they ostensibly impinged upon citizens' right to choose, the *Anti-Mandate* profile was the *least* supportive of free speech for those critical of the United States and of religion. Although these results did not replicate with a general measure of free speech support in Study 2, the *Anti-Mandate* profile was the highest on sexual prejudice in Study 1 and the second highest in Study 2. The *Anti-Mandate* profile was also the least supportive of protests on behalf of an ethnic minority group (despite being the most supportive of protests for a structurally advantaged group) and the most likely to vote for conservative parties in both studies. Together, these results indicate that the pro-choice slogans displayed at anti-mandate protests were rhetorical devices whose definition of "choice" was narrowly confined to the pandemic.

We also assessed the demographic correlates of profile membership. Studies 1 and 2 indicate that the odds of being in the *Anti-Mandate* profile were higher for those who were poor, less educated (in Study 1), distrustful of institutions, religious, and conservative (but see below). For example, the odds of being in the *Anti-Mandate* profile were greater for those distrustful of science and the government, as well as those high on conspiracy belief. These results extend prior work showing that conspiracy beliefs underlie vaccine hesitancy (see Hornsey et al., 2018) by demonstrating that conspiracies also undermine support for other interventions designed to save lives and that these views coalesce—at least in a small subset of the population—with opposition to reproductive rights.

Although conspiracy belief and distrust in public institutions predicted *Anti-Mandate* profile membership (as hypothesized), the odds of being in the *Pro-Choice/Pro-Mandate* profile vs. *Anti-Mandate* the profile were unexpectedly three-fourths *lower* for those who most (vs. least) trusted Congress. At first blush, these results seem to undermine research showing that trust fosters compliance with myriad authorities (Panditharatne et al., 2021; Tyler, 2005). Yet in the context of the fractious response to the pandemic by the United States government, these results may resonate with the broader literature. Indeed, President Trump and conservative media outlets steadily provided misinformation about the pandemic to the public (Yang & Bennett, 2022), resulting in liberals' apprehension of the government's response (Kerr et al., 2021). That the odds of being in the *Anti-Mandate* profile vs. the *Pro-Choice/Pro-Mandate* profile were higher for those who trusted Congress corroborates this interpretation and shows that institutional

trust can backfire—particularly when ingroup authorities disseminate misinformation.

Notably, religiosity was associated with increased odds of being in the *Anti-Mandate* profile vs. the *Pro-Choice/Pro-Mandate* profile in both studies. These results corroborate DeFranza and colleagues' (2021) work showing that religiosity fostered reactance to shelter-in-place orders. But Study 2 adds a key caveat to these findings by indicating that religiosity did not uniformly predict membership in the *Anti-Mandate* profile. Rather, the odds of being in the *Anti-Abortion/Pro-Mandate* profile vs. the *Anti-Mandate* profile were nearly five times greater for religious (vs. non-religious) participants. As such, religiosity need not be seen as an inherent barrier to public health initiatives. Accordingly, efforts to control the spread of future public health crises should work closely with religious leaders to develop mitigation strategies that foster compliance within religious communities.

Similar nuances emerged with respect to conservatism and the *Anti-Abortion/Pro-Mandate* profile in Study 2. Namely, the odds of being in the *Anti-Abortion/Pro-Mandate* profile vs. the *Anti-Mandate* profile were over two times greater for the most (vs. least) conservative in our sample. Such results echo the ideological diversity identified in related work on the anti-mandate movement in Germany (Liekfett et al., 2023), and suggest that the pairing of anti-abortion and pro-mandate issues appeals to a small conservative base. Nonetheless, results from both studies reveal the conservative leanings of the anti-mandate protests, as conservatism was associated with greater odds of belonging to the *Anti-Mandate* profile relative to the two remaining profiles.

Limitations and Future Research Directions

By leveraging two large-scale datasets containing nationwide random samples from two nations whose approaches to the pandemic varied considerably, the current research has multiple strengths. Although we caution against generalising our results beyond the United States and New Zealand, our sampling approach allows us to generalize the patterns observed here to the populations from which participants were randomly sampled. That we identified similar profiles—and that similar variables correlated with profile membership—increases confidence in the generalisability of our results. Profile membership also had comparable socio-political implications across studies, as the *Anti-Mandate* profile took positions largely inconsistent with their purported support for free choice. Nevertheless, future research should examine whether our results generalize to other WEIRD and non-WEIRD nations (e.g., see Henrich et al., 2010).

Confidence in the generalizability of our results is increased by additional cross-national similarities. For one, most participants in both countries supported abortion and the COVID-19 mandates. These results replicate and extend prior work in the United States demonstrating that, before the United States Supreme Court overturned *Roe v. Wade*, 85.2% of Americans supported abortion under at least some circumstances (e.g., traumatic abortion; Osborne et al., 2022). Our results illustrate that support has increased to 87.4% of the United States, and that over 90% of New Zealanders also support abortion at least some of the time. Thus, attempts to overturn reproductive rights in either nation appeal to an increasingly small voter base.

