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Psychological pillars of support for free speech: Tolerance for offensive, disagreeing, socially divisive, and heterodox speech

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ABSTRACT

Freedom of speech is a core value in free and democratic societies, but its psychological characteristics are not well understood. Here, we test a model of support for freedom of speech consisting of four correlated dimensions: 1) Tolerance of offensive speech, 2) Tolerance of disagreement, 3) Tolerance of heterodox speech, and 4) Tolerance of socially divisive speech. Study 1 ($N = 809$) supported this model, finding that freedom of speech measures fit this four-factor structure well and showed strong external validity. Replication (Study 2, $N = 721$) confirmed this four-factor structure and its external validity. The scales also showed strong discriminant validity, e.g., MFQ-2 moral foundations accounted for <3 % of freedom of speech variance. A third study confirmed the 7-month test-retest reliability of the scales. In summary, support for free speech could be measured validly and reliably, spanning multiple dimensions and providing a firm base for research on this essential trait. It was robust to potential confounders of personality and moral domains, suggesting that variation in support for freedom of speech may index a separate “liberty” moral foundation.

1. Introduction

While freedom of speech is enshrined as a fundamental right in foundational documents such as the [U.S. Constitution \(1787\)](#) and the [United Nations Universal Declaration of Human Rights \(1948\)](#), it has become an increasingly contentious issue in modern times. To give just one instance, in 2017, James Damore wrote an internal memo at Google criticizing its diversity policies. While some defended Damore’s right to share his viewpoint, others accused the memo of perpetuating harmful stereotypes. Google terminated Damore, to the approval of critics and the dismay of free speech advocates. This high-profile controversy exemplified tensions between protecting dissenting opinions and avoiding harm, revealing the need to elucidate the psychology underlying freedom of expression. Here, we develop and explore a multidimensional model of support for freedom of speech, validating it in two countries and against multiple external validity criteria.

Debates surrounding freedom of speech highlight tensions between protecting free speech and limiting harmful speech. This conflict has repeated across history – for instance, [Milton’s \(1644\) *Areopagitica*](#) advocating for freedom of the press – to present-day attempts to balance speech rights against demands for social harmony, national security, and combating misinformation (e.g., [Online Safety Bill](#), [House of Commons](#),

[2023](#)). The rise of ubiquitous social media giants such as Meta and Twitter further accelerated this debate over suppressing specific viewpoints, as seen in controversies over content moderation policies (e.g., [Le Merrer et al., 2021](#)). Despite this high relevance and evidence that a majority, in the U.S. at least, view free speech as crucial for democracy (e.g., [Knight Foundation, 2022](#)), research has produced only a modest understanding of support for free speech, and important psychological questions remain unanswered. These include: 1) Are attitudes towards free speech multidimensional rather than a single construct? 2) If it is the former, what are the distinct dimensions composing support for free speech? 3) Do moral foundations fully account for variation in free speech attitudes, or does speech constitute a separate psychological dimension? 4) How important are cognitive and personality traits in shaping free speech attitudes? 5) How stable and consistent are individuals’ attitudes towards free speech across different contexts and forms of expression? Each of these questions can be answered and, if a psychological framework and measurement tool were created, could be used in addressing contemporary free speech controversies.

To address gaps in understanding support for free speech, we propose a four-factor model, develop a reliable measure, and validate this against external markers. To help orient the reader, [Fig. 1](#) visually summarizes the proposed model. Our approach assumes that historical,

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cultural, legal, and customary strategies to protect free speech reflect underlying human motivations, though these connections themselves need not be consciously realized (Cosmides & Tooby, 2013). This approach has been successfully applied, for instance, to support for redistribution, showing that policy preferences are strongly linked to motives of self-interest, envy, compassion, and mutualism (Lin & Bates, 2021; Lin & Bates, 2022; Sznycer et al., 2017). Here, we apply this approach to unpack the motives for protecting free expression.

We focused on the U.S. because of that nation's very strong threshold for freedom of speech. In particular, we were guided by Senator Margaret Chase Smith (1950, pp. 621–622) in her “Declaration of Conscience” speech, which asserted four components of free speech: “*The right to criticize; The right to hold unpopular beliefs; The right to protest; The right of independent thought*”. Senator Smith argued that the four-fold structure to freedom of speech represented essential customs that we ignore at our peril. Given this model, we would expect cultural norms regarding free speech to pick out and codify motives underlying these attitudes towards (or against) liberty of speech. We next translated these attitudes into psychological motives assessable in psychological scales.

The *right to criticize*, which we labelled as the “Tolerance of offensive speech”, protects individuals from backlash when challenging deeply held beliefs, such as cultural practices considered beyond question by certain individuals, groups or the entire society. This right supports satire and parody of established religion, government officials and policies, as well as the moral frameworks of others. We argue that the motive activated by critical speech is experienced as a feeling of deep offence. Support for criticism will be higher in those who experience only minimal feelings of personal offence (Turner, 2020), allowing them to tolerate speech others find offensive.

The second norm – the right to hold unpopular beliefs, which we labelled “Tolerance of disagreement”, protects the expression of ideas that others disagree with. Examples of historical note include the heliocentric view of Galileo and Darwin's theory of human descent by natural selection (Mchangama, 2023). We propose that such unpopular beliefs evoke the negative emotion of being disagreed with by others, experienced as anger. Lack of a strong anger response to being disagreed with can underpin this second facet of support for free speech, promoting tolerance of disagreement with one's own positions.

The third norm of support for free speech is the *right to independent thought*: to critically examine the world for oneself, to question and hear new perspectives or information, including thoughts and debate others view as irrational or conspiracy theory, for instance, on COVID and climate doubt (Guy et al., 2014; Pummerer et al., 2022). We labelled it

“Tolerance of heterodox speech”. We suggest that this motive responds to proposed novel problems and novel answers to existing problems. This may link to acceptance of novel ideas (in which case it would be predicted to correlate with Openness). Alternatively, it may reflect a feeling of resentment at being blocked from accessing ideas and discussion with others: an open “marketplace of ideas”.

The last of the four norms is the right to protest. We labelled it “Tolerance of socially divisive speech”. This protects the right to assemble and communicate ideas to others who would not otherwise become aware of the speech. This right is most notable in contemporary society for sparking concerns related to national security, e.g., the Ukrainian Euromaidan protests (Shveda & Park, 2016) or the Hong Kong pro-democracy protests of 2019 (Holbig, 2020). Finally, these four components are hypothesized to function not as unrelated mechanisms but as manifestations of a reduced emotional negative response to free expression in general and support for others doing this without fear of reprisal despite, in many cases, others feeling offended, angry, shocked, or threatened. This forms the general factor in the model.

Having outlined a theoretical structure of four free speech motives, in Study 1, we test this by developing and validating a multidimensional measure corresponding to this four-factor structure. This provides a more refined tool for assessing the nuanced underpinnings of support for freedom of expression rather than treating it as a single construct. We then test links between fundamental psychological traits and endorsement of core civil liberties. This research constitutes an initial step towards elucidating the complex psychological landscape shaping individuals' stances towards liberty and restrictions on expression.

2. Study 1

In Study 1, we develop a measure to assess support for freedom of speech based on the proposed four-factor model. We utilized existing specialized scales and supplemented them with new items to fully capture the factors. Structural equation modelling was used to test the feasibility of the four-factor structure. External validity was examined by assessing the measure's ability to predict reactions to real-world moral issues related to free speech. The discriminant validity was examined by testing relationships between the freedom of speech factors and other relevant constructs, including moral foundations, personality traits, and cognitive ability. This comprehensive set of analyses provided initial validation evidence for the viability of the four-factor conceptualization.

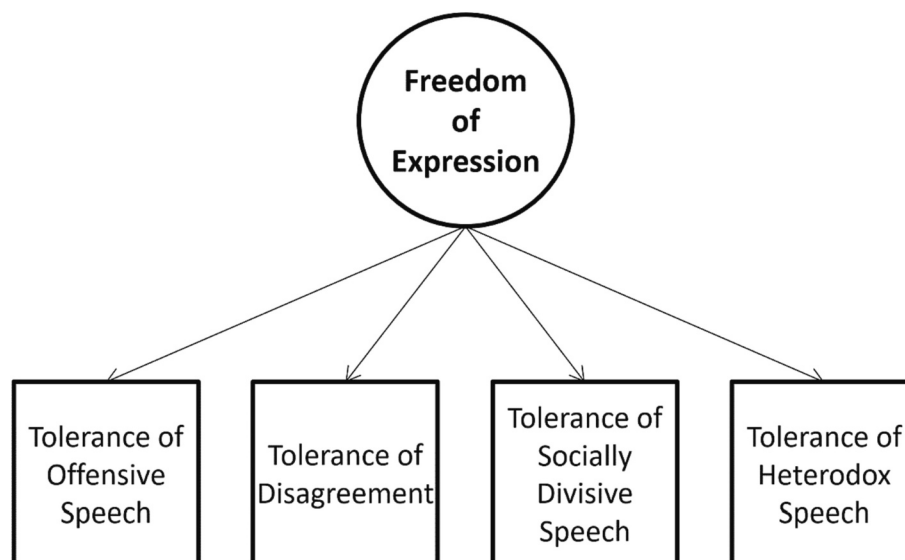


Fig. 1. Four-factor model of support for freedom of expression.

