

Supplementary Appendix for  
*Quality Assessment of the Academic Freedom  
Index - Strengths, Weaknesses, and How Best  
to Use It*

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**Abstract**

This Appendix provides supplementary information and additional analyses to accompany the article *Quality Assessment of the Academic Freedom Index - Strengths, Weaknesses, and How Best to Use It*. Section A includes the wording of the V-Dem academic freedom indicator questions and their answer categories posed to the experts. In addition, it presents the vignettes texts. Section B displays the exploratory factor analysis in the content validity assessment included in the main text. In addition, it also examines the fit of the one-factor model and a number of alternative specifications using frequentist confirmatory factor analysis (CFA) techniques. Section C discusses the index-level aggregation and presents alternative ways to aggregate the indicators to academic freedom indices. Section D expands on the discussion about correlated errors across the Academic Freedom measures included in Section 3.1. In Section E, we provide additional models and findings that accompany the findings presented in the main paper in Figure 1 and 3. We also estimate models with the coder perceptions scores instead of the coder raw scores and thereby show that also the coder perceptions are unbiased in various dimensions (Section G). Section F shows additional information for the convergent

analysis applied in the main paper. Section H analyzes respondent biases in coding hypothetical cases. Section I illustrates the distribution of coders' confidence in evaluating the academic freedom indicators. Section J analyzes coder disagreement in academic freedom growth and decline episodes and accompanies the summary presented in section 3.2 of the main paper. Section K accompanies section five, named "Incorporating Measurement Uncertainty of Latent Variables" in the main paper.

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## A V-Dem academic freedom indicators and vignettes

### A.1 *v2cafres* Freedom to research and teach

*Question:* To what extent are scholars free to develop and pursue their own research and teaching agendas without interference?

*Clarification:* Examples of interference include research agendas or teaching curricula being drafted, restricted, or fully censored by a non-academic actor; scholars being externally induced, through possible reprisals, to self-censor; or the university administration abusing its position of power to impose research or teaching agendas on individual academics. It also includes public pressure on academics - offline and online. We do not consider as interference restrictions that are due to research priorities, as well as ethical and quality standards, freely defined by the scholarly community as well as the development of standardized curricula by academics that aim to structure and enhance teaching.

*Responses:*

- 0: Completely restricted. When determining their research agenda or teaching curricula, scholars are, across all disciplines, consistently subject to interference or incentivized to self-censor.
- 1: Severely restricted. When determining their research agenda or teaching curricula, scholars are, in some disciplines, consistently subject to interference or incentivized to self-censor.
- 2: Moderately restricted. When determining their research agenda or teaching curricula, scholars are occasionally subject to interference or incentivized to self-censor.
- 3: Mostly free. When determining their research agenda or teaching cur-

ricula, scholars are rarely subject to interference or incentivized to self-censor.

- 4: Fully free. When determining their research agenda or teaching curricula, scholars are not subject to interference or incentivized to self-censor.

*Scale:* Ordinal, converted to interval by the measurement model.

## **A.2 *v2cafe* Freedom of academic exchange and dissemination**

*Question:* To what extent are scholars free to exchange and communicate research ideas and findings?

*Clarification:* Free academic exchange includes uncensored access to research material, unhindered participation in national or international academic conferences, and the uncensored publication of academic material. Free dissemination refers to the unrestricted possibility for scholars to share and explain research findings in their field of expertise to non-academic audiences through media engagement or public lectures.

*Responses:*

- 0: Completely restricted. Academic exchange and dissemination is, across all disciplines, consistently subject to censorship, self-censorship or other restrictions.
- 1: Severely restricted. Academic exchange and dissemination is, in some disciplines, consistently subject to censorship, self-censorship or other restrictions.
- 2: Moderately restricted. Academic exchange and dissemination is occasionally subject to censorship, self-censorship or other restrictions.

- 3: Mostly free. Academic exchange and dissemination is rarely subject to censorship, self-censorship or other restrictions.
- 4: Fully free. Academic exchange and dissemination is not subject to censorship, self-censorship or other restrictions.

*Scale:* Ordinal, converted to interval by the measurement model.

### **A.3 *v2cainsaut* Institutional autonomy**

*Question:* To what extent do universities exercise institutional autonomy in practice?

*Clarification:* Institutional autonomy “means the independence of institutions of higher education from the State and all other forces of society, to make decisions regarding its internal government, finance, administration, and to establish its policies of education, research, extension work and other related activities” (Lima Declaration). Note that institutional autonomy does not preclude universities from accepting state or third party funding, but does require that they remain in charge of all types of decisions listed above. Institutional autonomy does also not preclude a public oversight role by the state over universities’ spending of public funds.

*Responses:*

- 0: No autonomy at all. Universities do not exercise any degree of institutional autonomy; non-academic actors control decision-making.
- 1: Minimal autonomy. Universities exercise only very limited institutional autonomy; non-academic actors interfere extensively with decision-making.
- 2: Moderate autonomy. Universities exercise some institutional autonomy; non-academic actors interfere moderately with decision-making.

- 3: Substantial autonomy. Universities exercise institutional autonomy to a large extent; non-academic actors have only rare and minimal influence on decision-making.
- 4: Complete autonomy. Universities exercise complete institutional autonomy from non-academic actors.

*Scale:* Ordinal, converted to interval by the measurement model.

#### **A.4 *v2casurv* Campus integrity**

*Question:* To what extent are campuses free from politically motivated surveillance or security infringements?

*Clarification:* “Campus” refers to all university buildings as well as digital research and teaching platforms. Campus integrity means the preservation of an open learning and research environment marked by an absence of an externally induced climate of insecurity or intimidation on campus. Examples of infringements of campus integrity are politically motivated on-campus or digital surveillance, presence by intelligence or security forces, presence of student militias, or violent attacks by third parties, if specifically targeting universities to repress academic life on campus. Note that we are only interested in politically motivated infringements and targeted attacks on campus integrity, not in non-political security concerns or proportionate security measures taken on campus to address these.

*Responses:*

- 0: Completely restricted. Campus integrity is fundamentally undermined by extensive surveillance and severe intimidation, including violence or closures.
- 1: Severely restricted. Campus integrity is to a large extent undermined



by surveillance and intimidation, at times including violence or closures.

- 2: Moderately restricted. Campus integrity is challenged by some significant cases of surveillance or intimidation.
- 3: Mostly free. Campus integrity is to a large extent respected, with only minor cases of surveillance or intimidation.
- 4: Fully free. Campus integrity is comprehensively respected; there are no cases of surveillance or intimidation.

*Scale:* Ordinal, converted to interval by the measurement model.

## **A.5 *v2clacfree* Freedom of academic and cultural expression**

*Question:* Is there academic freedom and freedom of cultural expression related to political issues?

*Clarification:* No clarification

*Responses:*

- 0: Not respected by public authorities. Censorship and intimidation are frequent. Academic activities and cultural expressions are severely restricted or controlled by the government.
- 1: Weakly respected by public authorities. Academic freedom and freedom of cultural expression are practiced occasionally, but direct criticism of the government is mostly met with repression.
- 2: Somewhat respected by public authorities. Academic freedom and freedom of cultural expression are practiced routinely, but strong criticism of the government is sometimes met with repression.

- 3: Mostly respected by public authorities. There are few limitations on academic freedom and freedom of cultural expression, and resulting sanctions tend to be infrequent and soft.
- 4: Fully respected by public authorities. There are no restrictions on academic freedom or cultural expression.

*Scale:* Ordinal, converted to interval by the measurement model.

## **A.6 Vignettes**

### **A.6.1 Text A**

University students in Country X are required to take some extracurricular classes mandated by the ministry of education, while all other teaching contents are determined by an academic board. It is known that some members of this board have close ties to the ruling party, and that certain topics are considered too sensitive for approval. Research priorities are set at the university level, though the government has at times withheld funding conditional on adjustments to individual research projects. An individual academic was recently verbally attacked on public television for her research on a sensitive topic.

### **A.6.2 Text B**

In Country X, politically motivated physical violence or systematic surveillance against students or academics does not occur. No recordings are made in classrooms and professors, and students can freely discuss what they wish. Due to an elevated crime rate in the area, police officers are stationed in the campus vicinity of one university in the capital, although some students have voiced concerns over their presence. In the past year, two prominent academics claim that their university email accounts were hacked after they had published a widely read op-ed with policy recommendations in their area of expertise. It is unclear who was behind the cyber-attacks, but some experts suspect the culprits were members of a social organization in opposition to the academics' position.

### **A.6.3 Text C**

In Country X, universities are widely considered to be autonomous from politicians, private funders, religious groups and others as they freely make decisions over their internal functioning and their relationships with external actors. In

spite of this, due to the close working relationship between the universities and some non-academic partners, it can be unclear whether there is covert influence over the decision-making procedures of the university. In some cases, partnerships between the university and corporate actors whose terms were not publicly disclosed have led to accusations that autonomy may be undermined through financial incentives. There have not been any proven instances of corruption or pressure that has swayed academic integrity.

#### **A.6.4 Text D**

In Country X, academics are in principle free to determine the teaching content of their classes and their research topics. However, teaching curricula are subject to a state-led quality assessment. While this assessment usually adheres to clear guidelines set by an independent academic body, courses on sensitive topics have at times received particular scrutiny. When scholars fail to receive such approval for their teaching curricula, their performance appraisal deteriorates. The executive heads of some universities have occasionally refused to give permission for public lectures by controversial guest speakers that were deemed to harm the institutions' reputation.

#### **A.6.5 Text E**

Universities in Country X are heavily reliant on government funding. The government requires that all university students take a number of core courses. While professors are able to adapt some parts of these courses to suit their own teaching style, most of the course content is mandated by a central ministry of education. Universities are also able to offer courses outside of this core curriculum. Professors are commonly disciplined for discussing controversial topics with their students. These reprisals mostly take the form of disciplinary meetings with university administrators. Recently, academics in Country X

who published research investigating the validity of elections in Country X were denied further grants and funding.

#### **A.6.6 Text F**

University teaching curricula and research agendas in Country X are under exclusive control of the academic community. Researchers are free to develop their own research proposals, though many are required to seek funding from third parties. Such third-party agreements are not subject to clear regulations, which has raised concerns about the potential influence private donors may have on research and teaching contents. However, no evidence has been put forward so far that would prove third party influence on research and teaching agendas.

#### **A.6.7 Text G**

In Country X, politically motivated physical violence against students or academics does not occur on campus. Intimidation and surveillance of academics and students, such as phone tapping or threatening visits by members of security forces are uncommon, but occasional. These practices are known to only target prominent institutions, as well as well-known academics or students who have made political statements or engaged in political activities critical of the government.

#### **A.6.8 Text H**

Academics and students in Country X are free to travel for their research and studies. However, local officials are said to have sporadically harassed scholars who presented research on sensitive topics in domestic media. Scholars and students have unrestricted access to research material to the extent that their university library has the resources to subscribe to the relevant publications. The distribution of these resources is determined by the university administration

and tends to be concentrated on those fields of study that are most successful in attracting the limited public and corporate funds for academic research.

#### **A.6.9 Text I**

In Country X, physical violence against students or academics rarely occurs and typically targets particularly prominent academics or students participating in anti-government protests. These figures have only sustained minor injuries. Similarly, public condemnation and threats only target prominent and publicly outspoken academics or students. Digital surveillance, though, is more widespread, and political informants are known to be recruited among students of all disciplines.

#### **A.6.10 Text J**

In Country X, there are occasional instances of the temporary closure of select university campuses due to political events, such as protests or strikes. There is a regular presence of security forces on university campuses in the capital, sometimes resulting in the use of excessive force against campus demonstrations. Surveillance and intimidation of students and academics is frequent and hinders freedom of speech on campus.

#### **A.6.11 Text K**

Student protests at universities across Country X are very common. These protests aim to raise awareness of international conflicts, and many criticize Country X's foreign policies. Many university professors take part in these protests, and face no consequences from either the university or the government of Country X. Multiple professors routinely publish academic articles that highlight the negative consequences of Country X's policies. One professor wrote an opinion piece in a popular national newspaper, expressing his disagreement

with current policies and condemning her university for failing to take greater action. The professor then led a demonstration on university grounds to protest the institution's inaction. The university did not formally respond to either the article or the demonstration. However, when the professor did not receive a prestigious grant later that year, many students and other faculty suggested it was due to her involvement in the protest.

#### **A.6.12 Text L**

In Country X, censorship is widespread. Access to a number of academic publications classified as sensitives is possible only with authorization from supervisors and approval by the appropriate government commission. The organization of any academic conference involving more than ten participants requires prior approval by the appropriate government body. International exchanges are frequent in the technical and natural sciences, but foreign academics who work on issues considered sensitive are systematically denied visas. Similarly, domestic academics whose research is deemed not to promote government policies are frequently denied exit visas.

#### **A.6.13 Text M**

In Country X, there are no undue restrictions on the access to academic publications or other research material, and no exit permits are required to travel abroad. Scholars are free to organize academic conferences as well as to share their research findings with public audiences. However, some university administrations have discouraged individual academics from actively disseminating their sensitive findings to the public, on the grounds that it might cause public outrage and harm the university's reputation.