Although we focus on the contradiction between opposing COVID-19 mandates due to the perceived violation of bodily autonomy while opposing reproductive rights, supporting both issues could also be seen as a paradox. Indeed, the right for bodily autonomy advocated by supporters of abortion rights could logically extend to the right to choose to vaccinate or wear masks. Yet those in the *Pro-Choice/Pro-Mandate* profile supported mandates that took away people's right to choose how they personally wanted to protect themselves during the pandemic. In this sense, our results speak to an alliance-based approach to belief systems in which voters simply support issues backed by political allies rather than developing coherent ideologies that are bound by an underlying logic or moral belief (e.g., see Pinsof et al., 2023). Thus, our results provide further evidence that the general public fails to display high levels of constraint across issues (e.g., Converse, 1964).

Relatedly, our focus on the *Anti-Mandate* profile shouldn't detract from the impact the *Conditional Pro-Choice/Pro-Mandate* profile has on democratic values. Indeed, those in the *Conditional Pro-Choice/Pro-Mandate* profile held concerningly low levels of free speech support and high levels of sexual prejudice. Therefore, their traumatic abortion support could obfuscate opposition to broader egalitarian values (see also Rivera Pichardo et al., 2023). Finally, although our examination of the response patterns underlying support for abortion and COVID-19 mandates overlooks other reproductive health decisions including IVF, we provide the necessary foundations for understanding contradictions between these nuanced issues impacting bodily autonomy.

We should also acknowledge limitations to our analyses. For one, our data are cross-sectional and, thus, cannot speak to causal processes. Yet our follow-up analyses examining the demographic correlates of profile membership, as well as the socio-political differences across profiles, imply a temporal ordering of our variables. Although it is safe to assume that our demographic variables predict profile membership (rather than profile membership predicting participants' demographics), conservatism, trust in institutions, and

individual differences in cognitive consistency, conspiracy ideation, patriotism, and nationalism could either predict, or be predicted by, profile membership. The differences in socio-political attitudes that emerged across profiles could also foster opposition to abortion and COVID-19 mandates. A growing literature does, however, reveal that ideologies (Bertenshaw et al., in press; Gonzáles et al., 2022), individual differences (Ekstrom & Federico, 2019; Heaven et al., 2011), conspiracy belief (Thomas et al., 2024), and forms of national identity (Green et al., 2011) precede people's stances on various socio-political issues including abortion (e.g., see Huang et al., 2016). Nevertheless, future research is needed to clarify whether the distinct profiles identified here shape, or are shaped by, the individual differences and socio-political attitudes we examined.

Two other limitations to our analyses exist. First, LPAs are exploratory and have an inherent level of subjectivity in deciding the 'correct' number of unique response patterns (Curran & Bauer, 2021; Osborne & Sibley, 2017). Although our response patterns generally replicated across two national contexts with large nationwide random samples, future studies may identify an additional profile that comports to a truly "pro-choice" position across issues (i.e., anti-mandate and pro-abortion). We are, however, sceptical that such a profile exists (at least in any meaningful size), as it failed to emerge in a sample of over 33,000 participants. Second, data for both studies were collected when the anti-mandate protests were particularly salient (Haddad, 2021; Salman, 2023). Given the dynamic nature of collective action (Louis et al., 2020), both the size of the *Anti-Mandate* profile and its aims likely evolved over time. Indeed, movements often radicalize after repeated failure (see Louis et al., 2022). With these limitations in mind, the current research provides an important snapshot of the anti-mandate movement in two distinct nations and exposes critical contradictions in the protestors' stated goals.

Finally, we must acknowledge some key limitations to the measures used in Studies 1 and 2. First, Study 1 assessed support for a range of mandates including the use of masks and stay at home orders but omitted support for a vaccine mandate. Although Study 2 addressed this limitation by assessing participants' willingness to vaccinate against COVID-19, it failed to refer to government mandates. It is highly likely, however, that those who were unwilling to vaccinate also opposed the mandates (see Harris et al., 2023). Also, the response patterns identified across both studies revealed that support levels for one mitigation strategy tended to correspond with support levels for the other strategies within each profile. Indeed, those in the *Pro-Choice/Pro-Mandate* profile tended to support all the interventions, whereas those in the *Anti-Mandate* profile opposed all attempts to mitigate the spread of COVID-19.

Although the challenges that arose at the start of the pandemic made it difficult to develop comparable measures as the emergency unfolded, future research could address this concern by ensuring parallel measures are employed across studies.

Practice Implications

Our results have critical implications for practice and identify potentially divisive mitigation strategies for future public health crises. Namely, contact tracing was an especially maligned mitigation strategy within each profile in both countries—even amongst those who otherwise supported the mandates. These results corroborate research showing that privacy concerns reduce the uptake of contact tracing apps (Chan & Saqib, 2021). Indeed, despite the highly polarized response to the pandemic (Green et al., 2020; Kerr et al., 2021), Democrats and Republicans equally opposed contact tracing apps (Zhang et al., 2020). Attempts to slow the spread of future public health crises should therefore avoid pairing popular approaches like testing requirements with unpopular measures that raise privacy concerns. Such pairings could undermine the broader mitigation strategy.

