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Legal Essentialism: Cross-Cultural Evidence

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Abstract

Despite pervasive variation in the content of laws, legal theorists and anthropologists have often argued that all laws share certain abstract features and even speculated that law may be a human universal. In the present report, we contribute cross-cultural data to this debate: Are there essential features of law? Participants in ten different countries ($N = 2844$) were asked whether there could be laws that violate certain procedural principles (e.g., laws applied retrospectively or unintelligible laws), and also whether there are any such laws—in a between-subjects design. Confirming our pre-registered prediction, people reported that such laws cannot exist, but also (paradoxically) that there are such laws. These results document a tendency toward legal essentialism across cultures and languages: universal beliefs about the nature of law which defy people's conception of how legal systems function in practice.

Legal Essentialism: Cross-Cultural Evidence

Laws vary remarkably from one jurisdiction to the next. Even within jurisdictions, legislative changes are frequent and shift the legal status of various practices over time. These changes in legality accompany fluctuations in the prevailing morality (Ofosu, Chambers, Chen, & Hehman, 2019), perhaps even helping to precipitate shifts in public opinion.

Despite abrupt historical change and cultural diversity in the *content* of legal norms, theorists in law (Fuller, 1964; Finnis, 1980) and anthropology (Brown, 1991) have speculated that certain features of their *form* may be universal. In the domain of legal theory, this view has come to be associated most strongly with the work of American philosopher Lon Fuller. His famous (1964) book told the tale of a hypothetical king, Rex, who—through a series of failures—gradually discovered the eight procedural principles capable of transforming his imperatives and royal wishes into what could be properly referred to as a legal system. For instance, at first, Rex did not publicly proclaim the rules of his kingdom, but instead kept them a secret in his diary. As a result, the populace could not possibly know or obey Rex’s rules—which taught Rex his first lesson: that laws need to be publicly promulgated.

Fuller’s thought experiment resonates with anthropological observations of the emergence of legal systems worldwide (Brown, 1991; Hoebel, 1954; Nader, 1965). A number of prominent anthropologists have posited that legal institutions and practices constitute a basic property of human social groups: they emerge universally, and manifest similar formal qualities in small-scale societies and in industrialized societies alike.

Although scholarship in law and social science has theorized that laws exhibit this fundamental form, the empirical evidence in support of this idea is scarce. This stands in stark contrast with the neighboring disciplines of moral psychology and behavioral economics, where universalist predictions have spawned extensive research agendas with the goal of understanding whether moral (Awad et al. 2018; Mikhail 2007; Cushman, Young, & Hauser, 2006; Graham, Haidt, & Nosek, 2009, Rozin, Lowery, Imada, & Haidt, 1999) and economic

(Boyer & Pedersen, 2018; Henrich et al., 2005) principles emerge across cultures, and documenting their neural and genetic bases (Blair, 2007; Young, Camprodon, Hauser, Pascual-Leone, & Saxe, 2010) and patterns of developmental acquisition (Cushman, Sheketoff, Wharton, & Carey, 2013; Rottman & Kelemen, 2012). The corresponding body of empirical evidence examining whether legal concepts are universal is meager, or non-existent.

Do people around the world share intuitions about the essence of law? There is reason to expect that indeed people might. First, a large literature demonstrates that we represent a wide range of entities as having *essences* (Gelman, 2004; Keil, 1989). Essentialist thinking has been observed with regard to biological species (Gelman & Wellman, 1991), social groups (Haslam, Rothschild, & Ernst, 2000), and even certain value-based concepts, such as love, friendship or art (Del Pinal & Reuter, 2017; Knobe et al., 2013; Leslie, 2015; Liao et al., 2020). These results establish a precedent that abstract qualities can constitute the essence of various concepts (Newman & Knobe, 2019)—in much the same way that legal philosophers have speculated that legal concepts might function.

Second, some research has already shown that lawyers in the United States associate various procedural principles illustrated in Fuller's (1964) writings with the essence of law (Donelson & Hannikainen, 2020). The gist of the experimental paradigm is very simple: One group of participants was asked to assess whether actual laws observe or violate each of the procedural principles (e.g., whether "*there are laws that are retrospective*" or not). Looking across all the procedural principles, participants were relatively divided on these questions. A separate group of participants assessed whether the laws of hypothetical nations *could* violate each of the procedural principles (e.g., whether "*there could be laws that are retrospective*" or not).

