



# World Values Research WVR

Volume 9 / Number 1 / 2017

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## **Democracy Misunderstood: Authoritarian Notions of Democracy around the Globe**

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### **ABSTRACT**

A puzzling paradox consists in the fact that widespread support for democracy coexists frequently with the very absence of the latter. Addressing this puzzle, we show that wherever it exists, most people misunderstand democracy in authoritarian ways that defy its emancipatory core. Such authoritarian notions of democracy (henceforth: ANDs) lend legitimacy to non-democratic regimes, which explains why they persist. Testing multiple explanations of ANDs, we find that cognitive mobilization and moral liberation—which we call "enlightenment forces"—provide the most powerful anti-dote against ANDs, stronger even than democratic traditions. Moreover, ANDs do not represent fear-induced false preferences but are real. Finally, ANDs provide a better indicator of authoritarianism more broadly speaking than is true for openly expressed preferences for authoritarian rule.

*Key words:* authoritarianism - authoritarian notions of democracy - cognitive mobilization - democracy - enlightenment forces - false preferences - moral liberation

*Word count:* 10,750 (excluding appendix)

### CITATION

Welzel, C. & H. Kirsch (2017). "Democracy Misunderstood: Authoritarian Notions of Democracy around the Globe." *World Values Research* 9 (1): 1-29.

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# Democracy Misunderstood:

## Authoritarian Notions of Democracy around the Globe

### INTRODUCTION

For a long time, research on the legitimacy of democratic rule has been primarily interested in *how widespread* support for democracy is in given countries (cf. Klingemann 1999; Dalton 2007). Accordingly, scholars focused on questions addressing people's regime preferences (Inglehart & Welzel 2005; Hadenius & Teorell 2005; Anderson & Tverdova 2003; Fails & Pierce 2010). Most of these studies were driven by the assumption that the chances of a country to become and remain democratic are larger when a wider share of the population supports democracy.

Arguably, this assumption rests on the belief that the extent of popular support for democracy is indicative of an incumbent regime's legitimacy. If, for instance, support for democracy is widespread in a democracy, the regime is legitimate and likely to persist (Diamond 1999; Mattes & Bratton 2007). By contrast, if such support exists in a non-democracy, the regime lacks legitimacy, which presumably helps preparing it for transition (Mishler & Rose 2002; Shin & Tusalem 2009). Implicitly, this line of thought takes it for granted that, when people in different countries voice their support for democracy, they have the same thing in mind when the word democracy is dropped on them.

Should this assumption be accurate, we face a puzzle that Welzel (2013: 307) labels the "paradox of democracy": widespread support for democracy often coexists with severe deficiencies in the latter, including its outright absence. Indeed, Klingemann and Welzel (2008: 67) illustrate that support for democracy as widespread as 80, 85 and 90 percent coexists easily with absent democracy in countries like Zimbabwe, Azerbaijan and Morocco. In line with this illustration, the authors show that the scope of popular support for democracy explains *less* than thirty percent of the countries' actual democraticness, in a global sample of eighty nations. Newer evidence, documented in Figure 7 below, demonstrates that this paradox also includes such countries as Belarus, China, Egypt, Russia, Qatar, Singapore, Turkey and Uzbekistan, as well as many other autocracies—most of which show support for democracy among 70 percent and more of the population, all the while authoritarianism blossoms (Walker 2016).

How can we explain the frequent coexistence of widespread support for democracy with the very absence of the latter? One possibility is that mass preferences are irrelevant for the persistence of given regimes. But this would be a far-reaching conclusion, in contradiction to the leading school of thought in political culture, going back to the classic works of Lipset (1960), Almond and Verba (1963), Easton (1965) and Eckstein (1966). Before jumping to such a conclusion prematurely, we consider an alternative.

The alternative consists in two connected possibilities. First, popular notions of democracy vary substantially across countries. Second, they vary in precisely such a way that whenever we find widespread support for democracy in a *non*-democracy, people's notion of what democracy means is twisted into an authoritarian direction.

In light of the original definition of democracy in liberal thought, authoritarian notions of democracy are to be judged as flawed. Nevertheless, authoritarian *mis*understandings of democracy might be widespread and real, which would explain the paradox of democracy: under false notions of democracy, people consider non-democratic regime characteristics as democratic. In such cases, people's outspoken support for democracy is in no conflict with the actual deficiency or absence of it. If so, many non-democratic regimes would possess more legitimacy in the eyes of their citizens than the support ratings for democracy from survey data suggest.

This article provides the first cross-national evidence in support of this line of reasoning. Specifically, we demonstrate (*a*) that people in many countries around the world exhibit "authoritarian notions of democracy" (henceforth: ANDs) and (*b*) that these notions are particularly prevalent in regions that lack democracy, most notably the Middle East, South Asia and Africa. Moreover, we highlight (*c*) that cognitive mobilization and moral liberation—what we call "enlightenment forces"—provide the strongest antidote against ANDs, stronger even than lasting democratic traditions. Finally, we show (*d*) that ANDs do not represent fear-induced false preferences but are real and (*e*) that they provide a better indicator of authoritarianism more broadly speaking than is true for openly expressed preferences for authoritarian rule.

Since a while, scholars criticize that looking merely at people's stated preferences for democracy is of limited value, unless we know that these preferences relate to the same notion of what democracy means (Schedler & Sarsfield 2007; Ferrin & Kriesi 2017). Otherwise, we compare apples with oranges. Thus, instead of taking equivalence in meaning for granted, researchers began to examine questions asking people what they think democracy is about. The initial findings seemed encouraging, suggesting that people in countries all over the world agree on a "liberal" notion of democracy (e.g. Dalton, Shin & Jou 2007; Bratton 2009; al-Braizat 2010). This notion emphasizes universal suffrage, free and fair elections, basic freedoms and other emancipatory features that are indeed at the heart of democracy's liberal meaning.

However, when one asks people for their agreement with anti-liberal, outright authoritarian re-definitions of democracy, the picture of a consensus on democracy's liberal core becomes murky (Norris 2011; Pereira 2012; Shin & Cho 2010; Welzel 2013; Cho 2014; Doherty & McMellem 2014; Shin 2015). To be sure, judging the alternatives most people in Western countries prioritize liberal over anti-liberal meanings of democracy. But this order of priority remains a singularity of the West. Elsewhere, we find broad support for anti-liberal re-definitions of democracy, of which ANDs are just the most extreme version (Moreno-Alvarez & Welzel 2014). Nevertheless, such authoritarian misunderstandings are real and more common than one might expect. For this reason, ANDs deserve to be treated as an object of study in their own right.

Welzel's (2011:11) analysis was the first to identify the phenomenon of ANDs. But like Alvarez-Moreno and Welzel (2014), he mingles ANDs with other notions of democracy into a bipolar index of "liberal vs. authoritarian" notions of democracy. Norris (2011: chapter 8) follows a similar logic in creating her measure of "enlightened understandings" of democracy. This approach certainly has its normative justification. Nevertheless, as we outline below, there are good reasons to single out ANDs as an object of study in their own right. Accordingly, this is the first article to focus solely on ANDs, as they represent an especially extreme version of a twisted notion of democracy.

The remainder of this article is organized in four sections. Section one reviews the emerging literature on ANDs, suggesting some alternative explanations of why these notions of democracy might be prevalent in some countries but not others. Section two describes the data, variables and methods used to test these explanations. Section three presents the evidence. Finally, the concluding section discusses the implications of our findings.

### **THEORY: POSSIBLE EXPLANATIONS OF ANDs**

The literature on ANDs is still in its infancy. For this reason, our understanding of ANDs remains limited. We begin our discussion of these limitations with a look at Welzel's (2011) work because he designed the notions of democracy battery in the World Values Survey—arguably the broadest study of popular notions of democracy across the globe.

Welzel merges ANDs into a single bipolar measure of "liberal-vs.-authoritarian" notions of democracy. This approach is understandable because liberal and authoritarian notions of democracy are indeed contradictory. Still, the merger of the two components into a single measure glosses over the fact that much more of the cross-national variance in notions of democracy concentrates on the authoritarian part of this measure.<sup>1</sup> Clearly, this evidence suggests to isolate ANDs and treat them as an object of study of their own.

Two works so far address ANDs directly. Shin (2015), to begin with, compares the prevalence of ANDs with alternative notions of democracy across global regions. He sees ANDs as the result of misinformation and shows that such notions are particularly prevalent in the Middle East and South Asia. However, there is no multi-variate model explaining why ANDs prevail in some countries but not others.

Norris (2011), for her part, shows that ANDs prevail in less developed and connected countries with little or no democratic tradition. She also finds that individuals with higher education and at a more mature age are less likely to embrace ANDs.

Valuable as these insights are, we lack a comprehensive understanding of the multiple possible sources of ANDs and their implications for regime legitimacy. More-

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<sup>1</sup> Across the roughly 75,000 respondents interviewed in the sixth World Values Survey, mean differences between countries ( $N = 75$ ) account for 14% ( $\eta = 0.38$ ;  $P = 0.00$ ) of the total individual-level variance in LNDs and for 25% ( $\eta = 0.50$ ;  $P = 0.00$ ) in ANDs. The size of the between-country variance in ANDs is more than double as large as that in LNDs.

over, no examination so far covers the most recent round of the World Values Survey, which includes more countries and also an additional item referring to ANDs.

Having said that, our study is novel by (a) focusing just on ANDs, (b) examining the freshest and broadest evidence from the sixth World Values Survey, (c) testing more conceptually distinct explanations of ANDs, (d) addressing the issue of false preferences and (e) tackling causality. The following paragraphs discuss the most plausible influences on the presence and absence of ANDs.

From the viewpoint of institutional learning, a first plausible influence consists in lasting democratic traditions. When generation after generation grows up under democratic practices, socialization mechanisms mature to the point at which democratic norms become firmly encultured in most people's minds (Mishler & Rose 2002; Mattes & Bratton 2007; Fails & Pierce 2010). Accordingly, enduring democracy should strengthen a population's immunity against authoritarian misunderstandings of democracy (Norris 2011: chapter 8).

Inspired by modernization theory, a second approach focuses on the forces of psychological awakening, or "enlightenment" for that matter (Lerner 1958; Inkeles & Smith 1974). From this point of view, ordinary people become resistant against ANDs following an intrinsic drive when their quest for emancipation awakens, that is, when they develop the aspiration to think for themselves, to act in accordance with their own judgements and to be masters of their lives (Deci & Ryan 2000; Welzel 2013).

From the perspective of psychological awakening, information and education move to the center of attention as forces that stimulate, train and mobilize people's cognition. Accordingly, lay people become immune against authoritarian misinterpretations of democracy when they have access to diverse information and when education equips them with the intellectual autonomy needed to process such information (Norris 2011: chapter 8). Diversifying information and expanding education are the key features of emerging knowledge societies. Arguably, these features enhance people's intellectual autonomy (Schwartz 1995; Flynn 2012). Following Inglehart (190) and Dalton (1996), we label this intellectual empowerment as "cognitive mobilization."

As Welzel (2013) points out, rising intellectual autonomy among large population segments encourages people to emancipate themselves from the interpretive authority of others, most notably elites—an outcome we name "moral liberation" (Kohlberg 1986; Pinker 2011). In unison, cognitive mobilization and moral liberation merge into "enlightenment forces" that make people less easily manipulated by authoritarian indoctrination.

A third approach emphasizes fear, especially fear that derives from experiences of physical violence. Starting from works as early as Adorno and Brunswick et al. (1950), there is a large literature showing that violence-induced fear feeds authoritarian beliefs (Sullivan & Transue 1999; Norris 2008; Duckit et al. 2002; Scheepers et al. 1990). These beliefs center on the idea that the authority of some over others is natural and unquestionable. Arguably, authoritarian beliefs constitute a psychological disposition to embrace ANDs. Hence, ANDs should prevail where fear of violence is widespread.

The above cited literature stresses that physical violence not only produces fear of it but also its acceptance, or even appreciation. Because physical violence is the most

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extreme form of enforcing authority, proneness to violence lends itself naturally to authoritarian beliefs. Thus, the psychological disposition to embrace ANDs might derive from being used to see violence in daily practice. If so, the prevalence of violence in and by itself should nurture ANDs. Arguably, the state is the organization with the greatest coercive potential in most countries. For this reason, violence exerted by repressive states is most inescapable and should call our attention when examining ANDs (Gibney et al. 2015).<sup>2</sup>

A fourth approach focuses on religiosity. Since Karl Marx, generations of critics blame religion for indoctrinating people with an uncritical belief in authority. Supporting this criticism, Alexander, Inglehart and Welzel (2015) cite a large literature showing that religious people all over the world tend to hold conservative, patriarchal and authoritarian beliefs.

But even though authoritarian beliefs seem to characterize strongly religious people in general, some scholars believe that this tendency is particularly pronounced in Islam (Norris & Inglehart 2003; Alexander & Welzel 2012). If authoritarian beliefs predispose people to embrace ANDs, then these writings suggest that religiosity (irrespective of denomination) and Islam (irrespective of religiosity) both favor ANDs independently.

Ross (2008) however, as many others, reasons that Islam's authoritarian tendency results from certain features of the political economy, which prevail in many Islamic countries for other reasons than Islam itself. Specifically, the influx of oil and gas rents supports patrimonial states whose elites do not need to tax the citizens to obtain funds. On the contrary, fossil rents enable these elites to subsidize their supporters and to silence their opponents. Against this backdrop, it seems plausible that the patrimonial elites indoctrinate their populations with ANDs. If so, ANDs should prevail in countries where fossil rents fuel patrimonial states.

Our five types of explanation are not mutually exclusive. On the one hand, fear of violence, state repression and patrimonial states could all be reasons why people cling to religion and oppose the enlightenment forces, under which influence they would otherwise refuse ANDs. On the other hand, democratic traditions and the enlightenment forces might converge in a single dimension of human emancipation.

Our analyses show that these links indeed exist.<sup>3</sup> But they are not so tight that it would be impossible to sort out the stronger from the weaker influences on ANDs. Our study engages in this sorting-out exercise.

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<sup>2</sup> We consider censorship and the oppression of media freedom as an integral part of state repression.

<sup>3</sup> See OA-Table 4 (p. 25) in the Online Appendix.

## RESEARCH DESIGN

### Methods and Data

While state repression, democratic traditions and patrimonial states only exist at the country level, fear of violence, religiosity and the two components of the enlightenment forces—cognitive mobilization and moral liberation—are real in both disaggregate and aggregate form. For this reason, they can affect people's notions of democracy by both their country-level prevalence and their individual-level presence. In other words, the same variable can exert its influence as either a contextual characteristic or a personal attribute, or both.

This issue needs to be examined in a multi-level framework, which we apply to data from the sixth World Values Survey (henceforth: WVS), conducted between 2010 and 2014. Our Online Appendix (henceforth: OA), available for inspection at the end of this article, includes a documentation of our samples and their country coverage (OA I: 4-7), an explanation of our variables with recoding syntax and scaling information (OA II: 8-22), descriptive statistics for each variable (OA III: 23-25), a download link to our data (OA IV: 26) and supplementary regression results shown separately for the constituent items of our composite outcome variable (OA V: 27-29). Finally, to resolve causality issues, the OA documents endogeneity tests (OA VI: 30-31) and links to remote historical drivers (OA VII: 32-34).

The WVS provides by far the broadest country coverage when it comes to popular notions of democracy. Moreover, only the WVS includes items suited to isolate ANDs in a proper manner. The notions of democracy battery is included in the WVS since its fifth round but several items that did not work so well in round five have been exchanged in round six. This raises comparability issues that force us to limit our analyses to either round five or six.

We opt for round six for three reasons. First, round six includes three instead of only two items addressing ANDs. Second, round six covers more countries (sixty instead of fifty). Third, only round six covers fear of violence, one of the hypothesized influences on ANDs.

Excluding round five incurs a loss of longitudinal evidence but this loss is modest. On average, the temporal distance between round five and six is only five years—arguably too short a period to observe significant changes in such strongly encultured orientations as ANDs supposedly are. Supporting this assumption, the thirty-three countries surveyed in both rounds five and six show a very strong temporal autocorrelation in ANDs: calculated over the two identical items, the temporal autocorrelation amounts to  $R = 0.89$  ( $P = 0.00$ , two-tailed).<sup>4</sup>

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<sup>4</sup> The two identical items are the ones attributing unchecked authority to religious leaders and the army, as documented in Table 1. In both rounds of surveys, we calculate for each sample the population mean for the average support across both items.

The country coverage of the sixth WVS is displayed in Figure 2 below, with more detailed sample statistics in OA-Table 1 (OA I: 4-7). It is obvious that this selection provides a quite balanced coverage of developed and developing economies as well as democracies and non-democracies from all inhabited continents. Because the sample includes the largest populations from each global region, it represents more than ninety percent of the world population.

### **The Outcome Variable: Authoritarian Notions of Democracy**

The questionnaire of the sixth WVS includes a nine-item battery on notions of democracy. Each item states a possible meaning of democracy that respondents rate in terms of how strongly they believe it captures the essence of what democracy means. Respondents indicate their position on a scale from 1 ("not an essential characteristic of democracy") to 10 ("an essential characteristic of democracy"). Table 1 displays the question phrasing and item wordings (see also OA II: 8-9).

Three of the meanings phrase an authoritarian notion of democracy by attributing unchecked powers to (1) "religious authorities" and (2) "the army" and (3) suggesting that "people obey their rulers." Of all nine meanings, these three stick out most distinctively as authoritarian contradictions to democracy's liberal core.

The individual-level and country-level factor analyses in Table 1 contrast the three ANDs with three liberal notions of democracy (henceforth: LNDs), which address free elections, civil liberties and gender equality.<sup>5</sup> As is obvious, these item sets reflect two separate dimensions, rather than being grouped at opposite ends of a single bipolar dimension. This means that—in the mindsets of many people—LNDs and ANDs are not adversarial but orthogonal.<sup>6</sup> Accordingly, embracing LNDs does not necessarily imply the rejection of ANDs, even though this would be the logical consequence for someone who understands that liberal and authoritarian principles are contradictory.