2.1. Existing measures of support of freedom of speech

Surprisingly, few measures for free speech have been reported. Hense and Wright (1992) created a 20-item Attitudes Towards Censorship Questionnaire, testing this instrument in two student samples (total $N = 259$). The exploratory factor analysis suggested two factors - General Censorship and Censorship of Pornography ($\alpha = 0.86$ and 0.82 , respectively). Cowan et al. (2002) developed a 16-item freedom of speech scale demonstrating high reliability ($\alpha = 0.85$) in an undergraduate sample ($N = 169$). While no formal SEM was conducted, factor analysis showed it measured a construct distinct from the harm of hate speech questionnaire they contrasted it with. The Cowan et al. (2002) questionnaire has been used in subsequent work (Cowan & Khatchadourian, 2016; Downs & Cowan, 2012). Building on this work, Alvarez and Kimmelmeier (2018) developed a new measure to assess support for free speech and opposition to censorship. A principal component analysis conducted on a small student sample ($N = 90$) revealed two discrete factors, aligning with the multidimensional nature of speech attitudes. De Koster et al. (2013) developed a 7-item scale assessing support for freedom of speech in a Dutch sample ($N = 1302$). Confirmatory factor analysis showed that it defined a unique latent factor separate from other measures of social attitudes, though reliability was marginal (Cronbach alpha = 0.65). More recently, Fasce & Avendaño, 2022 created a 15-item Support for Civil Liberties and Rights scale, using a sample of politically active social media users ($N = 902$). Exploratory factor analysis suggested 3 factors, though a unidimensional model was retained ($\alpha = 0.86$).

2.2. Revising measures of free speech support: addressing ambiguities and gaps

Existing measures of support for free speech have significant limitations. They often rely on single scores, failing to capture potential multidimensional aspects of support for free speech (e.g., distinguishing offensive speech vs. protest rights). Most do not disentangle support for freedom of speech from opposition to censorship, which may be a related but distinct construct. Some contain items related to specific examples (e.g., Holocaust denial), making it hard to separate general attitudes to free speech from reactions to particular cases. Most scales were primarily developed using American samples, raising questions about generalization to other cultural contexts. Few demonstrate extensive evidence of validity in predicting behavioral outcomes related to tolerance or suppression of controversial speech. Some exhibit poor reliability or model fit, indicating problematic scale development and measurement errors. Additionally, existing measures often do not address emerging free speech controversies relating to new technologies and social media contexts. Given such limitations, there is a need for new, more rigorous, and comprehensive measures to further the psychological understanding of attitudes towards freedom of expression.

For Study 1, we used the existing Cowan et al. (2002) and (De Koster et al., 2013) measures, supplementing these with new items devised to address gaps in the assessment of freedom of speech based on our model, such as the tolerance of socially divisive speech and support for speech that the participant themselves disagrees with or finds offensive, which were not well covered in existing scales. We also wished to avoid confounding support for free speech with specific attitudes, for instance, towards specific groups (e.g., Holocaust denial in (De Koster et al., 2013) or, in Cowan et al. (2002), the Aryan Brotherhood). In total, we developed 23 new items (see supplement).

To test external validity, we developed nine vignettes assessing attitudes towards real-world freedom of speech controversies. These used actual events in Great Britain where authorities limited individuals' freedom of speech or expression. To minimize political bias, the vignettes included cases with both left-wing and right-wing targets.

2.3. Expectations

Based on our conceptual model, we had several specific hypotheses in conducting this study. First, we expected that support for free speech would be multi-dimensional. Second, we hypothesized that a four-factor structure would emerge and fit the data well, with the factors organized under a general factor. Third, we predicted that the four factors would demonstrate substantial ($r > 0.40$) correlations with this study's nine external validity vignettes.

Regarding age and sex, drawing from previous research (Cowan et al., 2005; Cowan & Khatchadourian, 2016; Shen & Tsui, 2018), we predicted that male participants would exhibit higher support for free speech than females. Secondly, in line with stereotypes of younger individuals being more defiant against authority (Cornelis et al., 2009; Ruffman et al., 2016; Zubielevitch et al., 2023), we anticipated a negative correlation between age and support for free speech.

Self-interest is a straightforward predictor of free speech support since it is central to motivation (Weeden & Kurzban, 2017). Those relying on unfiltered expression foresee negative impacts if that outlet is limited. For example, provocative comedians, outspoken academics, media pundits, and activists are self-interested in sharing opinions without censorship. Infringing on that freedom to avoid offending others threatens those benefits. This personal stake predicts defending expressive liberties when curtailed.

A further potential correlate of people's stance on free speech considered here was political orientation. In general, those who identify as liberal have been reported supporting free speech more than those who identify as conservative (Davis & Silver, 2004; Lindner & Nosek, 2009; Wilson, 1975). However, this difference may be linked to the content of the speech itself, as both liberals and conservatives tend to have similar levels of support for free speech when they agree with the speech content (Crawford & Pilanski, 2014). Thus, more recently, support for free speech has been labelled a right-wing view (Malik, 2022). Supporting this idea, Fasce & Avendaño, 2022 reported that support for civil liberties (including support for free speech) was negatively associated with left-wing political ideology. Given these conflicting results, we treated this as an exploratory question that the new support for free speech scales could elucidate.

Regarding personality traits, we hypothesized that Openness would correlate positively with free speech support since embracing diverse perspectives is characteristic of this trait (McCrae & Sutin, 2009). Prior research found a weak negative link between censorship support and Openness (Kaspar & Müller-Jensen, 2021). We expected this association would replicate. We predicted weak or no links for other Big Five traits. Specifically, Agreeableness may relate to valuing social harmony over offensive speech. Neuroticism may also correlate negatively due to vulnerability to criticism. We did not expect strong ties between free speech support and Conscientiousness or Extraversion.

Turning to cognitive abilities, most prior research has found positive associations between cognitive abilities and support for freedom of speech. For instance, Bobo and Licari (1989) found that education level and performance on a vocabulary test both positively predicted tolerance of free speech rights for various ideological groups, even when respondents felt negatively towards the group ($\beta = 0.13$ – 0.26). More recently, De Keersmaecker et al. (2020) found similar results ($\beta = 0.12$ – 0.32), with part of the effect mediated through intellectual humility. Drieghe et al. (2023) also found that support for freedom of speech was associated with both cognitive ability ($r = 0.31$) and intellectual humility ($r = 0.20$). Additionally, Downs and Cowan (2012) also reported a small correlation between free speech support and cognitive ability ($r = 0.14$). Finally, Rasmussen and Ludeke (2022) found a positive association between cognitive ability and willingness to extend the freedom of expression to disliked groups in two large Danish and U.S. samples (total $N = 2408$), though their selection of disliked groups was limited to right-wing groups. Based on these findings, we hypothesized that cognitive ability and intellectual humility would show positive

relationships with support for freedom of speech in the current research.

Prior research found that individualism (Triandis & Gelfand, 1998) correlates positively around $r = 0.30$ with support for freedom of speech (Downs & Cowan, 2012). Therefore, we hypothesized that individualism would show a positive relationship with freedom of speech attitudes in our data. Given that mutualism (Baumard et al., 2013; Lin & Bates, 2022) involves cooperation based on freely chosen partnerships based on mutual advantages for both self and others, this orientation could, in principle, align well with principles of open discourse and “marketplace of ideas”, advancing mutual understanding. We, therefore, predicted a positive association between mutualism and support for freedom of speech.

Finally, we turn to predicted associations with moral foundations. While liberty has been identified as a foundational moral consideration (Iyer et al., 2012), it is not included in the most recent iteration of the Moral Foundations Theory (Atari et al., 2023). Rationales for banning speech often point to purported harm associated with, e.g., hate speech (Paz et al., 2020). We can test this prediction by examining the association of harm foundation scores with support for free speech. We predicted, however, that neither this nor any other association with moral foundations would be substantial ($r < 0.20$). If supported, this would imply a need to consider liberty as an independent moral facet. In line with this alternative model, we anticipated significant correlations with the liberty scale, developed in early work on moral foundations (Iyer et al., 2012).

Having assembled the scales and new items, along with external validity checks and predicted discriminant validity markers, we tested these hypotheses in a large sample of U.K. adults.

2.4. Method

2.4.1. Participants

Participants were recruited using Prolific Academic, a large online platform for recruiting research subjects that has been shown to provide good-quality data (Douglas et al., 2023). A total of 800 subjects from the U.K. (mean age 42.35 years ($SD = 14.27$), of whom equal numbers (397) were female and male) and six participants who selected ‘other’ for gender participated in the study.