According to standard modal logic, if retrospective laws do exist, it follows logically that retrospective laws could exist. Yet, both lawyers and non-lawyers reported the *opposite* pattern of responses: namely, that there could *not* be any retrospective laws even though there

actually are such laws. A very similar pattern emerged when considering the remaining procedural principles: e.g., that laws be announced publicly, made intelligible to the vast majority, changed infrequently at most, and so on. Did this effect arise simply because people do not grasp the relevant axiom of modal logic (i.e., that if a law exhibits property P, then laws necessarily could exhibit property P)? Follow-up evidence spoke against this explanation: When asked to simultaneously consider actual and possible laws, participants reported that laws often abide by the procedural principles, though it is possible for laws to violate them—thereby demonstrating a grasp of modal logic in conditions favoring reflection on both sets of statements.

In the present study, we adapted the experimental paradigm in Donelson & Hannikainen (2020) and obtained cross-cultural evidence that these conflicting judgments of possible and actual laws reflect a core aspect of universal legal cognition—emerging in lawyers and laypeople of all ages across a diversity of countries and languages.

Methods

Participants

The minimum target sample size per site was established at 200 participants per site, and was met in every site except Cambodia (see Table 1). This sample size provides adequate statistical power ($\beta = .20$) to detect an odds ratio ≥ 1.40 setting α at .05.

Table 1.

Sample characteristics.

Country	<i>N</i>	Age Mean (SD)	Gender (% women)	Recruitment method
<i>Brazil</i>	223	27.5 (10.1)	51.0%	Word-of-mouth
<i>Cambodia</i>	100	24.1 (6.31)	55.0%	Word-of-mouth
<i>Colombia</i>	263	22.1 (3.80)	35.4%	Extra-credit
<i>Germany</i>	237	37.1 (11.7)	50.2%	Panel

<i>India</i>	275	32.7 (9.50)	63.3%	Panel (www.qualtrics.com)
<i>Lithuania</i>	242	32.4 (9.35)	43.0%	Word-of-mouth
<i>Netherlands</i>	722	45.9 (14.3)	48.9%	Word-of-mouth & Panel (www.panelinzicht.nl)
<i>Poland</i>	271	29.2 (8.54)	42.3%	Word-of-mouth
<i>Spain</i>	289	43.2 (15.3)	55.1%	Panel (www.netquest.com)
<i>United States</i>	222	37.4 (11.4)	57.0%	Panel (www.mturk.com)
TOTAL	2844	36.0 (14.1)	48.5%	-

Materials

The stimuli were adapted from Donelson & Hannikainen (2020) and translated into eight additional languages: Dutch, German, Hindi, Khmer, Lithuanian, Polish, Portuguese, and Spanish.

The main task was made up of eight pairs of statements with an affirmation (e.g., “*Some laws change very frequently*”) and a negation (e.g., “*No laws change very frequently*”) in each pair. These items could be worded as either existential statements, or modal statements as shown in Figure 1.

Thus, the difference between conditions was the inclusion of an auxiliary verb transforming the existential statements into modal statements. In each language, we sought to employ auxiliary verbs that primarily denote possibility and necessity (i.e., alethic modality; see Table 2).

Table 2.

Modal auxiliary verbs by language.

Language	auxiliary verb (count)
English	could (14), would (4), might (1).
Dutch	kan/zouden kunnen (14), moeten/zouden moeten (3), mogelijk (1).

German	könnte/könnten (10), kann (7), können (1).
Hindi	सकना (<i>sakanā</i> ; 15), होना (<i>honā</i> ; 3), चाहिए (<i>cāhiye</i> ; 1).
Khmer	អាច (<i>ach</i> ; 19), ត្រូវ (<i>nung</i> ; 4).
Lithuanian	(ne)galėtų (14), turėtų (4), gali (1).
Polish	może/moga (15), musza (4).
Portuguese	poderia/poderiam (14), teria/teriam (3).
Spanish	podría/podrían (16), tendría/tendrían (3).