A reason why LNDs have little discriminatory power over ANDs is obvious from columns 3 to 6 in Table 1: the universal popularity of LNDs. Indeed, the mean scores in

<sup>5</sup> Yet another three items address redistributive notions of democracy. Their wording is documented in the footer of Table 1. Conceptually, there are no good reasons to align the redistributive notions exclusively with either the liberal or authoritarian notions. Confirming this ambiguity, when one includes the three redistributive notions into the factor analyses, the separation of liberal and authoritarian notions remains intact and continues to represent the key feature: the redistributive notions load inconsistently and weakly on both the liberal and authoritarian dimensions. For this reason, we pay no further attention to the redistributive notions.

<sup>6</sup> The pooled individual-level correlation between ANDs and LNDs is close to zero ( $R = 0.05$ ). But this non-correlation masks the fact that the LND-AND association varies dramatically across countries in both direction and strength, ranging from  $R = -0.41$  in Japan to  $R = 0.45$  in India. About 50% of the cross-country variation in the LND-AND correlation is explained by enlightenment forces (see explanation below): the stronger the enlightenment forces are in a country, the more pronouncedly negative is the LND-AND correlation.



the three LNDs center on about 0.75 points. On a scale ranging from 0 to 1<sup>7</sup>, this is a remarkably high population mean. In line with this pattern, up to two thirds of all respondents support the LNDs at the highest three grades out of ten.

*Table 1.* Notions of Democracy: Factor Analyses and Descriptive Statistics (country-pooled individual-level and country-level data): to be continued...

Introduction to the item battery reads as follows: "Many things are desirable, but not all of them are essential characteristics of democracy. Please tell me for each of the following things how essential you think it is as a characteristic of democracy. Use this scale where 1 means "not at all an essential characteristic of democracy" and 10 means it definitely is "an essential characteristic of democracy" (interviewer: read out and code one answer for each):"

	Dimension 1, LNDs <sup>a</sup> : Loadings (country-level)	Dimension 2, ANDs <sup>b</sup> : Loadings (country-level)	Mean (Median)	SD (CV) <sup>c</sup>	% Strong Agreement (scoring 8 and higher)	% Out-right Rejection (scoring 1)	% Missing Responses
"People choose their leaders in free elections."	0.80 (0.92)		0.77 (0.89)	0.28 (0.36)	67%	3%	4%
"Civil rights protect people from state oppression."	0.79 (0.92)		0.71 (0.78)	0.29 (0.41)	56%	4%	6%
"Women have the same rights as men."	0.77 (0.79)	(-0.43)	0.76 (0.89)	0.29 (0.38)	65%	4%	3%
<b>"Religious authorities ultimately interpret the laws."</b>		<b>0.78 (0.91)</b>	<b>0.36 (0.33)</b>	<b>0.33 (0.92)</b>	<b>18%</b>	<b>28%</b>	<b>6%</b>
<b>"The army takes over when government is incompetent."</b>		<b>0.77 (0.85)</b>	<b>0.38 (0.33)</b>	<b>0.34 (0.89)</b>	<b>21%</b>	<b>28%</b>	<b>8%</b>
<b>"People obey their rulers."</b>		<b>0.66 (0.85)</b>	<b>0.56 (0.56)</b>	<b>0.33 (0.59)</b>	<b>37%</b>	<b>12%</b>	<b>5%</b>
Explained Variance	32% (24%)	27% (59%)					
Eigenvalue	1.95 (1.42)	1.63 (3.52)					
Cronbach's alpha	0.70 (0.88)	0.58 (0.87)					
Kaiser-Meyer-Olkin	0.65 (0.66)						
Respondents (N)	73,501 (60)						

<sup>7</sup> We standardize the original 1-to-10 scales into a range from minimum 0 to maximum 1, with decimal fractions of 1 indicating intermediate positions.

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*Notes:* Data are from WVS round six. First cell entries in the first two columns refer to the country-pooled individual-level data. Second entries (in parentheses) refer to the country level. Both individual- and country-level factor analyses are conducted using the Kaiser criterion with varimax rotation and pairwise deletion of missing responses (11,569  $\approx$  14% at the individual level). Loadings below 0.30 are not shown. The battery includes another set of three items that address redistributive notions of democracy ("governments tax the rich and subsidize the poor", "people receive state aid for unemployment", "the state makes incomes equal"). Including these additional three items into the analysis does not extract a separate third dimension. Instead, each of the three redistributive items shows inconsistent and weak loadings on one of both of the present two dimensions where the three liberal items and the three authoritarian ones continue to show the strongest loadings on their two separate factors.

a) LNDs: Liberal Notions of Democracy

b) ANDs: Authoritarian Notions of Democracy

c) SD: standard deviation; CV: coefficient of variance

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At the same time, the proportion of people giving LNDs the very lowest grade is below 5 percent. The popularity of LNDs makes the group supporting them so big that it includes large shares of those who do not recognize the LND-AND contradiction and support both LNDs and ANDs for this reason. Thus, of our roughly 75,000 respondents, more than 15,000 (i.e., more than 20%) score above 0.60 on *both* LNDs *and* ANDs.<sup>8</sup> Corresponding with these proportions, even among the roughly 11,000 respondents scoring above 0.70 in ANDs, the mean LND-score is 0.82.

People are much more divided over ANDs than over LNDs. In Table 1, this is obvious from the fact that the mean scores in ANDs are closer to the midpoint of our 0-to-1 scales, which is the most divisive position. Also, the percentage distributions at the extreme ends of the ANDs show a more polarized situation than with LNDs. The greater divergence over ANDs is as well visible in the variance coefficients, which are more than double as large as those of the LNDs.

These patterns suggest an important conclusion: rejecting ANDs is a more reliable test of people's democratic maturity than is embracing LNDs, which most people do anyways, yet many of them without recognizing that liberal principles defy unchecked authority. For this reason, we henceforth focus our attention on just ANDs.

Should one summarize the three separate ANDs into one encompassing index? Table 1 suggests that one should because the three ANDs converge in a single dimension. However, our reason to summarize the AND-items is not their dimensional convergence. Instead, our point of departure is that the items cover partly distinct domains of ANDs, for which reason they complement each other in "forming" an AND more broadly speaking. Accordingly, we follow a "formative" logic of index construction, which is appropriate under three conditions: (1) the constituent items cover partly distinct domains of their overarching construct, visible in divergent variance components among the items; (2) the overarching construct shows stronger linkages with its expected antecede-

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<sup>8</sup> Of these approximately 15,000 respondents, roughly 80% (some 12,000) concentrate in Sub-Saharan Africa, the Middle East, South Asia and the post-Soviet world, while 65% of all our respondents (49,000) are located in these regions. Not coincidentally, these are also the countries scoring the lowest in our key explanatory variable, the enlightenment forces (as explained below).

dents and consequences than does each of its constituent items; (3) there is "compositional substitutability" in the sense that similar overall scores map in similar fashion on antecedents and consequences, even if the composition of partial scores differs (Welzel & Inglehart 2016).

Given these guidelines, it is indeed sensible to construct a formative AND-index. The three single ANDs correlate positively but moderately at the individual level.<sup>9</sup> Accordingly, there are sizeable divergent variance components that complement each other in forming an encompassing AND, which we calculate as each respondent's average across the three single ANDs.<sup>10</sup>

The next criterion for a formative index is that it shows linkages to its expected antecedents and outcomes at least as strong as its most strongly linked constituent does. To examine this issue, Table 2 correlates the AND-index as well as its three constituents with two expected antecedents (i.e., cognitive mobilization and moral liberation) and two expected outcomes (i.e., protest activity and overrating democracy). The measurement of cognitive mobilization and moral liberation is explained in the next section. For the reasons outlined in the theory part, the expectation is that these influences associate *negatively* with ANDs.

Protest participation refers to consumer boycotts, petitions and peaceful demonstrations. Welzel (2013: 222-225) shows that most such protest activity is motivated by emancipative values, for which reason we assume that these activities associate negatively with ANDs. Overrating democracy measures to what extent a respondent rates her country's democraticness as higher than it really is. If ANDs lend legitimacy to non-democratic regimes, as we assume, then this should be visible in that people who endorse ANDs rate their country as more democratic than it actually is. So here we expect a positive association.

The correlations in Table 2 confirm these expectations at both the individual and the country level. Most importantly, all three single ANDs operate in each instance in the same direction but it is always the *overall* AND-index showing the strongest correlation with the expected antecedents and outcomes.

As one would guess, a three-item LND-index associates in the opposite way with the expected antecedents and outcomes. But the correlations are always by a considerable magnitude smaller than the respective inverse correlations of the AND-index. This finding further supports our point that a weak presence of ANDs is a sharper indicator of democratic maturity than is a strong presence of LNDs.

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<sup>9</sup> In the pooled individual-level dataset ( $N \approx 75,000$ ), ANDs referring to religious authority correlate at  $R = 0.39$  with ANDs referring to military authority and at  $R = 0.29$  with ANDs requesting obedience to rulers. The latter two correlate at  $R = 0.27$  (all significant at  $P = 0.01$ , 2-tailed). Squaring these correlations, one sees what they mean in terms of shared variation, which is never larger than 15%. In other words, despite their positive correlation, the three ANDs have more complementary than overlapping variance—precisely the condition to summarize them in a "formative" index.

<sup>10</sup> In "formative" logic, index components are equally important, which defies the use of factor weights that the "reflective" logic would require (Welzel & Inglehart 2016).

*Table 2. Correlations of Authoritarian Notions of Democracy (ANDs) and their Components with Supposed Antecedents and Outcomes of these Notions: country-pooled individual level (aggregate country level)*

	Cognitive Mobilization <sup>a)</sup>	Moral Liberation <sup>b)</sup>	Protest Activity <sup>c)</sup>	Overrating Democracy <sup>d)</sup>
"Religious authorities ultimately interpret the laws."	-0.18 (-0.72)	-0.26 (-0.77)	-0.16 (-0.58)	0.22 (0.64)
"The army takes over when government is incompetent."	-0.14 (-0.71)	-0.21 (-0.70)	-0.13 (-0.52)	0.19 (0.70)
"People obey their rulers."	-0.17 (-0.65)	-0.27 (-0.72)	-0.17 (-0.64)	0.23 (0.57)
<b>AND (3-item index)</b>	<b>-0.22 (-0.78)</b>	<b>-0.33 (-0.79)</b>	<b>-0.20 (-0.65)</b>	<b>0.29 (0.72)</b>
AND (index compos. controlled) <sup>e)</sup>	-0.23 (-0.60)	-0.31 (-0.61)	-0.19 (-0.45)	0.29 (0.45)
LND (3-item summary)	0.07 (0.40)	0.17 (0.48)	0.13 (0.34)	-0.06 (-0.54)

*Notes:* Cell entries are bivariate Pearson's *R*-correlations, with the first cell entry showing the country-pooled individual-level correlation and the second entry (in parentheses) showing the aggregate country-level correlation. Number of observations per cell varies between roughly 66,000 and 80,000 at the individual level and between 50 and 60 at the country level. All shown correlations are significant at  $P = 0.01$  (2-tailed).  
<sup>a)</sup> Mobilization of people's cognition through widespread education and information flows (OA II: 10-12; 19).  
<sup>b)</sup> People's emphasis on freedom of choice and equality of opportunities (OA II: 13).  
<sup>c)</sup> People's participation in non-violent acts of protest, including petitions, consumer boycotts and peaceful demonstrations (OA II: 13).  
<sup>d)</sup> Discrepancy between respondents' rating of their country's democraticness and its actual democraticness (OA II: 16f.; 22).  
<sup>e)</sup> Partial correlation of the AND-index controlling for dummy variables indicating which of the three index components it the top scoring one.

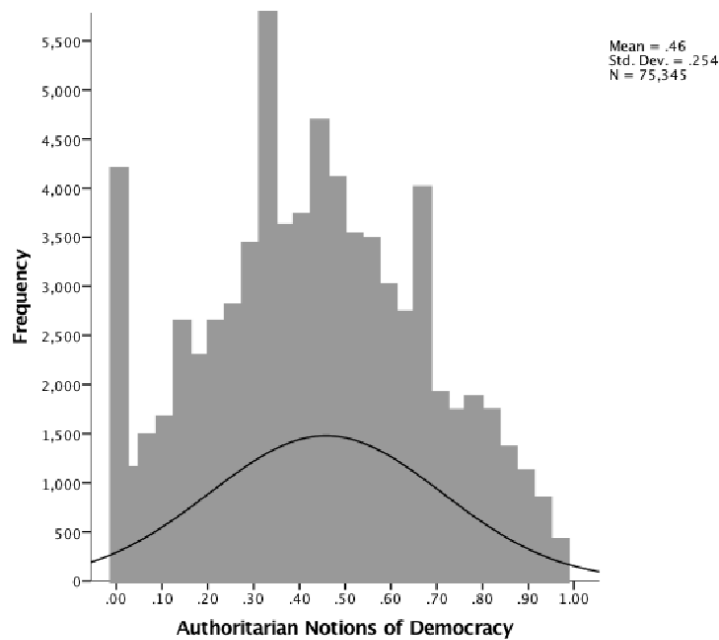
What about "compositional substitutability"? The correlations in line five of Table 2 test this requirement. This is done by controlling the correlations of the AND-index for a set of dummy variables indicating which constituent item is the top scoring one. As is obvious, the correlations remain unaffected in significance and direction and largely also in size by controlling variability in score compositions. Hence, compositional substitutability is present to a sufficient extent.

ANDs should not be confused with openly expressing an authoritarian regime preference (see OA V: 28). In fact, 54 percent of all respondents who embrace ANDs express a weaker preference for authoritarian than for democratic rule. Among the respondents who refuse ANDs, the respective proportion is only nine percentage points higher: 63 percent. Accordingly, the correlation between ANDs and authoritarian regime preferences yields a significant but negligible Pearson's *R* of 0.14 at the individual level (country-pooled). At the country level, the same correlation reveals an insignificant *R* of 0.23. Moreover, ANDs are much more indicative of authoritarianism writ large than is true for authoritarian regime preferences. This is evident from the fact that ANDs correlate by a large magnitude more closely with supposed influences on authoritarianism, at both the individual level and country level. OA-Table 9 (OA V: 29) evidences this conclu-

sion. Hence, looking at overt regime preferences—whether democratic or authoritarian—sheds little light on ANDs.

Figure 1 shows the pooled individual-level distribution of the AND-index. The distribution is bell-shaped with responses clustered around the mean. The mean itself is almost exactly in the middle of the scale, at 0.46, and close to the median. Moreover, the distribution shows little skewness. Altogether, these are desirable distributional properties.

Figure 1. Pooled Distribution of Authoritarian Notions of Democracy (individual level)



## Treatment Variables

We distinguish treatment variables at the individual and the country level. Whenever possible, we examine the same variable in both its individual- and country-level manifestation. The reason is that the supposed effect of a variable can originate in its personal possession or its contextual prevalence, as well as an interaction between the two.

Our first proposition refers to the countries' *democratic traditions*. Since individuals do not vary in the democratic traditions of their country, there is no individual-level measure in this case. The best measure of democratic traditions in our eyes is Gerring, Thacker and Alfaro's (2012: 5-6) "democracy stock" measure as of 2000 (OA II: 20).

To capture *cognitive mobilization*, we summarize two variables at the individual level: educational achievement and information intake (OA II: 11-12). At the country level, we measure cognitive mobilization using the World Bank's "knowledge index (KI)"

in its latest version at the time of this writing, in 2008. The index summarizes education levels, information flows and knowledge production on a per capita basis (OA II: 19).<sup>11</sup> To tap people's *moral liberation*, we use Welzel's (2013) index of "emancipative values" (OA II: 13). The cross-national validity of this index has recently been re-examined, with confirmatory results (Welzel & Inglehart 2016). In terms of content, the index covers four domains of emancipation: sexual choice, gender equality, democratic voice and child autonomy. Taken together, support for these ideals indicates an emphasis on universal freedoms. Because such an orientation defies unchecked external authority over one's own judgement and life, we call it moral liberation.

At the country level, we follow the established practice and calculate arithmetic population means of the emancipative values index. Mean differences in emancipative values between populations are highly significant and account for a substantial 25%-share of the total individual-level variation, which easily doubles to fifty percent when we follow Alwin's (2007) diagnosis that half and more of the variance in mass surveys is random noise.<sup>12</sup>

To measure *fear of violence*, we use a WVS-question asking "to what degree are you worried about the following situations?" The interviewer then reads out six situations and asks the respondent to tell for each of them how worried s/he feels about it, using a four-point scale ranging from "very much" to "not at all." Three of these situations address a directly life-challenging physical threat: "a war involving my country," "a civil war" and "a terrorist attack." The other items address less of an immediate life threat, such as lacking opportunities for employment and education. Accordingly, the three violent threats correlate strongly with each other, while they correlate more weakly with the other threats.<sup>13</sup> We measure each respondent's fear of violence additively as an average across the three violent threat items (OA II: 10).<sup>14</sup> At the country level, we measure each sample's average fear of violence by calculating the population mean.

<sup>11</sup> Cognitive mobilization is an aspect of socio-economic development. This raises the question if there are better alternatives. We experimented with the logged and unlogged Gross Domestic Product per capita (in purchasing power parities), the Human Development Index and Dreher et al.'s (2008) globalization index. While all of these indicators closely correlate with cognitive mobilization ( $R = 0.70, 0.84, 0.92,$  and  $0.80$  in the above order), none of them correlates as closely with ANDs as cognitive mobilization does. Correlations with ANDs amount to  $R = -0.52, -0.60, -0.72,$  and  $-0.56$  in the above order of variables, which compares to a  $-0.75$  correlation between ANDs and cognitive mobilization ( $N = 60$  for all correlations;  $P = 0.001$ , 2-tailed in all instances).

<sup>12</sup> If half of the total variance is random measurement error, a 25% explained share of the total variance means a 50% share of the variance that is *not* random error—which is the only part of the variance that possibly could be explained.

<sup>13</sup> With the country-pooled individual-level data, the three violent threat items correlate with each other in a range between  $R = 0.79$  and  $R = 0.81$  ( $P = 0.00$ , 2-tailed). Correlations between the other threat items are considerably weaker and range between  $R = 0.38$  and  $R = 0.61$ .