#### **A.6.14 Text N**

At times, academics and students in some fields of study experience problems in accessing research content that contradicts or questions official policies of Country X, though they can often circumvent these restrictions. International travel is generally not restricted for academics or students, but attendance of academic conferences abroad requires prior notification of the appropriate university office. Though not formally required, it is common practice to submit a report to this office upon return to the country. Attending conferences related to sensitive issues has at times provoked interrogation by police.

#### **A.6.15 Text O**

Country X experienced a decade-long civil conflict that ended in a peace accord five years ago. Today, professors are required to teach the history of this conflict according to the guidelines promulgated by the ruling party. Research on the details of the peace accord is limited by the government's willingness to disburse funding, and its hesitancy to provide researchers with information. Controversial privacy laws limit researchers' ability to collect and analyze data the government collects about its citizens. Researchers are frequently issued warnings that the data they collect on government activity is propriety. Researchers that focused on uncovering linkages between government procurement activity and political donations received threatening calls and visits from government officials.

#### **A.6.16 Text P**

In Country X, universities can only make decisions on issues judged to be inconsequential by state actors. University presidents are elected, but chancellors are politically appointed. The chancellors are responsible for budget approvals and



have the decisive vote when hiring, promoting or disciplining academic staff. The co-optation and selection of universities' management makes the line between academia and the state unclear. Some wealthy individuals with ties to the government have set up their own universities, which do not have politically-appointed chancellors.

#### **A.6.17 Text Q**

Country X experienced a decade-long civil conflict that ended in a peace accord five years ago. Today, professors are required to teach the history of this conflict according to the guidelines promulgated by the ruling party. Research on the details of the peace accord is limited by the government's willingness to disburse funding, and its hesitancy to provide researchers with information. Controversial privacy laws limit researchers' ability to collect and analyze data the government collects about its citizens. Researchers are frequently issued warnings that the data they collect on government activity is propriety. Researchers that focused on uncovering linkages between government procurement activity and political donations received threatening calls and visits from government officials.

#### **A.6.18 Text R**

In Country X, universities are free to make autonomous decisions across a wide range of issue areas. However, there are occasional episodes of interference by the state and businesses on issues which are relevant to their interests. This interference is not systematic or predictable, but in the instances where it occurs, it has a strong influence on the outcomes of decision-making processes such as faculty hiring. The ad hoc nature of this interference makes it difficult to ascertain which areas the university has complete autonomy over. At any given time, though, universities have full autonomy over most areas of operation.

#### **A.6.19 Text S**

In Country X, university teaching curricula are generally set by the ministry of higher education and largely informed by state doctrine. However, in some natural science subjects these decisions are delegated to an academic board that regularly reports back to the government. In their research, academics are expected to produce work that contributes to advancing state interests. Scholars develop their own research proposals before submitting them for approval to a government-controlled body. Some universities have a special status and are exempt from this approval process.

#### **A.6.20 Text T**

In Country X, universities are free to exert institutional autonomy over a number of subject areas which are not considered politically salient by state authorities. In these disciplines, universities can freely set their research priorities, teaching programmes and funding allocations. There are certain areas, however, where university autonomy is undermined entirely by systematic influence and control over institutional processes. In all universities, appointments to senior positions, such as chancellor, requires that the person is considered loyal to the government.

#### **A.6.21 Text U**

All universities in Country X are regulated by the national government. There are few funding opportunities for academics outside of these universities and government-funded research centres. Academics and researchers that receive teaching positions and research funding are expected to support the political goals of the incumbent party. Professors that have criticized the policies of the incumbent president's administration in their classes are usually fired from their

position. In some cases, especially in years with upcoming presidential elections, these professors have reported threats of physical violence. One professor who voiced particularly harsh criticisms was imprisoned on the basis that his actions amounted to incitement.

## B Two-dimensional factor analysis

Table B1: Conceptual Alignment across V-Dem academic freedom indicators (Unidimensional Frequentist Factor Analysis)

Measure	Loadings	Uniqueness
Freedom to research and teach <b>v2cafres</b>	0.972	0.056
Freedom of academic exchange and dissemination <b>v2cafexch</b>	0.977	0.045
Institutional Autonomy <b>v2cainsaut</b>	0.900	0.190
Campus integrity <b>v2casurv</b>	0.925	0.145
Freedom of academic and cultural expression <b>v2clacfree</b>	0.871	0.242

Table B2: Conceptual Alignment across V-Dem academic freedom indicators (Two-dimensional Frequentist Factor Analysis)

Factor	Measure	Loadings	Uniqueness
Dimension 1	Freedom to research and teach <b>v2cafres</b>	0.972	0.056
	Freedom of academic exchange and dissemination <b>v2cafexch</b>	0.977	0.045
	Freedom of academic and cultural expression <b>v2clacfree</b>	0.900	0.190
Dimension 2	Institutional Autonomy <b>v2cainsaut</b>		0.925 0.145
	Campus integrity <b>v2casurv</b>	0.871	0.242

## C Index-level aggregation

In this section, we present two alternative ways to aggregate indicators that we originally used to construct the Academic Freedom Index as a latent construct. The two alternative aggregation rules presented here assume that the indicators are formative indicators for the academic freedom concept. As described in the main text, the second choice is whether indicators are treated as (partially) mutually substitutable aspects of a given concept (additive aggregation rule) or as individually necessary conditions (multiplicative aggregation rule) for it. The equation used to construct the *additive academic freedom index* is defined as:

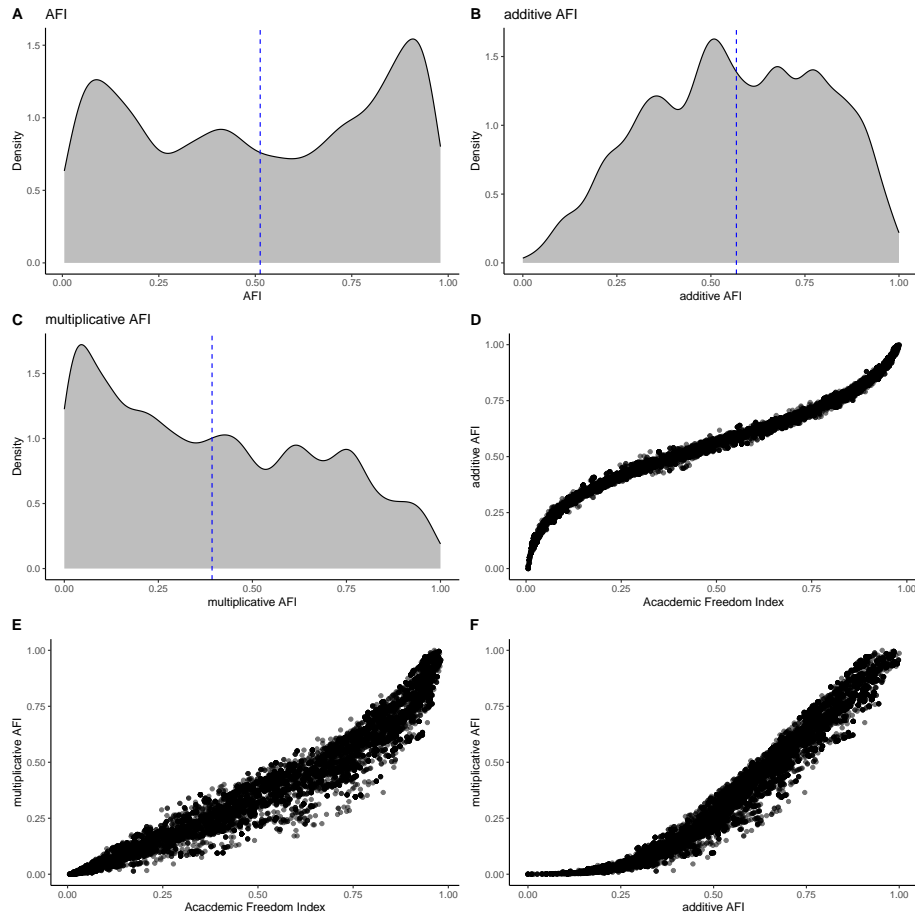
$$\begin{aligned} \text{Additive AFI} = & (v2cafres + v2cafexch + v2clacfree + \\ & v2cainsaut + v2casurv)/5 \end{aligned} \quad (1)$$

The equation used to construct the proposed *multiplicative academic freedom index* is defined as:

$$\begin{aligned} \text{Multiplicative AFI} = & v2cainsaut\_osp * \\ & ((v2cafres\_osp + v2cafexch\_osp + v2clacfree\_osp + v2casurv\_osp)/4) \end{aligned} \quad (2)$$

Figure C1 presents the empirical distribution of all three proposed academic freedom measures along with the country-year based correlations between them. Figure C1D contrasts the *additive AFI* and the original AFI, demonstrating that they the *additive AFI* discriminate at two different ends of the underlying academic freedom index distribution. Figure C1C reveals that the multiplicative AFI is left skewed and thus is more demanding compared to the original AFI and the additive AFI as theoretically expected. Figure C1E contrasts the original AFI and the *multiplicative AFI*. It reveals that the multiplicative AFI scores

Figure C1: Aggregation to Academic Freedom Index



are systematically lower compared to the original AFI. A similar pattern can be observed when comparing the additive and the multiplicative AFI. Overall, the graphical presentation supports the notion that different aggregation procedures lead to different indices.

## D Respondent-Correlated Errors

Our experts complete surveys of questions for the Academic Freedom Index and the V-Dem project, often more than one. Therefore, the same experts are likely to provide information about multiple academic freedom questions, such as *Freedom to research and teach* and *institutional autonomy*. The Academic Freedom Index questions appear in two separate surveys. Thus, it is highly likely that the same expert rate at least the questions asked in the *Civic and Academic Space* survey. In addition, those experts that answer the questions that appear in the *Civic and Academic Space* survey are not highly likely to also answer questions in the *Civil liberty* survey, which asks the question on the *freedom of academic and cultural expression*. As shortly discussed in the main paper, this fact may be a weakness of the V-Dem data generation process, “because correlated errors can inflate relationships between V-Dem variables, to an extent unwarranted by the latent variables that these measures attempt to capture” (McMann et al., 2022, p. 9). Therefore, caution is indicated when placing these variables on both sides of a regression equation. In addition, this fact also might mean that “some of the covariance in our factor analytic analyses stems from correlated respondent errors, rather than strong reflection of an underlying factor” (McMann et al., 2022, p. 9). In this step, we examine the extent to which respondent-correlated errors are likely to contaminate the V-Dem academic freedom measures.

We begin with the analysis of raw errors in rater scores. We use version 13 of the V-Dem dataset and calculate the average codings for the raw survey scales for each of the fifth measures and calculate the average deviation from those scores for each rater. Table D1 shows the pairwise-complete correlations between raw rater errors across the fifth scores. The correlations in Table D1 indicates that the are quite high, especially for the *Civic and Academic Space*

survey. As a first clue, these high correlations seem to be worrying.

	v2cafexch	v2cafres	v2cainsaut	v2casurv	v2clacfree
v2cafexch	1.000	0.783	0.540	0.581	0.329
v2cafres	0.783	1.000	0.574	0.589	0.367
v2cainsaut	0.540	0.574	1.000	0.524	0.275
v2casurv	0.581	0.589	0.524	1.000	0.328
v2clacfree	0.329	0.367	0.275	0.328	1.000

Table D1: Raw Respondent Error Correlations

However, as McMann et al. argue “correlations in rater errors can stem from both systematic and stochastic sources” (McMann et al., 2022, p. 10). Stochastic errors are those that appear when an expert who gives a country A too high a score on one indicator may make a similar random mistake with respect to another indicator for country A. Therefore, a highly likely driver of correlated errors between these indicators is so-called differential item functioning (DIF). DIF appears when raters with higher standards apply those same high standards to every item they score. As described in Pemstein et al. (2023), the V-Dem measurement model explicitly models and adjusts for this sort of DIF when aggregating expert ratings. Because the V-Dem measurement model accounts for DIF, the analysis of raw respondent errors is error-prone and can lead to false conclusions. Therefore, we analyze whether model-corrected scores (also called rater perceptions by the V-Dem approach) are highly correlated with each other. Again, we use V-Dem version 13 data to calculate these perceptions from the posterior samples of parameters that V-Dem’s ordinal item response theory model simulated for each indicator. For more information on the coder perceptions that are simulated from the posterior distributions see Pemstein et al. (2023).