The post-experiment test consisted of three questions, and sought to uncover how participants had interpreted the task. On a seven-point scale anchored at -3: “Not at all” and 3: “Completely”, reported whether they were thinking about:

- (1) “what laws are usually like, in your experience” (i.e., empirical interpretation),
- (2) “what laws have to be like, as in the requirements for something to count as law” (i.e., alethic interpretation)
- (3) “what laws should be like, according to your beliefs about right and wrong” (i.e., deontic interpretation).

Materials in every language are available on the *Open Science Framework* at:

<https://osf.io/hn8m5/>.

Procedure

In a between-subjects design, participants were randomly assigned to either the *Actual* or the *Possible* condition, and read the following introduction:

You will be shown eight pairs of statements regarding what laws are like. For each pair of statements, please take a moment to think about which statement better reflects your opinion about what laws are like.

In each condition, the statement pairs were presented in a random order across participants. In the Actual condition, participants read an existential statement and its negation in each pair. Meanwhile, in the Possible condition, each pair contained a modal statement employing an auxiliary verb and its negation. Participants were asked to endorse one statement from each pair.

Since the negations indicate observance of the procedural principle, negations were coded as 1s and affirmations as 0s. Thus, higher values indicate greater endorsement of each principle. After selecting a statement from each pair, on the following page, participants were asked a set of three questions about their interpretation of the task.

Lastly, participants provided demographic information: age (in years), gender (*Male, Female, Non-binary*), and legal background (*Law student, Legal professional, Neither*).

Predictions and analysis plan

Our primary prediction, sample size determination and analysis plan were pre-registered at aspredicted.org/blind.php?x=ev6nk8. Inspired by previous findings (Donelson & Hannikainen, 2020), we hypothesized greater endorsement of procedural principles in the Possible condition than in the Actual condition.

We tested this prediction with a mixed-effects logistic regression model entering experimental condition as fixed effect, and participant and principle as crossed random effects. Generalized linear mixed-models were conducted with the *lme4* (Bates, Maechler, Bolker, & Walker, 2015) and *lmerTest* (Kuznetsova, Brockhoff, & Christensen, 2017) packages. Predicted probabilities (notated as \hat{p}) are calculated in the *emmeans* package in R version 3.6.2. Data and an accompanying R script are available at: <https://osf.io/hn8m5/>.

Results

Below, we report the predicted probability (\hat{p}) that participants endorse the procedural principle(s): i.e., that a principle obtains empirically (e.g., “There are no retrospective laws” in

the Actual condition) or necessarily (e.g., “There could not be any retrospective laws” in the Possible condition).

Pre-registered analyses

Participants in ten different countries were more likely to say that laws violated procedural principles in practice (*Actual*: $\hat{p} = .53$, 95% $CI_{\text{asymptotic}} [.34, .72]$) than that they could violate them (*Possible*: $\hat{p} = .81$, 95% $CI_{\text{asymptotic}} [.74, .87]$), $OR = 3.79$, $z = 4.75$, $p < .001$ —an effect that emerged when analyzing each of the eight principles individually (all $ps < .001$). Figure 1 displays the probability densities for each experimental condition and principle, showing how procedural principles could not be violated though they in fact are violated.

Analyzing countries separately (see Figure 1b), a significant effect of condition arose in eight of the ten national samples ($ps < .005$, except India [$p = .165$] and Germany [$p = .073$]). Our pre-registered prediction emerged robustly across age groups and genders, and among lawyers and non-lawyers alike (as detailed in Appendix: Supplementary Table 1). Generalizing the findings of Donelson & Hannikainen (2020), participants tended to report that laws could not violate various procedural principles even while acknowledging that they often do.