<sup>14</sup> We experimented with a broader fear index, which also includes the weaker correlating items. Doing so does not yield a stronger impact of fears. For this reason, we stick to fears of violence more narrowly.

To measure *state repression*, we use Gibney et al.'s (2015) "political terror scale." Based on reports by Amnesty International and the US State Department, this measure captures state-sponsored violations of human rights. We average each country's scores over the ten years from 1995 to 2005. Doing so covers a longer legacy of repression (OA II: 20).<sup>15</sup>

At the country level, our indicators of cognitive mobilization and moral liberation show an exceptionally tight link. Indeed, the two measures correlate at  $R = 0.86$ , which suggests that they almost measure the same phenomenon. Arguably, since both cognitive mobilization and moral liberation capture enlightenment forces, their strong convergence is expectable. Hence, it makes sense to summarize the two variables into a single index of *enlightenment forces* (henceforth: EF), as documented in OA II (20).<sup>16</sup>

To measure the respondents' *individual religiosity*, we use various WVS items addressing religion by belief, practice and identity, as documented in OA II (13-14). At the country-level, we use the population mean in religiosity.

*Muslim denomination* is measured by self-identification in the WVS interviews, yielding a dummy variable with code 1 for being Muslim and 0 otherwise (OA II: 15). At the country level, we aggregate the proportion of self-identifying Muslims from the individual-level data (see OA II: 20).<sup>17</sup>

*Patrimonial state* is a country-level variable, which we proxy taking Ross's (2008) estimates of the per capita value of a country's oil and gas exports (OA II: 21).

## Control Variables

At the individual level, there are a few variables that we include to reduce "omitted variable bias." This relates, first of all, to *political interest* (OA II: 16) because it is plausible to assume that interested people consume more information and, thus, learn more about what democracy means. Moreover, we include gender and age (OA II: 16) as standard demographic controls, with no specific expectations about their effects.

There is a separate group of variables that we include for methodological reasons. A concern with surveys relates to responses that represent non-attitudes or false preferences. If present in significant proportion, non-attitudes bias aggregate estimates of ANDs. We address this problem by including three different proxies of non-attitudes

<sup>15</sup> Across countries, fear of violence and state repression correlate positively (as expected) but only at modest strength ( $R = 0.51$ ;  $N = 60$ ;  $P = 0.001$ , 2-tailed), showing that more than 70% of the variance across the two measures is divergent.

<sup>16</sup> Our results remain the same when we use either cognitive mobilization or moral liberation instead of their summary. The only difference is that coefficients are slightly smaller when using one of the two constituents instead of their combination. Results with moral liberation are a bit closer to the overall index than results with cognitive mobilization.

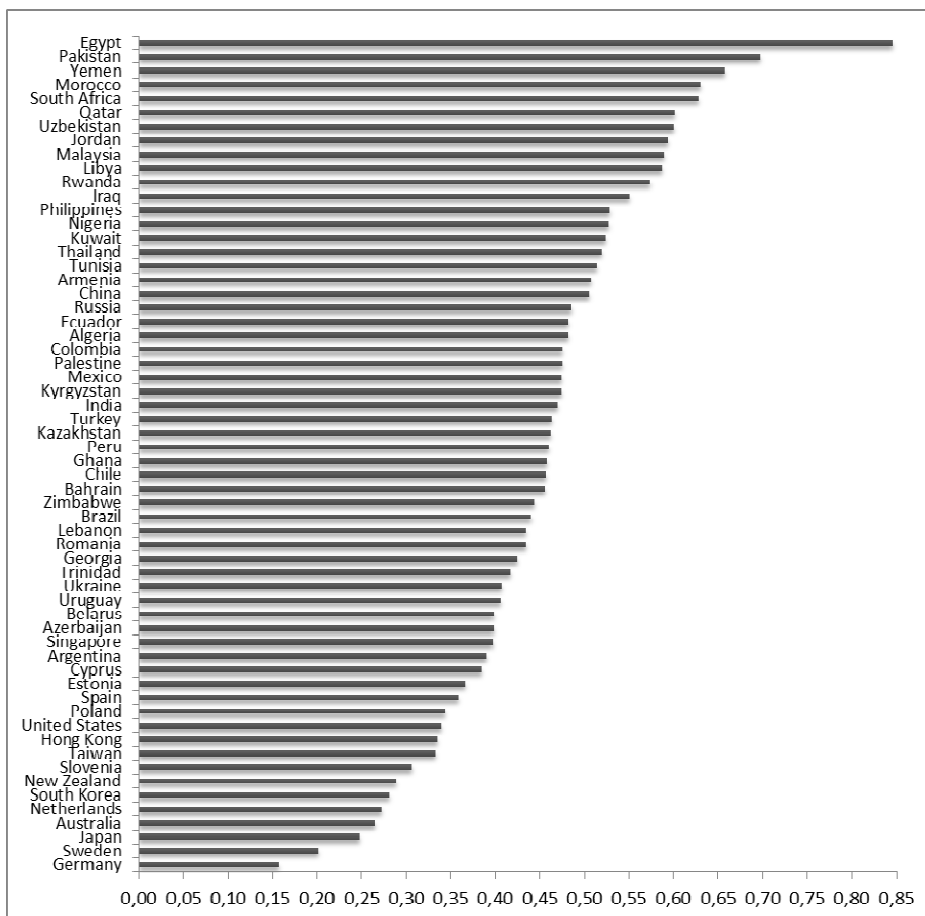
<sup>17</sup> As documented in OA II (20), proportions of Muslims aggregated from the WVS correlate at  $R = 0.98$  with an alternative estimate. We replicated our models with this alternative estimate, also using logged percentages as well as dummies (coding countries 1 for having a Muslim majority and 0 otherwise). Results with these alternative measures of Muslim dominance point in the same direction as those reported here but are weaker.

or false preferences, measuring the per country proportion of (1) missing responses, (2) contradictory responses and (3) duplicate responses, as explained in OA II (17-19). The analysis in OA V (p. 25) shows that—measured against these response patterns—the problem of non-attitudes in the sixth WVS is of minor proportion.

**FINDINGS**

Figure 2 displays mean AND-levels for our sixty countries. Country means vary massively, ranging from a low of 0.16 in Germany and Sweden to an astonishing high of 0.85 in Egypt or Pakistan. It is no surprise that such drastic differences in country means are statistically significant. They account for 25 percent of the *total* individual-level variation in ANDs. As mentioned before, the share of the total variation in ANDs that is due to people's nationalities doubles to 50 percent when one follows Alwin's diagnosis that half or more of the variation in survey data is random noise.

*Figure 2. Country Means in Authoritarian Notions of Democracy*



*Note:* Data source is WVS round six. For measurement details see OA II (8f.) at the end of this article. Country mean differences are statistically significant at the 1-% level (2-tailed T-test) and account for 25% of the overall variance in authoritarian notions of democracy.



The distribution of countries on the AND-index is patterned in several ways. On the top of the AND-index, we find mostly Muslim countries; at the bottom it is mostly Protestant countries. The top countries are also mostly non-democratic; the bottom countries are mature democracies. Likewise, the top-countries are developing ones; the bottom-countries are developed. Given the simultaneity of these religious, institutional and economic differences, multivariate analyses is needed to figure out which influence shapes country differences most strongly.

Table 3 correlates the prevalence of ANDs with plausible country-level influences. Obviously, cognitive mobilization, moral liberation and their combination—enlightenment forces (EFs)—represent by far the strongest correlates of ANDs. By contrast, the patrimonial state and overall religiosity show no significant correlation with ANDs. The same holds true for the response-style variables, which gives us reason to assume that the problem of non-attitudes is negligible. Then, in descending order of strength, Muslim dominance, state repression, fear of violence and democratic traditions all correlate significantly with ANDs in the expected direction. Yet, none of these associations comes close in strength to that between ANDs and EFs.

*Table 3.* Bivariate Associations of Authoritarian Notions of Democracy with Country-level Correlates

CORRELATES	Pearson's <i>R</i> (correlation coefficient)
<i>Substantive Correlates:</i>	
1 Enlightenment Forces (2 and 3 averaged)	-0.81***
2 Moral Liberation	-0.79***
3 Cognitive Mobilization	-0.75***
4 Muslim Dominance	0.59***
5 State Repression	0.57***
6 Fear of Violence	0.56***
7 Democratic Traditions	-0.33**
8 Patrimonial State	0.19
9 Overall Religiosity	0.07
<i>Survey Correlates:</i>	
10 Contradictory Responses (%)	0.31*
11 Duplicate Responses (%)	0.23
12 Missing Responses (%)	0.02

*Note:* Number of observations (countries) is 60. Coverage is for WVS, round six. Significance levels (2-tailed): \*\*\*  $P < 0.001$ , \*\*  $P < 0.005$ , \*  $P < 0.050$ . Correlates are ordered due to descending magnitude of *R*. For measurement details, see OA II (8-22) at the end of this article.

Figure 3 shows the astoundingly close association between EFs and ANDs. Even without excluding the outlier Egypt, EFs alone explain 65 percent of the entire cross-national variation in ANDs.

Figure 3. The Impact of the Enlightenment Forces on ANDs



Note: For measurement details, see OA II (8f.; 20) at the end of this article.

Given this pattern's clarity, it is expectable that few other influences retain significance in a multivariate regression. This is obvious from Table 4, which only includes those influences that are significant correlates of ANDs. Indeed, none of these influences retains significance, once we take EFs into account.<sup>18</sup>

The partial regression plots in Figure 4 single out some illustrative cases. The two upper diagrams show the simultaneous effects of EFs and democratic traditions on ANDs. The left-hand diagram in this upper panel displays the effect of democratic traditions under control of EFs. It is clear that there is not much of an effect, if any. To pick some telling cases, the right-ward position of India, Trinidad-Tobago and Ghana tells us that these countries have much longer democratic traditions than their (weak) EFs suggest. Yet, the relative strength of their democratic traditions does not correspond with less prevalent ANDs than those existing in countries with similarly weak EFs.

<sup>18</sup> If we include all country-level predictors shown in Table 3 into the regression of Table 4 and chose stepwise selection, only EFs are selected as a predictor, replicating the 65-percent explained variance from Table 4.

Table 4. Country-Level Determinants of Authoritarian Notions of Democracy

PREDICTORS	<i>B</i> (regression coefficient)	<i>T</i> -Ratio
Enlightenment Forces	-0.39	-4.12***
Muslim Dominance	0.06	1.84
State Repression	0.04	0.81
Fear of Violence	0.00	0.01
Democratic Traditions	0.05	1.15
<i>Constant</i>	0.57	6.11***
Adjusted $R^2$	0.65	
<i>N</i> (countries)	60	

*Notes:* Predictors are ordered in descending significance. Significance levels (2-tailed): \*\*\*  $P < 0.001$ , \*\*  $P < 0.005$ , \*  $P < 0.050$ . Test statistics for heteroscedasticity (White-test) and multicollinearity (VIFs) show no violation of OLS assumptions. Test statistics for influential cases indicate Egypt as an outlier. Removing Egypt does not change coefficients; it only increases the  $R$  square. For measurement details, see OA II (8-22) at the end of this article.

Vice versa, the right-hand diagram in the upper panel of Figure 4 shows that EFs in such countries as Slovenia and South Korea are much stronger than their (relatively short) democratic traditions suggest. Here, as well as in other cases, the relative strength of EFs does correspond with a lesser prevalence of ANDs than those existing in countries with similarly short democratic traditions.

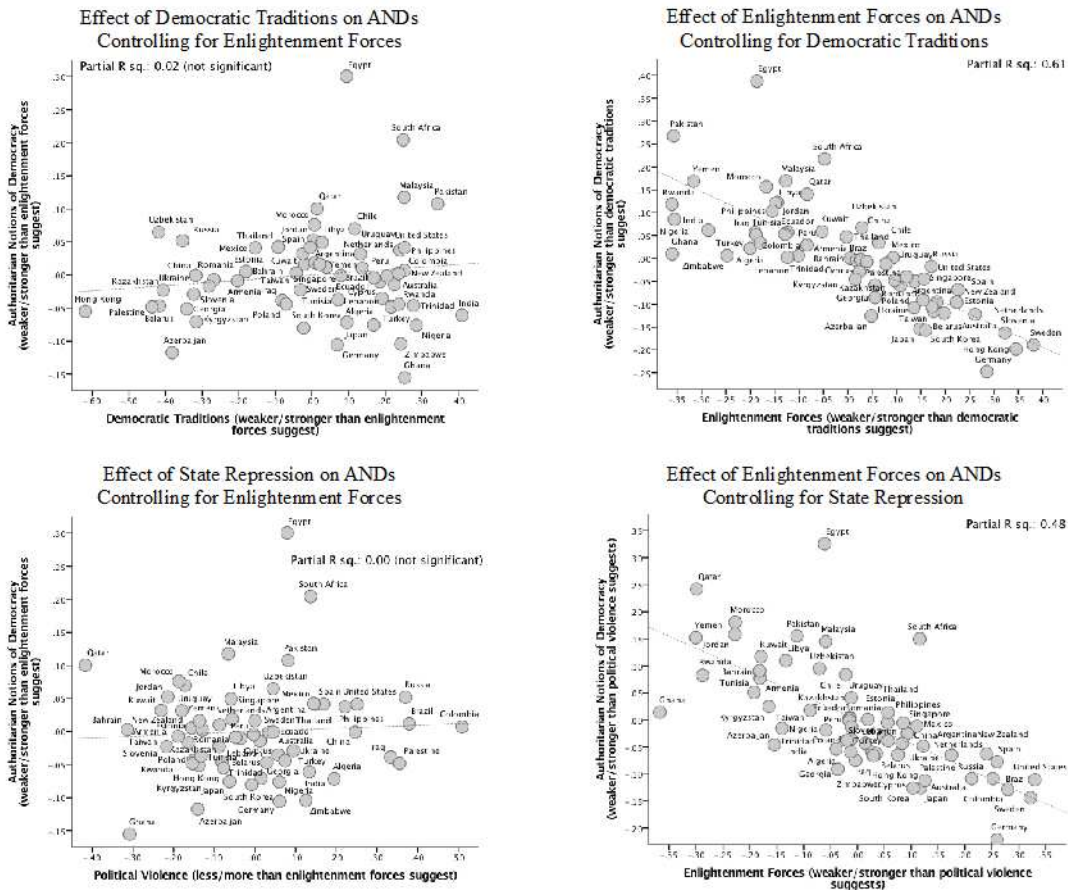
The lower panel in Figure 4 shows the same for the simultaneous influence of state repression and EFs. If one wishes to single out a most telling case, it is Brazil. The left-hand diagram in the lower panel shows that Brazil experiences much more state repression than its (modest) EFs suggest. But this fact does not, as one would expect, associate with more prevalent ANDs in Brazil than those existing in countries with similarly modest EFs. Vice versa, the right-hand diagram in Figure 4 shows that Brazil's EFs are much stronger than its (relatively high) level of state repression suggests. Here, this fact does correspond with less prevalent ANDs than those existing in countries at Brazil's level of state repression.

Together with the regression from Table 4, these findings suggest that EFs are the critical factor in lowering ANDs. This does not mean that all other influences are irrelevant. But their effects on ANDs are most likely indirect, mediated by how they affect EFs.

To test this possibility, we regress EFs on the set of variables shown in Table 3. The model explains 76% of the cross-national variance in EFs. Fears of violence, together with Muslim dominance exert the strongest negative effect ( $R_{\text{partial}} = -0.59$ ), followed by state repression ( $R_{\text{partial}} = -0.53$ ). Democratic traditions, overall religiosity and

patrimonial states, by contrast, fail to reach significance.<sup>19</sup> Figure 5 summarizes the path-dependency of ANDs embedded in these results.

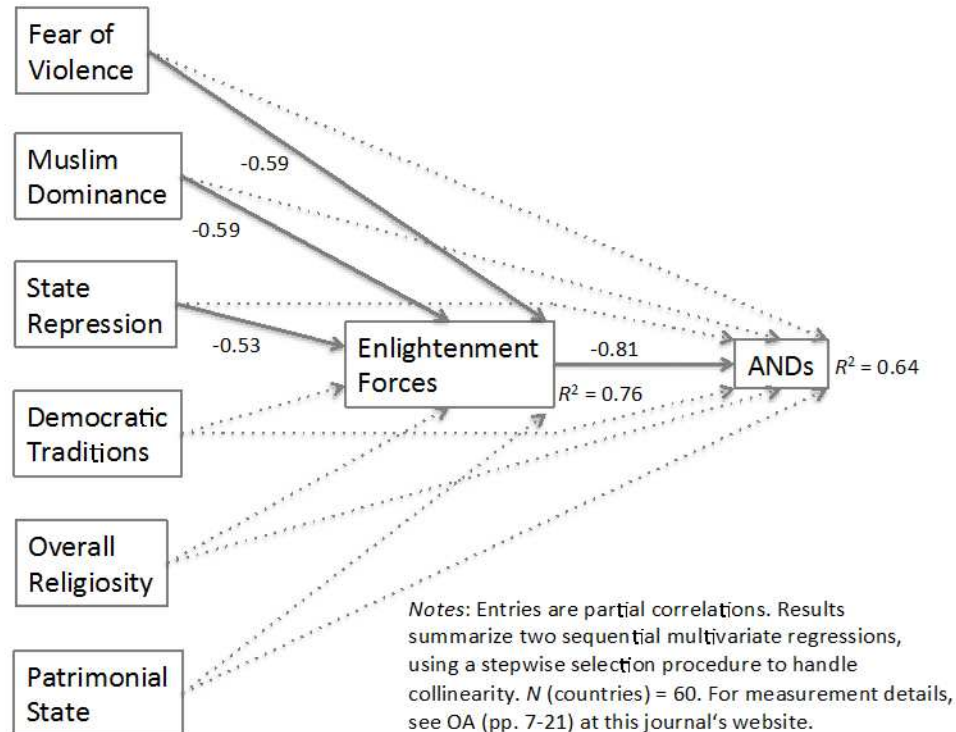
Figure 4. The Effect of Enlightenment Forces on Authoritarian Notions of Democracy Controlling for Democratic Traditions and State Repression



Note: The two diagrams in the upper panel are partial regression plots obtained from regressing authoritarian notions of democracy simultaneously on democratic traditions and enlightenment forces. The two diagrams in the lower panel are partial regression plots obtained from regressing authoritarian notions of democracy simultaneously on state repression and enlightenment forces. For measurement details, see OA II (8-22) at the end of this article.