We use these rater perception estimates to replicate the raw respondent-error correlation analysis from Table D1. After correcting for DIF, we find substantially lower correlations in respondents errors across academic freedom indicators. Table D2 indicates that after controlling for DIF with the V-Dem measurement model, few errors correlate above 0.3 across measures. However, we see some remaining evidence of correlated errors within *Civic and Academic Space* survey, ranging from 0.139 to 0.498. Especially the high correlation between the rater errors of campus integrity (v2casurv) and freedom to research and teach (v2cafres) indicate caution. Overall, Table D2 and Table D1 show that the rater errors are not completely uncorrelated and thus caution is warranted especially with analysis that use *Civic and Academic Space* survey items on both side of the equation.

	v2cafexch	v2cafres	v2cainsaut	v2casurv	v2clacfree
v2cafexch	1.000	0.436	0.188	0.329	0.084
v2cafres	0.436	1.000	0.189	0.500	0.054
v2cainsaut	0.188	0.189	1.000	0.139	0.079
v2casurv	0.329	0.500	0.139	1.000	0.039
v2clacfree	0.084	0.054	0.079	0.039	1.000

Table D2: Model Adjusted Respondent Error Correlations

	v2cafres	v2cafexch	v2cainsaut	v2casurv	v2clacfree
v2cafres	<b>1130</b>	1128	1127	1127	746
v2cafexch	1128	<b>1130</b>	1127	1126	747
v2cainsaut	1127	1127	<b>1128</b>	1126	745
v2casurv	1127	1126	1126	<b>1128</b>	745
v2clacfree	746	747	745	745	<b>1838</b>

Table D3: Total pairwise coders, unique coders per indicator in the diagonal

## **E Examining Respondent Disagreement and Biases**

### **E.1 Respondent Disagreement**

Table E1 and Figure E1 extent the analysis from Figure 1 in the main paper to examine the correlates of respondent disagreement for each indicator separately (Model 1-5) in the addition to the academic freedom index (Model 6).

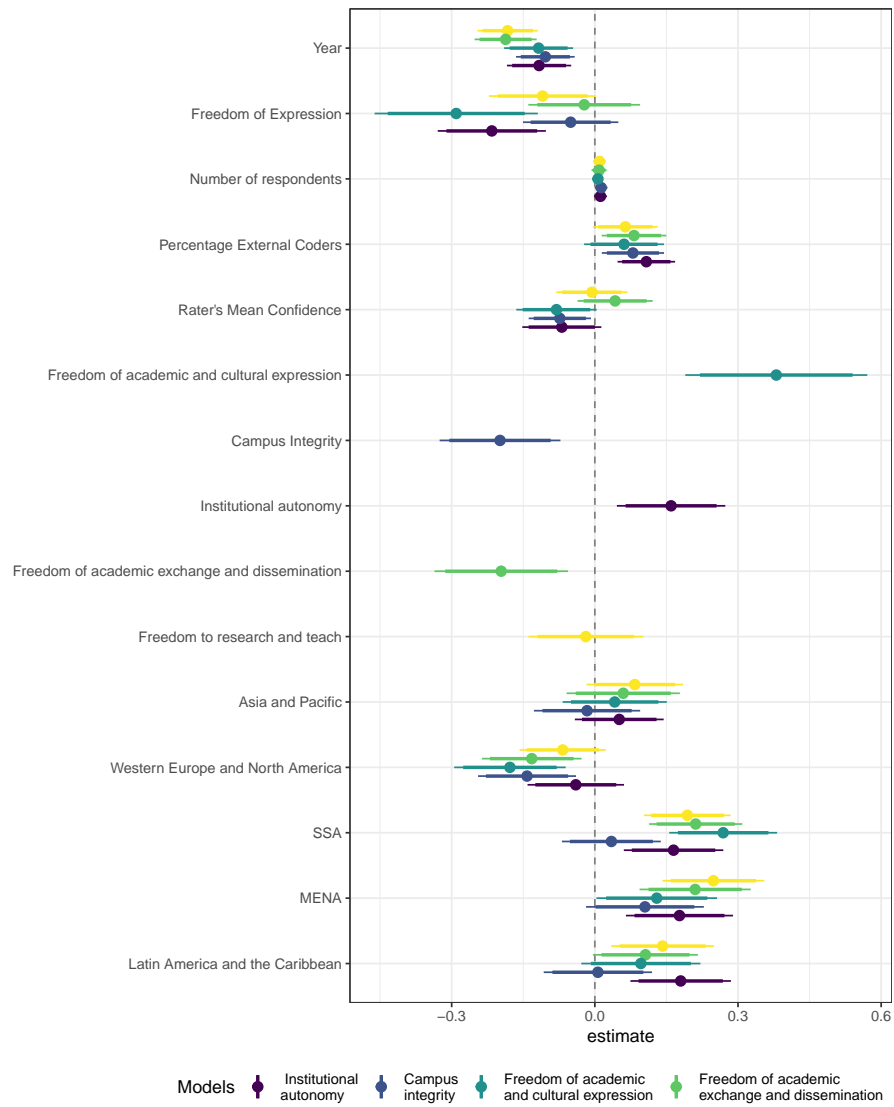
	Freedom to research and teach Model 1	Freedom of academic dissemination Model 2	Institutional autonomy Model 3	Campus integrity Model 4	Freedom of academic expression Model 5	Pooled Model Model 6
Intercept	5.928* [4.165; 7.691]	5.811* [4.019; 7.603]	4.309* [2.434; 6.183]	3.929* [2.228; 5.630]	4.585* [2.734; 6.436]	3.599* [2.344; 4.854]
Year	-0.003* [-0.004; -0.002]	-0.003* [-0.004; -0.002]	-0.002* [-0.003; -0.001]	-0.002* [-0.002; -0.001]	-0.002* [-0.003; -0.001]	-0.001* [-0.002; -0.001]
Freedom of Expression	-0.173 [-0.353; 0.008]	-0.035 [-0.223; 0.152]	-0.341* [-0.523; -0.160]	-0.080 [-0.240; 0.080]	-0.459* [-0.733; -0.185]	-0.157* [-0.304; -0.011]
Freedom to research and teach	-0.006 [-0.047; 0.034]					0.017 [-0.008; 0.041]
Number of Coders	0.010 [-0.005; 0.024]					
Freedom of academic exchange and dissemination	-0.065* [-0.112; -0.018]					
NoC Freedom of academic exchange and dissemination	0.009 [-0.008; 0.025]					
Institutional autonomy			0.055* [0.016; 0.095]			0.040 [-0.000; 0.080]
Number of Coders Institutional autonomy			0.012 [-0.003; 0.026]			
Campus integrity				-0.064* [-0.105; -0.023]		0.026 [-0.008; 0.059]
Number of Coders Campus integrity				0.013 [-0.001; 0.027]		
Freedom of academic and cultural expression					0.119* [0.059; 0.180]	0.033 [-0.007; 0.073]
NoC Freedom of academic and cultural expression					0.007 [-0.004; 0.017]	
Academic Freedom Index						0.965* [0.598; 1.331]
Academic Freedom Index sq.						-1.088* [-1.401; -0.775]
Number of Coders Academic Freedom Index						-0.000 [-0.003; 0.002]
Percentage of Extern Coders	0.223 [-0.020; 0.466]	0.286* [0.043; 0.529]	0.376* [0.160; 0.593]	0.278* [0.044; 0.512]	0.213 [-0.086; 0.513]	0.271* [0.077; 0.464]
Rater's Mean Confidence	-0.028 [-0.381; 0.325]	0.195 [-0.174; 0.564]	-0.316 [-0.702; 0.070]	-0.334* [-0.638; -0.031]	-0.446 [-0.920; 0.029]	-0.049 [-0.263; 0.164]

	Freedom to research and teach Model 1	Freedom of academic exchange and dissemination Model 2	Institutional autonomy Model 3	Campus integrity Model 4	Freedom of academic and cultural expression Model 5	Pooled Model Model 6
Latin America and the Caribbean	0.142* [0.032; 0.252]	0.106 [-0.006; 0.219]	0.180* [0.072; 0.288]	0.006 [-0.110; 0.123]	0.096 [-0.031; 0.224]	0.076* [0.006; 0.146]
MENA	0.249* [0.139; 0.359]	0.210* [0.090; 0.330]	0.177* [0.062; 0.293]	0.105 [-0.022; 0.232]	0.130 [-0.000; 0.260]	0.150* [0.070; 0.229]
SSA	0.194* [0.101; 0.287]	0.211* [0.111; 0.311]	0.165* [0.058; 0.272]	0.035 [-0.072; 0.141]	0.269* [0.152; 0.386]	0.118* [0.052; 0.184]
Western Europe and North America	-0.067 [-0.160; 0.025]	-0.132* [-0.239; -0.025]	-0.040 [-0.143; 0.064]	-0.142* [-0.247; -0.037]	-0.178* [-0.298; -0.058]	-0.059* [-0.117; -0.002]
Asia and Pacific	0.084 [-0.020; 0.187]	0.060 [-0.062; 0.181]	0.051 [-0.044; 0.147]	-0.016 [-0.130; 0.098]	0.042 [-0.070; 0.154]	0.004 [-0.066; 0.074]
R <sup>2</sup>	0.242	0.317	0.195	0.293	0.208	0.246
Adj. R <sup>2</sup>	0.242	0.317	0.194	0.292	0.208	0.245
Num. obs.	14682	14674	14663	14666	18978	74512
RMSE	0.299	0.306	0.301	0.296	0.367	0.316
N Clusters	180	180	180	180	183	180

\* Null hypothesis value outside the confidence interval

Table E1: Linear Models predicting respondents' disagreement (raw coder ratings)

Figure E1: Predicted respondent disagreement (raw coder scores disagreement)



OLS regression with standard errors, clustered on countries.

## **E.2 Respondent Biases**

Table E2 and Figure E2 extend our test for “situational closeness” from Figure 3 in the paper. In addition, they also extend the analysis of systematic bias resulting from different coder characteristics. The respondent-country characteristics interaction are - as in the main paper - insignificant for any of the individual indicators.

	Freedom to research and teach	Freedom of academic exchange and dissemination	Institutional autonomy	Campus integrity	Freedom of academic and cultural expression	Pooled Model
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Intercept	0.655* [0.239; 1.071]	1.037* [0.611; 1.463]	0.593* [0.164; 1.021]	1.193* [0.729; 1.656]	0.428* [0.026; 0.830]	0.970* [0.637; 1.304]
Respondent's Gender	-0.129* [-0.238; -0.020]	-0.135* [-0.246; -0.024]	-0.097 [-0.200; 0.006]	-0.032 [-0.143; 0.080]	-0.207* [-0.297; -0.117]	-0.113* [-0.196; -0.031]
Respondent's Age: Middle Cohort	0.005 [-0.148; 0.159]	-0.032 [-0.196; 0.133]	-0.031 [-0.231; 0.169]	-0.092 [0.036; 0.078]	0.132 [-0.067; 0.331]	-0.009 [-0.141; 0.123]
Respondent's Age: Oldest Cohort	0.091 [-0.066; 0.248]	0.081 [-0.082; 0.244]	0.019 [-0.185; 0.223]	0.036 [-0.140; 0.213]	0.108 [-0.083; 0.299]	0.067 [-0.069; 0.204]
Respondent: PhD education	-0.002 [-0.114; 0.109]	-0.051 [-0.158; 0.057]	0.019 [-0.098; 0.137]	-0.010 [-0.118; 0.099]	-0.101 [-0.212; 0.011]	-0.025 [-0.113; 0.062]
Respondent: Government employed	0.135 [-0.106; 0.376]	0.115 [-0.124; 0.353]	0.093 [-0.182; 0.367]	0.050 [0.070; 0.259]	0.289 [0.027; 0.237]	0.133 [0.046; 0.197]
Respondent: Reside in country markets	0.144* [0.049; 0.240]	0.149* [0.054; 0.244]	0.032 [-0.071; 0.136]	0.164* [-0.174; 0.273]	0.132* [-0.001; 0.580]	0.122* [-0.051; 0.318]
Respondent supports free democracy	0.016 [-0.025; 0.058]	-0.005 [-0.049; 0.039]	0.036 [-0.002; 0.075]	0.014 [-0.031; 0.059]	-0.002 [-0.044; 0.040]	0.012 [-0.021; 0.045]
Respondent supports electoral democracy	0.044 [-0.061; 0.149]	0.013 [-0.087; 0.112]	0.020 [-0.079; 0.119]	-0.056 [-0.157; 0.046]	0.003 [-0.081; 0.088]	0.009 [-0.063; 0.081]
Respondent supports liberal democracy	-0.031 [-0.148; 0.085]	-0.001 [-0.107; 0.106]	-0.022 [-0.125; 0.081]	0.008 [-0.112; 0.129]	-0.018 [-0.104; 0.069]	-0.012 [-0.099; 0.074]
time spent for coding	-0.001 [-0.002; 0.001]	-0.001 [-0.002; 0.001]	-0.000 [-0.002; 0.002]	-0.002 [-0.003; 0.000]	0.002 [-0.000; 0.004]	-0.000 [-0.002; 0.001]
Country liberal component	1.618* [0.976; 2.259]	1.670* [1.099; 2.241]	1.206* [0.568; 1.843]	1.943* [1.298; 2.589]	1.687* [1.081; 2.294]	1.616* [1.133; 2.098]
Country electoral democracy level	1.300* [0.504; 2.096]	0.948* [0.174; 1.722]	1.707* [0.970; 2.444]	0.460 [-0.279; 1.199]	1.720* [1.018; 2.422]	1.231* [0.650; 1.811]
Latin America and the Caribbean	0.398* [0.190; 0.607]	0.294* [0.111; 0.477]	0.451* [0.249; 0.654]	0.142 [-0.047; 0.332]	0.113 [-0.056; 0.283]	0.290* [0.125; 0.455]
MENA	0.023 [-0.196; 0.242]	-0.025 [-0.258; 0.208]	0.065 [-0.183; 0.314]	-0.279* [-0.467; -0.090]	-0.071 [-0.305; 0.162]	-0.063 [-0.247; 0.121]
SSA	0.306* [0.128; 0.484]	0.305* [0.106; 0.504]	0.275* [0.080; 0.470]	0.030 [-0.115; 0.174]	0.260* [0.078; 0.443]	0.232* [0.090; 0.374]
Western Europe and North America	0.004 [-0.176; 0.183]	-0.063 [-0.246; 0.120]	-0.033 [-0.245; 0.179]	-0.293* [-0.477; -0.110]	-0.143 [-0.290; 0.005]	-0.107 [-0.250; 0.036]
Asia and Pacific	-0.040 [-0.247; 0.167]	-0.084 [-0.279; 0.111]	0.073 [-0.140; 0.286]	-0.134 [-0.304; 0.035]	-0.046 [-0.215; 0.123]	-0.049 [-0.209; 0.111]