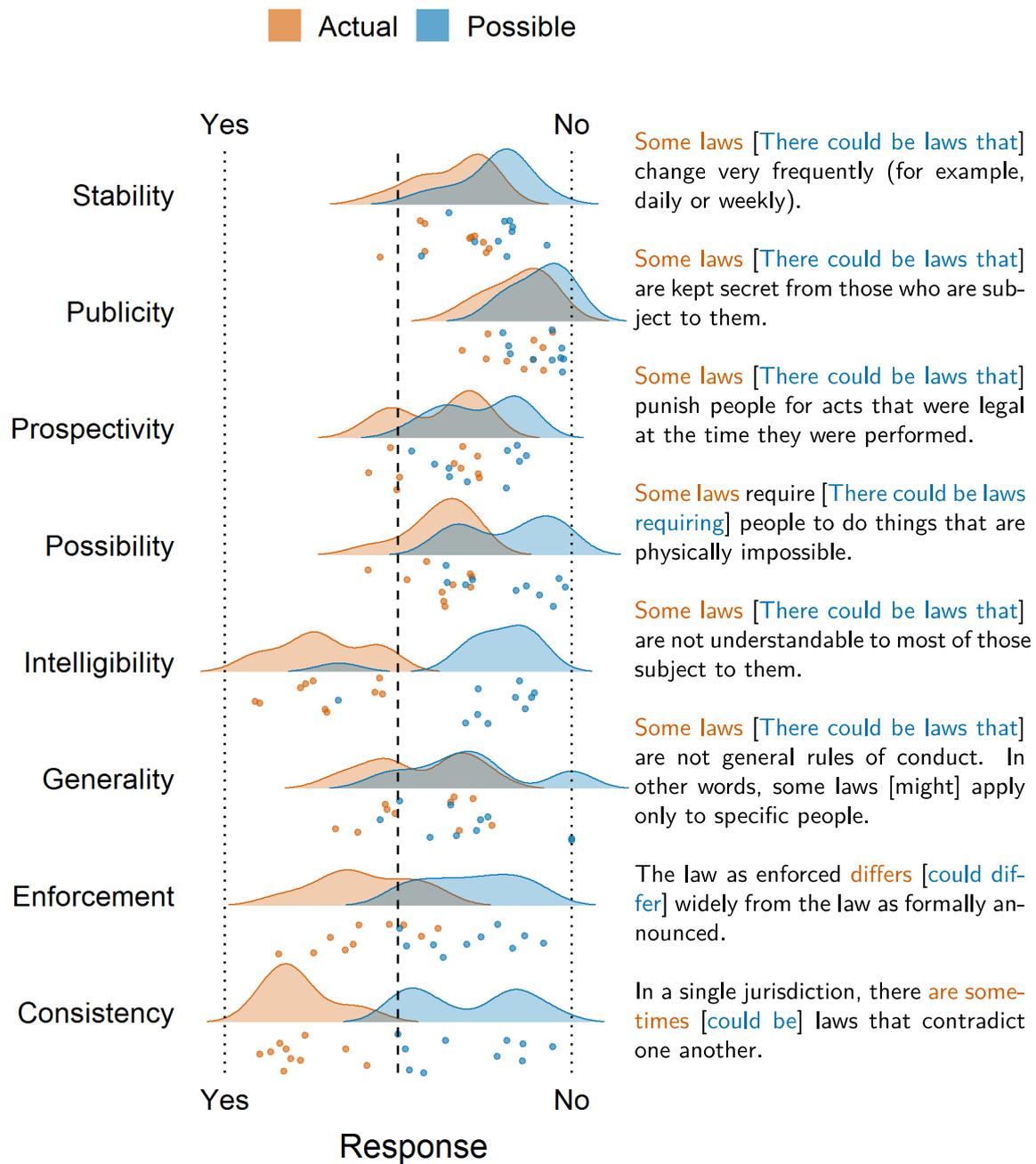


Figure 1. Rain cloud plot: Probability density and scatter plot by procedural principle and condition. Each dot represents a country.

Exploratory analyses

Absolute endorsement

In the previous section, we documented a *comparative* effect, such that participants are more likely to report that laws would have to manifest several formal qualities than that they actually do. But did participants view these formal qualities as essential in an *absolute*

sense? As shown in Figure 2, looking separately by country, though participants were unsure whether laws observed each of the principles (43 out of 80, or 54%), they tended to agree that laws could not violate any of the procedural principles in the Possible condition (77 out of 80, or 96%)—potentially indicating that people’s beliefs about possible laws are shaped to a weaker extent by their first-hand experience with real laws.