2.4.2. Materials and procedure

Support for freedom of speech was measured using two existing scales - the 16-item Freedom of Speech Scale (Cowan et al., 2002; example item: “Laws restricting hate speech unfairly limit free expression”, $\omega-t = 0.93$ in the present study) and the 7-item Support for Freedom of Speech Scale (De Koster et al., 2013; example item: “The law against blasphemy should be abolished”, $\omega-t = 0.72$) We supplemented these with 23 new items created for this study tapping participants’ personal tolerance of offensive or disagreed speech (e.g. “I support the right of people I disagree with about political or social issues to voice their opinions” and “Free speech must remain unhindered, no matter how hurtful it is to me”). The new items aimed to expand coverage of underrepresented domains and avoid conflating genuine free speech support with attitudes towards specific issues or groups For all items, responses were given on a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree).

2.4.3. External validity

To assess external validity, we developed nine vignettes depicting real-world freedom of speech controversies that had resulted in censorship by authorities (listed in the supplement). This allowed us to evaluate attitudes towards actual freedom of speech controversies, not just theoretical ones. The vignettes included two positively and seven negatively scored items to avoid acquiescence bias. Participants indicated on a 5-point Likert scale (from Strongly Agree to Strongly Disagree) whether they agreed with the censoring decision for each vignette. See the supplement for full items wording.

2.4.4. Tests for discriminant validity

Personality was measured using the TIPI – a 10-item measure of the Big Five personality dimensions of Extraversion, Agreeableness, Conscientiousness, Emotional Stability and Openness. Each trait is measured by a pair of descriptors (e.g., “extraverted, enthusiastic” for Extraversion) rated on a 7-point Likert scale from 1 (Disagree Strongly) to 7 (Agree Strongly).

Moral foundations were measured with the MFQ-2 (Atari et al., 2023). This 36-item instrument measures the endorsement of six moral foundations. Each foundation is assessed with six items using a 5-point Likert scale ranging from “Does not describe me at all” to “Describes me extremely well”.

Liberty was measured with the Iyer et al. (2012) Liberty scale. This comprises two subscales: economic liberty (six items), which assesses concerns related to economic and governmental liberty and lifestyle liberty (three items), which measures attitudes towards personal choice freedoms. To create consistency with the items of the MFQ-2, we modified the two Liberty items posed as questions about whether an item is relevant to deciding if something is right or wrong. Specifically, “Whether or not private property was respected” was reworded to “Respect for private property is one of the most important virtues”, and “Whether or not everyone was free to do as they wanted” was rewritten as “The world would be a better place if everyone was free to do as they want to”.

Mutualism was assessed using the Lin and Bates (2022) Mutualism scale – a 15-item measure of an individual’s disposition towards cooperation that benefits both parties. Participants rate statements such as “It’s important that we can choose who we live near or trade with” on a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree).

Individualism and Collectivism was assessed using the Individualism and Collectivism Scale (Triandis & Gelfand, 1998) – a 16-item measure of individualistic (e.g. “I’d rather depend on myself than others”) versus collectivistic (e.g. “It is important to me that I respect the decisions made by my groups”) cultural attitudes. Participants rate how well each statement describes them on a 5-point Likert scale from 1 (definitely no) to 5 (definitely yes). We used total scores for Individualism and Collectivism.

Cognitive Ability was assessed using the International Cognitive Ability Resource (ICAR; Condon & Revelle, 2014). The ICAR is a public-domain measure with four subscales tapping distinct facets of cognitive ability: Letter and Number Series (9 items), Verbal Reasoning (16 items), Matrix Reasoning (11 items), and Three-Dimensional Rotations (24 items). We used only the first three subscales to maintain a reasonable survey length. Participants’ number of correct responses on each subscale were summed to create total scores.

Intellectual Humility was measured using the 6-item Intellectual Humility Scale (Leary et al., 2017). Participants rate items such as “I accept that my beliefs and attitudes may be wrong” on a scale from 1 (not at all like me) to 5 (very much like me).

Self-interest was assessed using a single reverse-scored item: “Imagine that the Government introduced a law banning people from publicly expressing opinions that may be offensive to others. What impact do you think that policy would have on you”? Responses were measured on a 5-point Likert scale ranging from (1) “My own situation would significantly worsen” to (5) “My own situation would significantly improve.”

Political Ideology was measured using a one-item question (“How would you characterize your political views?”) with a ten-point response scale ranging from 1 (Extreme Left) to 10 (Extreme Right).

2.4.5. Procedure

We administered all study measures using the Qualtrics online survey platform. Participants provided informed consent and then completed the full battery of scales in one session. To minimize potential order effects, we randomized the presentation sequence of the scales for each participant.

The fit of the structural model of the freedom of speech was

evaluated using the Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), and the Root Mean Square Error of Approximation (RMSEA). The RMSEA assesses the discrepancy between the hypothesized and ideal models, with values ranging from 0 to 1; values nearing zero signify a superior fit. Conversely, both the CFI and TLI are employed to compare the fit of the hypothesized model against a baseline model, which posits no correlation among any underlying continuous variables. Here, higher values approaching 1.0 denote a better fit. In aligning with the standards set forth by Hu and Bentler (1999) and Yu (2002), we adopted a criterion of TLI and CFI ≥ 0.95 , along with RMSEA ≤ 0.06 , as benchmarks for a satisfactory model fit. All statistical analyses were completed in R (R Core Team, 2023) and umx (Bates et al., 2019).

2.5. Results

Before the item-level analyses and test of our four-factor model, we conducted a parallel analysis (Horn, 1965). The results indicated that four factors were sufficient to explain the data. Subsequently, we conducted an exploratory four-factor analysis using the maximum likelihood estimation method with a promax rotation, allowing the factors to correlate. The four identified factors accounted for 17 %, 9 %, 8 %, and 5 % of the variance, respectively, totalling 39 %. Based on the factor loadings, we systematically allocated all items into a hierarchical model comprising four latent factors along with a general factor. This initial model showed inadequate fit ($\chi^2(1030) = 3699.58, p < .001$; CFI = 0.825; TLI = 0.817; RMSEA = 0.044). Next, 22 items with large cross-loadings were removed, and the refined 24-item model demonstrated a good fit to the four-factor structure ($\chi^2(248) = 579.31, p < .001$; CFI = 0.955; TLI = 0.95; RMSEA = 0.032).

As shown in Fig. 2, the four factors of the reduced scale corresponded to those of the predicted model and were labelled as follows: (1) Tolerance of offensive speech (example item: *I support the right of individuals whose beliefs are offensive to me to voice their opinions*), (2) Tolerance of disagreement (example item: *I support the right of people I disagree with about political or social issues to voice their opinions*), (3)

Tolerance of heterodox speech (example item: *Laws that restrict hate speech would unfairly affect people's freedom to engage in the marketplace of ideas*) and (4) Tolerance of socially divisive speech (example item, reverse-coded: *There should be limits on the freedom of speech of people who threaten society*). Reliability coefficients (ω total) were 0.83, 0.72, 0.91 and 0.75 for each factor, respectively. For the full 24-item scale, ω total was 0.90. The final items for the four-factor freedom of speech scale are listed in Appendix A.

To evaluate the external and discriminant validity of the scales, we scored each participant on each of the model factors. The first step in validating the new questionnaire was to test whether scores on the four factors of the freedom of speech questionnaire and the general factor correlated significantly and strongly with each of the nine vignettes depicting real-world outcomes used to validate the scale. As can be seen in Table 1, the predictions were born out, with each scale correlating positively with each of the nine vignettes and stronger relations again between the general speech factor and a composite measure created by summing responses to the criterion items ($r = 0.53$). These results, then, confirmed that the new measure effectively predicts support for freedom of speech.

Having demonstrated the external validity of the scale, we moved on to test the predicted associations with political orientation, personality measures, moral foundations, and cognitive ability. Starting with demographic predictors, our findings revealed that gender significantly predicted freedom of speech attitudes, with men showing greater support (standardized $\beta = 0.18$). In contrast, age did not significantly predict free speech attitudes ($\beta = 0.05$).