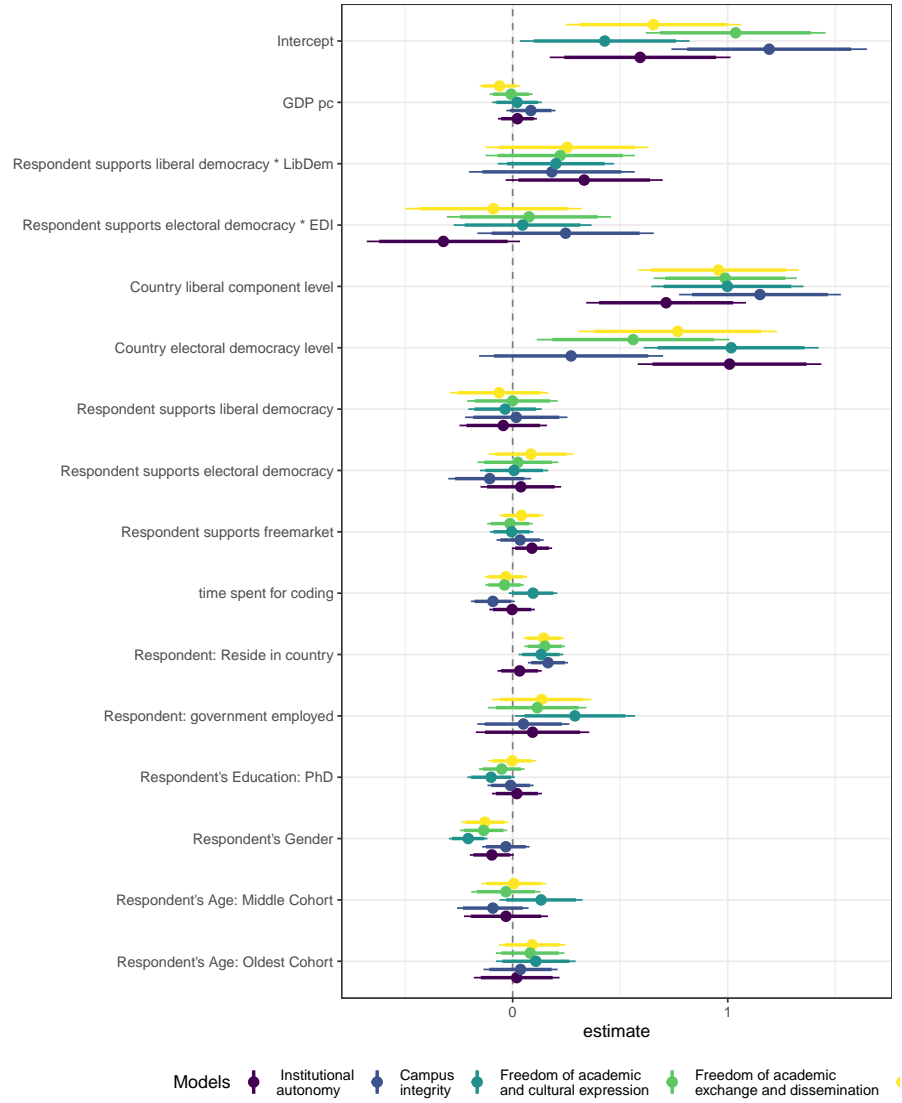
	Freedom to research and teach Model 1	Freedom of aca- demic exchange and dissemination Model 2	Institutional auton- omy Model 3	Campus integrity Model 4	Freedom of aca- demic and cultural expression Model 5	Pooled Model Model 6
GDP pc	-0.002 [-0.007; 0.002]	-0.000 [-0.005; 0.004]	0.001 [-0.003; 0.005]	0.003 [-0.002; 0.009]	0.001 [-0.004; 0.006]	0.001 [-0.003; 0.004]
Respondent supports liberal democracy * LibDem	0.112 [-0.059; 0.282]	0.098 [-0.058; 0.254]	0.147 [-0.017; 0.312]	0.081 [-0.093; 0.254]	0.089 [-0.033; 0.211]	0.108 [-0.020; 0.236]
Respondent supports electoral democracy * EDI	-0.040 [-0.227; 0.147]	0.034 [-0.140; 0.208]	-0.143 [-0.306; 0.019]	0.109 [-0.077; 0.296]	0.021 [-0.126; 0.167]	-0.014 [-0.145; 0.116]
Dummy Freedom to research and teach						-0.119*
Dummy Institutional Autonomy						[-0.146; -0.093]
Dummy Campus Integrity						-0.393*
Dummy Freedom of academic and cultural expression						[-0.440; -0.346]
R <sup>2</sup>	0.496	0.493	0.420	0.492	0.560	0.489
Adj. R <sup>2</sup>	0.495	0.492	0.419	0.491	0.559	0.489
Num. obs.	81324	80992	80755	80183	60987	384241
RMSE	0.911	0.901	0.932	0.914	0.943	0.927
N Clusters	175	175	175	175	177	178

\* Null hypothesis value outside the confidence interval.

Table E2: Linear Models predicting respondents rating with country characteristics



Figure E2: Predicting respondent ratings with respondent and country characteristics (raw coder ratings)

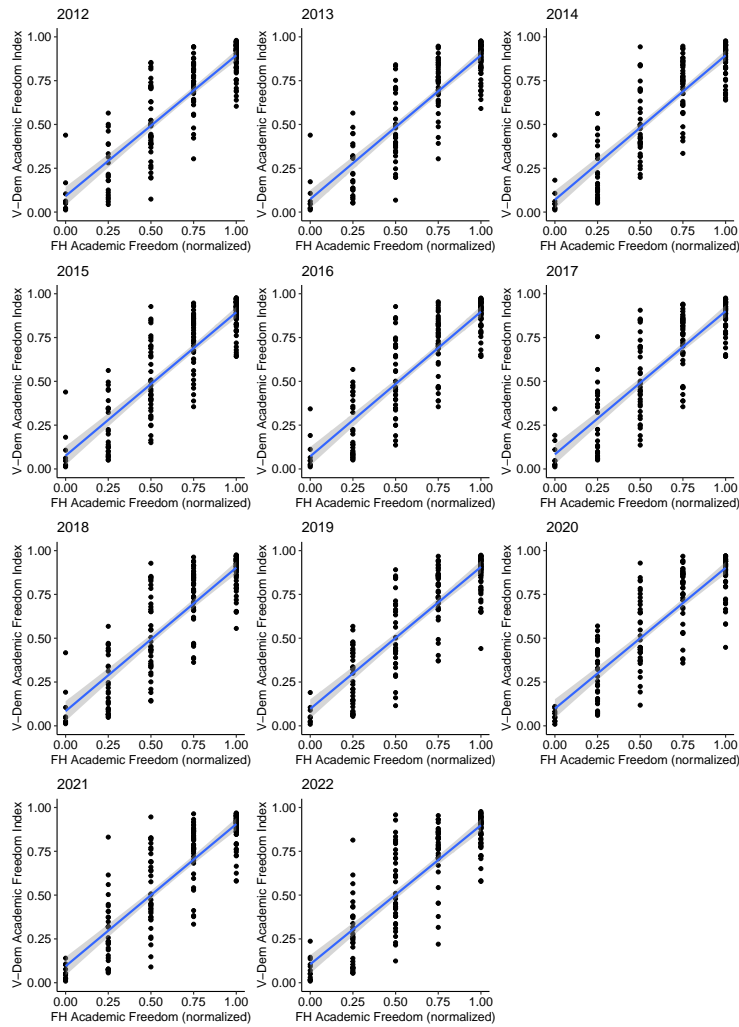


OLS regression with standard errors, clustered on countries. Measure-fixed effects, year-fixed effects are included in the model but omitted from the figure.

# F Convergent Validity Assessment

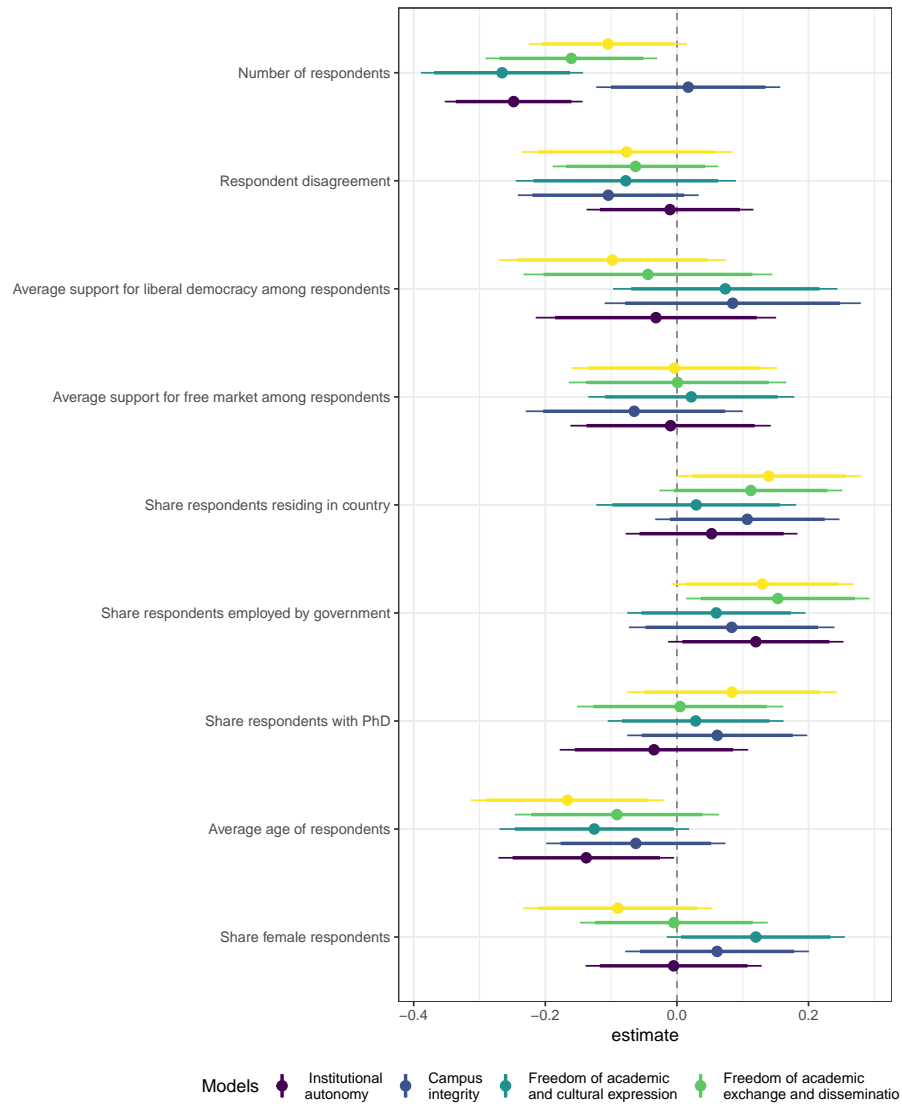
## F.1 Traditional Convergent Assessment

Figure F1: Comparing the V-Dem Academic Freedom Index with Freedom House academic freedom measure for each year.



## F.2 Statistical Analysis of Measure Convergence

Figure F2: Explaining deviations from FH academic freedom indicator (D3) with aggregate respondent characteristics, sub-indicators



OLS regression with standard errors, clustered on countries. The dependent variable is the absolute residuals from regressing each V-Dem measure on Freedom House's D3 indicator on academic freedom and educational system. Year-fixed effects, and respondent characteristics are included in the model but omitted from the figure.