<sup>19</sup> Test statistics relating to heteroscedasticity, collinearity and influential cases reveal no violations of OLS-assumptions. The three survey response variables exert no influence in this regression.

Figure 5. Path Diagram Summarizing Direct and Indirect Country-level Influences on Authoritarian Notions of Democracy (ANDs)



The multi-level model in Table 5 shows how individual- and country-level factors simultaneously shape ANDs. Obviously, country-level characteristics generally shape people's ANDs more strongly than their individual-level characteristics. Among the latter, individual religiosity, moral liberation, cognitive mobilization and fear of violence, in descending order, exert the strongest influence on people's ANDs. And while individual religiosity and fear of violence enhance ANDs, moral liberation and cognitive mobilization diminish them. All other influences are negligible.

There are cross-level interactions. The most telling one operates on individual-level moral liberation. Individuals scoring high in moral liberation tend to have lower ANDs but this diminishing effect is further amplified in countries where EFs grew stronger. In other words, an individual's moral liberation has a stronger enlightening effect on her notion of democracy when the whole country's enlightenment is farther advanced.

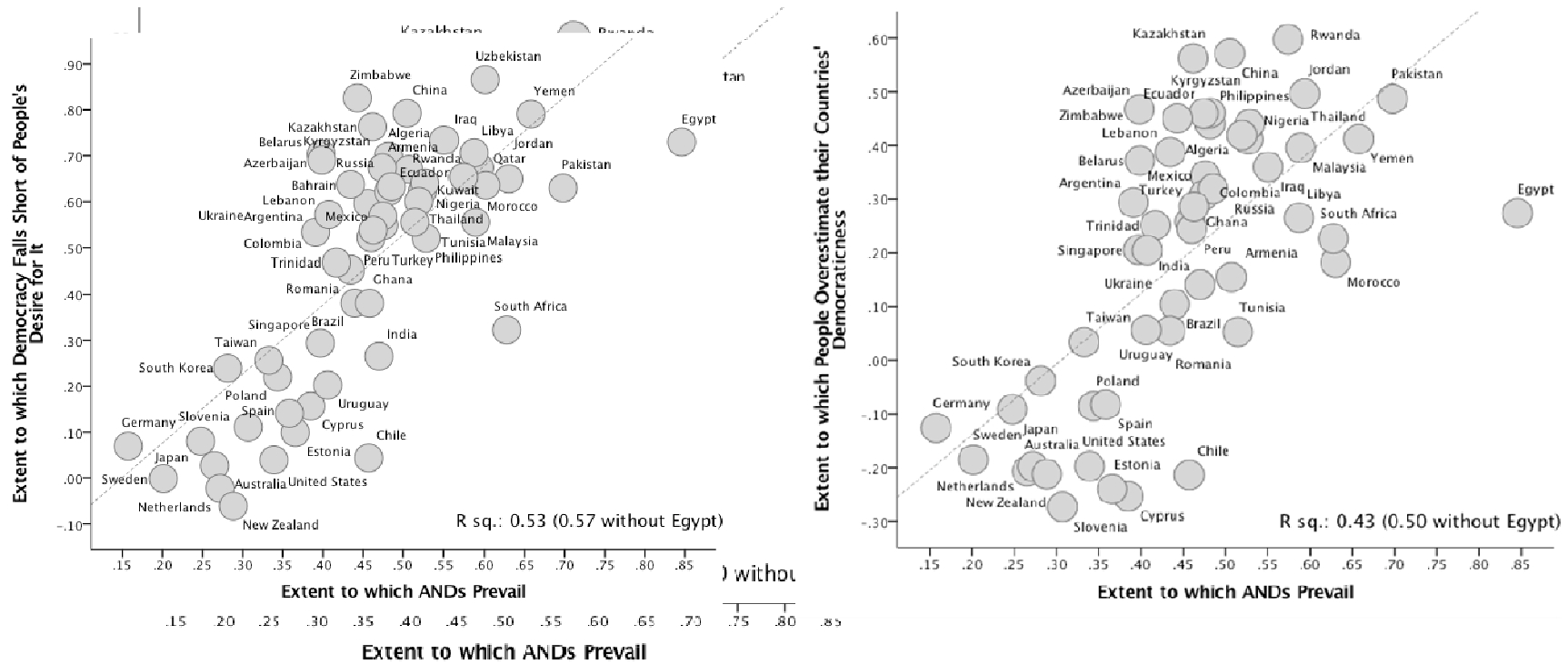
Table 5. Multi-level Model Explaining Authoritarian Notions of Democracy

PREDICTORS	B (regress. coeff.)	T-Ratio
Constant	0.66	29.72***
<i>Country-Level (CL) Effects:</i>		
Enlightenment Forces	-0.46	-10.38***
<i>Individual-Level (IL) Effects:</i>		
Female Sex (1 = female)	-0.01	-2.78*
Biological Age	0.02	3.73*
Household Income	0.01	1.08
Muslim Denomination	0.01	1.48
Individual Religiosity	0.08	9.51***
Political Interest	-0.01	-1.03
Cognitive Mobilization	-0.11	-8.60***
Moral Liberation	-0.08	-8.64***
Fear of Violence	0.03	4.14***
<i>Cross-Level Interactions (IL*CL):</i>		
Mor. Lib. (IL)*Enl. Force (CL)	-0.22	-4.24***
Age (IL) * Enl. Force (CL)	-0.24	-4.94***
Observations (N)	75,345 Individuals in 60 Countries	
Explained Variance:		
Individual Level	06% (4.5% of total variance)	
Country Level	65% (20% of total variance)	
<i>Notes:</i> Of the total variance in authoritarian notions of democracy, 75% is at the individual level and 25% at the country level. Models calculated with HLM 6.02. Estimates are based on robust standard errors. Only the two most significant cross-level interactions are displayed. National samples are weighted to equal size (N = 1,000) under exclusion of "duplicate" cases. Individual-level variables are country-mean centered (except dummies). Country-level variables are global-mean centered. Significance levels (2-tailed): *** P < 0.005, ** P < 0.050, * P < 0.100. For measurement details, see OA II (8-22) at the end of this article.		

Revisiting the "paradox of democracy," the evidence in Figure 6 resolves it. As the left-hand diagram illustrates, the more widespread ANDs are in a country, the more do people *over*-estimate their country's democraticness.<sup>20</sup> Indeed, large segments of the populations in China, Russia, Turkey, Zimbabwe, Pakistan, Kazakhstan and many other autocracies estimate their countries as being at least fairly, if not entirely, democratic when the exact opposite is the case. As the diagram shows, these are also the places where ANDs prevail.

<sup>20</sup> Over-estimations of democracy correlate with ANDs also at the individual level:  $R = 0.32$  ( $N \approx 74,000$ ;  $P = 0.01$ , 2-tailed).

Figure 6. Solving the Paradox of Democracy



*Note:* Scores on the vertical axis in the left-hand diagram show the difference between national populations' aggregate desires for democracy and the respective countries' actual levels of democracy. Desires for democracy are measured using question V140 of WVS (round six), asking people on a ten-point scale how important it is for them personally to live in a democracy. The countries' actual levels of democracy are measured using Alexander, Inglehart and Welzel's (2012) effective democracy index, using a five-year average before the year of the fieldwork in a given country. Before subtraction, desires for democracy and levels of democracy are standardized into the same scale range from minimum 0 to maximum 1. Scores on the vertical axis in the right-hand diagram show the difference between national populations' aggregate estimations of their countries' democraticness and the respective countries' actual levels of democracy. Estimations of democraticness are measured using question V141 of WVS (round six), asking people on a ten-point scale how democratic they think their country is. The countries' actual levels of democracy are measured in the same way as in the left-hand diagram. Again, scale standardization has been implemented before calculating the difference. For measurement details, see OA II (8-22).

The right-hand diagram shows an almost identical picture, with a different but closely related variable on the vertical axis: the extent to which the countries' actual level of democracy falls short of what people's desires for democracy *seem* to suggest. Clearly, this *seeming* democratic deficit increases systematically with the prevalence of ANDs, telling us that democratic desires do little to push regimes towards democracy when they exist in conjunction with widespread ANDs. As documented in the footer of Figure 6, these patterns retain significance, if we control for state repression.

## DISCUSSION

Up till now, ANDs have received scant attention, despite the fact that they are real and widespread. To the best of our knowledge, this study provides the most systematic and broadest examination of ANDs.

ANDs are most prevalent in developing countries in the Middle East, South Asia and Africa—regions where EFs have not grown strong yet. Indeed, EFs represent by far the most powerful influence on ANDs. This does not mean that other influences are irrelevant. But their influence is indirect, working via how they shape EFs. Hence, fears of violence, state repression and Muslim dominance all help to breed ANDs by keeping EFs weak.

Our supplementary analysis in OA V (27-29) shows that these results hold for each of the three AND-items separately, except for the fact that state repression shows a direct influence on the military-related AND-item. The same holds true for Muslim dominance with respect to the religion-related AND-item. Apparently, there are functional equivalents for different versions of authoritarianism, although EFs constitute a universal anti-dote that diminishes all three instances of ANDs.

The absence of an individual-level effect of Muslim denomination in our multi-level model illustrates that the influence of Islam is predominantly contextual rather than individual: individual Muslims share the refusal of ANDs that is common in most Muslim-minority countries, as much as non-Muslims share the embracement of ANDs that is typical of Muslim-majority countries. With religiosity, it is the other way round: while a country's overall religiosity shows no significant influence<sup>21</sup>, religious individuals tend to endorse ANDs more strongly than non-religious ones in most countries. By contrast, cognitive mobilization and moral liberation operate in the same direction at the individual as well as at the country level: towards diminishing ANDs. The same holds true for fear of violence, which operates in favor of ANDs at both levels of analysis (albeit indirectly at the country level, by hampering EFs).

Still, all of the individual-level influences are by a truly large magnitude smaller than those at the country level. The striking dominance of country- over individual-level influences demonstrates that ANDs are a deeply encultured part of national "mentalities."

<sup>21</sup> This finding repeats itself when we only use that AND-item addressing the legal authority of religious leaders.



Most importantly, our evidence resolves the "democratic paradox," that is, the coexistence of mass desires for democracy with the absence of the latter. Indeed, the prevalence of ANDs largely explains this phenomenon. The general rule is that, when more people *misunderstand* democracy in authoritarian ways, the deeper a country's actual level of democracy falls short of what the population's preferences *seem* to suggest. This finding demonstrates in all clarity that expressing preferences for democracy while supporting ANDs turns the meaning of democratic preferences into its opposite: it actually indicates support for authoritarian rule.

Our findings undermine an important alternative interpretation of ANDs. Following Kuran's (1995) *Private Truths - Public Lies*, one would assume that ANDs in authoritarian countries represent false preferences, which people express out of fear from being sanctioned. But then, state repression and fear from violence should have a *direct* impact on ANDs, which they don't. What is more, expressing a truly false preference means a state of cognitive dissonance, which most people tend to avoid. Such avoidance would manifest itself in response refusal. Consequently, fear of violence and state repression should strongly associate with the share of missing responses per country. But this is not the case, as the non-correlations in OA-Table 5 (OA III: 25) illustrate. All of this evidence invalidates the idea that ANDs in non-democratic countries would measure false preferences. This conclusion is not only important for our assessment of the popularity of authoritarian rule but also sheds light on the credibility of survey responses in authoritarian countries. After all, they seem to be no less reliable than those from democratic countries.

The most important limitation of our study is lack of longitudinal evidence. In the absence of such evidence, it is impossible to establish causality beyond any doubt. For instance, if we switch the positions of EFs and ANDs in the path diagram of Figure 5, we obtain the same path coefficient, yet now the arrow points from ANDs to EFs instead of the other way round. Thus, our preference for the illustrated model is one of theoretical plausibility rather than empirical necessity. Still, there are statistical tools to identify the more appropriate model by means of an endogeneity test. Conducting this test, we find that ANDs are endogenous to EFs, whereas EFs are *not* endogenous to ANDs.

Further exploring this issue, we identified a set of remote historical drivers emphasized in the development literature (for an overview, see Welzel 2013: chapter 11). These drivers reach from historic disease threats to the earliness of the demographic transition towards lower fertility and higher schooling rates. Then we looked at whether EFs or ANDs associate more closely with these historical drivers. The reason is simple: when among two closely related variables—like EFs and ANDs—one is more deeply rooted in remote historical causes than the other, then the more deeply rooted one is likely to be the driver of their relationship. The results of this exercise are straightforward: EFs are by a considerable degree more deeply rooted in remote historical drivers than are ANDs. This evidence does not prove, yet it at least suggests that EFs are causally prior to ANDs. These supplementary findings are documented in OA VII (28-30).

In the absence of longitudinal evidence, we cannot answer such questions as whether ANDs have been increasing in regimes that experience a resurgence of authori-

tarianism, like Russia or Turkey, or whether a decrease of ANDs over the generations serves as a preparatory force in transitions away from authoritarian rule, as in Tunisia. To close this gap, we must retain the item battery on notions of democracy in future rounds of the WVS. In fact, we should adopt it in other cross-national surveys that are regularly repeated. Moreover, it would be worthwhile to think about additional items tapping even more false notions of democracy. Cross-national public opinion research needs to further sharpen its tools to unmask the popularity of authoritarian rule.

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**REFERENCES**

- Adorno, T., Frenkel-Brunswick, E., Levinson, D.J. & N.R. Sanford (1950). *The Authoritarian Personality*. New York: Harper.
- Al-Braizat, F. (2010). "What Arabs Think." *Journal of Democracy* 21 (4): 131-138.
- Almond, G.A. & S. Verba (1963). *The Civic Culture*. Princeton: Princeton University Press.
- Alexander, A. & C. Welzel (2011). "Islam and Patriarchy." *International Review of Sociology* 21 (2): 249-276.
- Alexander, A., Inglehart, R. & C. Welzel (2012) "Measuring Effective Democracy." *International Political Science Review* 33 (1): 41-62.
- Alwin, D.F. (2007). *Margins of Error*. Hoboken: John Wiley.
- Anderson, C.J. & Y.V. Tverdova (2003). "Corruption, Political Allegiances, and Attitudes toward Government in Contemporary Democracies." *American Journal of Political Science* 47 (1): 91-109.
- Bratton, M. (2009). "Democratic Attitudes and Political Participation." Paper prepared for the Congress of the International Political Science Association. Michigan: Michigan State University.
- Brunn, S. D. (Ed.) (2015). *The Changing World Religion Map*. Dordrecht: Springer.
- Cieciuch, J., Davidov, E., Schmidt, P. & R. Algesheimer (2016). "Assessment of Cross-cultural Comparability." In Wolf, C., Joye, D., Smith, T.W. & Y.-C. Fu (eds.), *The Sage Handbook of Survey Methodology*. London: Sage, pp. 628-646.
- Cho, Y. (2014). "To Know Democracy Is to Love It." *Political Research Quarterly* 68 (1): 240-258.
- Dalton, R.J. (1996). *Citizen Politics*. 2<sup>nd</sup> ed. Chatham: Chatham House.
- Dalton, R.J. (2007). *Democratic Challenges, Democratic Choices*. Oxford: Oxford University Press.
- Dalton, R.J., Shin, D. C. & W. Jou (2007). "Understanding Democracy." *Journal of Democracy* 18 (4): 142-156.
- Diamond, L. (1999). *Developing Democracy*. Baltimore: Johns Hopkins University Press.
- Doherty, D. & J. Mcellem (2013). "Conceptions of Democracy in the Arab World." University of Chicago. Retrieved from: [http://orion.luc.edu/~ddoherty/documents/Conceptions\\_of\\_Democracy.pdf](http://orion.luc.edu/~ddoherty/documents/Conceptions_of_Democracy.pdf).
- Duckitt, J., Wagner, C., Du Plessis, I. & I. Birum (2002). "The Psychological Bases of Ideology and Prejudice." *Journal of Personality and Social Psychology* 83 (1): 75-93.
- Easton, D. (1965). *A System's Analysis of Political Life*. New York: Wiley.
- Eckstein, H. (1966). *A Theory of Stable Democracy*. Princeton: Princeton University Press.
- Fails, M. D. & H. N. Pierce (2010). "Changing Mass Attitudes and Democratic Deepening." *Political Research Quarterly* 63 (1): 174-187.
- Ferrin, M. & H. Kriesi (2016). "Introduction." In Ferrin, M. & H. Kriesi (eds.), *How Europeans View and Evaluate Democracy*, Oxford: Oxford University Press, pp. 1-20.