Following this, we examined the associations between support for freedom of speech and other measures, starting with political orientation. Political orientation was roughly normally distributed in Study 1 (See Fig. 3). Based on the preponderance of literature (Davis & Silver, 2004; Lindner & Nosek, 2009; Wilson, 1975), we predicted a positive association of free speech support with left-leaning political attitudes. Contrary to our expectation, a weak association emerged between support for freedom of speech and right-wing political leanings ($r = 0.09, p$

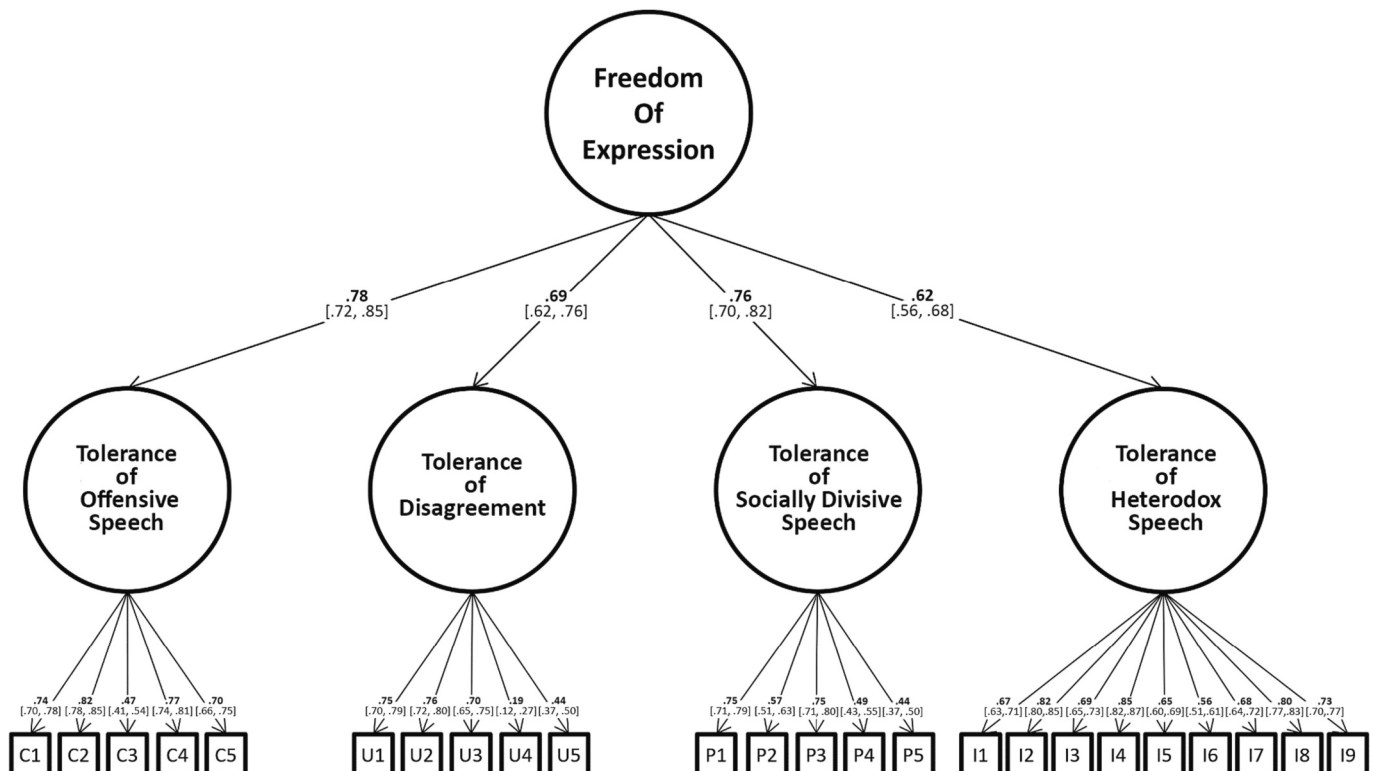


Fig. 2. The final four-factor model of freedom of speech (Study 1).

Table 1
Correlations between the general factor of free speech, its four subscales, and nine external validity vignettes in Study 1.

Free speech scale	External Validity items									Composite
	1	2	3	4	5	6	7	8	9	
Offensive speech	0.27	0.34	0.29	0.29	0.22	0.23	0.31	0.43	0.46	0.56
Disagreement	0.20	0.16	0.20	0.33	0.16	0.03*	0.09*	0.21	0.42	0.35
Heterodox speech	0.22	0.21	0.25	0.31	0.22	0.17	0.20	0.26	0.37	0.43
Socially divisive speech	0.17	0.22	0.25	0.34	0.31	0.26	0.19	0.22	0.29	0.43
G	0.26	0.28	0.30	0.37	0.27	0.22	0.25	0.34	0.45	0.53

Note: G = general free speech factor. All *p*-values <.001 except where shown.

^a NS.

* *p* < .05.

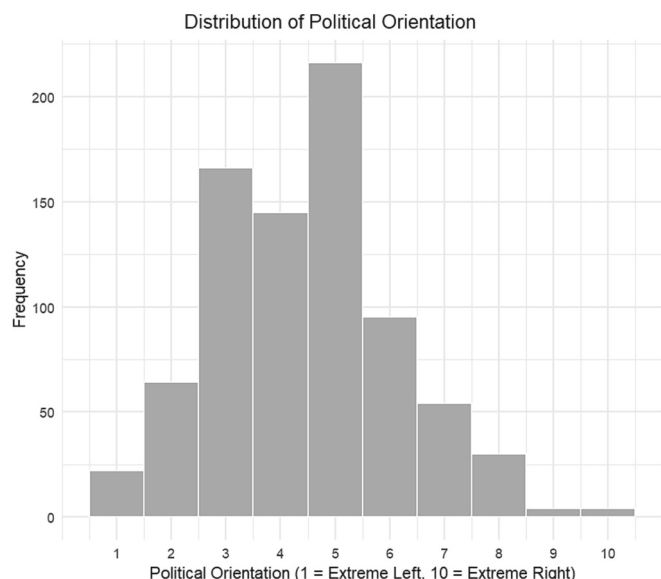


Fig. 3. Distribution of political orientation in study 1, U.K. data.

= .01), suggesting that freedom of speech is currently slightly a right-leaning concern. To delve deeper into the data and examine cohort (age) differences, we divided our sample into roughly equal thirds in order to create groups corresponding to young (18–29 years, *N* = 201), middle-aged (30–60 years, *N* = 498), and elderly (60+ years, *N* = 105) cohorts, testing the associations between support for freedom of speech and political orientation within each group. The age groups were determined based on significant developmental and societal milestones typically associated with each stage. The cutoff at 30 years delineates the transition from early adulthood, often characterized by substantial life changes in career and family dynamics, to mid-adulthood, where such aspects are generally more established. The cutoff at 60 years represents the conventional retirement age, marking another significant life transition. The findings, presented in Fig. 4, conspicuously illustrate that the association between speech and political orientation is almost exclusively restricted to the under 30s, among whom support for freedom of speech is significantly associated with a right-wing political orientation (*r* = 0.32, *p* < .001). This correlation is absent or even reversed among the middle-aged and elderly groups. Next, a linear regression analysis was conducted predicting freedom of speech attitudes from participant age, political orientation and their interaction. Age and political orientation were treated as continuous, mean-centered variables. The analysis revealed a significant political orientation by age interaction, *b* = −0.005, *p* < .001.

We next examined the correlation between support for freedom of speech and the Big Five personality traits (see Table 2). Surprisingly, perhaps, in all cases, these were notably weak, with the maximum observed correlation being just 0.11.

Moving to the moral foundations, our prediction that support for freedom of speech would not show strong association with any of the six core foundations included in the MFQ 2 was largely supported, as predicted by a model in which liberty forms a seventh moral foundation (Iyer et al., 2012). Liberty was significantly associated with all subscales of support for free speech (correlations ranging from 0.18 to 0.35, see Table 2).

Moving to the cognitive predictors of support for freedom of speech, intellectual humility and intelligence both showed the predicted positive associations with the general factor of support for free speech as well as with three of the four factors of support for freedom of speech (See Table 2).

We next tested the possibility that, while support for free speech cannot be reduced to the side effect of a single strong external predictor, it may nevertheless be reducible to a combination of multiple small effects. This would require that, in the aggregate, the wide-ranging set of cognitive and non-cognitive predictors assessed here should account for a substantial component of variation in support of freedom of speech. We tested this in a multiple regression with all the external scales serving as predictors of the general factor of support for free speech. The total variance accounted for was just *R*² = 0.28 (adjusted = 0.22). A forward stepwise regression accounted for 24 % of the variance in the general factor of support for freedom of speech, with the final model terminating at five predictors (MFQ Liberty, TIPI Extraversion, intellectual humility, verbal intelligence, and self-interest). The details of these results are outlined in Table 3.

While the personality measures showed low discriminant validity (i.e., small bivariate correlations) with freedom of speech attitudes, indicating they tap distinct constructs, several emerged as significant predictors when considered jointly in the regression model. Their incremental *R*-squared of 0.28 suggests they account for a meaningful portion of unique predictive variance despite their limited individual discriminant validity. Nevertheless, taken together, the array of predictors left much of the variance in free speech attitudes unexplained. These attitudes thus comprise a distinct domain that cannot be fully accounted for by personality traits, moral values, or cognitive factors alone.