	Freedom to research and teach	Freedom of academic exchange and dissemination	Institutional autonomy	Campus integrity	Freedom of academic expression	Pooled Model
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Intercept	0.226 [-0.994; 1.445]	0.221 [-1.201; 1.643]	0.660 [-0.654; 1.975]	-0.418 [-1.733; 0.897]	-0.172 [-1.503; 1.159]	0.230 [-0.888; 1.348]
Respondent's Gender	-0.134* [-0.222; -0.047]	-0.103 [-0.211; 0.005]	-0.083 [-0.191; 0.024]	-0.078 [-0.181; 0.024]	-0.068 [-0.160; 0.024]	-0.074 [-0.162; 0.014]
Share female respondents	-0.286 [-0.751; 0.179]	-0.015 [-0.475; 0.445]	-0.016 [-0.447; 0.415]	0.193 [-0.256; 0.643]	0.380 [-0.055; 0.816]	0.072 [-0.319; 0.464]
Respondent's Age: Middle Cohort	0.085 [-0.073; 0.244]	-0.050 [-0.239; 0.139]	-0.029 [-0.208; 0.150]	-0.078 [-0.295; 0.139]	-0.059 [-0.247; 0.130]	0.022 [-0.133; 0.177]
Respondent's Age: Oldest Cohort	0.124 [-0.047; 0.295]	0.017 [-0.164; 0.198]	0.080 [-0.097; 0.257]	0.008 [-0.202; 0.218]	0.132 [-0.053; 0.318]	0.109 [-0.036; 0.255]
Average Age of respondents	-0.375* [-0.711; -0.039]	-0.208 [-0.568; 0.152]	-0.314* [-0.624; -0.004]	-0.142 [-0.459; 0.174]	-0.286 [-0.621; 0.048]	-0.286 [-0.576; 0.004]
Respondent: PhD education	-0.064 [-0.153; 0.025]	0.050 [-0.058; 0.158]	-0.007 [-0.113; 0.098]	-0.055 [-0.176; 0.066]	-0.026 [-0.136; 0.085]	-0.013 [-0.1096; 0.070]
Share of respondents with PhD	0.236 [-0.223; 0.695]	0.014 [-0.432; 0.459]	-0.097 [-0.505; 0.310]	0.171 [-0.218; 0.560]	0.079 [-0.301; 0.459]	0.149 [-0.226; 0.523]
Respondent employed by government	0.128 [-0.067; 0.324]	0.231 [-0.040; 0.502]	0.086 [-0.185; 0.357]	0.230 [-0.070; 0.530]	-0.033 [-0.307; 0.241]	0.093 [-0.132; 0.318]
Share respondents employed by government	0.992 [-0.092; 2.075]	1.159* [0.080; 2.239]	0.907 [-0.125; 1.939]	0.630 [-0.581; 1.841]	0.452 [-0.597; 1.500]	0.830 [-0.121; 1.782]
Respondent: Reside in country	0.055 [-0.028; 0.139]	0.149* [0.047; 0.251]	0.175* [0.074; 0.277]	-0.066 [-0.176; 0.044]	0.104 [-0.001; 0.209]	0.088* [0.007; 0.169]
Share respondent reside in country	0.285 [-0.003; 0.573]	0.230 [-0.058; 0.517]	0.108 [-0.162; 0.378]	0.219 [-0.071; 0.508]	0.060 [0.022; 0.098]	0.213 [-0.031; 0.456]
Respondent supports free markets	0.039* [0.001; 0.078]	0.073* [0.035; 0.112]	0.054* [0.016; 0.092]	0.090* [0.052; 0.127]	0.060* [0.022; 0.098]	0.061* [0.032; 0.090]
Average support for free market among respondents	-0.005 [-0.217; 0.206]	0.001 [-0.222; 0.224]	-0.013 [-0.219; 0.193]	-0.086 [-0.309; 0.136]	0.029 [-0.182; 0.241]	-0.028 [-0.210; 0.153]
Respondent supports electoral democracy	-0.000 [-0.044; 0.044]	0.002 [-0.048; 0.053]	0.003 [-0.047; 0.054]	-0.045 [-0.101; 0.010]	-0.027 [-0.077; 0.024]	-0.019 [-0.057; 0.020]
Average support for electoral democracy among respondents	0.300 [-0.028; 0.628]	0.109 [-0.250; 0.469]	0.066 [-0.264; 0.395]	0.121 [-0.216; 0.457]	0.141 [-0.190; 0.472]	0.197 [-0.093; 0.486]
Respondent supports liberal democracy	0.004	-0.007	0.027	0.013	0.002	0.002

	Freedom to research and teach Model 1	Freedom of academic exchange and dissemination Model 2	Institutional autonomy Model 3	Campus integrity Model 4	Freedom of academic and cultural expression Model 5	Pooled Model Model 6
Average support for liberal democracy among respondents	[-0.043; 0.050] -0.154	[-0.063; 0.049] -0.069	[-0.029; 0.083] -0.050	[-0.044; 0.071] 0.132	[-0.054; 0.057] 0.115	[-0.044; 0.047] -0.013
Respondent Disagreement	[-0.431; 0.123] -0.165	[-0.370; 0.233] -0.269*	[-0.341; 0.242] -0.395*	[-0.178; 0.442] 0.033	[-0.157; 0.387] -0.414*	[-0.277; 0.251] -0.293*
Number of respondents	[-0.356; 0.027] -0.012	[-0.492; -0.046] -0.014	[-0.565; -0.226] -0.002	[-0.244; 0.311] -0.023	[-0.609; -0.219] -0.017	[-0.429; -0.158] -0.004
Dummy Freedom to research and teach	[-0.038; 0.014]	[-0.044; 0.016]	[-0.032; 0.028]	[-0.055; 0.009]	[-0.057; 0.022]	[-0.122*] -0.152; -0.093
Dummy Institutional Autonomy						-0.476* [-0.531; -0.420]
Dummy Campus Integrity						-0.169* [-0.237; -0.101]
Freedom of academic and cultural expression						-0.263* [-0.325; -0.201]
R <sup>2</sup>	0.044	0.060	0.070	0.032	0.072	0.072
Adj. R <sup>2</sup>	0.042	0.058	0.068	0.030	0.070	0.071
Num. obs.	16228	13817	13811	13800	13787	75021
RMSE	0.912	0.849	0.828	0.878	0.854	0.876
N Clusters	177	177	177	177	177	177

\* Null hypothesis value outside the confidence interval.

Table F1: Explaining deviations from FH academic freedom indicator (D3) with aggregate respondent characteristics

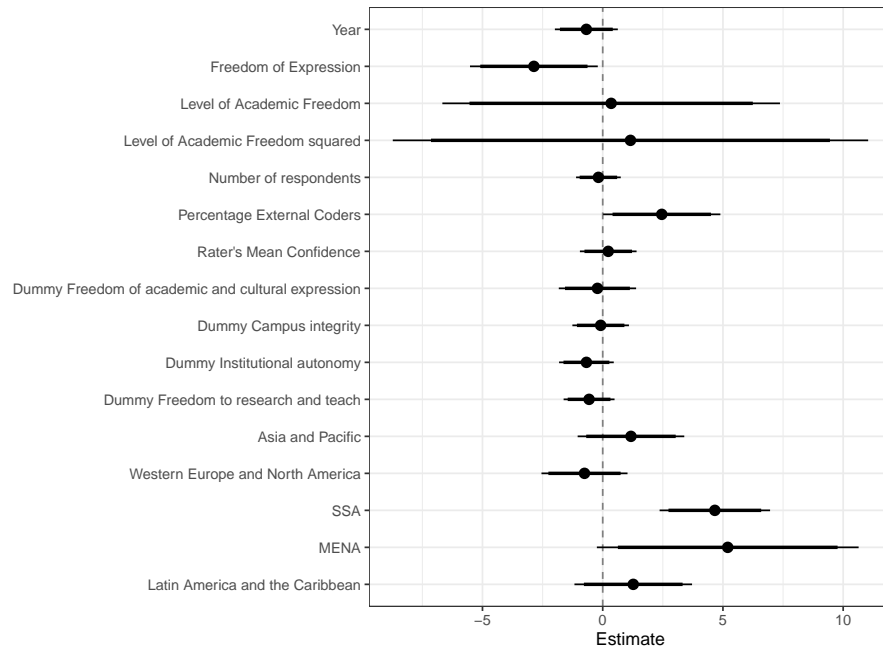
## **G Respondent Disagreement and Biases - Perceptions**

### **G.1 Respondent Disagreement - Perceptions**

In addition, Table G1 and Figure G1 estimate coder disagreement using the standard deviation of measurement model-adjusted ratings among respondents for each country and year instead of raw ratings among respondents that do not correct for DIF. Thus, when the results in Table G1 and G1 show no systematic correlates as in the main paper, we can conclude that there is little evidence for systematic biases also when accounting for DIF.

In contrast to the findings presented in the main paper, we did not find a nonlinear relationship between academic freedom levels and respondent disagreement by using the quadratic term for the level of academic freedom, if we use coders' perception, which correct for DIF, instead of raw values. The results, which are plotted in Figure G2, indicate that the greatest disagreement between respondents occurs in countries with the greatest Academic Freedom Index. This shows that – after correcting for DIF – high-levels of academic freedom are most challenging for experts to assess. This finding may be explained by the fact that information availability is likely to be very good in these situations, and experts can be relatively confident that relevant issues are known to them. Concurrently, we would also expect a comparatively high agreement between experts.

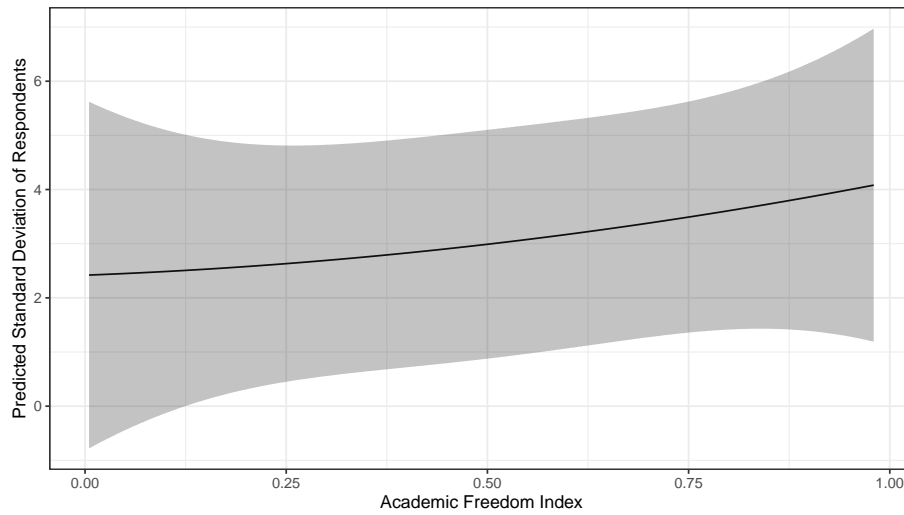
Figure G1: Predicting respondent disagreement (Pooled Model)



OLS regression with standard errors, clustered on countries. Measure fixed effects are included in the model but omitted from the figure.



Figure G2: Predicted respondent disagreement by AFI



OLS regression with standard errors, clustered on countries.

	Freedom to research and teach		Freedom of academic exchange and dissemination		Institutional autonomy		Campus integrity		Freedom of academic and cultural expression		Pooled Model	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6						
Intercept	63.498*	30.553	27.987	41.497	31.108	22.594						
Year	[0.541; 126.454]	[-25.826; 86.932]	[-25.548; 81.522]	[-29.122; 112.115]	[-23.825; 86.040]	[-14.474; 59.661]						
Freedom of Expression	[-0.036*]	-0.018	-0.011	-0.020	-0.015	-0.010						
Percentage of Extern Coders	[-0.071; -0.002]	[-0.049; 0.012]	[-0.041; 0.019]	[-0.058; 0.019]	[-0.045; 0.015]	[-0.029; 0.009]						
Rater's Mean Confidence	-3.760	-3.011	-10.595*	-4.421	-3.868	-4.525*						
Freedom to research and teach	[-8.271; 0.752]	[-8.956; 2.933]	[-17.557; -3.632]	[-9.042; 0.199]	[-13.656; 5.920]	[-8.787; -0.263]						
Number of Coders	4.878	9.318	7.547	8.394	6.096	9.093						
Freedom to research and teach	[-9.873; 19.630]	[-1.580; 20.215]	[-3.582; 18.676]	[-4.928; 21.717]	[-4.278; 16.470]	[-0.102; 18.289]						
Freedom of academic exchange and dissemination	7.406	5.408	-2.675	-0.718	1.415	1.071						
NoC Freedom of academic exchange and dissemination	[-0.445; 15.257]	[-2.360; 13.176]	[-12.831; 7.482]	[-11.167; 9.731]	[-13.372; 16.202]	[-4.519; 6.661]						
Institutional autonomy	0.439	0.693				-0.567						
Freedom of academic exchange and dissemination	[-0.832; 1.711]	[-0.535; 1.922]				[-1.635; 0.501]						
NoC Freedom of academic exchange and dissemination	0.821*	0.555*										
Institutional autonomy	[0.117; 1.526]	[0.012; 1.099]										
NoC Institutional autonomy			1.491*			-0.678						
Campus integrity			[0.298; 2.684]			[-1.824; 0.468]						
NoCs Campus integrity			0.367									
Freedom of academic and cultural expression			[-0.062; 0.796]									
NoC Freedom of academic and cultural expression				0.545		-0.085						
Academic Freedom Index				[-0.771; 1.861]		[-1.270; 1.100]						
Academic Freedom Index sq.				0.591								
Number of Coders Academic Freedom Index				[-0.096; 1.277]								
Freedom of academic and cultural expression					0.017	-0.219						
NoC Freedom of academic and cultural expression					[-2.028; 2.062]	[-1.840; 1.402]						
Academic Freedom Index					0.193							
Academic Freedom Index sq.					[-0.003; 0.390]							
Number of Coders Academic Freedom Index						0.565						
Freedom of academic and cultural expression						[-10.858; 11.989]						
NoC Freedom of academic and cultural expression						1.154						
Academic Freedom Index						[-8.836; 11.144]						
Academic Freedom Index sq.						-0.009						
Number of Coders Academic Freedom Index						[-0.058; 0.040]						