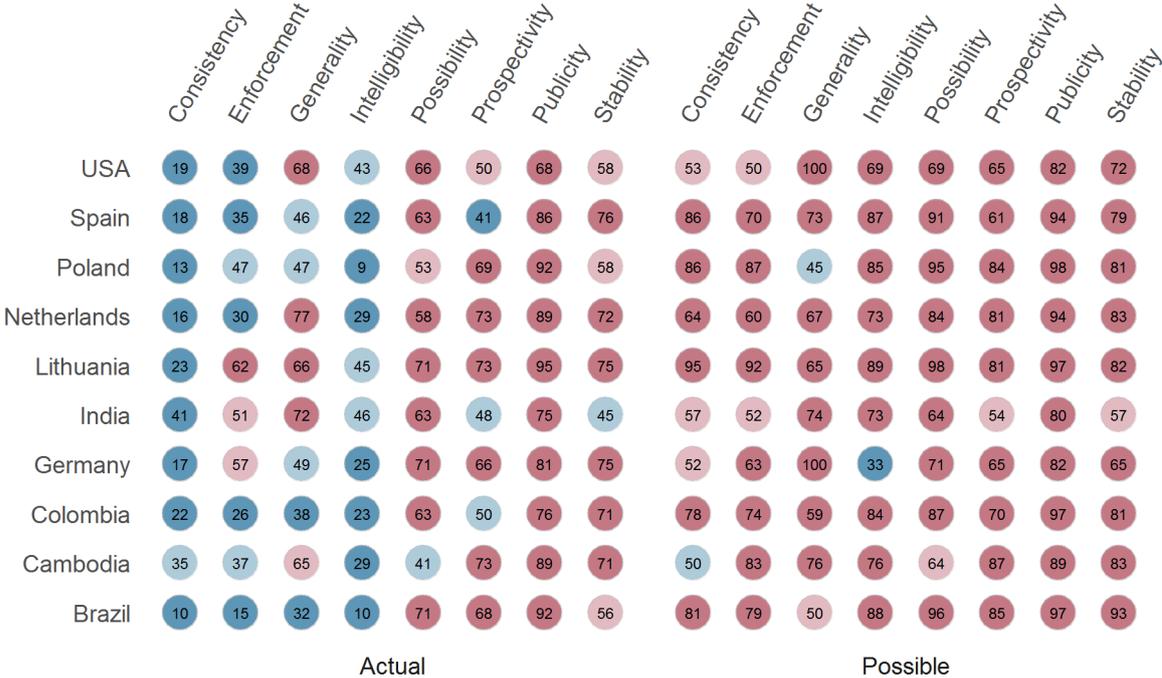


Figure 2. Absolute endorsement (%) by country and principle. Endorsement is highlighted in red, and rejection in blue. Dark shades represent statistical significance in a proportion test against the null of a uniform distribution.

Manipulation check

Modal language can be employed to express necessity and possibility, but also permission and obligation, uncertainty, and ability. For instance, “There *could not* be any bachelors who are married” or “There *could* have been life on Mercury” express physical or metaphysical possibilities—and, as such, are collectively referred to as *alethic* statements. In contrast, the statement “You *could* have taken the day off” does not describe a possible state of affairs. Rather, it characterizes a particular action (i.e., taking the day off) as allowed or

forbidden according to some system of norms or expectations—and thus can be described as *deontic*. Though these varieties of modality are easily distinguished in thought, natural languages tend to offer rather imperfect ways of doing so. This raises the concern that participants interpreted the statements in our experiment as deontic rather than alethic modals. Were this so, the effect of experimental condition could simply reflect the mundane recognition that laws ought to—but occasionally fail to—manifest certain desirable qualities.

To address this concern, we probed participants' interpretations of the task through a set of three post-test questions. In mixed-effects linear regression models with country as a random effect, we examined the effect of condition on each interpretation measure (see Table 3). As expected, participants viewed the existential construction (“There *are* laws...”) as inviting an empirical assessment about “what laws are *usually like in [their] experience*” ($z = -3.68, p = .006$). Meanwhile, the modal construction (“There *could be* laws...”) was interpreted as describing *both* what laws “must be like in order to count as law” (an *alethic* interpretation; $z = 3.53, p = .008$) and what laws “should be like ideally, according to [one’s] beliefs about right and wrong” (a *deontic* interpretation; $z = 3.26, p = .011$).

Table 3.

Task interpretation: Marginal means by condition.