- 
- Gerring, J., Thacker, S. C. & R. Alfaro (2012). "Democracy and Human Development." *Journal of Politics* 74 (1): 1-17.
- Gibney, M., L. Cornett, R. Wood, P. Haschke & D. Arnon (2015). The Political Terror Scale 1976-2015 (data retrieved from the Political Terror Scale website at: [www.politicalterror scale.org](http://www.politicalterror scale.org)).
- Hadenius, A. & J. Teorell (2005). "Assessing Alternative Indices of Democracy." C&M Working Papers, IPSA. Lund University Pu. Retrieved from: <https://lup.lub.lu.se/search/publication/740759>.
- Inglehart, R. (1990). *Culture Shift in Advanced Industrial Society*. Princeton: Princeton University Press.
- Inglehart, R. & C. Welzel (2005). *Modernization, Cultural Change and Democracy*. New York: Cambridge University Press.
- Inkeles, A. & D. H. Smith (1974). *Becoming Modern*. Cambridge: Harvard University Press.
- Jennings, M. K. (1996). "Political Knowledge over Time and Across Generations." *Public Opinion Quarterly* 60 (2): 228-252.
- Klingemann, H.-D. (1999). "Mapping Political Support in the 1990s." In P. Norris (ed.), *Critical Citizens*. New York: Oxford University Press, pp. 31-56.
- Klingemann, H.-D. & C. Welzel (2008). "Evidencing and Explaining Democratic Congruence." *World Values Research* 1 (3): 57-90.
- Kuriakose, N. & M. Robbins (2016). "Don't get Duped." *Statistical Journal of the IAO* 1: 1-11.
- Lerner, D. (1958). *The Passing of Traditional Society*. London: Macmillan.
- Lipset, S.M. (1960). *Political Man*. New York: Doubleday.
- Mattes, R. & M. Bratton (2007). "Learning about Democracy in Africa." *American Journal of Political Science* 51 (1): 192-217.
- Mishler, W. & R. Rose (2002). "Learning and Re-learning Regime Support." *European Journal of Political Research* 41 (1): 5-36.
- Moreno-Alvarez, A. & C. Welzel (2014): "Enlightening People." In R.J. Dalton & C. Welzel (eds.), *The Civic Culture Transformed*. New York: Cambridge University Press, pp. 59-90.
- Norris, P. (2008). *Driving Democracy*. New York: Cambridge University Press.
- Norris, P. (2011). *Democratic Deficits*. New York: Cambridge University Press.
- Norris, P. & R. Inglehart (2015). "Are High Levels of Existential Security Conducive to Secularization." In S.D. Brunn (ed.), *The Changing World Religion Map*. Dordrecht: Springer, pp. 3389-3408.
- Pereira, M. (2012). "Types of Democrats in Europe." Paper presented at the Seminar in Politics and Society. Collegio Carlo Alberto.
- Pinker, S. (2011). *The Better Angels of Our Nature*. New York: Viking.
- Rohrschneider, R. (1994). "Report from the Laboratory." *American Political Science Review* 88 (4): 927-941.
- Ross, M. L. (2008). "Oil, Islam, and Women." *American Political Science Review* 102 (1): 107-123.

- Rustow, D. A. (1970). "Transitions to Democracy." *Comparative Politics* 2 (3): 337-363.
- Schedler, A.; & R. Sarsfield (2007). "Democrats with Adjectives." *European Journal of Political Research* 46 (5): 637-659.
- Scheepers, P., Felling, A. & J. Peters (1990). "Social Conditions, Authoritarianism and Ethnocentrism." *European Sociological Review* 6 (1): 15-29.
- Shin, D. C. (2015). "Assessing Citizen Responses to Democracy." CSD Working Papers, Irvine: UC Irvine (eScholarship: <https://escholarship.org/uc/item/89k3z6q2>).
- Shin, D. C. & Y. Cho (2010): "How East Asians Understand Democracy." *Asien* (116): 21-40.
- Simmons, K., Mercer, A., Schwarzer, S. & C. Kennedy (2016). "Evaluating a New Proposal for Detecting Data Falsification in Surveys." Washington DC: Pew Research Center. (available online at <http://www.pewresearch.org/2016/02/23/evaluating-a-new-proposal-for-detecting-data-falsification-in-surveys/>).
- Slomczynski, K. M., Powańko, P. & T. Krauze (2015). "The Large Number of Duplicate Records in International Survey Projects." CONSIRT Working Paper Series. Ohio State University (available online at <http://consirt.osu.edu/working-papers-series/>).
- Sullivan, J.L. & J.E. Transue (1999). "The Psychological Underpinnings of Democracy." *Annual Review of Psychology* 50: 625-650.
- Teorell, J., Dahlberg, S., Holmberg, S., Rothstein, B., Khomenko, A. & R. Svensson (2016). The Quality of Government Standard Dataset, version Jan16. University of Gothenburg: The Quality of Government Institute (available online at <http://www.qog.pol.gu.se>).
- Walker, C. (2016). "Dealing with the Authoritarian Challenge." In L. Diamond, M.F. Plattner & C. Walker (eds.), *Authoritarianism Goes Global*, Baltimore: Johns Hopkins University Press, pp. 250-271.
- Welzel, C. (2011). "The Asian Values Thesis Revisited." *Japanese Journal of Political Science* 12: 1-31.
- Welzel, C. (2013). *Freedom Rising*. New York: Cambridge University Press.
- Welzel, C. & R. Inglehart (2016). "Misconceptions of Measurement Equivalence." *Comparative Political Studies* 46 (1): 1-20.

**DEMOCRACY MISUNDERSTOOD:  
Authoritarian Notions of Democracy around the Globe**

**ONLINE APPENDIX (OA)**

This document is the Online Appendix to our journal article "Democracy Misunderstood." It comprises seven sections. Section I gives an overview of the data samples and their country coverage. Section II describes the variables and recoding procedures at the individual and country levels. Section III provides descriptive statistics for all variables used in the article. Section IV specifies web links to access our data online. Section V replicates the country-level regressions from *Table 4* in our article by de-composing our measure of authoritarian democracy notions into its three constituent items and predicting each of them separately. This section also shows that authoritarian notions of democracy are more indicative of authoritarianism writ large than is true for overt authoritarian regime preferences because the former associate much more strongly than the latter with authoritarianism's supposed antecedents and consequences. Section VI shows the results of endogeneity tests to resolve issues of causal direction. Further exploring this issue, Section VII analyzes differential links of our two main variables to remote historical drivers of development. Feedback to our analyses is highly welcome; if you wish to provide your feedback, please write to [cwelzel@gmail.com](mailto:cwelzel@gmail.com).

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## Section I: DATA SAMPLES AND COUNTRY COVERAGE

All of our individual-level data are taken from the sixth round of the World Values Survey (henceforth: WVS), which provides the broadest available evidence of the presence of authoritarian notions of democracy around the globe. Round six of the WVS has been conducted from 2010 until 2014. Although the WVS has been fielded in five rounds, only round six includes the three items needed to estimate authoritarian notions of democracy.

The WVS interviews nationally representative, random probability samples of adult country residents with a targeted minimum sample size of 1,000 respondents per country. Sub-contracted national polling agencies field a standardized English master questionnaire, translated into the main national language(s), preferably conducting face-to-face interviews. Only a few countries deviate from the preferred face-to-face mode, including Australia and New Zealand, where mail-back self-administered questionnaires have been used, and the Netherlands, where the interviews have been conducted via the Internet. Further Details on fieldwork organization, sample design and data collection are available at [www.worldvaluessurvey.org](http://www.worldvaluessurvey.org).

*OA-Table 1* (below) gives an overview of the country coverage and sample sizes of the round-six WVS. It includes a total of 86,272 respondents from 60 country samples (a city sample in the case of Hong Kong). Because the selected countries cover the largest populations in each global region, the data represent more than ninety percent of the world population.

*OA-Table 1. Country Coverage and Sample Sizes of the Round-six WVS*

Country	Respondents (N)	Field-work (year)	Male/Female Ratio	Average Age	Missing Responses (%)	Contradictory Responses (%)	Duplicate Responses (%)
Algeria	1,200	2013	1.03	37.80	25	12	17
Argentina	1,030	2013	0.88	42.65	09	10	00
Armenia	1,100	2011	0.51	46.19	25	11	00
Australia	1,477	2012	0.79	46.38	03	04	00
Azerbaijan	1,002	2011	1.00	39.66	00	07	02
Bahrain	1,200	2014	1.22	39.30	01	26	12
Belarus	1,535	2011	0.81	45.36	02	05	03
Brazil	1,486	2014	0.60	42.98	16	13	00
Chile	1,000	2011	0.97	43.89	13	08	17
China	2,300	2012	0.96	42.29	41	09	03
Colombia	1,512	2012	0.98	40.41	09	10	00
Cyprus (Greek)	1,000	2011	0.87	41.95	09	12	04
Ecuador	1,202	2013	0.94	39.81	01	18	01
Egypt	1,523	2013	0.47	38.80	03	07	07
Estonia	1,533	2011	0.81	47.07	17	04	00
Georgia	1,202	2014	0.85	44.66	05	08	02
Germany	2,046	2013	0.98	49.63	04	04	00

to be continued ...



... continuation *OA-Table 1*

Country	Respon- dents (N)	Field- work (year)	Male/Female Ratio	Aver- age Age	Missing Re- sponses (%)	Contradic- tory Re- sponses (%)	Duplicate Responses (%)
Ghana	1,552	2012	1.01	32.26	00	10	01
Hong Kong	1,000	2013	0.83	44.67	02	07	00
India	1,581	2014	1.65	32.37	00	29	39
Iraq	1,200	2012	1.10	36.61	05	06	02
Japan	2,443	2010	0.93	50.74	30	05	00
Jordan	1,200	2014	1.00	39.78	08	07	00
Kazakhstan	1,500	2011	0.66	40.35	00	09	14
Kuwait	1,303	2014	1.75	36.49	12	15	09
Kyrgyzstan	1,500	2011	0.96	38.75	01	13	17
Lebanon	1,200	2013	0.96	38.37	04	15	01
Libya	2,131	2014	1.05	33.97	13	12	01
Malaysia	1,300	2012	1.06	40.01	00	09	06
Mexico	2,000	2012	1.00	37.48	04	15	00
Morocco	1,200	2011	0.99	37.26	35	07	04
Netherlands	1,902	2012	0.87	53.34	18	05	00
New Zealand	841	2011	0.73	51.44	11	05	00
Nigeria	1,759	2011	1.02	31.54	00	15	11
Pakistan	1,200	2012	1.08	34.43	04	12	14
Palestine	1,000	2013	0.95	36.68	09	07	03
Peru	1,210	2012	1.01	39.48	14	15	01
Philippines	1,200	2012	1.00	43.06	01	15	00
Poland	966	2012	0.84	47.85	17	03	00
Qatar	1,060	2010	0.85	37.78	06	08	00
Romania	1,503	2012	0.75	46.25	13	09	00
Russia	2,500	2011	0.81	44.66	22	08	01
Rwanda	1,527	2012	0.98	33.77	00	11	02
Singapore	1,972	2012	0.82	45.16	00	13	00
Slovenia	1,069	2011	0.73	49.50	13	07	00
South Africa	3,531	2013	1.00	37.72	04	17	00
South Korea	1,200	2010	0.97	43.79	01	09	01
Spain	1,189	2011	0.95	46.11	11	08	00
Sweden	1,206	2011	0.89	47.62	07	03	00
Taiwan	1,238	2012	0.92	44.56	12	06	00
Thailand	1,200	2013	1.10	45.14	03	12	08
Trinidad-Tobago	999	2011	0.82	45.87	15	12	00
Tunisia	1,205	2013	1.11	38.82	20	14	02
Turkey	1,605	2011	0.95	40.08	03	11	02
Ukraine	1,500	2011	0.67	46.68	00	08	01
United States	2,232	2011	0.94	46.37	04	04	00
Uruguay	1,000	2011	0.89	44.99	18	09	00

to be continued ...

... continuation *OA-Table 1*

Country	Respondents (N)	Field-work (year)	Male/Female Ratio	Average Age	Missing Responses (%)	Contradictory Responses (%)	Duplicate Responses (%)
Uzbekistan	1,500	2011	0.63	39.35	02	09	01
Yemen	1,000	2014	0.99	35.59	33	05	00
Zimbabwe	1,500	2012	0.85	36.14	00	13	05
AGGRE- GATE	86,272 (sum)	2011 (mode)	0.93 (mean)	41.70 (mean)	09 (mean)	10 (mean)	04 (mean)

Apart from documenting sample sizes and the years of fieldwork per country, *OA-Table 1* also reports male-to-female ratios in each sample, as well as sample average ages and the percentage of missing, contradictory and duplicate responses on a country-by-country basis.

Most samples are slightly biased to include somewhat larger shares of women, in line with demographic realities. Only a few samples show a heavily biased sex ratio, like in the Egyptian sample (ratio: 0.47) in which the share of men is less than half as large as that of women, or the Kuwaiti sample (ratio: 1.75) in which men largely outnumber women. In about fifty of our sixty samples, sex ratios vary only modestly in a range from 0.80 to 1.20. Fortunately, our analyses reveal no evidence of a decisive influence of sex on our key dependent variable. For this reason, we did not employ any corrections for imbalanced sex ratios.

In terms of variation in average population age, it is evident that samples from developed countries tend to be older than samples from developing countries. Thus, a sample's mean age correlates at  $R = 0.64$  with the respective population's logged per capita Gross Domestic Product (in purchasing power parities in 2010). By far the overwhelming majority of samples ranges between 35 and 45 years of an average age, with no dramatic outliers from this range. Again, we believe that these patterns provide no good reasons to implement any correction schemes—even less so as age does not exert a decisive influence on our dependent variable.

The documentation of missing, contradictory and duplicate responses intends to shed light on the issue of "non-attitudes" or false preferences. Missing responses in *OA-Table 1* document per country the share of the sample refusing to respond to at least two of the three items addressing authoritarian notions of democracy. Response refusal to these items might indicate that an interviewee has no idea about the meaning of democracy, in which case it is a non-attitude, or shies away from revealing her or his true opinion, in which case we measure a false preference. Contradictory responses in *OA-Table 1* document per country the share of the sample answering a question on the "importance of politics" in one's life in a way directly contradictory to a later question on one's "political interest." Such outright contradictions in response patterns might indicate that interviewees give random answers, which is a manifestation of false preferences. Duplicate responses in *OA-Table 1* document per country the share of the respondents who have at least one identical "clone" in the same sample, as concerns the answers to the first 65 substantial questions of the round-six WVS questionnaire. The existence of identical duplicates over large groups of variables might indicate faked responses, in which case we again measure false preferences. Section II (pp. 16-

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18) of this appendix provides a more detailed documentation of how we created these response variables.

Measured against the standards of missing, contradictory and duplicate responses, the problem of non-attitudes or false preferences seems to be minor. The overall proportions of missing, contradictory and duplicate responses amount to 9, 10 and 4 percent in the order just mentioned. In 87 percent of our samples, the proportion of missing responses is below 15 percent. In 93 percent of our samples, the proportion of contradictory responses is below 15 percent. Exactly the same numbers apply to duplicate responses. A few extreme outliers exist: the Chinese sample includes 41 percent of interviewees giving non-responses, while the Indian sample includes 29 percent of interviewees giving contradictory responses and 39 percent with at least one identical clone in the same sample. However, controlling for these and other deviations did not affect our findings. Against this backdrop, we feel confident to conclude that our findings are not an artifact of non-attitudes or false preferences.

Further supporting this conclusion, it seems clear that response refusal is *not* driven by the interviewees' fear to exhibit their true posture. This is evident from the fact that the overall fear of violence in a country and its level of political repression do not contribute to a larger share of missing responses (see *OA-Table 5*, p. 24 in this appendix). This holds all the more true once we control for the enlightenment forces: then fear of violence and political repression show no more linkage whatsoever to either missing or contradictory responses.

**SECTION II: VARIABLE DESCRIPTION AND CODING PROCEDURES**

## INDIVIDUAL-LEVEL VARIABLES

**Authoritarian Notions of Democracy (ANDs)**

This variable is based on WVS round-six questions V132, V135 and V138:

"Many things are desirable, but not all of them are essential characteristics of democracy. Please tell me for each of the following things how essential you think it is as a characteristic of democracy. Use this scale where 1 means "not at all an essential characteristic of democracy" and 10 means it definitely is "an essential characteristic of democracy" [*Interviewer: read out and code one answer for each!*]?"

	Not an essential characteristic of democracy					An essential characteristic of democracy				
V132. Religious authorities ultimately interpret the laws.	1	2	3	4	5	6	7	8	9	10
V135. The army takes over when government is incompetent.	1	2	3	4	5	6	7	8	9	10
V138. People obey their rulers.	1	2	3	4	5	6	7	8	9	10

Based on these items, the command syntax to generate the AND-index reads as follows:

```
compute demrelig=(v132-1)/(10-1).
recode demrelig (sysmiss=-99).
mis val demrelig (-99).
```

```
compute demarmy=(v135-1)/(10-1).
recode demarmy (sysmiss=-99).
mis val demarmy (-99).
```

```
compute demobey=(v138-1)/(10-1).
recode demobey (sysmiss=-99).
mis val demobey (-99).
```

The following procedure creates the AND-index in such a way that whenever all three of its components are available, the resulting index is the average of these three, whereas when one component is missing it is a linear transformation of the available two components. The formula for the linear transformation (constant and component coefficients) is obtained from regressing the three component average on the two specific components in question. Since there are three possibilities of which combination of two components is available, this procedure has to be performed separately for each combination.

```
mis val demarmy demobey demrelig ().
```

if (demarmy ne -99) and (demobey ne -99) and (demrelig ne -99) ands=(demrelig + demobey + demarmy)/3.

if (demarmy = -99) and (demobey ne -99) and (demrelig ne -99)  
ands=.693+.092\*demrelig+.145\*demobey.

if (demarmy ne -99) and (demobey ne -99) and (demrelig = -99)  
ands=.684+.042\*demarmy+.131\*demobey.

if (demarmy ne -99) and (demobey = -99) and (demrelig ne -99)  
ands=.785+.055\*demrelig+.013\*demarmy.

recode ands (sysmiss=-99).  
mis val ands demarmy demrelig demobey (-99).  
mis val demobey demrelig ands ()).

The following procedure calculates a scheme to weight respondents in proportion to the completeness of information on which their AND-score is based:

if (demobey ne -99) and (demrelig ne -99) and (demarmy ne -99) weight1=1.

if (ands ne -99) and ((demobey = -99) or (demrelig = -99) or (demarmy = -99)) weight1=.66.

mis val demobey demrelig ands (-99).

We replicated all of our analyses using this scheme as a weight. This did not change the results.

### Liberal Notions of Democracy (LNDs)

This variable is based on WVS round-six questions V133, V136 and V139:

“Many things are desirable, but not all of them are essential characteristics of democracy. Please tell me for each of the following things how essential you think it is as a characteristic of democracy. Use this scale where 1 means “not at all an essential characteristic of democracy” and 10 means it definitely is “an essential characteristic of democracy” [*Interviewer: read out and code one answer for each*]?”