	Freedom to research and teach		Freedom of academic exchange and dissemination		Institutional autonomy		Campus integrity		Freedom of academic and cultural expression		Pooled Model	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12
Latin America and the Caribbean	2.962	3.040	3.574*	-1.060	0.917	1.270						
MENA	[-1.124; 7.048] 6.046	[-0.855; 6.935] 8.319*	[0.138; 7.011] 2.952	[-6.346; 4.226] 6.323	[-1.981; 3.814] 3.134	[-1.239; 3.779] 5.200						
SSA	[-0.913; 13.005] 5.259*	[1.101; 15.536] 4.406*	[-3.023; 8.926] 4.282*	[-2.407; 15.053] 1.633	[-0.806; 7.074] 8.214*	[-0.412; 10.811] 4.663*						
Western Europe and North America	[1.091; 9.426] -0.143	[1.251; 7.562] -0.760	[1.460; 7.104] 0.758	[-4.148; 7.413] -1.607	[4.124; 12.305] -0.548	[2.310; 7.016] -0.758						
Asia and Pacific	[-2.705; 2.420] 1.649	[-4.456; 2.935] 2.516	[-1.484; 3.000] 1.753	[-6.366; 3.153] -0.031	[-3.152; 2.057] 0.217	[-2.592; 1.076] 1.175						
R <sup>2</sup>	[-2.065; 5.363] 0.100	[-0.588; 5.621] 0.101	[-0.659; 4.165] 0.108	[-5.657; 5.594] 0.086	[-2.503; 2.937] 0.151	[-1.100; 3.449] 0.080						
Adj. R <sup>2</sup>	0.099	0.100	0.107	0.086	0.151	0.080						
Num. obs.	14682	14674	14663	14666	18095	73814						
RMSE	9.208	9.018	8.513	10.223	10.114	9.410						
N Clusters	180	180	180	180	183	180						

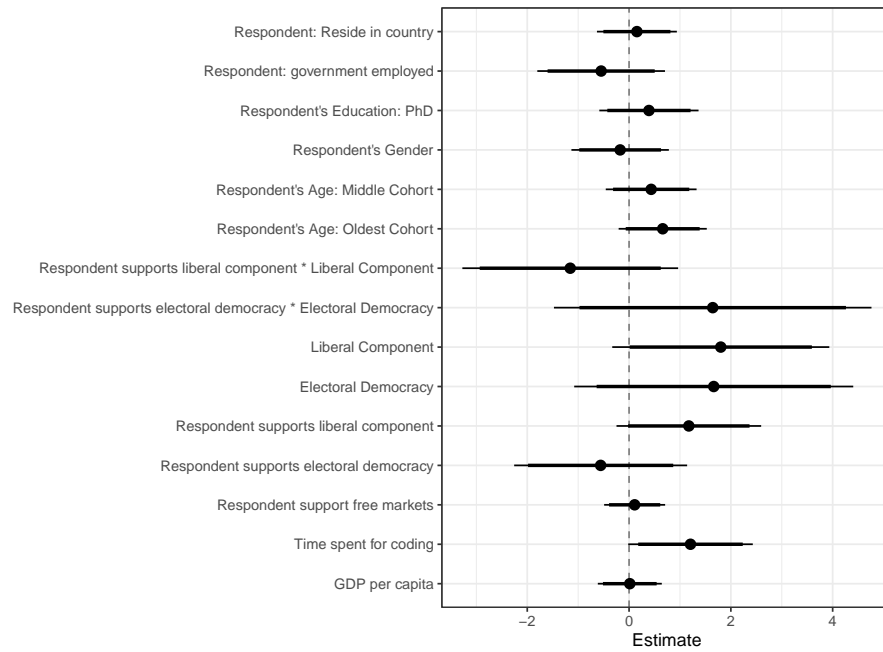
\* Null hypothesis value outside the confidence interval.

Table G1: Linear Models predicting respondents' disagreement (coder perceptions)

## G.2 Respondent Biases -Perceptions

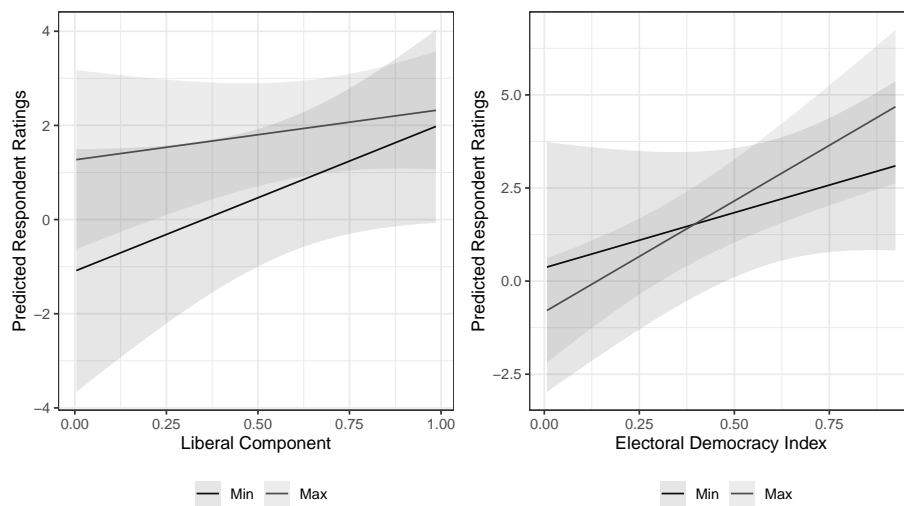
In addition, Table G2 and Figure G3 predict respondent ratings with respondent and country characteristics using measurement model-adjusted ratings from country experts instead of raw ratings that do not correct for DIF. Thus, when the results in Table G2 and G3 show few systematic correlates as in the main paper, we can conclude that there is little evidence for systematic biases also when accounting for DIF.

Figure G3: Predicting respondent perceptions with respondent and country characteristics (Pooled Model)



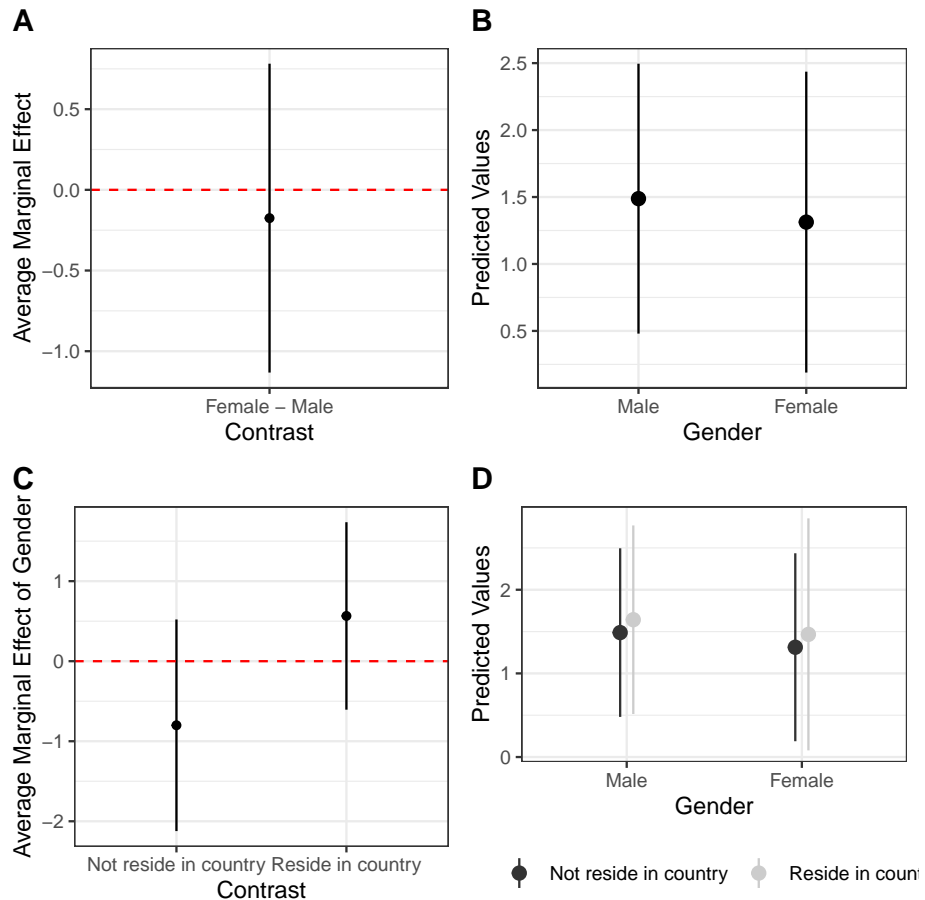
OLS regression with standard errors, clustered on countries. Measure-fixed effects, year-fixed effects are included in the model but omitted from the figure.

Figure G4: Predicted respondent ratings by Democratic Quality and Minimum and Maximum of Respondent's Individual Support for Liberal/Electoral Democracy.



OLS regression with standard errors, clustered on countries. Measure- and year-fixed effects are included in the model.

Figure G5: Predicted respondent ratings by Respondent's Gender and Respondent's Reside/Born in Country



OLS regression with standard errors, clustered on countries. Measure- and year-fixed effects are included in the model.

	Freedom to research and teach		Freedom of academic exchange and dissemination		Institutional autonomy		Campus integrity		Freedom of academic and cultural expression		Pooled Model	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6						
Intercept	-5.563* [-9.578; -1.547]	-3.863* [-7.225; -0.502]	-5.648* [-10.582; -0.713]	0.399 [-3.593; 4.392]	-10.333* [-17.879; -2.787]	-4.783* [-7.736; -1.830]						
time spent for coding	0.021 [-0.007; 0.050]	0.027 [-0.001; 0.056]	0.018 [-0.011; 0.047]	0.025 [-0.018; 0.067]	0.015 [-0.012; 0.043]	0.021 [-0.001; 0.042]						
Respondent's Gender	-0.230 [-1.441; 0.981]	-0.209 [-1.767; 1.349]	0.166 [-1.545; 1.876]	0.009 [-1.727; 1.744]	-0.652 [-1.515; 0.212]	-0.175 [-1.143; 0.792]						
Respondent's Age: Middle Cohort	0.990 [-0.186; 2.166]	0.190 [-1.147; 1.527]	-0.150 [-1.063; 0.764]	0.139 [-2.154; 2.433]	1.359 [-0.380; 3.098]	0.434 [-0.478; 1.346]						
Respondent's Age: Oldest Cohort	1.167 [-0.085; 2.419]	0.500 [-0.887; 1.887]	0.951 [-0.269; 2.172]	0.426 [-1.707; 2.559]	0.347 [-0.219; 1.912]	0.661 [-0.224; 1.545]						
Respondent: PhD education	1.216 [-0.181; 2.614]	0.893 [-0.616; 2.402]	-0.219 [-1.630; 1.193]	0.608 [-0.966; 2.183]	-0.913 [-2.575; 0.748]	0.390 [-0.594; 1.375]						
Respondent: Government employed	-0.839 [-2.287; 0.609]	-0.365 [-2.566; 1.837]	0.154 [-2.761; 3.069]	-1.508 [-3.092; 0.076]	-0.517 [-2.239; 1.205]	-0.548 [-1.848; 0.751]						
Respondent: Reside in country	0.248 [-0.939; 1.435]	0.329 [-0.757; 1.414]	-0.115 [-1.318; 1.088]	-0.343 [-1.736; 1.049]	0.717 [-0.819; 2.253]	0.154 [-0.639; 0.947]						
Respondent supports free markets	0.082 [-0.258; 0.421]	0.004 [-0.474; 0.482]	0.084 [-0.265; 0.432]	0.029 [-1.231; 0.231]	-0.061 [-0.647; 0.526]	0.045 [-0.297; 0.291]						
Respondent supports electoral democracy	-0.898 [-2.488; 0.691]	-0.879 [-2.011; 0.253]	-0.918 [-2.460; 0.624]	-1.231 [-2.587; 0.126]	2.201* [0.321; 4.080]	-0.297 [-1.216; 0.622]						
Respondent supports liberal democracy	0.995 [-0.669; 2.659]	0.713* [0.029; 1.398]	1.324 [-0.444; 3.092]	0.160 [-0.853; 1.173]	-0.223 [-1.233; 0.787]	0.591 [-0.136; 1.318]						
Country liberal component	4.046 [-0.905; 8.996]	2.897 [-0.701; 6.495]	8.753 [-0.584; 18.091]	-0.460 [-7.444; 6.523]	0.841 [-6.157; 7.840]	3.116 [-0.622; 6.855]						
Respondent supports liberal democracy * LibDem	-1.076 [-3.006; 0.854]	-0.547 [-1.461; 0.367]	-1.486 [-3.781; 0.809]	0.166 [-1.141; 1.472]	0.345 [-1.850; 1.330*]	-0.513 [-1.468; 0.443]						
Country electoral democracy level	-0.713 [-7.459; 6.034]	1.222 [-5.344; 7.789]	-0.474 [-7.995; 7.047]	-1.850 [-10.947; 7.247]	13.130* [0.424; 25.836]	2.963 [-2.010; 7.935]						
Respondent supports electoral democracy * EDI	1.719 [-0.722; 4.161]	1.581 [-0.096; 3.257]	1.217 [-0.983; 3.418]	2.443* [0.080; 4.805]	-2.499 [-5.281; 0.284]	0.751 [-0.708; 2.210]						
Latin America and the Caribbean	0.150 [-0.895; 1.195]	0.769 [-0.833; 2.370]	-1.015 [-3.300; 1.271]	-1.137 [-3.466; 1.193]	-0.009 [-0.871; 0.853]	-0.269 [-1.045; 0.508]						
MENA	3.193 [-0.064; 6.450]	3.887* [0.568; 7.206]	1.362 [-0.977; 3.701]	2.203 [-1.732; 6.138]	-0.498 [-2.195; 1.199]	2.163 [-0.165; 4.490]						
SSA	1.673 [-0.670; 4.016]	1.463 [-0.255; 3.180]	0.255 [-1.185; 1.694]	0.081 [-2.747; 2.910]	0.285 [-1.877; 2.448]	0.827 [-0.271; 1.925]						