	Marginal means [95% CI]		Fixed effect (Condition)		Random effects (Country)	
	Actual	Possible	z	p	(<i>int.</i>)	(<i>slope</i>)
<i>Alethic</i>	1.01 [0.70, 1.32]	1.47 [1.26, 1.68]	3.53	.008	0.410	0.364
<i>Deontic</i>	0.73 [0.30, 1.16]	1.26 [1.03, 1.49]	3.26	.011	0.584	0.462
<i>Empirical</i>	1.21 [1.01, 1.42]	0.64 [0.25, 1.04]	-3.68	.006	0.248	0.449

Effects of task interpretation

We conducted *latent profile analyses* (Collins & Lanza, 2009) to identify patterns of responses (or latent profiles) across the three interpretation items in each condition. These person-centered analyses revealed that differences in task interpretation were driven by a minority profile in each condition: In the Actual condition, one-in-five ($n = 324$) participants reported reflecting on the empirical facts about law ($M_{\text{empirical}} = 1.57$, 95% CI [1.41, 1.74], SD = 1.53), but not its necessary ($M_{\text{alethic}} = -0.38$, 95% CI [-0.59, -0.16], SD = 2.00) or deontic ($M_{\text{deontic}} = -2.09$, 95% CI [-2.19, -1.99], SD = 0.92) properties. Meanwhile, the majority reported a fairly indiscriminate, hybrid interpretation ($1.18 < \text{all } Ms < 1.48$, $1.14 < \text{all } SDs < 1.43$). Similarly, a minority in the Possible condition ($n = 273$) reported focusing on the necessary properties of law ($M_{\text{alethic}} = 0.44$, 95% CI [0.22, 0.67], SD = 1.86; $M_{\text{empirical}} = 0.16$, 95% CI [-0.06, 0.37], SD = 1.78), but not its deontic properties ($M_{\text{deontic}} = -1.47$, 95% CI [-1.57, -1.29], SD = 1.17)—while again a majority reported a hybrid interpretation ($M_{\text{alethic}} = 1.72$, 95% CI [1.65, 1.80], SD = 1.27; $M_{\text{deontic}} = 1.88$, 95% CI [1.83, 1.94], SD = 1.00; $M_{\text{empirical}} = 0.85$, 95% CI [0.75, 0.94], SD = 1.63).

Still, our primary prediction (concerning the effect of condition on endorsement) was borne out even among participants in the minority profiles—who reported a selective interpretation (*Actual*: $\hat{p} = .50$, 95% CI_{asymptotic} [.31, .69]; *Possible*: $\hat{p} = .76$, 95% CI_{asymptotic} [.67, .84]), OR = 3.25, $z = 4.01$, $p < .001$. This result helps to assuage the concern that the documented effect reflects a discrepancy between the deontic and empirical properties of laws.

Corroborating evidence emerged through variable-centered analyses (see Table 4): Entering the interpretation measures in our primary regression model revealed that alethic interpretations predicted endorsement in both conditions (*Actual*: OR = 1.15, 95% CI [1.10, 1.20], $z = 6.35$; *Possible*: OR = 1.16, 95% CI [1.10, 1.21], $z = 5.88$; $ps < .001$). Meanwhile, empirical interpretations were tied to reduced endorsement of the principles—though only in

the Possible condition (*Possible*: OR = 0.94, 95% CI [0.90, 0.98], $z = -2.98$, $p = .003$; *Actual*: OR = 1.02, 95% CI [0.98, 1.07], $z = 0.86$, $p = .39$). Lastly, as might be expected, deontic interpretations increased endorsement of the principles in the Possible condition only (OR = 1.12, 95% CI [1.07, 1.17], $z = 5.05$, $p < .001$; *Actual*: OR = 1.00, 95% CI [0.97, 1.05], $z = 0.20$, $p = .84$). Critically, the effect of condition remained highly significant in the aforementioned model, OR = 3.49, 95% CI [2.01, 6.08], $z = 4.43$, $p < .001$.

Table 4.

Effects of interpretation on endorsement: Mixed-effects, logistic regression.