	Not an essential characteristic of democracy					An essential characteristic of democracy				
	1	2	3	4	5	6	7	8	9	10
V133. People choose their leaders in free elections.	1	2	3	4	5	6	7	8	9	10
V136. Civil rights protect people from state oppression.	1	2	3	4	5	6	7	8	9	10
V139. Women have the same rights as men.	1	2	3	4	5	6	7	8	9	10

Based on these items, the command syntax to generate the LND-index reads as follows:

```
compute demelect=(v133-1)/(10-1).
recode demelect (sysmiss=-99).
mis val demelect (-99).
```

```
compute demcivri=(v136-1)/(10-1).
recode demcivri (sysmiss=-99).
mis val demcivri (-99).
```

```
compute demwomen=(v139-1)/(10-1).
recode demwomen (sysmiss=-99).
mis val demwomen (-99).
```

The following procedure creates the LND index in such a way that whenever all three of its components are available, the resulting index is the average of these three, whereas when one component is missing it is a linear transformation of the available two components. The formula for the linear transformation (constant and component coefficients) is obtained from regressing the three component average on the two specific components in question. Since there are three possibilities of which combination of two components is available, this procedure has to be performed separately for each combination.

```
mis val demelect demcivri demwomen ().
```

```
if (demelect ne -99) and (demcivri ne -99) and (demwomen ne -99) lnds=(demelect + demcivri + demwomen)/3.
```

```
if (demwomen = -99) and (demelect ne -99) and (demcivri ne -99)
  lnds=.108+.435*demelect+.427*demcivri.
```

```
if (demwomen ne -99) and (demelect ne -99) and (demcivri = -99)
  lnds=.073+.419*demwomen+.460*demelect.
execute.
```

```
if (demwomen ne -99) and (demelect = -99) and (demcivri ne -99)
  lnds=.056+.421*demwomen+.050*demcivri.
```

```
recode lnds (sysmiss=-99).
mis val lnds demwomen demcivri demelect (-99).
```

## **Fear of Violence**

This variable is based on WVS round-six questions V183 to V185:

“To what degree are you worried about the following situations?”

---

	Very much	A good deal	Not much	Not at all
V183. A war involving my country	1	2	3	4
V184. A terrorist attack	1	2	3	4
V185. A civil war	1	2	3	4

To transform this variable into an index, we use the following command syntax:

```
recode v183 (1=1) (2=.66) (3=.33) (4=0) into worrwar.
recode worrwar (sysmiss =-99).
mis val worrwar (-99).
```

```
recode v184 (1=1) (2=.66) (3=.33) (4=0) into worrterror.
recode worrterror (sysmiss =-99).
mis val worrterror (-99).
```

```
recode v185 (1=1) (2=.66) (3=.33) (4=0) into worrcivilwar.
recode worrcivilwar (sysmiss =-99).
mis val worrcivilwar (-99).
```

The following procedure creates the fear of violence index in such a way that whenever all three of its components are available, the resulting index is the average of these three, whereas when one component is missing it is a linear transformation of the available two components. The formula for the linear transformation (constant and component coefficients) is obtained from regressing the three component average on the two specific components in question. Since there are three possibilities of which combination of two components is available, this procedure has to be performed separately for each combination.

```
mis val worrwar worrterror worrcivilwar ().
```

```
if (worrcivilwar ne -99) and (worrwar ne -99) and (worrterror ne -99) fear=(worrwar + worrterror +
worrcivilwar )/3.
```

```
if (worrcivilwar = -99) and (worrwar ne -99) and (worrterror ne -99) fear
=.000+.466*worrwar+.510*worrterror.
```

```
if (worrcivilwar ne -99) and (worrwar = -99) and (worrterror ne -99)
fear=.032+.450*worrcivilwar+.504*worrterror.
```

```
if (worrcivilwar ne -99) and (worrwar ne -99) and (worrterror = -99)
fear=.032+.487*worrwar+.473*worrcivilwar.
```

```
recode fear (sysmiss=-99).
mis val fear worrwar worrcivilwar worrterror (-99).
```

## Information Intake

This variable is based on WVS round-six questions V217 to V224 and V225:

"People learn what is going on in this country and the world from various sources. For each of the following sources, please indicate whether you use it to obtain information daily, weekly, monthly, less than monthly or never [*Interviewer: read out and code one answer for each*]":

	Daily	Weekly	Monthly	Less than monthly	Never
V217. Daily newspaper	1	2	3	4	5
V218. Printed magazines	1	2	3	4	5
V219. TV news	1	2	3	4	5
V220. Radio news	1	2	3	4	5
V221. Mobile phone	1	2	3	4	5
V222. Email	1	2	3	4	5
V223. Internet	1	2	3	4	5
V224. Talk with friends or colleagues	1	2	3	4	5

V225 "How often, if ever, do you use a personal computer? (Read out and code one answer):"

1. Never
2. Occasionally
3. Frequently
4. Do not know what a computer is (do not read out, code only if volunteered)

To transform this variable into an index, we use the following command syntax:

```
recode v217 (1 = 1) (2 = 0.75) (3= 0.5) (4= 0.25) (5 = 0) into infnewsp.
recode infnewsp (sysmiss = -99).
mis val infnewsp (-99).
```

```
recode v219 (1 = 1) (2 = 0.75) (3= 0.5) (4= 0.25) (5 = 0) into inftvnews.
recode inftvnews (sysmiss = -99).
mis val inftvnews (-99).
```

```
recode v220 (1 = 1) (2 = 0.75) (3 = 0.5) (4 = 0.25) (5 = 0) into infradionews.
recode infradionews (sysmiss = -99).
mis val infradionews (-99).
```

```
recode v221 (1 = 1) (2 = 0.75) (3= 0.5) (4= 0.25) (5 = 0) into infphone.
recode infphone (sysmiss = -99).
mis val infphone (-99).
```

```
recode v222 (1 = 1) (2 = 0.75) (3= 0.5) (4= 0.25) (5 = 0) into infemail.
recode infemail (sysmiss = -99).
mis val infemail (-99).
```

```
recode v223 (1 = 1) (2 = 0.75) (3= 0.5) (4= 0.25) (5 = 0) into infweb.
recode infweb (sysmiss = -99).
```



```
mis val infweb (-99).
```

```
recode v224 (1 = 1) (2 = 0.75) (3= 0.5) (4= 0.25) (5 = 0) into inftalk.
```

```
recode inftalk (sysmiss = -99).
```

```
mis val inftalk (-99).
```

```
recode v225 (1 = 0) (2 = 0.5) (3 = 1) (4= 0) into pcuse.
```

```
recode pcuse (sysmiss = -99).
```

```
mis val pcuse (-99).
```

```
compute infconnec1 = (infnewsp + inftvnews + infradionews + infphone + infemail + infweb +
    inftalk + pcuse)/8.
```

```
recode infconnec1 (sysmiss=-99).
```

```
mis val infconnec1 (-99).
```

```
var lab infconnec1 `information intake`.
```

The following procedure creates a proxy for information intake based on V225 “how often if ever do you use a personal computer,” for those two countries (namely Morocco and Spain) where V217-V224 have not been fielded. The formula for the linear transformation (constant and component coefficients) is obtained from regressing the eight component average on V225:

```
mis val pcuse ().
```

```
if (infconnec1 ne -99) infconnec = infconnec1.
```

```
if (infconnec1 = -99) and (pcuse ne - 99) infconnec = .392 + .396*pcuse.
```

```
mis val infconnec pcuse (-99).
```

```
recode infconnec (sysmiss =-99).
```

```
mis val infconnec (-99).
```

## Educational Attainment

This variable based on WVS round-six question V248:

V248. “What is the highest educational level that you have attained? [*NOTE: if respondent indicates to be a student, code highest level s/he expects to complete*]:”

- 1 No formal education
- 2 Incomplete primary school
- 3 Complete primary school
- 4 Incomplete secondary school: technical/vocational type
- 5 Complete secondary school: technical/vocational type
- 6 Incomplete secondary: university-preparatory type
- 7 Complete secondary: university-preparatory type
- 8 Some university-level education, without degree
- 9 University-level education, with degree

To transform this variable into an index, we use the following command syntax:

```
compute educachieve=(v248-1)/(9-1).
```

recode educachieve (sysmiss = -99).

mis val educachieve (-99).

### Cognitive Mobilization

Cognitive mobilization is an index created by averaging "information intake" and "educational attainment"—two variables documented above. The following command syntax creates the index:

```
compute cogmob = (infconnec + educachieve)/2.
```

```
recode cogmob (sysmiss = -99).
```

```
mis val cogmob (-99).
```

```
mis val infconnec educachieve (-99).
```

### Moral Liberation

This variable is identical with Welzel's 12-item index of "emancipative values," which is described in detail in Welzel (2013, Online Appendix: pp. 22-27). The appendix is accessible via the following link: [www.cambridge.org/de/download\\_file/473755/](http://www.cambridge.org/de/download_file/473755/). The index of emancipative values is an additive measure of four sub-indices, each of which in turn is an additive summary of three items. The four sub-indices address:

- (1) *sexual choice* (summarizing tolerance of homosexuality, abortion and divorce),
- (2) *gender equality* (support of women's equal access to education, jobs and public office),
- (3) *democratic voice* (priorities for freedom of speech and people's say in local as well as national affairs) and
- (4) *child autonomy* (support of independence and imagination and refusal of obedience as child qualities).

The additive summary of these sub-indices into the index of emancipative values indicates a respondent's overall support of universal freedoms. Note that in response to misplaced criticism, Welzel and Inglehart (2016) re-validate the index of emancipative values in multiple ways.

### Protest Activity

This variable is identical with Welzel's index of "social movement activity (SMA)," yielding an additive multi-point scale of a respondent's non-participation (coded 0), anticipated participation (coded 0.33) and actual participation (coded 1.0) in each of the following three activities: peaceful demonstrations, consumer boycotts and civic petitions. The index intends to measure a person's *psychological protest repertoire*, with a premium on actual over anticipated protest. The coding procedures are described in detail in Welzel (2013, Online Appendix: pp. 35-37). The appendix is accessible via the following link: [www.cambridge.org/de/download\\_file/473755/](http://www.cambridge.org/de/download_file/473755/).

## Individual Religiosity

This variable is based on WVS round-six questions V19, V145 and V152:

"Here is a list of qualities that children can be encouraged to learn at home. Which, if any, do you consider to be especially important? Please choose up to five!"

	Mentioned	Not mentioned
V19. Religious faith	1	2

	Not at all important							Very important		
	1	2	3	4	5	6	7	8	9	10
V152. "How important is god in your life?"										

Please use this scale to indicate. 10 means "very important" and 1 means "not at all important."  
 [Interviewer: code one number only]:

V145. "Apart from weddings and funerals how often do you attend religious services?"

1	More than once a week
2	Once a week
3	Once a month
4	Only on special holy days
5	Once a year
6	Less often
7	Never, practically never

These questions cover an individual's religiosity in three domains: belief, practice and upbringing. The following syntax recodes and combines these questions into a multi-point additive index:

```
recode v19 (1=1) (2=0) (sysmis=sysmis) into faithchild.
```

```
recode faithchild (sysmiss =-99).
```

```
mis val faithchild (-99).
```

```
compute religiouservices=1-((v145-1)/(7-1)).
```

```
recode religiouservices (sysmiss =-99).
```

```
mis val religiouservices (-99).
```

```
compute impgod=(v152-1)/(10-1).
```

```
recode impgod (sysmiss =-99).
```

```
mis val impgod (-99).
```

The following procedure creates the religiosity index in such a way that whenever all three of its components are available, the resulting index is the average of these three, whereas when one component is missing it is a linear transformation of the available two components. The formula for the linear transformation (constant and component coefficients) is obtained from regressing the three component average on the two specific components in question. Since there are three possibilities of which combination of two components is available, this procedure has to be performed separately for each combination:

```
mis val impgod faithchild religiouservices ().
```

if (faithchild ne -99) and (impgod ne -99) and (religiousservices ne -99) religiosity1 = (faithchild + impgod + religiousservices)/3.

if (faithchild ne -99) and (impgod ne -99) and (religiousservices = -99) religiosity1 = .064+.464\*impgod+.385\*faithchild.

if (faithchild ne -99) and (impgod = -99) and (religiousservices ne -99) religiosity1 = .171+.389\*faithchild+.442\*religiousservices.

if (faithchild = -99) and (impgod ne -99) and (religiousservices ne -99) religiosity1 = .014+.431\*religiousservices+.463\*impgod.

mis val faithchild impgod religiousservices ().

if (faithchild ne -99) and (impgod ne -99) and (religiousservices ne -99) weight1e=1.

if (faithchild = -99) or (impgod = -99) or (religiousservices = -99) weight1e=.66.  
mis val faithchild impgod religiousservices (-99).

recode religiosity1 (sysmiss=-99).

mis val religiosity1 (-99).

In Kuwait and Egypt, not all of our preferred religiosity items have been fielded. To avoid dropping these two national samples, we create a proxy for the religiosity index by combining item V19 (standardized as described above) and the following round-six WVS question, which both have been fielded in Kuwait and Egypt as well:

For each of the following, indicate how important it is in your life. Would you say it is [*Interviewer: read out and code one answer for each!*]:

	Very important	Rather important	Not very important	Not at all important
V9. Religion	1	2	3	4

Thus, for Kuwaitis and Egyptians the religiosity index is calculated as follows:

recode v9 (1=1) (2=0.66) (3=0.33) (4=0) (sysmis=sysmis) into imprel.

recode imprel (sysmiss=-99).

mis val imprel (-99).

compute religiosity2= (imprel + faithchild)/2.

recode religiosity2 (sysmiss =-99).

mis val religiosity2 (-99).

mis val religiosity1 religiosity2 ().

if (religiosity1 ne -99) religiosity = religiosity1.

if (religiosity1 = -99) and (religiosity2 ne -99) religiosity = religiosity2.

```

mis val religiosity1 religiosity2 (-99).
recode religiosity (sysmiss =-99).
mis val religiosity (-99).

```

## Household Income

This variable is based on WVS round-six question V239:

V239. "On this card is an income scale on which 1 indicates the lowest income group and 10 the highest income group in your country. We would like to know in what group your household is. Please, specify the appropriate number, counting all wages, salaries, pensions and other incomes that come in [*Interviewer: code one number*]:

Lowest group								Highest group	
1	2	3	4	5	6	7	8	9	10

The following syntax transforms the original scale into a 0-to-1 index:

```

compute income = (v239-1)/(10-1).
recode income (sysmiss = -99).
mis val income (-99).

```

## Muslim Denomination

This is a dummy variable based on WVS round-six question V144:

V144. "Do you belong to a religion or religious denomination? If yes, which one?"

We code answers according to the respondents' self-identification as either Muslim (V144=49), Sunnite (V144=75) or Shiite (V144=70), as follows:

```

recode v144 (49=1) (70=1) (75=1) (sysmiss=sysmiss) (else=0) into muslid.
recode muslid (sysmiss =-99).
mis val muslid (-99).

```

## Political Interest

This variable is based on WVS round-six question V84:

V84. "How interested would you say, are you in politics? Are you [*Interviewer: read out and code one answer only*]:

- 1 Very interested
- 2 Somewhat interested
- 3 Not very interested
- 4 Not at all interested

The following syntax transforms the original coding into a 0-to-1 index:

```

recode v84 (1 = 1) (2 = 0.66) (3 = 0.33) (4 = 0) into intpol.
recode intpol (sysmiss = -99).
mis val intpol (-99).

```

### Female Sex

This variable is based on WVS round-six question V240:

V240. [*Interviewer: code respondent's sex by observation*]:

1	Male
2	Female

The following syntax transforms the original scale into a 0-1 dummy variable:

```

recode v240 (1=0) (sysmis=sysmis) (2=1) into sex.
recode sex (sysmiss = -99).
val lab sex "female" 0"male".
mis val sex (-99).

```

### Biological Age

This variable is based on WVS round-six questions V241 and V242 in which respondents are asked to indicate their year of birth, followed by their respective age:

V241. "Can you tell me your year of birth, please? 19\_\_\_\_ [*Interviewer: write in last two digits*]"

V242. "This means you are \_\_\_\_ years old [*Interviewer: write in age in two digits*]."

We standardize answers into a 0-to-1 index, using the following syntax:

```

compute age = (v242-16)/(99-16)
recode age (sysmiss = -99).
mis val age (-99).

```

### Overrating Democracy

For one part, this variable uses WVS round-six question V141:

V141. And how democratically is this country being governed today? Again using a scale from 1 to 10, where 1 means that it is "not at all democratic" and 10 means that it is "completely democratic," what position would you choose? [*Interviewer: code one number only!*]:

Not at all										Completely
democratic										democratic
	1	2	3	4	5	6	7	8	9	10

To normalize the original scale into a 0-to-1 index of democracy rating, we use the following syntax:

```
compute demrate=(v141-1)/(10-1).
recode demrate (sysmiss=-99).
mis val demrate (-99).
```

For the second part, we use the update of Alexander, Inglehart and Welzel's (2012) "effective democracy index" (EDI), measured over a five-year average spanning the five years before the round-six WVS was fielded in a given country. The data for the EDI are provided by the Quality of Government Institute's annual data release at Gothenburg University, Sweden at: <http://qog.pol.gu.se/data/datadownloads>.

The EDI is a *conditional* democracy measure, indicating the extent of democratic rights on the condition that rule of law puts these rights into effect. To measure this conditionality, the authors use a multiplicative combination, weighting democratic rights (measured on a percentage scale from 0 for the smallest scope to 100 for the broadest) for the strength of rule of law (measured on a weighting scale from 0 for the weakest rule of law to 1 for the strongest, with decimal fractions indicating intermediate positions). The democratic rights measure uses Freedom House's combined "civil liberties" and "political rights" ratings (averaging, inverting and rescaling the original scores into a percentage scale). The rule of law measure uses the World Bank's "control of corruption" and "rule of law" estimates (averaging and rescaling them into a weighting index). Alexander, Inglehart and Welzel (2012) defended the EDI against misplaced criticism and have re-validated it in multiple ways. For further confirmation, it should be noted that the EDI in 2012 (and any given year) correlates at  $R = 0.92$  ( $N = 160$ ) with the highly acclaimed "liberal democracy" and the "egalitarian democracy" estimates by the "Varieties of Democracy (V-Dem)" project at Gothenburg University, Sweden.