	Freedom to research and teach	Freedom of academic exchange and dissemination	Institutional autonomy	Campus integrity	Freedom of academic and cultural expression	Pooled Model
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Western Europe and North America	0.577 [-0.498; 1.653]	-0.707 [-2.833; 1.419]	-0.255 [-1.351; 0.842]	-1.338 [-3.759; 1.082]	-0.038 [-0.924; 0.848]	-0.405 [-1.259; 0.449]
Asia and Pacific	0.253 [-1.461; 1.968]	0.618 [-0.978; 2.214]	-0.839 [-2.005; 0.328]	-0.520 [-3.022; 1.981]	-0.314 [-1.411; 0.783]	-0.068 [-0.957; 0.821]
GDP pc	-0.018 [-0.053; 0.018]	0.010 [-0.037; 0.057]	-0.021 [-0.053; 0.011]	0.015 [-0.027; 0.057]	0.021 [-0.010; 0.052]	0.001 [-0.027; 0.028]
Dummy Freedom to research and teach						-0.221 [-0.806; 0.364]
Dummy Institutional Autonomy						-1.202* [-1.804; -0.599]
Dummy Campus Integrity						-0.146 [-0.771; 0.478]
Freedom of academic and cultural expression						-1.248* [-2.004; -0.492]
<sup>2</sup>	0.027	0.037	0.045	0.024	0.060	0.030
Adj. R <sup>2</sup>	0.025	0.035	0.043	0.022	0.057	0.029
Num. obs.	80668	80162	80049	79457	56956	377292
RMSE	11.985	11.644	10.688	12.986	10.638	11.715
N Clusters	175	175	175	175	177	178

\* Null hypothesis value outside the confidence interval.

Table G2: Linear Models predicting respondents rating with country characteristics - Perceptions



## H Analyzing Anchor Vignettes

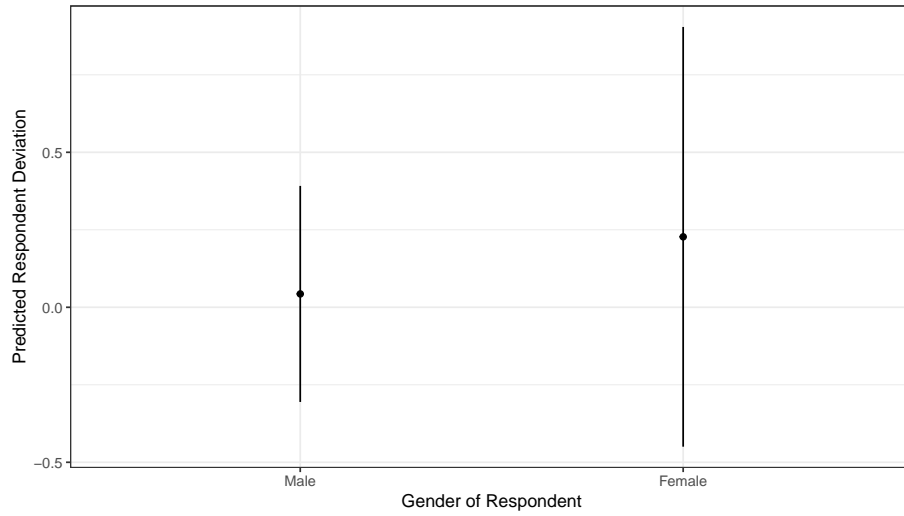
In this section, we analyze the deviations of respondents' measurement model-adjusted ratings from the mean rating among anchor vignettes that are description of hypothetical cases that were rated by experts. By analyzing these deviations in a pooled model, we are able to identify systematic predictors of respondent's coding behavior independently from errors that come from different country background characteristics.

	Model 1	Model 2
Intercept	0.157 [-0.197; 0.512]	0.880 [-0.424; 2.183]
Women	0.184 [-0.376; 0.744]	0.117 [-0.468; 0.702]
Age Block 2	-0.070 [-0.603; 0.463]	-0.067 [-0.632; 0.497]
Age Block 3	0.081 [-0.505; 0.668]	0.142 [-0.465; 0.748]
PhD degree	-0.232 [-0.673; 0.210]	-0.394 [-0.828; 0.041]
Government employee	0.314 [-0.915; 1.543]	0.341 [-0.974; 1.656]
v2cafres	-0.008 [-0.057; 0.042]	-0.012 [-0.061; 0.037]
v2cainsaut	-0.032* [-0.060; -0.004]	-0.033 [-0.067; 0.000]
v2casurv	-0.001 [-0.069; 0.068]	-0.007 [-0.079; 0.064]
v2clacfree	-0.114* [-0.186; -0.043]	0.034 [-0.032; 0.099]
Time spent for coding		-0.003 [-0.014; 0.009]
Satisfaction with coding experience		-0.152 [-0.448; 0.145]
R <sup>2</sup>	0.000	0.001
Adj. R <sup>2</sup>	-0.001	-0.001
Num. obs.	5711	5691
RMSE	8.934	8.875
N Clusters	25	25

\* Null hypothesis value outside the confidence interval.

Table H1: Linear Models predicting respondents deviations from mean

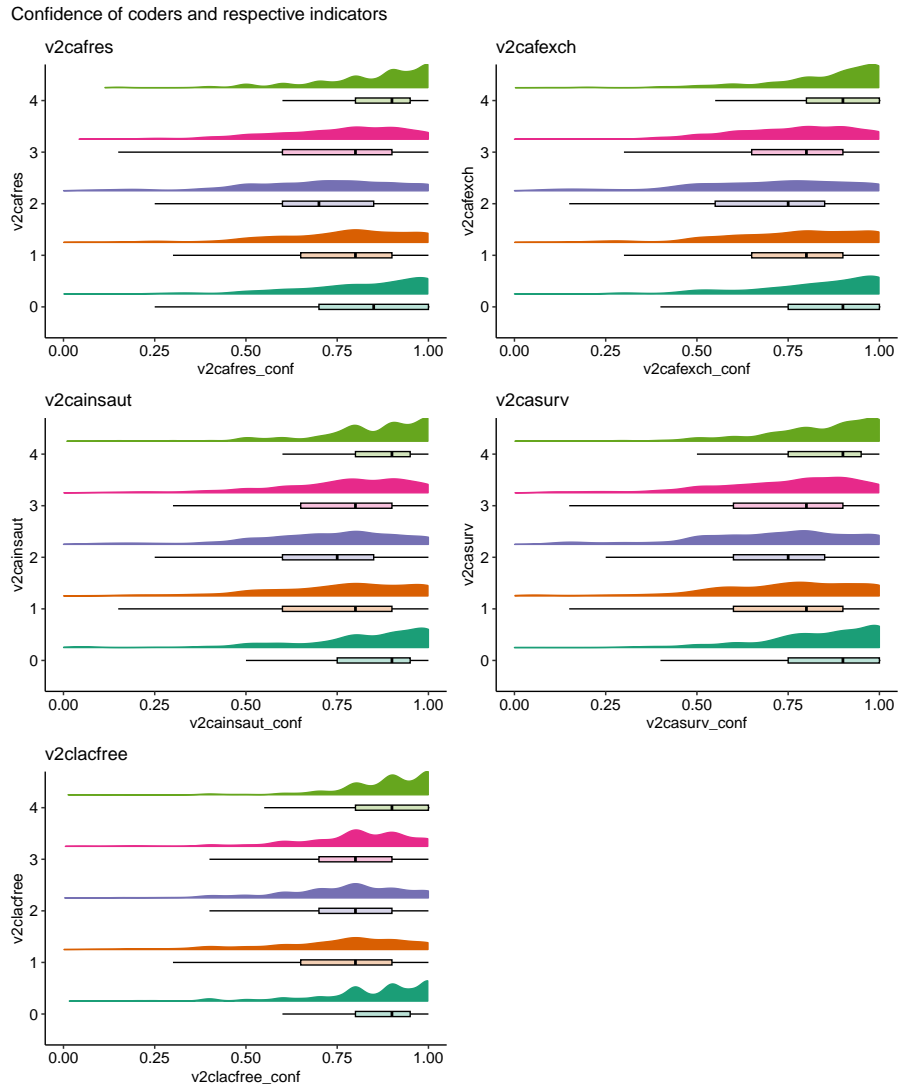
Figure H1: Predicting respondent deviations with respondent characteristics (Pooled Model)



OLS regression with standard errors, clustered on hypothetical cases. Measure-fixed effects are included in the model but omitted from the figure.

# I Distribution of Coder Confidence

Figure I1: Confidence of Coders across AFI indicators



For each indicator and its respective ordinal categories, there is a density plot and a boxplot to show the distribution.

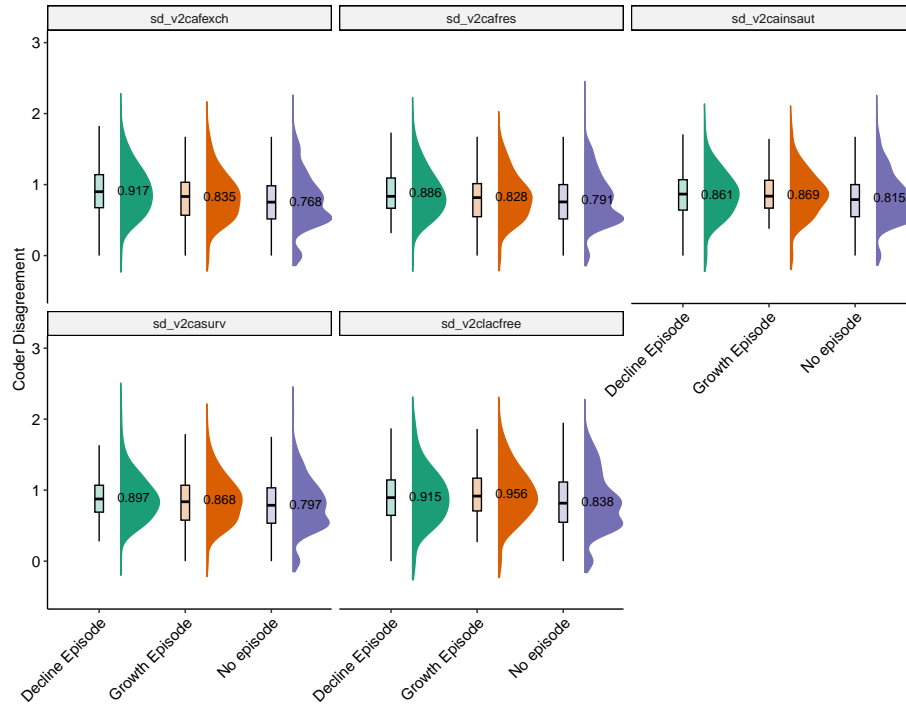
## J Coder Disagreement in Academic Freedom Growth and Decline Episodes

Figure J1 indicates that the standard deviation as an informative measure of coder disagreement does not substantially differ between decline and growth episodes and countries where academic freedom does not develop substantially. As indicated by Figure J1, coder disagreement is slightly higher in volatile situations (where academic freedom develops in positive or negative directions), but is not in stark contrast to country-years with no growth or decline episode. Overall, the visual evidence presented in Figure J1 was to be expected in these patterns.