2.6. Discussion

Study 1 developed and validated a multidimensional framework of support for freedom of speech centred around four key liberty rights: tolerance of offensive speech, tolerance of disagreement, tolerance of heterodox speech and tolerance of socially divisive speech. The structural equation modelling supported this four-factor structure, demonstrating high reliability and convergent and divergent validity. As predicted, these four dimensions were significantly intercorrelated and loaded onto a superordinate general freedom of speech factor. Notably, while MFQ-2 moral values played some role, support for free speech could not be fully accounted for by existing models of personality or morality. The Liberty foundation positively predicted support for free speech, though associations with other foundations were weak or

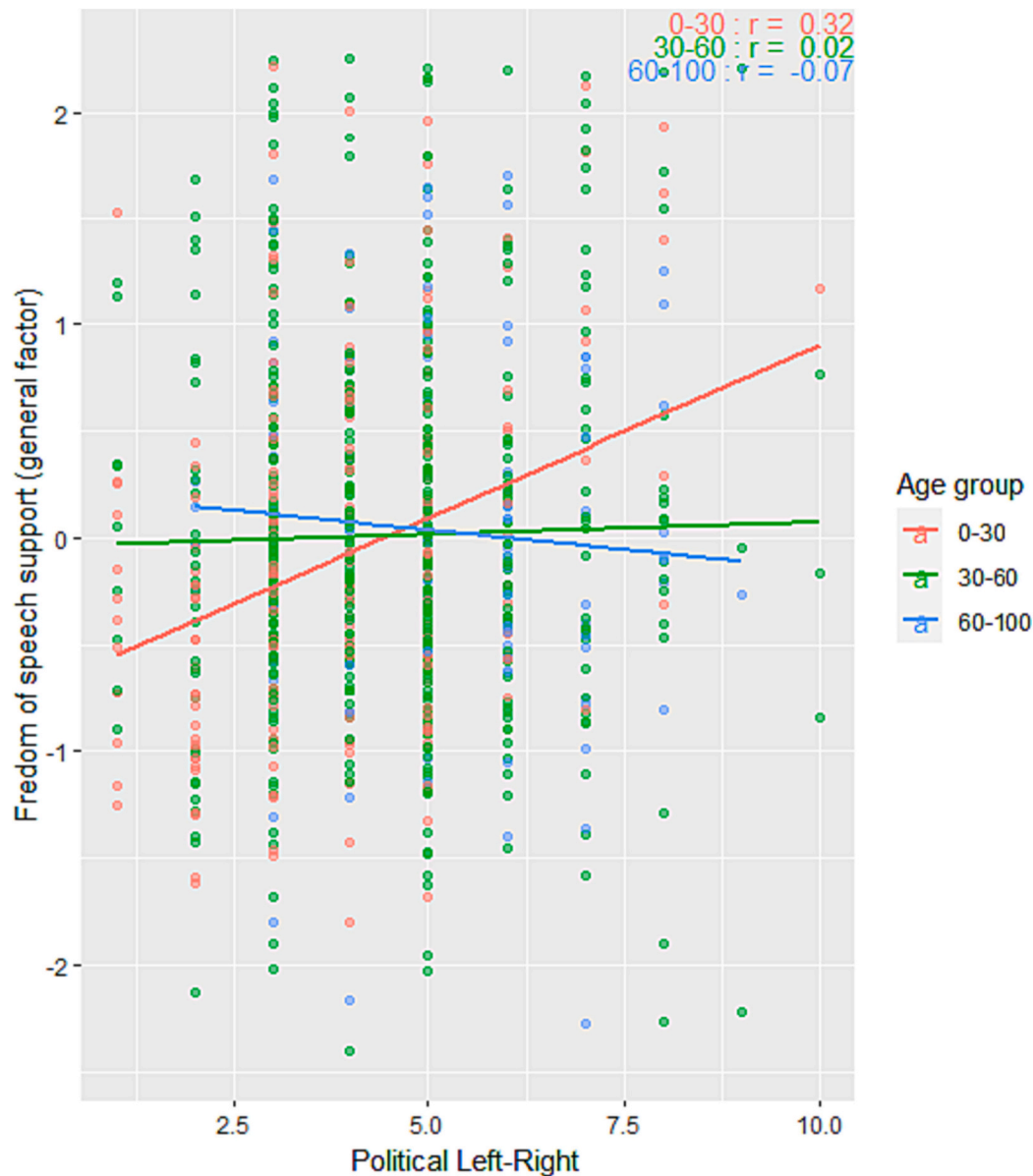


Fig. 4. Relationship between political orientation and support for freedom of speech, stratified by age (Study 1, U.K. data).

inconsistent. Of the personality and cognitive domains, only extraversion, intellectual humility, and verbal intelligence jointly contributed, along with self-interest. However, even together, these variables explained only a small part of the variability in support for free speech. This lends credibility to the notion that freedom of speech attitudes form a distinct psychological orientation, one not wholly reducible to current taxonomies.

Intriguingly, free speech was largely independent of political orientation, with the exception being an association with right-wing politics only among younger adults. This complicates notions of free speech as a predominantly partisan issue. To better understand the new scale, we next undertook an independent replication of the model in a distinct cultural context presented in Study 2.

3. Study 2

While our initial research provides support for the four-factor structure of freedom of speech support in a U.K. population, further validation in an independent sample would be beneficial. As debates over First Amendment rights frequently center around U.S. issues,

testing this measurement model in an American cultural context would also support its generalizability. It would justify the usage of the scale to assess attitudes towards expression liberties in various Anglophone settings. Conducting this replication addresses generalizability and provides an incremental contribution by confirming the stability of the four-factor model before employing it in further comparative and predictive research on values supporting freedom of speech.

3.1. Method

3.1.1. Participants

Participants were recruited through Prolific Academic, a large online platform for recruiting research subjects. The final sample consisted of 721 adults from the United States (mean age 40.83 years, $SD = 14.39$). The sample included 344 females, 366 males, and 11 participants who selected 'other' for gender.

3.1.2. Measures and procedure

Participants completed the same freedom of speech measures as in Study 1: (1) the 16-item Freedom of Speech Scale by Cowan et al.

Table 2
Correlations between the general factor of free speech, its four subscales, and external predictors in Study 1.

External predictors	F1	F2	F3	F4	G
Neuroticism	-0.04	-0.06	-0.08*	-0.10**	-0.08*
Extraversion	-0.08*	-0.04	-0.07	-0.08*	-0.08*
Openness	-0.01	-0.07*	0.03	0.02	-0.01
Agreeableness	-0.11**	-0.11**	-0.01	0.01	-0.06*
Conscientiousness	-0.08*	0.06	-0.02	0.05	-0.01
Care	-0.10**	-0.15	0.01	0.12**	-0.03
Equality	-0.13***	-0.10*	-0.12**	-0.08*	-0.13***
Proportionality	-0.11**	0.16**	0.06	0.14***	0.06
Authority	-0.17***	0.18***	-0.03	0.03	-0.01
Loyalty	-0.14***	0.17***	0.02	0.02	0.02
Purity	-0.18***	0.18***	-0.10**	-0.10**	-0.09*
Liberty	0.18***	0.35***	0.20***	0.21***	0.26***
Mutualism	-0.06	0.17***	0.13***	0.20***	0.11**
Individualism	0.01	0.17***	0.11**	0.11**	0.10**
Collectivism	-0.17***	-0.01	0.03	0.04	-0.04
Intelligence (g)	0.07	-0.10*	0.14**	0.18***	0.10*
Intelligence (verbal)	0.13**	-0.08	0.18***	0.20***	0.15**
Intellectual humility	0.12**	0.02	0.22**	0.29***	0.20***
Self-interest	-0.28***	-0.24***	-0.29***	-0.24***	-0.32***
Political orientation	-0.01	0.25***	0.08*	0.04	0.09*

Note: F1 = Tolerance of Offensive Speech; F2 = Tolerance of disagreement; F3 = Tolerance of socially divisive speech; F4 = Tolerance of heterodox speech; G = general free speech factor.

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

Table 3
Multivariate predictors of general support of freedom of speech.

Criterion variables	b	2.5 %	97.5 %	β
Liberty	0.36	0.23	0.50	0.29***
Extraversion	-0.07	-0.13	-0.01	-0.12*
Verbal cognitive ability	0.06	0.02	0.09	0.18**
Intellectual humility	0.36	0.14	-0.58	0.19**
Self-interest (in censorship)	-0.34	-0.48	-0.20	-0.26***
Total R ²	0.28 (corrected for multiple comparisons: 0.22)			

Note.
*** p < .001.
** p < .01.
* p < .05.

(2002), (2) the 7-item Support for Freedom of Speech Scale by De Koster et al. (2013), (3) 23 new items created for the Study1, and (4) nine external validity vignettes. We also administered the same 10-point political orientation item used in Study 1. All measures were hosted on the Qualtrics survey platform.

3.2. Results

To evaluate the replicability of the four-factor freedom of speech support model developed in Study 1, we fitted the same model to the new dataset collected in Study 2. Full details of the model are tabulated on the OSF site for this paper. The model showed acceptable fit in this independent dataset ($\chi^2(248) = 938.4, p < .001$; CFI = 0.92; TLI = 0.911; RMSEA = 0.062). Reliability coefficients (ω total) for each factor in Study 2 were comparable and, in most cases, higher than in Study 1. For the Tolerance of offensive speech, ω total was 0.82. For the Tolerance of disagreement, ω total was 0.76. The Tolerance of socially divisive speech had an ω total of 0.83, while the Tolerance of heterodox speech had an ω total of 0.92. Finally, for the full 24-item scale, ω total was 0.93. Together with the very similar factor loadings for items (see Fig. 5), these results suggest that the model showed acceptable replicability across samples and countries of testing.