In order to bring the EDI into the same 0-to-1 scale range as the survey respondents' subjective democracy ratings ("demrate"), we divide the original EDI scores by 100. Then we subtract from each respondent's own democracy rating the respective country's normalized EDI-score, which then tells us to what extent a respondent *overrates* her/his country's democraticness (in case of *positive* differences) or to what extent s/he *underrates* it (in case of *negative* differences):

```
compute edin=edi/100.
compute overrate=demrate-edin.
recode overrate (sysmiss=-99).
mis val overrate (-99).
```

### Missing Responses

This is a dummy variable assigning interviewees code 1 when they did not respond to at least two of the items used to calculate the AND-index and 0 otherwise. To do so, we employ the following command syntax, based on previously created variables:

```
if (ands=-99) misresp=1.
if (ands ne -99) misresp=0.
```

### Contradictory Responses

This is a dummy variable assigning interviewees code 1 when they answered two questions on the importance of politics in one's life and one's political interest in the most contradictory way, using WVS round-six questions V7 and V84:

For each of the following, indicate how important it is in your life. Would you say it is (read out and code one answer for each):

		Very important	Rather important	Not very important	Not at all important
V7.	Politics	1	2	3	4

V84. How interested would you say you are in politics? Are you (read out and code one answer):

- 1 Very interested
- 2 Somewhat interested
- 3 Not very interested
- 4 Not at all interested

The syntax to create the contradictory response index reads as follows:

```
if ((v7=1) and (v84=4)) or ((v7=4) and (v84=1)) contrresp=1.
recode contrresp (sysmiss=0).
```

### Duplicate Responses

Duplicate cases refer to respondents who give identical answers over a defined set of variables. We identify duplicate cases over the first 65 substantive variables in the country-pooled individual-level dataset of the round-six WVS, using the SPSS procedure outlined below. Duplicate respondents are indicated by a dummy variable, using code 1 for duplicate respondents and 0 for unique respondents. Based on this dummy we aggregate the proportion of duplicate responses separately for each population sample. Here follows the command syntax of the identification procedure in SPSS:

\* Identify Duplicate Cases.

```
SORT CASES BY V4(A) V5(A) V6(A) V7(A) V8(A) V9(A) V10(A) V11(A) V12(A) V13(A) V14(A)
V15(A) V16(A)
```



```

V17(A) V18(A) V19(A) V20(A) V21(A) V22(A) V23(A) V24(A) V25(A) V26(A) V27(A) V28(A) V2
9(A) V30(A)
  V31(A) V32(A) V33(A) V34(A) V35(A) V36(A) V37(A) V38(A) V39(A) V40(A) V41(A) V42(A)
V43(A) V44(A)
  V45(A) V46(A) V47(A) V48(A) V49(A) V50(A) V51(A) V52(A) V53(A) V54(A) V55(A) V56(A)
V57(A) V58(A)
  V59(A) V60(A) V61(A) V62(A) V63(A) V64(A) V65(A).
MATCH FILES
  /FILE=*
  /BY V4 V5 V6 V7 V8 V9 V10 V11 V12 V13 V14 V15 V16 V17 V18 V19 V20 V21 V22 V23 V24
V25 V26 V27 V28
  V29 V30 V31 V32 V33 V34 V35 V36 V37 V38 V39 V40 V41 V42 V43 V44 V45 V46 V47 V48
V49 V50 V51 V52 V53
  V54 V55 V56 V57 V58 V59 V60 V61 V62 V63 V64 V65
  /FIRST=PrimaryFirst1
  /LAST=PrimaryLast.
DO IF (PrimaryFirst1).
COMPUTE MatchSequence1=1-PrimaryLast.
ELSE.
COMPUTE MatchSequence1=MatchSequence1+1.
END IF.
LEAVE MatchSequence1.
FORMATS MatchSequence1 (f7).
COMPUTE InDupGrp=MatchSequence1>0.
SORT CASES InDupGrp(D).
MATCH FILES
  /FILE=*
  /DROP=PrimaryFirst1 InDupGrp MatchSequence1.
VARIABLE LABELS PrimaryLast 'Indicator of each last matching case as Primary'.
VALUE LABELS PrimaryLast 0 'Duplicate Case' 1 'Primary Case'.
VARIABLE LEVEL PrimaryLast (ORDINAL).
FREQUENCIES VARIABLES=PrimaryLast.

```

Recode PrimaryLast (1=0) (0=1).

Val lab PrimaryLast 1"duplicate case" 0""unique case".

AGGREGATE

/OUTFILE=\* MODE=ADDVARIABLES

/BREAK=ctrnum

/PrimaryLast\_mean=MEAN(PrimaryLast).

## COUNTRY-LEVEL VARIABLES

The country-level variables for *Authoritarian Notions of Democracy*, *Moral Liberation*, *Fear of Violence*, *Overall Religiosity*, *Muslim Dominance*, *Protest Activity* as well as *Missing*, *Contradictory* and *Duplicate Responses* are per country aggregates of the respective individual-level variables, which all are documented in the preceding section of this appendix. We aggregate individual-level data by calculating the arithmetic mean per country population. For Muslim Dominance, Missing, Contradictory and Duplicate Responses, the arithmetic means are calculated from individual-level dummy variables and are, hence, to be interpreted as the proportion of respondents in a country sample who belong into the respective categories.

**Cognitive Mobilization**

To measure how broad and intensely a given country-population's cognitions are mobilized, we follow Welzel (2013) and use the World Bank's (2015) "Knowledge Index (KI)," taking the most recent version of this index, from 2008. The index indicates "a society's ability to generate, adopt and, diffuse knowledge. The KI is the simple average of the normalized scores of a society on the key variables in the three knowledge economy pillars: education, innovation, and ICT" (World Bank 2008). The knowledge index combines data on education (using indicators like the tertiary enrolment ratio), on innovation (using indicators like the number of patents per 10,000 inhabitants) and on information technology (using indicators like the number of internet hosts per 1,000 inhabitants). We re-scale the index into a range from 0 to 1, with higher scores indicating a more advanced cognitive mobilization through more widespread education, more extensive information flows and higher-end knowledge production. Data are available online at: <http://data.worldbank.org/data-catalog/KEI>.

**Enlightenment Forces (EFs)**

Enlightenment Forces measure a population's average score across (a) the country-level measure of Cognitive Mobilization and (b) the population average in Moral Liberation, simply adding the two scores and dividing the sum by 2, after having standardized the scale range of both variables between an observed minimum 0 and an observed maximum 1. This standardization intends to give both components the same impact on the combined index.

**Muslim Dominance**

Alternatively to country-aggregated proportions of denominational Muslims from the WVS (see p. 15 here), we use La Porta, López-de-Silanes, Shleifer and Vishny's (1999) estimates of the percentage of Muslims in a country, measured in decimal fractions of 1. Data are included in the QoG Standard Dataset (Teorell, Dahlberg, Holmberg, Rothstein Hartmann & Svensson 2015), variable "lp\_muslim80." The QoG Standard Dataset is accessible online at: <http://qog.pol.gu.se/data/datadownloads>. Using these data instead of WVS-aggregates, we

obtain no differences in results whatsoever. This is little surprise if one recognizes that the two country-level measures correlate at  $R = 0.98$  ( $N = 60$ ,  $P = 0.00$ , 2-tailed).

### **State Repression**

State Repression is measured using Gibney, Cornett, Wood, Haschke and Arnon's (2015) "political terror scale" (PTS). The PTS provides a 5-point ordinal scale based on the annual reports of human rights violations by (a) Amnesty International and (b) the US State Department. Averaging the two 5-point scales provides a more fine-grained index, which we use. The PTS measures physical repression on two accounts: the frequency of political repression over a given period of time and the size of the population affected by the abuse. Coding focuses on actual violations of physical integrity carried out through state agencies, rather than on non-state actors. Our analyses use PTS scores as a decennial average from 1995 to 2005 for each country, which creates even more fine-grained variation. Also, stretching the time span creates a more reliable index than using scores from single years. We standardize scores into a scale range from 0 for the least to 1 for the most repression, with decimal fractions of 1 indicating intermediate positions.

*Reference:* Gibney, M., L. Cornett, R. Wood, P. Haschke & D. Arnon (2015). The Political Terror Scale 1976-2015 (data retrieved from the Political Terror Scale website at: [www.politicalterror scale.org](http://www.politicalterror scale.org)).

### **Democratic Traditions**

To measure democratic traditions we use Gerring, Thacker and Alfaro's (2012) "democracy stock" measure as of 2000, the latest time point of this measure at the time of this writing. The measure is based on the -10 to +10 "autocracy-vs.-democracy" index from the Polity IV dataset. Scores are summed up over the last hundred years (1900-2000) applying a one percent depreciation rate. Thus, the index measures a country's historically accumulated experience with democracy, with a premium on more recent experience. We standardize the index into a normalized scale range from a minimum of 0 for absent democratic traditions to a maximum of 1 for the longest democratic traditions, with decimal fractions of 1 indicating intermediate positions.

Two countries, Palestine and Taiwan, as well as Hong Kong have no data entry. We assign a score of 0 to Palestine and Hong Kong because they are not independent states in which the people could exert democratic sovereignty. To Taiwan we assign the same score as that available for South Korea (0.64) because Taiwan's democratic transition began at about the same time as South Korea's (i.e., in the late 1980s) and because both countries can be considered consolidated democracies ever since.

*Reference:* Gerring, J., S.C. Thacker & R. Alfaro (2012). "Democracy and Human Development." *Journal of Politics* 74: 1-17.

## Patrimonial State

As a proxy for the presence of patrimonial state structures, we use the revenue that a country obtains from oil and gas exports, which are usually managed by state monopolies. Such revenues diminish a state's dependence on citizen taxation and enable governments to subsidize loyal supporters as well as to fund repressive structures to intimidate opponents. Specifically, we use Ross's (2013) estimates of the per capita value of a country's oil and gas exports (in international US-Dollars), adding the two indicators into a single measure for each country. Data usually refer to the year 2012. If no data are available for a country for 2012, data from surrounding years are used, up to a maximum of +/- 3 years, with priority given to closer years. Data are included in the QoG Standard Dataset (Teorell, Dahlberg, Holmberg, Rothstein, Hartmann & Svensson 2015), variables "ross\_gas\_netexpc" and "ross\_oil\_netexpc." The QoG Standard Dataset is accessible online at: <http://qog.pol.gu.se/data/datadownloads>. We rescale this variable into a range from 0 for the lowest oil/gas revenues to 1 for the highest, with decimal fractions of 1 indicating intermediate positions.

## Paradox of Democracy Measures: Deficient Democracy

For one part, this variable uses WVS round-six question V140:

V140. How important is it for you to live in a country that is governed democratically? On this scale where 1 means it is "not at all important" and 10 means "absolutely important" what position would you choose? [*Interviewer: code one number only!*]:

Not at all	Absolutely
important	important
1      2      3      4      5      6      7      8      9      10	

To normalize the original scale into a 0-to-1 index of "democracy desires," we use the following syntax:

```
compute demdesire=(v141-1)/(10-1).
recode demdesire (sysmiss=-99).
mis val demdesire (-99).
```

For the second part, we use again the update of Alexander, Inglehart and Welzel's (2012) "effective democracy index" (EDI), as a five-year average over the five years before the round-six WVS was fielded in a given country (see description and documentation above, p. 16). In order to bring the EDI into the same 0-to-1 scale range as the survey respondents' democracy desires ("demdesire"), we divide the original EDI scores by 100. Then we subtract from each respondent's democracy desire the respective country's normalized EDI-score, which then tells us to what extent a country's actual democraticness falls short of a given respondent's seeming desire for it (in case of *positive* differences) or to what extent the actual democraticness exceeds a respondent's seeming desire for it (in case of *negative* differences). Thus, we obtain an index of "deficient democracy":

```
compute edin=edi/100.
```

```
compute defidemoc=demdesire-edin.  
recode defidemoc (sysmiss=-99).  
mis val defidemoc (-99).
```

Finally, we aggregate the individual-level scores on the deficient democracy index, by calculating the arithmetic population mean for each sample. Country scores on this index are displayed on the vertical axis of the left-hand diagram of Figure 6 in our article. The index shows to what extent a country's actual democraticness exceeds or falls short of what the respective country-population, on average, *seems* to desire. In theory, scores can range from -1, for the hypothetical case that every respondent of a national sample has no desire whatsoever for democracy while the country's actual democraticness is at the maximum, to +1, for the hypothetical case that every respondent of a national sample has a maximum desire for democracy while the country's actual democraticness is at the minimum.

We wish to emphasize that we interpret the respondents' expressed desires for democracy as "seeming" rather than "real," because—in the presence of ANDs—democratic desires do not constitute desires for "true" democracy but for its opposite: namely, authoritarian rule.

### **Paradox of Democracy Measures: Overrating Democracy**

Country scores on this index are displayed on the vertical axis of the right-hand diagram of Figure 6 in our article. The index provides the arithmetic population mean per country of the identically labelled individual-level variable (see pp. 15-16, above). The index shows how strongly, on average, a given population over- or underrates its country's actual democraticness. In theory, scores can range from -1, for the hypothetical case that every respondent of a national sample maximally underrates her/his country's actual democraticness, to +1, for the hypothetical case that every respondent of a sample maximally overrates her/his country's democraticness. Approximations to 0 indicate increasingly accurate democracy ratings among population samples.

**SECTION III: DESCRIPTIVE STATISTICS**

*OA-Table 2.* Descriptives for Individual-Level Variables

	Male Subsamples			Female Subsamples		
	N	Mean	Std. Dev.	N	Mean	Std. Dev.
Authoritarian Notions of Democracy	39,546	0.46	0.26	42,200	0.46	0.26
Liberal Notions of Democracy	40,051	0.74	0.23	43,270	0.75	0.23
Fear of Violence	39,919	0.60	0.35	43,442	0.62	0.35
Educational Attainment	40,745	0.61	0.29	44,647	0.58	0.31
Information Intake	40,740	0.61	0.23	44,641	0.55	0.24
Cognitive Mobilization	40,410	0.61	0.22	44,238	0.57	0.23
Moral Liberation	40,712	0.40	0.17	44,505	0.42	0.17
Biological Age	41,012	0.30	0.21	45,009	0.31	0.21
Household Income	39,794	0.44	0.23	43,360	0.42	0.23
Religiosity	41,037	0.54	0.31694	45,047	0.55	0.29
Political Interest	40,806	0.50	0.32389	44,660	0.42	0.31

OA-Table 3. Descriptives for Country-Level Variables

	N	Mean	SD	Min.	Max.
Authoritarian Notions of Democracy	60	0.45	0.12	0.16 (Germany)	0.85 (Egypt)
Enlightenment Forces	60	0.45	0.22	0.05 (Yemen)	1.00 (Sweden)
Muslim Dominance	60	0.32	0.41	0.00 (Japan)	1.00 (Palestine)
State Repression	60	0.42	0.25	0.00 (NZ)	0.98 (Iraq)
Fear of Violence	60	0.61	0.18	0.18 (NL)	0.96 (Tunisia)
Democratic Traditions	60	0.53	0.28	0.00 (Uzbekistan)	1.00 (NZ, US)
Patrimonial State	60	0.04	0.14	0.00 (India)	1.00 (Qatar)
Overall Religiosity	60	0.45	0.09	0.26 (Mexico)	0.70 (Algeria)
Missing Responses	60	0.09	0.10	0.00 (Malaysia)	0.41 (China)
Contradictory Responses	60	0.10	0.05	0.03 (Poland)	0.29 (India)
Duplicate Responses	60	0.04	0.07	0.00 (Australia)	0.39 (India)
Deficient Democracy	57	0.46	0.26	-0.06 (NZ)	0.87 (Uzbekistan)
Overrating Democracy	60	0.19	0.26	-0.27 (Slovenia)	0.60 (Rwanda)

NL: Netherlands; NZ: New Zealand

OA-Table 4. Country-Level Correlation Matrix

	Authorit. Notions of Dem.	Enlighten- ment Forces	Muslim Dominance	State Re- pression	Fear of Violence	Democratic Traditions	Patrimonial State
Enlightenment Forces	-0.81***						
Muslim Domi- nance	0.59***	-0.61***					
State Repres- sion	0.57***	-0.68***	0.29*				
Fear of Vio- lence	0.56***	-0.72***	0.32*	0.51***			
Democratic Traditions	-0.33**	0.50***	-0.37***	-0.32*	-0.32*		
Patrimonial State	0.19	-0.10	0.31*	-0.18	0.17	-0.05	
Overall Religi- osity	0.07	-0.08	0.30*	-0.01	-0.06	0.06	0.30*

*Note:* Entries are Pearson R correlations. Number of countries is 60 in all cells. Significance levels (2-tailed): \*\*\* P < 0.001, \*\* P < 0.005, \* P < 0.050.

OA-Table 5. Country-Level Correlations between Substantive and Response-Quality Variables

	Missing Responses	Contradictory Responses	Duplicate Responses
Authoritarian Notions	0.02	0.31*	0.23
Enlightenment Forces	0.02	-0.38***	-0.31*
Muslim Domi- nance	0.04	0.11	0.24
State Repres- sion	-0.04	0.29*	0.23
Fear of Vio- lence	-0.00	0.25	0.08
Democratic Traditions	-0.06	0.07	-0.02
Patrimonial State	-0.03	0.03	-0.02
Overall Religi- osity	-0.13	0.29*	0.17

*Note:* Entries are Pearson R correlations. Number of countries is 60 in all cells. Significance levels (2-tailed): \*\*\* P < 0.001, \*\* P < 0.005, \* P < 0.050.



**SECTION IV: DATA**

Our data are available upon request: please write a note to [cwelzel@gmail.com](mailto:cwelzel@gmail.com). We provide individual-level and country-level data in two separate files, offering them in SPSS as well as STATA and Excel formats. The name of the individual-level dataset is "DemocMisund\_IL" while the country-level dataset is labelled "DemocMisund\_CL."