That the *Anti-Mandate* profile was the smallest profile in both countries also provides some reassurances for public health officials for the next pandemic or epidemic. Specifically, Stürmer and Simon (2004) argue that social movements “recruit” from a larger subset of the population whose views resonate with the movement—the more prevalent the views in the population, the greater the mobilization potential. Yet our results show that the mobilization potential of the anti-mandate movement is relatively small—just 12.6% of the sample from the United States and 3.4% of the New Zealand sample were in the *Anti-Mandate* profile. These results suggest that most citizens recognize the need to (temporarily) relinquish their individual freedoms for the greater public good during public health crises.

Our results have additional practice implications for those concerned with the ongoing fight for reproductive rights. Indeed, both studies show that only a small proportion of voters consistently oppose abortion across both elective and traumatic scenarios (see also Osborne et al., 2022). Those seeking to increase reproductive rights should thus emphasize traumatic abortion when discussing the need to protect and expand access to reproductive healthcare. Also, the demographic correlates of profile membership identified in both studies reveal subgroups of the population who are most receptive to pro-choice advocacy. Given the ever-constrained nature of funding for public policy work, targeted information campaigns that focus on groups who are particularly receptive to messages on reproductive rights

may help advocacy groups make the most of their limited resources.

Finally, the response patterns displayed by the *Anti-Mandate* profiles in both studies provide important insights into underlying gendered nature of some of the recent reactionary movements to emerge over the last decade. Indeed, contemporary scholarship highlights the nuanced ways in which opposition to gender policies have become embedded in various far right populist movements (e.g., see Kováts, 2017; Lombardo et al., 2021). By exposing the close connection between opposition to both abortion and lifesaving public health initiatives, our work helps illustrate the anti-feminist underpinnings of the anti-mandate movement (see also Agius et al., 2020) and reveals the far-reaching implications of anti-gender positions (see Kováts, 2017). These insights are crucial for understanding how to best address the renewed attack against reproductive rights and the wave of anti-democratic movements sweeping across the globe, as they reveal a common thread connecting seemingly disparate policies (namely, anti-gender sentiment).

Conclusion

The recent pandemic forced governments across the globe to choose between public health needs and individual rights. Following this intractable trade-off, reactionary protestors co-opted the “my body, my choice” slogan from abortion rights activists to oppose COVID-19 mandates. Despite their professed support for bodily autonomy, the current studies—based on random samples from the United States and New Zealand—showed that the small proportion of participants who opposed the mandates also opposed abortion (i.e., 12.6% and 3.4% of the samples, respectively). The *Anti-Mandate* profile was also opposed to free speech critical of the United States and religion (Study 1), high on sexual prejudice (Studies 1 and 2), unsupportive of protests on behalf of a marginalized group (but supportive of protests for the advantaged; Study 2), and likely to vote for conservative parties (Studies 1 and 2). Further analyses showed that the odds of being in the *Anti-Mandate* profile were often greater for those high on religious identification, conservatism, institutional distrust, and conspiracy belief. These results uncover the (limited) mobilization potential of the anti-mandate movement, expose important policy contradictions within its members, and unveil the connection between opposition to gender policies and broader reactionary groups.

Author Contributions The current set of studies utilise data from the General Social Survey (Study 1) and the New Zealand Attitudes and Values Study (NZAVS). Chris G. Sibley initiated and runs the NZAVS. Danny Osborne performed the analyses for both studies and wrote an initial draft of the manuscript. All authors provided feedback on the initial draft and helped with the revision process prior to our initial submission. All authors read and approved the final manuscript. Prepa-

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Data availability Data for Study 1 are available at the website for the General Social Survey (<https://gss.norc.org/>). Data for Study 2 are part of the New Zealand Attitudes and Values Study (NZAVS). Full copies of the NZAVS data files are held by all members of the NZAVS management team and advisory board. Although ethical restrictions and the need to protect the confidentiality of our participants prevent public deposition of raw data from the NZAVS, a de-identified dataset containing the variables analyzed in Study 2 is available upon request from the corresponding author or any member of the NZAVS advisory board for the purposes of replication or checking of any published study using NZAVS data. The Mplus syntax used to test all models reported in this manuscript, as well as a truncated dataset for Study 1, are available on the OSF: <https://osf.io/52tpa>. You can also find this information on the NZAVS OSF: <https://osf.io/75snb/>.

Declarations

Ethical Approval The authors confirm that we have no potential (financial or non-financial) conflicts of interest to declare and that the data described in this paper were derived from research conducted in adherence to the APA Code of Conduct. The data described in Study 1 are part of the General Social Survey (see <https://gss.norc.org/>) and the data described in Study 2 are part of the New Zealand Attitudes and Values Study (NZAVS). The NZAVS is approved by the University of Auckland Participants Ethics Committee and complies with the established ethics standards.

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