Next, to assess external validity, we examined whether the four factors and general factor from the Study 2 dataset predicted reactions to the nine real-world free speech controversies used in Study 1. As shown

in Table 4, the results supported the external validity of each of the four factors and the general factor. All four factors and the general factor showed significant positive correlations with the external criteria. Moreover, the correlations exceed those found in Study 1 for most factors, further supporting the validity of the scales. We again saw the strongest relationship between the general speech factor and the overall score on the external vignettes ($r = 0.58$), replicating Study 1. Overall, these findings provide evidence that the scale accurately measures support for freedom of speech, as indicated by its significant associations with reactions to actual free speech controversies outside the study context.

Turning to demographic factors, we found that gender and age both significantly predicted freedom of speech attitudes, as measured by the general factor scores. Men expressed greater freedom of speech support than women ($\beta = 0.11$). Interestingly, unlike the UK sample, older individuals in the US also endorsed free speech significantly more than younger participants ($\beta = 0.19$).

Finally, we sought to replicate the Study 1 finding that the association between support for free speech and political orientation is strongest among younger adults. The distribution of political orientation in US data exhibited a stronger skew towards the extreme left compared to the UK data in Study 1 (see Fig. 6). As in Study 1, we divided the U.S. sample into three age groups: young (0–29 years, $N = 209$), middle-aged (30–60 years, $N = 392$), and elderly (over 60 years, $N = 102$). Like the U. K. sample, results showed a weak positive association between support for free speech and right-wing political orientation across all age groups ($r = 0.18, p < .001$). Looking at cohort differences, again, like the UK sample, the association was the strongest among adults under 30, for whom support for free speech correlated significantly with a right-wing orientation ($r = 0.25, p < .001$). This correlation decreased among middle-aged ($r = 0.15, p = .004$) and elderly ($r = 0.09, p = .33$) groups (See Fig. 7). As in Study 1, we conducted a linear regression analysis predicting freedom of speech attitudes from participant age, political orientation and their interaction. Unlike in Study 1, political orientation by age interaction was not significant, $b = -0.001, p = .307$.

3.3. Discussion

Using an independent U.S. sample, this study successfully replicated

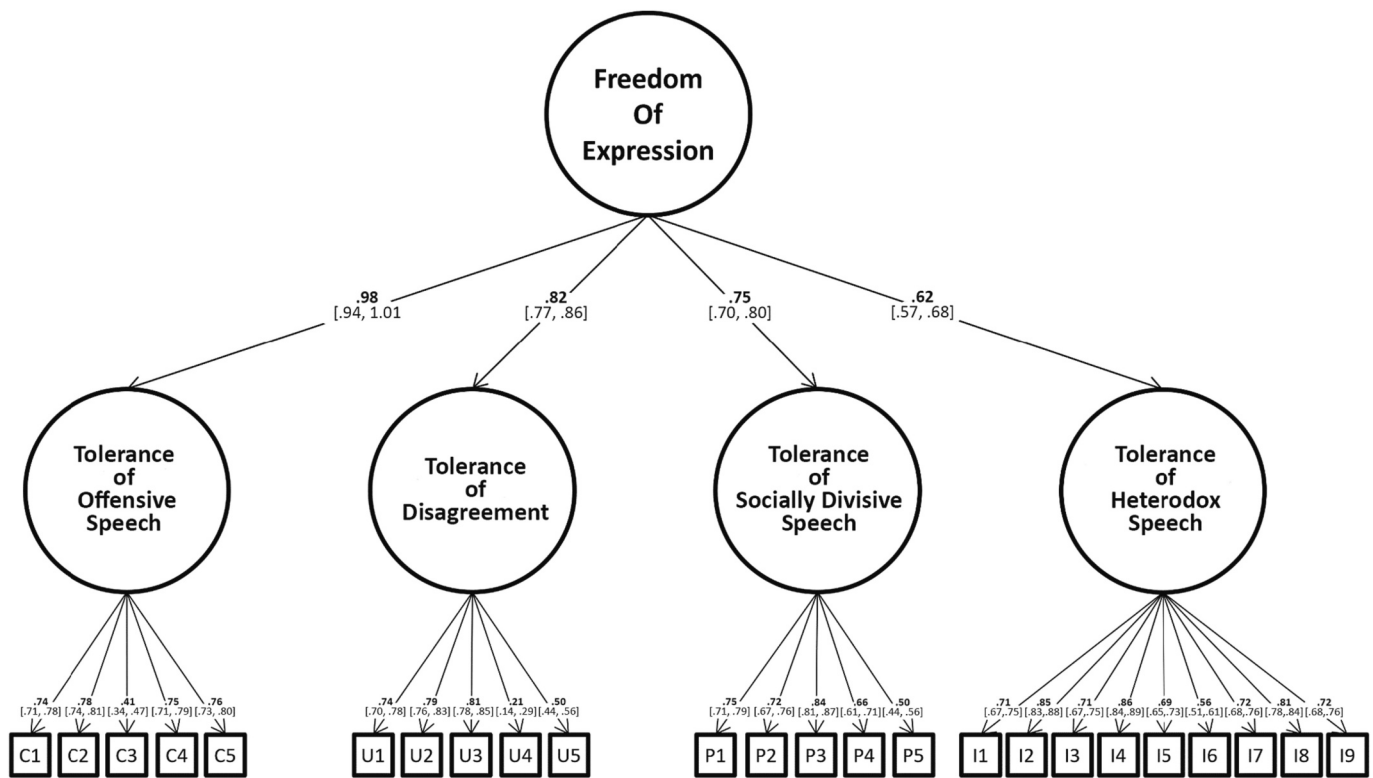


Fig. 5. The final four-factor model of freedom of speech, U.S. data (Study 2).

Table 4

Correlations between the general factor of free speech, its four subscales, and nine external validity vignettes in Study 2.

Free speech scale	External validity items									Composite
	1	2	3	4	5	6	7	8	9	
Offensive speech	0.14	0.32	0.46	0.38	0.35	0.34	0.32	0.35	0.47	0.57
Disagreement	0.10	0.27	0.40	0.36	0.40	0.33	0.28	0.31	0.40	0.52
Heterodox speech	0.22	0.18	0.28	0.30	0.12*	0.08†	0.20	0.19	0.50	0.39
Socially divisive speech	0.13	0.42	0.51	0.33	0.32	0.42	0.41	0.41	0.53	0.64
G	0.14	0.33	0.46	0.39	0.36	0.35	0.33	0.36	0.49	0.58

Note: G = general free speech factor. All p-values < .001 except where shown.

† p < .05.

* p < .01.

the four-factor structure of freedom of speech support developed in Study 1. Although model fit indices were slightly lower than in Study 1, item and factor loadings were comparable across studies. One notable difference was that in the U.S. data, the Tolerance of offensive speech factor loaded even more strongly onto the general factor ($\beta = 0.98$ compared to 0.78 in the UK sample). This suggests that the right to challenge deeply held beliefs may be more definitive of support for free speech in the US than in UK samples, but also that this support for even offensive criticism identifies the psychological content of more general support for free speech in both populations. A second notable outcome was that, despite the external validity vignettes being selected from British controversies, associations between free speech and these external criteria were even stronger in the U.S. data for most factors. This, then, demonstrates generalizability across distinct cultures and supports a degree of robustness to baseline support for speech freedoms and local context in validity tests. Finally, while Study 2 found the relationship between free speech support and conservative views was stronger for younger versus older cohorts, mirroring the pattern seen in the U.K. data, this age-by-ideology interaction was less pronounced and did not reach statistical significance in the U.S. sample.

In summary, these findings provide robust support for the four-factor

structure as a valid model of freedom of speech attitudes. The scale displayed external validity even when applied to a different cultural context. This research makes important theoretical headway in delineating the architecture of support for expressive liberties. We next, in Study 3, examine the test-retest reliability of scales based on freedom of speech factors.

4. Study 3

While Studies 1 and 2 established and confirmed the structure and external validity of the support for freedom of speech questionnaire, reliability is also crucial for a useful scale. Low reliability reduces statistical power, making detecting effects in studies using the measure harder. For this reason, in Study 3, we examined the test-retest reliability of the new scale over time. In addition to documenting the internal reliability of the scales, as used in studies 1 and 2, we re-contacted participants from Study 1 approximately seven months after initial testing. This longitudinal follow-up allowed us to evaluate the test-retest reliability across time, providing evidence of reliable trait measurement and placing a lower bound on the stability of the traits.

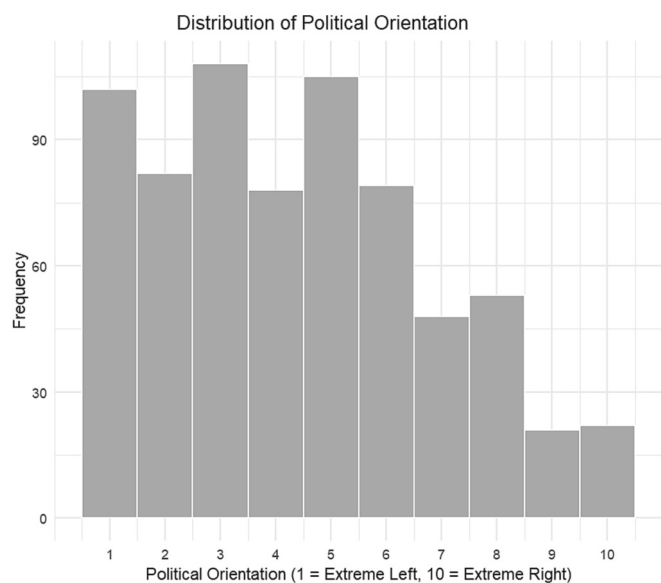


Fig. 6. Distribution of political orientation in Study 2, U.S. data.