Fixed effects	Additive Model 1 (AIC = 24341)			Interaction Model 2 (AIC = 24321)		
	OR	z	p	OR	z	p
Condition	3.31 [1.92, 5.72]	4.29	< .001	3.49 [2.01, 6.08]	4.43	< .001
Empirical	0.96 [0.93, 0.99]	-2.54	.011	0.96 [0.93, 0.99]	-2.59	.010
Alethic	1.15 [1.12, 1.19]	8.57	< .001	1.16 [1.12, 1.20]	8.91	< .001
Deontic	1.06 [1.03, 1.09]	3.81	< .001	1.07 [1.04, 1.10]	4.22	< .001
Empirical×Condition	-	-	-	0.87 [0.82, 0.93]	-4.37	< .001
Alethic×Condition	-	-	-	1.00 [0.93, 1.06]	-0.11	.91
Deontic×Condition	-	-	-	1.09 [1.03, 1.16]	2.94	.003
intercept	1.84 [1.02, 3.31]	2.04	.041	1.77 [0.98, 3.17]	1.91	.057
Random effects			SD	# Groups	ICC	
Participant:Country	Intercept		0.919	2813	.155	
Country	Intercept		0.289	10	.015	
Principle	Intercept		1.110	8	.226	
Principle	Slope		0.774	-	-	

Note. Condition is effect-coded ($-0.5 = \textit{Actual}$ and $0.5 = \textit{Possible}$) so the empirical, alethic, and deontic parameters represent main effects in both models (when Condition = 0).

At a broad level, these analyses reveal that the effect of condition was remarkably robust to differences in task interpretation—though indeed individual interpretations predicted responses, especially in the Possible condition. If anything, model predictions indicated that the effect of condition would be substantially larger if participants had adopted a perfectly selective interpretation of the task—i.e., focusing solely on the empirical properties of law (*Actual*: $\hat{p} = .38$, 95% $\text{CI}_{\text{asymptotic}} [.21, .58]$) versus the alethic properties of law (*Possible*: $\hat{p} = .84$, 95% $\text{CI}_{\text{asymptotic}} [.75, .90]$), $\text{OR} = 8.41$, $z = 4.75$, $p < .001$. In Figure 3, we visually represent this further result, by plotting endorsement on the vertical axis against a composite measure of interpretation on the horizontal axis: i.e., we subtract the average of both alternative interpretation items from the primary selective interpretation item (either empirical or alethic, depending on condition), $\textit{selective} - (\textit{alternative} + \textit{deontic})/2$. As interpretations become more selective in each condition, the effect, if anything, tended to magnify.

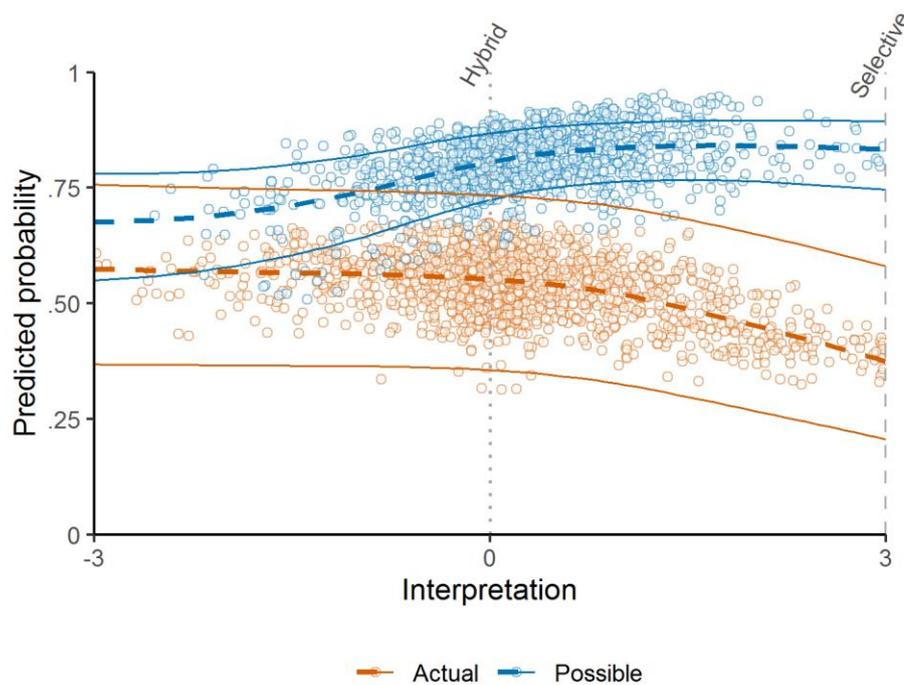


Figure 3. Predicted probability of endorsement (and 95% confidence interval) by interpretation and condition. Higher values on the *x*-axis represent a more selective interpretation of the task in each condition (the midpoint represents a hybrid interpretation).