Figure J2 shows the raw coder scores for India, the US, and Brazil – three countries with meaningful academic freedom decline in the past years. It indicates that experts in Brazil that do not reside in the country (7) systematically assess the situation more negatively than experts who reside in Brazil (10). The median values for the US is 3 for local coders (12) and 4 for non-local coders (19). In India, we have 13 experts who reside in the country, who assess the situation comparable to the external experts (14).

Next, we analyzed whether experts who reside in a country that have either an academic freedom growth or decline episode or no episode according to a metric proposed by Lott, 2024 rate systematically different than experts who do not reside in the respective country. If experts who reside in the country code systematically different, we should see substantial and significant contrasts in these volatile situations in contrast to non-local experts. In Figure J3, we show that there are not substantially meaningful and statistically significant contrasts between local and non-local experts, irrespective of the academic freedom development in the country. In sum, there is little empirical evidence that local

Figure J1: Coder Disagreement (Standard Deviation in Academic Freedom Decline and Growth Episodes (Lott (2023))



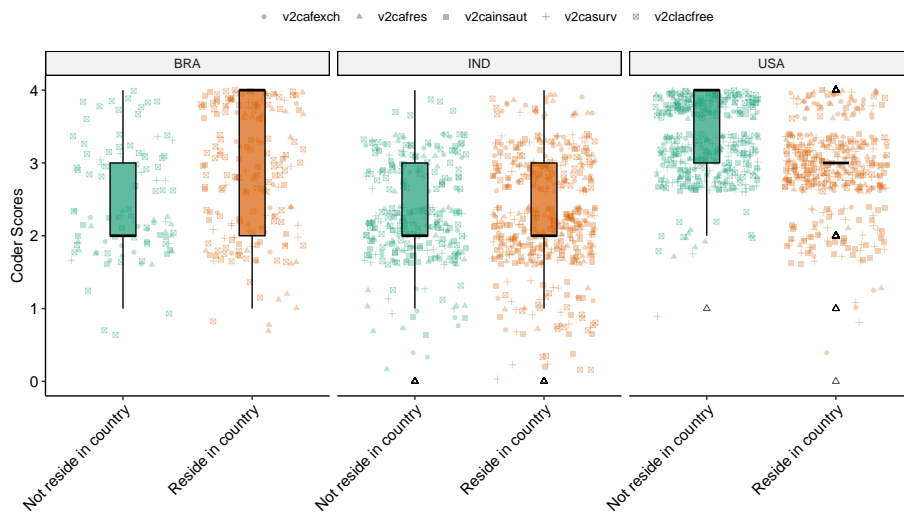
For each indicator across episodes, there is a density plot and a boxplot to show the distribution.

and non-local experts have different coding behaviors that can be explained by their personal exposure to the academic freedom growth or decline in their home country.

## J.1 First Time Coders

Table J1 indicates that first time coders and multiple time coders do not systematically differ in their self assessment regarding the time they spent for coding. On average, first time coders spent 24.8 hours in contrast to 26.4 hours for multiple time coders. The standard deviation for first time coders is a little

Figure J2: Coder Scores for India, USA, and Brazil, 2010-2023



Each indicator is displayed by another shape, and the coders scores are displayed for experts reside in the country, and non-local experts.

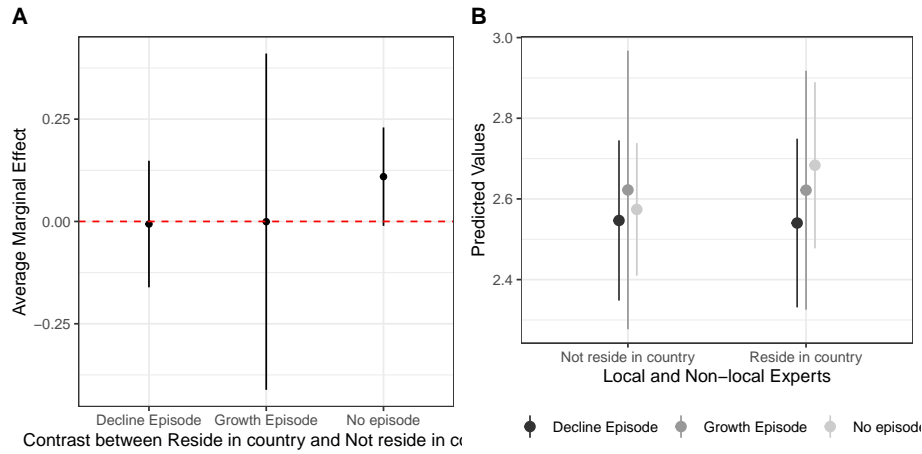
bit higher compared to multiple time coders. However, as indicated by Table J1 there is little evidence for different patterns among these two groups. In addition, as indicated by the number of NAs, not all experts answered the post-survey questionnaire. Overall, we have no information for this metric for 694 country experts.

Table J1: Summary Statistics of First Time and Multiple Time Coders

	Mean	Median	SD	Max	Min	No. NA
First time coders	24.8	10	30.0	100	-1	19
Multiple time coders	26.4	15	26.9	100	-1	675

In a more systematic assessment, Figure J4 investigates whether the coding quality of first time coders differs from the coding quality of multiple time coders. To operationalize coding quality, we rely on a simple metric. We calculate the deviation of the coder's assessment from the Bayesian IRT measurement models

Figure J3: Average Marginal Effects (A) and predicted respondent ratings (B) by Respondent's Reside in Country and Academic Freedom Growth and Decline Episodes, 2010-2023



OLS regression with standard errors, clustered on countries. Measure- and year-fixed effects are included in the model.

output in the final V-Dem dataset. This is metric is a relatively coarse proxy variable for the coding quality of individual coders, but is one easy to implement way to approximate coding quality.

	Model 1
Intercept	-0.084 [-0.435; 0.267]
Respondent's Gender	0.047 [-0.059; 0.153]
Respondent's Age: Oldest Cohort	0.017 [-0.101; 0.136]
Respondent: PhD education	0.010 [-0.096; 0.116]
Respondent: Government employed	-0.020 [-0.249; 0.208]
Respondent: Reside in country	0.126* [0.042; 0.210]
Respondent: New Coder	0.075 [-0.133; 0.284]
Respondent supports freemarket	-0.004 [-0.048; 0.040]
Respondent supports electoral democracy	0.047 [-0.051; 0.145]
Respondent supports liberal democracy	-0.054 [-0.154; 0.045]

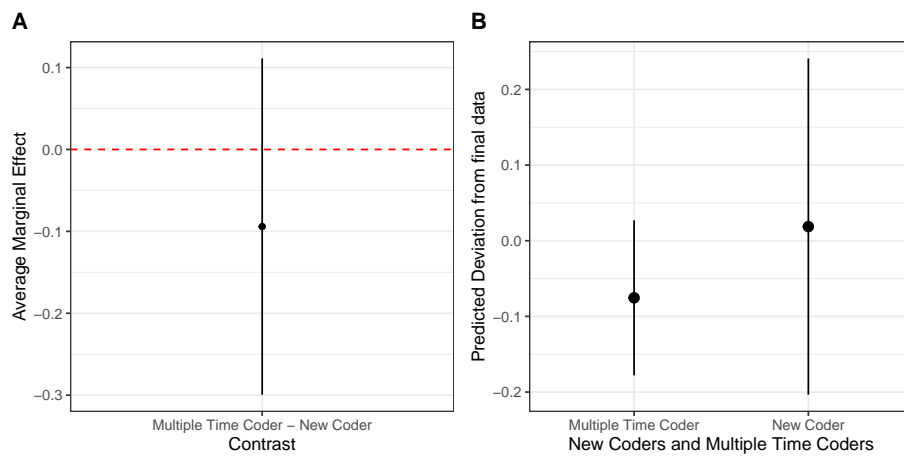
	Model 1
time spent for coding	0.001 [-0.001; 0.003]
Country liberal component	-0.757* [-1.325; -0.188]
Country electoral democracy level	0.491 [-0.143; 1.125]
Respondent supports liberal democracy * LibDem	0.003 [-0.002; 0.007]
Respondent supports electoral democracy * EDI	-0.118 [-0.249; 0.013]
GDP pc	0.133 [-0.006; 0.273]
Latin America and the Caribbean	0.020 [-0.087; 0.127]
MENA	-0.070 [-0.195; 0.054]
SSA	0.000 [-0.100; 0.101]
Western Europe and North America	0.018 [-0.014; 0.051]
Asia and Pacific	0.025 [-0.023; 0.074]
Dummy Freedom to research and teach	0.021 [-0.024; 0.067]
Dummy Institutional Autonomy	0.020 [-0.036; 0.077]
Dummy Campus Integrity	0.124 [-0.017; 0.266]
Dummy Freedom of academic and cultural expression	-0.036 [-0.205; 0.133]
R <sup>2</sup>	0.016
Adj. R <sup>2</sup>	0.016
Num. obs.	207209
RMSE	0.851
N Clusters	177

\* 0 outside the confidence interval.

Table J2: Linear Models predicting respondents rating with interaction between residing in country and growth and decline episodes



Figure J4: Average Marginal Effects (A) and predicted respondent deviation from final indicator (B) by First Time Coders and Multiple Time Coders



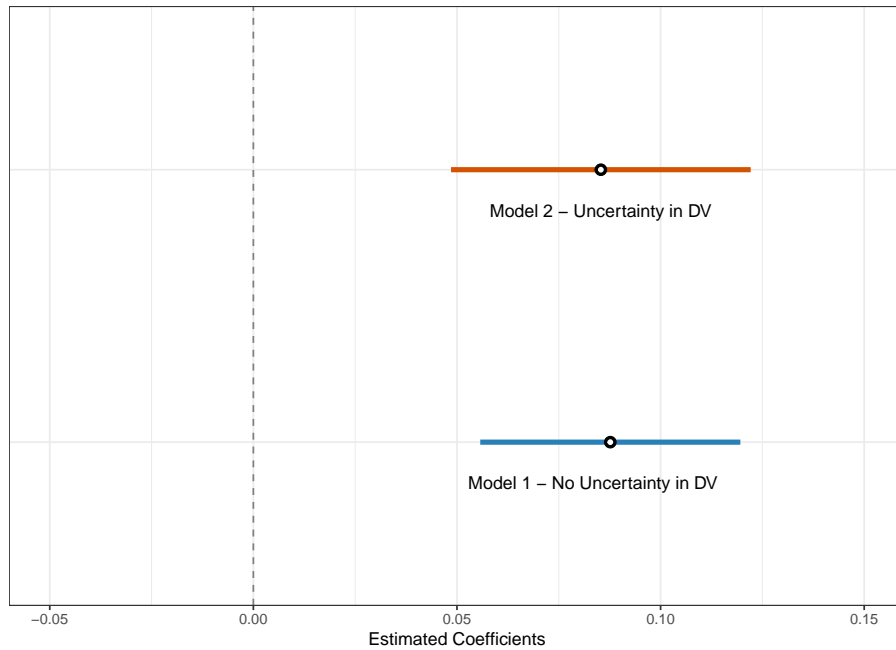
OLS regression with standard errors, clustered on countries. Measure- and year-fixed effects are included in the model. See Table J2

## K Including Uncertainty in Regression Analysis

To illustrate the importance of incorporating uncertainty in the measurement of latent constructs, such as academic freedom, we compare the estimates of democratization (lagged by one year), measured by BMR democracy data (Boix et al., 2013). In Figure K1, we use simple OLS TWFE models with country and year fixed effects. The dependent variable is the level of academic freedom measured by the Academic Freedom Index (Spannagel & Kinzelbach, 2023). Figure K1 plots the point estimates for democratization from each model with 90% and 95% confidence intervals. Model 1 estimates the effect of democratization on academic freedom without accounting for the uncertainty in the latent concept academic freedom. It uses the point estimates of the latent variable (mean of the posterior distribution) from the V-Dem dataset. It thereby ignores the standard deviation of the posterior distribution.

Model 2 incorporates the uncertainty by following recommendations from Schnakenberg and Fariss (2014). It duplicates the dataset 900 times and assigns a random draw from the posterior distribution of the latent variable academic freedom to each country–year observation. With this dataset, Model 2 estimates a set of 900 OLS TWFE models, combining the results across the multiple sets of data to create one set of coefficient and standard error estimates. To combine the point estimates and the standard errors from each of the 900 OLS TWFE regressions, we used an equation developed by Rubin (1987) to combine estimates from multiply imputed datasets. Model 2 presents the results from the procedure. Figure K1 illustrates that if we do not account for uncertainty in the measurement of the outcome, we are risking to underestimate the confidence intervals. In other cases, we might also risk to underestimate or overestimate the point estimates. However, in this case, the point estimates are comparable in their substantive effect size.

Figure K1: Comparing the effect of democratization across models with and without including latent variable uncertainty



Note: the figure plots the point estimates for democratization (lagged by one year). The bars represent 95% confidence intervals. Confidence intervals are calculated with clustered standard errors. The bottom model (blue line) regresses the point estimates for the latent academic freedom variable on democratization from BMR. The top model (orange line) regresses 900 draws from the latent academic freedom variable on democratization.

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