4.1. Method

4.1.1. Participants

Participants from Study 1 were re-contacted for a second study using the Prolific Academic invitation system. The acceptance rate was 69 %, with a total of 555 participants completing the re-test online (269 females, age range 19–79 years, mean age 45 years, $SD = 13.71$).

4.1.2. Tests and procedure

To examine test-retest reliability, we recontacted all participants seven months after initial data were collected in Study 1, inviting them to take the freedom of speech scales a second time, using the same Qualtrics online system for collecting responses.

4.2. Results and discussion

Scale scores were calculated by summing the individual item responses for each scale. Reliability across time was then evaluated using the Intraclass Correlation Coefficient (ICC; Bartko, 1966) between scores at times 1 and 2, using the single rater absolute ICC measure, which is sensitive to differences in means across time points as well as to the correlations across time. These are shown in Table 5. All scales demonstrated moderate reliability with ICC values between 0.55 and 0.69. Conventionally, ICC values below 0.5 indicate poor reliability, values between 0.5 and 0.75 suggest moderate reliability, values between 0.75 and 0.9 indicate good reliability and values exceeding 0.90 indicate excellent reliability (Koo & Li, 2016). We next discuss these reliability results.

While internal consistency of the freedom of speech scales, as indexed by acceptable omega total values, was good, the test-retest reliability over a 7-month interval, as assessed by ICC coefficients, was lower but adequate. Together, these internal and test-reliability statistics suggest that scales measure coherent constructs, though scores may vary over time. One potential factor contributing to score variability is the influence of current events and media coverage related to free speech controversies. For example, endorsement of freedom of expression may shift in response to news stories about restrictions on speech rights for groups one supports or opposes, such as Donald Trump's Twitter ban or the subsequent taking over Twitter by Elon Musk. Future research could, for instance, track scores during periods of intense media coverage around free speech issues to provide insight into sources of shifts in the mean and variability between subjects, perhaps indicating polarization.

5. General discussion

A central finding of this research was that treating support for free expression as four separate but correlated dimensions rather than a unitary construct was viable and supported by the results across three studies. Moreover, the emergence of distinct factors supported the predicted conceptual structure regarding tolerance of offensive speech, disagreement, socially divisive speech, and heterodox speech. The 4-factor nature of support for free speech demonstrates that individuals can vary in their attitudes not only to speech in general but to more nuanced manifestations of free speech. For instance, while a person may strongly endorse the right to offensive speech, they may, the model predicts, show significantly lower tolerance of socially divisive speech, for example. Alongside this differentiation, however, the four factors did correlate strongly, converging under a higher-order general freedom of speech factor. Together, then, we found support for shared variance across the dimensions while still supporting meaningful conceptual distinctions. The viability of this multidimensional framework implies that research aiming to elucidate the psychology underlying freedom of speech should take account of specific rights in addition to the general endorsement of free expression.

A second key finding was that variance in freedom of speech scores was largely independent of basic personality traits and moral values. While support for free speech has been viewed as reflecting personality traits such as Openness (McCrae & Sutin, 2009), our research did not support this view. Similarly, prior accounts have proposed links between free speech and moral foundations, notably that support for limiting speech arises from strong concerns about harm. This would predict robust associations with the Care moral foundation. However, we did not find strong or consistent relationships between moral foundations and support for free speech. (Maximum $r = 0.18$). More viable, perhaps, is the proposed liberty foundation (Iyer et al., 2012). However, scores on this foundation, while significant, accounted for only a minority (<20 %) of variance in support for free speech. This lends credence to the idea that support for free speech constitutes a distinct psychological dimension, separable from established moral foundations but perhaps forming a substantive facet of concern for liberty in general.

Finally, a significant observation from our study is that support for free speech rights appears to be largely orthogonal to political orientation, challenging the prevailing notion that such support aligns neatly with ideological leanings. Interestingly, the data revealed an exception: younger adults with right-wing political views showed a stronger inclination towards supporting free speech. Given this, there is a compelling case for further longitudinal research to unravel the complex interplay between political ideology, age, and attitudes towards free speech across diverse demographic groups.

6. Limitations and future directions

The research was not without limitations. Our samples consisted primarily of participants from Western populations. Despite the concurrence across two national samples, the research leaves important questions for cross-cultural generalizability and potential mean differences. A second limitation is a reliance on self-report questionnaires. While the external validity measures provide support, incorporating additional modalities, such as behavioral measures, could provide convergent validity. For example, assessing participants' policy positions on proposed speech regulations, willingness to sign relevant petitions or support for controversial speeches targeting each of the four free-speech factors. While we demonstrated that cognitive differences and intellectual humility play a limited role in support of free speech, exploring the potential effects of other cognitive measures, such as cognitive flexibility (Ionescu, 2012) or perspective-taking (Batson et al., 1997), would be valuable. Future research should also incorporate education and socioeconomic status measures to provide a more comprehensive understanding of individual difference factors shaping freedom

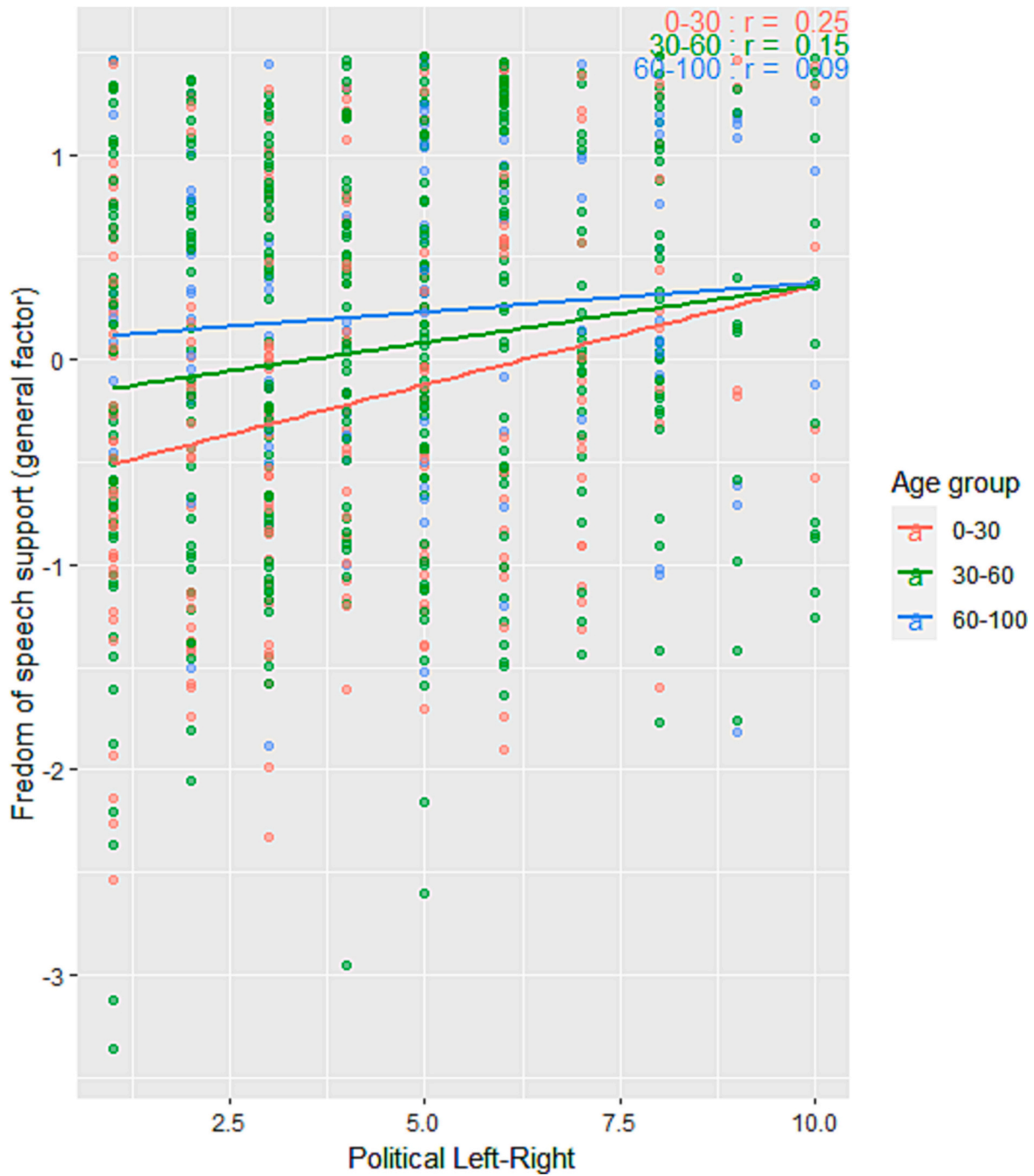


Fig. 7. Relationship between political orientation and support for freedom of speech stratified by age (Study 2, U.S. data).

of speech perspectives.