**SECTION V: SUPPLEMENTARY RESULTS**

The following regressions replicate the country-level predictions in *Table 4* of our article by de-composing the AND-index into its three single items.

*OA-Table 6. Religious Authority as the AND-Item*

PREDICTORS	B (regression coefficient)	T-Ratio
Enlightenment Forces	-0.38	-3.55***
Muslim Dominance	0.13	3.68***
State Repression	0.10	1.62
Fear of Violence	-0.07	-0.80
Democratic Traditions	0.12	2.54**
Constant	0.43	4.03***
Adjusted R <sup>2</sup>	0.66	
N (countries)	60	

Notes: Predictors are ordered in descending significance. Significance levels (2-tailed): \*\*\* P < 0.001, \*\* P < 0.005, \* P < 0.050. Test statistics for heteroscedasticity (White-test) and multicollinearity (VIFs) show no violation of OLS assumptions. For measurement details, see pp. 7-21 in this appendix.

*OA-Table 7. Military Coups as the AND-Item*

PREDICTORS	B (regression coefficient)	T-Ratio
Enlightenment Forces	-0.31	-2.61**
Muslim Dominance	0.05	1.17
State Repression	0.16	2.49**
Fear of Violence	-0.08	-0.87
Democratic Traditions	0.02	0.36
Constant	0.48	4.12***
Adjusted R <sup>2</sup>	0.52	
N (countries)	60	

Notes: Predictors are ordered in descending significance. Significance levels (2-tailed): \*\*\* P < 0.001, \*\* P < 0.005, \* P < 0.050. Test statistics for heteroscedasticity (White-test) and multicollinearity (VIFs) show no violation of OLS assumptions. For measurement details, see pp. 7-21 in this appendix.

OA-Table 8. Obedience to Rulers as the AND-Item

PREDICTORS	B (regression coefficient)	T-Ratio
Enlightenment Forces	-0.68	-4.62***
Muslim Dominance	-0.01	-0.17
State Repression	-0.14	-1.72
Fear of Violence	-0.10	-0.82
Democratic Traditions	0.08	1.35
Constant	0.94	6.48***
Adjusted R <sup>2</sup>	0.42	
N (countries)	60	

Notes: Predictors are ordered in descending significance. Significance levels (2-tailed): \*\*\* P < 0.001, \*\* P < 0.005, \* P < 0.050. Test statistics for heteroscedasticity (White-test) and multicollinearity (VIFs) show no violation of OLS assumptions. For measurement details, see pp. 7-21 in this appendix.

The following table (*OA-Table 9*) shows that ANDs are much more indicative of authoritarianism writ large than is true for overt authoritarian regime preferences because the former associates by a large magnitude more closely with various supposed correlates of authoritarianism, at both the individual and country level.

We calculate overt authoritarian regime preferences by combining WVS round-six items V127 ("having a strong leader who does not have to bother with parliaments and elections")<sup>22</sup> and V130 ("having a democratic system"), to which respondents were asked to rate their support on a four-point ordinal scale (1 "very good," 2 "fairly good," 3 "fairly bad," 4 "very bad"). We reverse the polarity of both scales, standardize them into a range from 0 to 1 (1 = 0, 2 = 0.33, 3 = 0.66, 4 = 1) and then subtract the recoded item V130 from V127. This yields an index ranging from a theoretical minimum of -1 (for the case that the preference for democracy is at the maximum and the preference for authoritarian rule at the minimum) to +1 (for the exact opposite constellation). A score of 0 indicates equal preferences for democracy and authoritarian rule.

Arguably, this index measures how strongly a respondent openly expresses a preference of authoritarian over democratic rule. At the country level, we use each sample's population mean on this index.

<sup>22</sup> Instead of item V127, we could have used item V129 ("having the army rule") to measure authoritarian regime preferences. However, the strong ruler item is more general because it includes the possibility of the army chief being the strong leader. Moreover, the strong leader item is significantly more popular (mean: 0.46) than the army rule item (0.31), for which reason the strong ruler item offers a more critical benchmark to assess authoritarianism.

OA-Table 9. Correlates of Authoritarian Notions of Democracy and Authoritarian Regime Preferences

CORRELATES:	Authoritarian Notions of Democracy		Authoritarian Regime Preferences	
	Individual Level	Country Level	Individual Level	Country Level
Moral Liberation	-0.33***	-0.79***	-0.10***	-0.17
Authoritarian Beliefs <sup>a)</sup>		0.69***		0.60**
Overrating Democracy	0.29***	0.65***	0.03***	0.26
Muslim Dominance		0.59***		-0.01
State Repression		0.57***		0.25
Democratic Traditions		-0.33**		-0.27*
Individual Religiosity	0.27***		0.01*	
Overall Religiosity		0.07		0.03
Cognitive Mobilization	-0.22***	-0.75***	-0.06***	-0.06
Protest Activity	-0.20***	-0.66***	-0.14***	-0.37**
Fear of Violence	0.17***	0.56***	0.08***	0.27**
Muslim Denomination	0.17***		0.01	
Valuing Violence <sup>b)</sup>	0.16***	0.50***	0.11***	0.11
Valuing Obedience <sup>c)</sup>	0.13***	0.43***	0.01	-0.10
War Willingness <sup>d)</sup>	0.09***	0.42***	0.00	0.11

*Notes:* Entries are Pearson's *R* correlations. Variables are ordered along descending correlations. Significance levels (2-tailed): \*\*\*  $P < 0.001$ , \*\*  $P < 0.005$ , \*  $P < 0.050$ . Number of observations at the individual level varies around 75,000 respondents. Number of observations at the country level is 60, except for Authoritarian Beliefs<sup>a)</sup>, which cover 16 countries only. Variables not explained in Section II (pp. 8-22) of this appendix are explained in this footer below.

<sup>a)</sup> *Authoritarian Beliefs* are country-aggregated scores on the F-(authoritarianism) scale from national student/teacher samples. Data are retrieved from Murray, Schaller and Suedfeld (2013), referenced at the end of this appendix.

<sup>b)</sup> *Valuing Violence* is an additive combination of WVS round-six items V208, V209 and V201, which measure on a 10-point scale each a respondent's acceptance of men beating their wives (V208), parents beating their children (V209) and violence against other people more generally (V210). Scores are rescaled from minimum 0 to maximum 1 and averaged across the three items. At the country level, we use each sample's arithmetic mean on this index.

<sup>c)</sup> *Valuing Obedience* uses WVS round-six item V21, measuring whether (recoded 1) or not (recoded 0) a respondent supports "obedience" as a desired child quality. At the country level, we measure the proportion of people (scaled in decimal fractions of 1) supporting obedience as a desired child quality.

<sup>d)</sup> *War Willingness* uses WVS round-six item V66 to measure whether (recoded 1) or not (recoded 0) a respondent would be willing to fight for her or his country in the case of war. At the country level, we measure the proportion of people (scaled in decimal fractions of 1) indicating to be willing to go to war for their country.

## SECTION VI: ENDOGENEITY TESTS

The path diagram in Figure 5 of our article locates EFs as a mediating variable between a set of initial treatment variables on the left-hand side and ANDs as the outcome variable on the right-hand side. But we could as well switch the positions of EFs and ANDs in this model and specify the latter as the mediating variable and the former as the outcome variable. If so, we obtain the same path coefficient between EFs and ANDs as that illustrated in Figure 5, with the only difference that now the causal arrow points from ANDs to EFs instead of the other way round.

Statistically speaking, both models fit the data equally well despite the fact that the model in Figure 5 suggests a causal impact of EFs on ANDs while the alternative specification suggests the exact opposite. Hence, it is important to know which model is preferable.

To figure this out, we conduct a Durbin-Wu-Hausman test in two opposite directions, first testing whether EFs are endogenous to ANDs and then whether ANDs are endogenous to EFs, controlling in both cases for the same set of exogenously treated variables. We conduct these tests with the following notations:

$E$  denotes Enlightenment Forces,  $F$  Fears of Violence,  $R$  State Repression,  $M$  Muslim Dominance,  $c$  the constant,  $a_1$  to  $a_3$  as well  $b_1$  and  $b_2$  the regression coefficients and  $e$  the error term.

### Equation System I:

$$(1) \quad E = c + a_1 F + a_2 R + a_3 M + e$$

$$(2) \quad A = c + b_1 E + e$$

Now, we estimate equation (1), save the residuals of  $E$  ( $E_{\text{res}}$ ) and augment equation (2) by including  $E_{\text{res}}$ , thus estimating:

$$(3) \quad A = c + b_1 E + b_2 E_{\text{res}} + e$$

If the  $b_2$ -coefficient for  $E_{\text{res}}$  has a significant effect in equation (3), then  $E$  is endogenous to  $A$  and the system is invalid. If  $E$  is not endogenous to  $A$ , the system is valid.

Estimating equation (3), our regression yields a coefficient of  $b_2 = \mathbf{0.15}$ , which is clearly insignificant at  $P = 0.246$ . Hence,  $E$  is *not* endogenous to  $A$ , which renders Equation System I valid.

### Equation System II:

$$(4) \quad A = c + a_1 F + a_2 R + a_3 M + e$$

$$(5) \quad E = c + b_1 A + e$$

Now, we run equation (4), save the residuals of  $A$  ( $A_{\text{res}}$ ) and augment equation (5) by including  $A_{\text{res}}$ , thus estimating:

$$(6) \quad E = c + b_1 A + b_2 A_{\text{res}} + e$$

If the  $b_2$ -coefficient for  $A_{\text{res}}$  is significant in equation (6), then  $A$  is endogenous to  $E$  and the system is invalid. If  $A$  is not endogenous to  $E$ , the system is valid.

Estimating equation (6), our regression yields a coefficient of  $b_2 = \mathbf{-0.61}$ , which is highly significant at  $P = 0.012$ . Hence,  $A$  is endogenous to  $E$ , which renders Equation System II *invalid*.

In light of this test, it is clear that the path diagram in Figure 5 of our article specified the appropriate model in terms of endogeneity considerations. By contrast, it would have been inappropriate to specify the model in such a way that ANDs operate as the mediating variable and EFs as the outcome variable.

*Reference:* Davidson, R. & J.G. MacKinnon (1993). [\*Estimation and Inference in Econometrics\*](#). New York: Oxford University Press.

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## SECTION VII: LINKS TO REMOTE HISTORICAL DRIVERS

Murray, Schaller and Suedfeld (2013) relate contemporary liberalism/authoritarianism (country means) to the historic incidence of communicable diseases, showing that high historic disease threat predisposes populations to authoritarianism, whereas a low threat predisposes them to liberalism. Similar relationships exist with respect to individualism/collectivism, with high disease threat predisposing populations to collectivism and low threat predisposing them to individualism. These findings are in accordance with existential threat theories of authoritarianism because disease threat is existential.

The findings also relate to the juxtaposition of "fast" life histories (high mortalities and fertilities) and "slow" life histories (low mortalities and fertilities): life is a source of threats and sufferings under "fast" life histories and a source of opportunities and thriving under "slow" life histories. In Welzel's terms (2013: chapter 11), societies climb the "utility ladder of freedoms" when the nature of life turns from a source of threats into a source of opportunities, or from fast to slow.

Against this backdrop, it is plausible to assume that early historic manifestations of life threats-vs-opportunities set societies already before the Industrial Revolution on pro-emancipatory trajectories with a long-term orientation towards liberal outcomes (in case of life opportunities being the dominant condition), or on anti-emancipatory trajectories with a long-term orientation towards authoritarian outcomes (in case of life threats being the dominant condition).

Now, Welzel identifies an even more remote, geo-climatic configuration that has been a signature feature of Western cultures' predominant thermo-hydrological environment: the cool water condition. This condition combines cool seasonal temperatures with water abundance—with profound consequences for social organization. The cool water condition allows for a form of agriculture under which small family households can autonomously work relatively large plots of arable land—which is abundant under this condition (once forests are cleared and swamps drained). Also, the ubiquitous availability of fresh water under this condition exempts a vital life resource from elite control. For all these reasons, Welzel argues that the cool water condition incentivized some key features of social grassroots organization that are typical of the West (and to some degree also Japan).

In light of these rationales, it is plausible to assume that both contemporary enlightenment forces and authoritarian notions of democracy relate back to these historic manifestations of life opportunities-vs-threats, yet it in inverse ways: what favors enlightenment forces should disfavor authoritarian notions of democracy, and vice versa. Now, with respect to the causal direction in the relationship between enlightenment forces and authoritarian notions of democracy, the key question is whether either of these two is obviously more deeply rooted in the remote historic manifestations of life opportunities-vs-threats. If so, this one is most likely the driver in the relationship between the two. The correlations shown in *OA-Table 10* (next page) give a straightforward answer to this question: the enlightenment forces are more deeply rooted in remote historic circumstances and, hence, more likely to be the driver in the relationship with authoritarian notions of democracy.

OA-Table 10. Differential Links to Remote Historical Drivers

CORRELATES:	Enlightenment Forces	Authoritarian Notions of Democracy	Authoritarian Regime Preferences
Cool Water Condition (timeless) <sup>a)</sup>	0.87*** (60)	-0.76*** (60)	-0.08 (58)
Human Capital Formation 1900 <sup>b)</sup>	0.83*** (55)	-0.69*** (55)	-0.42** (53)
Female Reproductive Choice 1800 <sup>c)</sup>	0.82*** (58)	-0.68*** (58)	-0.21 (56)
Cousin Marriage Practice (historic) <sup>d)</sup>	-0.80*** (38)	0.63*** (38)	0.21 (37)
Disease Threat (pre-industrial) <sup>e)</sup>	-0.63*** (58)	0.49*** (58)	0.03 (56)
White Settler Mortality (logged) <sup>f)</sup>	-0.59*** (39)	0.33** (39)	0.11 (38)
Western European Descendants <sup>g)</sup>	0.51*** (56)	-0.36** (56)	-0.14 (54)

*Notes:* Entries are Pearson's  $R$  correlations with number of observations (countries) in parentheses. Variables are ordered along descending correlations. Significance levels (2-tailed): \*\*\*  $P < 0.001$ , \*\*  $P < 0.005$ , \*  $P < 0.050$ .

<sup>a)</sup> The *Cool Water Condition* is from Welzel (2013: chapter 11). It is an additively combined measure of (1) temperate-to-cold seasonal temperatures, (2) continuous rainfall over the seasons and (3) access to navigable waterways (all country averages). As explicated by Welzel, in pre-industrial times the Cool Water Condition is supposed to incentivize smaller household size, nuclear family arrangements, autonomous family farming and female reproductive choice—conditions that became important in setting Western cultures on a trajectory towards emancipatory outcomes, including the Enlightenment Forces.

<sup>b)</sup> *Human Capital Formation* in 1900 is a latent variable, measuring a single dimension unifying (1) the earliness of the onset of the fertility decline, (2) inverse fertility in 1900, (3) inverse child mortality in 1900 and (4) mean years of schooling in 1870. The idea is that the combination of low fertilities and widespread education represents well the predominance of a "quality-building" over a "quantity-breeding" reproduction strategy (and also of a slow instead of a fast life history), which contributes to human capital formation. Data for the single variables are from Murin (2013).

<sup>c)</sup> *Female Reproductive Choice* in 1800 is a latent variable, measuring a single dimension unifying (1) a five-point scale ordering historic family types from most collectivistic to most individualistic, (2) inverse fertility in 1800, (3) inverse child mortality in 1800 and (4) inverse disease threat (historic, see below). The idea is that the combination of these components left women with more choice with regards to reproductive decisions, such as when and whom to marry. Data are from Gapminder ([www.gapminder.org](http://www.gapminder.org)), Dilli (2015) and Woodley and Bell (2012).

<sup>d)</sup> *Cousin Marriage Practice* measures the historic prevalence of clan-reproducing marriage patterns, also known as "consanguinity." Data are from Woodley and Bell (2012).

<sup>e)</sup> *Disease Threat* measures the historic presence of a list of seven pathogens, such as malaria, dengue fever, yellow fever. Data are from Murray and Schaller (2010).

<sup>f)</sup> The *White Settler Mortality* provides estimates of the mortality of white settlers in former colonies. Data are from Acemoglu, Johnson and Robinson (2002).

<sup>g)</sup> *Western European Descendants* gives estimates of the population in a country that is of Western European descent. Data are from Bentzen, Karsen and Wingender (2012).

Data and further documentation are available upon request. Please, write to [cwelzel@gmail.com](mailto:cwelzel@gmail.com).



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## References

- Acemoglu, D., S. Johnson & J.A. Robinson (2002). "Reversal of Fortune: Geography and Institutions in the Making of the Modern World Income Distribution." *Quarterly Journal of Economics* 117: 1231-94.
- Bentzen, J.S., N. Kaarsen & A.M. Wingender (2012). "Irrigation and Autocracy." (University of Copenhagen, Department of Economics) Discussion Paper 12-06.
- Dilli, S. (2015): "Family Systems and the Historical Roots of Global Gaps in Democracy." *Economic History of the Developing Regions* (DOI: 10.1080/20780389.2015.1109440).
- Murray, D. & M. Schaller (2010). "Historical Prevalence of infectious Diseases in 230 Geopolitical Regions: A Tool for Investigating Origins of Culture." *Journal of Cross-Cultural Psychology* 41: 99-108.
- Murray, D., M. Schaller & P. Suedfeld (2013). "Pathogens and Politics: Further Evidence that Parasite Prevalence Predicts Authoritarianism." *PLoS ONE* 8: 1-8 (doi: 10.1371/journal.pone.0062275).
- Murtin, F. (2013). "Long-term Determinants of the Demographic Transition, 1870-2000." *The Review of Economics and Statistics* 95: 617-631.
- Welzel, C. (2013). *Freedom Rising: Human Empowerment and the Quest for Emancipation*. New York: Cambridge University Press.
- Woodley, M. & E. Bell (2012). "Consanguinity as a Major Predictor of Levels of Democracy." *Journal of Cross-Cultural Psychology* 42: 1-18.