While the TIPI has demonstrated adequate reliability and validity in previous research, our use of this abbreviated measure presents some limitations. Future studies should consider using lengthier measures, even at the expense of participant burden, to ensure a more refined and psychometrically robust assessment of personality traits.

In terms of future directions, several promising areas emerge from this work. First, it would be useful to identify the cultural origins of support for free speech and opportunities to increase it. Group research (Bates & Gupta, 2017) could test whether groups of individuals high on support for free speech reach more (or less) valid conclusions when faced with problems where the optimal solution is novel, unpopular, or in conflict with other beliefs. Research could also test the relative role of

heritable factors and durable socio-cultural learning on the one hand and, on the other hand, situation-specific environmental inputs, which might temporarily shift support for free speech – e.g., marketing campaigns over issues versus principled support or opposition. Longitudinal tracking could examine whether shifts in speech support over time align with changes in self-interest, such as personal stakes in promoting or suppressing free expression.

A second direction for research involves examining the psychological functions and outcomes of free speech for groups and nations beyond individuals. One function may be promoting truth-seeking and discovery. Speech dimensions link to ideas crucial for science’s invention (Wootton, 2015). Studies could test if stronger protections enable societies to build consensus or dissent productively, perhaps depending on

Table 5

Seven-month test-retest reliability (single rater absolute ICC and Pearson's r) for the four freedom of speech factors.

Scale	ICC	r	95 % CI	T1 Mean (S. D.)	T2 Mean (S. D.)
Offensive speech	0.60	0.62	[0.53, 0.67]	3.80 (0.79)	3.60 (0.75)
Disagreement speech	0.55	0.55	[0.49, 0.60]	3.91 (0.54)	3.90 (0.57)
Socially divisive speech	0.69	0.69	[0.65, 0.74]	3.02 (0.81)	2.97 (0.84)
Heterodox speech	0.66	0.66	[0.61, 0.70]	3.00 (0.85)	3.05 (0.78)

Note. T1 and T2 report means and standard deviations of scales at Time 1 and Time 2.

constructive dialogue vs. dysregulated conflict. Research should investigate how speech norms shape solidarity, cohesion, and progress amidst dissent. Individual-level work could explore impacts on cognitive outcomes like resolving cognitive dissonance.

7. Conclusion

In summary, the present research significantly advanced the conceptualization and measurement of support for free speech by developing and validating a multifaceted four-factor scale linked to a

Appendix A

1. External validity items

The items were presented to participants with the following prompt: "In this section, we ask your opinion about some actual events that happened in Great Britain in recent years." Participants answered using a 5-point Likert scale ranging from Strongly Disagree to Strongly Agree.

1. On 6 January 2010, 26 year-old Paul Chambers posted the following message on Twitter after his flight had been cancelled:

"Crap! Robin Hood airport is closed. You've got a week and a bit to get your shit together otherwise I'm blowing the airport sky high!!"

This resulted in his home being raided by anti-terror police. He was charged with sending a 'menacing message', and was found guilty under the Communications Act 2003. The High Court later reversed this decision.

To what extent do you agree with the reversal of the decision by the High Court? (i.e., to what extent do you agree that this tweet should not have been prosecuted?)

2. In 2007, the British Board of Film Classification banned the sale of a videogame called "Manhunt 2" to any audience, including adults, due to excessive graphic violence and cruelty. To what extent do you support the decision to ban the game?
3. In July 2001, a baker called Daryl Barke was forced by the police to remove a sign from his store window advertising his bread as "none of that French rubbish". Police stated they were investigating the sign under the Race Relations Act 1976 in response to an anonymous complaint. To what extent do you agree that authorities were right in forcing Daryl to remove the sign?
4. In April 2014, Liberty G.B. candidate Paul Weston was arrested after being reported by an audience member at a campaign speech. The complaint objected to his remarks on Islam described as "militant" and "retrograde" which were quotations from a passage by Winston Churchill. The police later dropped the charges. To what extent do you agree with the police decision to drop the charges?
5. In September 2011, public preacher John Craven was approached by two male teenagers and asked for his views on homosexuality. He allegedly declined to give his own views but stated that homosexual acts were considered sinful in The Bible. According to reports, the boys subsequently kissed in front of Craven and reported him to a nearby officer. Craven was detained for at least 15 h. He stated that he was held "without food or water" and that his access to medication for rheumatoid arthritis was interrupted. To what extent do you agree that the police were right to detain the preacher?
6. In July 2011, highlights from The Daily Show, an American T.V. program, were not shown on Channel 4's More 4 channel to the British audience because showing coverage of the House of Commons in a comedic or satirical context in Britain is prohibited by parliamentary rules. To what extent do you agree with the rule that prohibits showing the actual House of Commons footage in a satirical context?
7. In March 2012, 20-year old Azhar Ahmed was arrested for writing "all soldiers should die and go to hell" on Facebook. The post was reported by the mother of a soldier who had been killed in Afghanistan two days earlier. District Judge Jane Goodwin called it "beyond the pale of what's tolerable in our society" and sentenced Ahmed to £300 and 240 h of community service. Several attendees protested when Judge Goodwin delivered the ruling. To what extent do you agree that Azhar should not have been punished?

coherent theoretical model. The findings revealed a complex architecture underlying support for free speech consisting of four distinct yet related dimensions. This empirically grounded factor structure provides a framework for investigating the nuanced psychological foundations shaping the defense of expressive liberties. We hope that the development of this robust and reliable four-factor scale will enable new research elucidating the psychology of free expression.

CRedit authorship contribution statement

Michael Zakharin: Conceptualization, Methodology, Validation, Formal analysis, Investigation, Writing – original draft, Visualization.
Timothy C. Bates: Conceptualization, Methodology, Software, Resources, Writing – review & editing, Supervision.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

Data will be made available on request.

8. In October 2012, paroled criminal Barry Thew was sentenced to eight months in prison for wearing a T-shirt that expressed approval of police officers being murdered (“one less pig perfect justice”) after two police officers have been murdered (Barry Thew was not connected to the murder).
To what extent do you agree that Barry Thew should have been punished for wearing an offensive T-shirt?
9. In April 2016, Scots comedian Mark Meechan uploaded a video showing how he had trained his girlfriend’s pug to raise its paw (similar to a Nazi salute) in response to him saying “siege heil” or “gas the Jews”. Meechan, who said that the video was intended to annoy his girlfriend, was convicted of a hate crime under the Communications Act 2003 and sentenced to pay an £800 fine.
To what extent do you agree that Meechan should have been punished?

2. Freedom of expression index: assessing four core liberties

Participants were asked to indicate how well each statement describes them or their opinions on a 5-point Likert scale (Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, Strongly Agree).

Tolerance of Offensive Speech.

1. Free speech must remain unhindered, no matter how hurtful it is to me.
2. I support the right of individuals whose beliefs are offensive to me to voice their opinions.
3. I do not think there is a point in talking to people who hold ideas that are offensive to me.
4. I believe that social movements holding views I find offensive should have the same rights to express their opinions and beliefs as other groups.
5. I believe that people should be free to express their political views online, even when I find their views offensive.

Tolerance of Disagreement.

1. I support the right of people I disagree with about political or social issues to voice their opinions.
2. Groups holding views I disagree with should have the same right to express their opinions and beliefs as those I agree with.
3. Even people I disagree with politically should be free to express their opinions on social media.
4. Journalists should be allowed to keep a news source confidential.
5. Free expression tends to encourage personal empowerment, an important weapon in the fight against bias.

Tolerance of Socially Divisive Speech.

1. There should be limits on the freedom of speech of people who threaten society.
2. We should not talk to or debate people whose ideas, if adopted, would be destructive to society.
3. Freedom of speech should be restricted for groups that express harmful ideas to society.
4. Government should control the internet and other media to prevent the propagation of ideas they consider harmful to society.
5. People who utter insults on the internet should be dealt with.

Tolerance of Heterodox Speech.

1. Laws that restrict hate speech would unfairly affect people’s freedom to engage in the “marketplace of ideas.”
2. Prohibiting hate speech is a violation of the legal guarantees of free speech.
3. Laws against hate speech would make people afraid to say anything about anyone, and in the end, would stop all free speech.
4. Censorship of hate speech could lead to setbacks in minority groups’ progress towards equality.
5. Speech alone is harmless compared to action.
6. Hate speech codes lead us down the slippery slope towards uniformity of thought.
7. The best solution for hate speech is not to punish speech, but to produce more speech.
8. 8 Laws against hate speech give those with power the right to impose on others their views of what is politically or morally correct.
9. Censorship of speech leaves little room for debate or diverse points of view.

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