Discussion

Countries and jurisdictions differ substantially in the extent to which their legal systems observe fundamental principles of the rule of law (World Justice Project, 2019). One might expect that this variation would lead to cultural differences in people's beliefs about the law. Yet, our present findings suggest that there is a striking level of agreement about the *essential* properties of law, even across highly dissimilar cultures and languages.

People consistently believe that laws could not possibly violate a series of procedural principles: they could not retroactively punish past conduct, be kept secret, or be incomprehensible to most, for instance. Yet, people also acknowledge that laws in practice violate these same principles. This discrepancy was relatively robust across languages and cultures, gender, age groups, and emerged among laypeople, law students and legal professionals alike.

A post-test questionnaire revealed that most participants interpreted the modal statements as simultaneously alethic and deontic—in line with studies demonstrating an intuitive association between immorality and impossibility (Phillips & Cushman, 2017), and a tendency to see morally good qualities as more essential (De Freitas, Tobia, Newman, & Knobe, 2017). Critically though, both person-centered and variable-centered analyses revealed that essentialist beliefs about the law are not due merely to ambiguity in the interpretation of modal claims.

Before turning to our primary conclusions, we highlight some of the most important limitations in this work. First, the effect of condition did not reach the threshold of statistical significance in two of the countries, which may imply some degree of cultural moderation. However, our sampling methods differed substantially across sites; so variation in the

magnitude of the effect might also reflect differences in sample composition, attentiveness, or even acquiescence (see Heine, Lehman, Peng, & Greenholtz, 2002). Second, the results of exploratory analysis indicated that the tendency to essentialize the law is not driven exclusively, or even primarily, by deontic reasoning. However, we sought to assess the extent to which participants engaged in deontic or prescriptive thinking by considering their post-test reports of how they interpreted the task. If the tendency to interpret modal phrases in a prescriptive manner is relatively unconscious and automatic (see Phillips & Cushman, 2017), these methods may be unlikely to succeed in partialling out the effects of a prescriptive or deontic interpretation. Third, although our study provided strong evidence of the phenomenon in question, it afforded limited insight into the psychological processes that yield different reactions to existential versus modal formulations of procedural legal principles.

Our results suggest that people can discern what laws must be like—i.e., the essential qualities that they necessarily observe—despite acknowledging that aberrant laws exist. This result dovetails with numerous findings documenting people’s ability to infer category membership and identity—for instance, whether something is a tiger (Gelman & Wellman, 1991), a Catholic (Haslam et al., 2000), or a work of art (Liao et al., 2020)—on the basis of abstract and unobservable essential qualities, such as an entity’s purpose (Rose & Nichols, 2020) or constitutive values (De Freitas et al., 2017; Knobe et al., 2013). In the present case, this ability to essentialize the law could enable people to flexibly recognize what laws are, in the face of continual changes in their manifestation.

The study’s discovery of this cross-cultural *legal essentialism* is in some ways more surprising than findings of essentialism of other kinds (e.g. essentialism about natural kinds like tigers). The legal systems of the ten countries in the study vary in large and significant ways; the sample includes civil law and common law systems, countries with varying degrees of religious influence on their laws, and countries with diverse political, representational, and legislative systems. These features are obviously relevant to other important legal and

political questions, but it is striking that laypeople – across all of these different legal systems – share a common intuition about the essence of law.

Cognitive science has made ample progress in drawing the contours of the moral (Cushman et al., 2006; Graham et al., 2009) and economic (Boyer & Pedersen, 2018; Henrich et al., 2005) mind—while comparatively neglecting to investigate the psychological and cultural basis of legal concepts. The present work represents an early step in this research program, and provides evidence of cross-cultural convergence in people’s understanding of the nature of law. We reveal a striking degree of universality in beliefs about the essential qualities of law, despite abundant historical and regional variation in the way actual laws manifest.

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Appendix**Supplementary Table 1.** Sub-group analyses.

	n	Actual	Possible	OR	z	p
<i>Law background</i>						
<i>Law Student</i>	189	.45 [.26, .66]	.83 [.74, .89]	5.88	5.19	< .001
<i>Law Graduate</i>	754	.54 [.34, .72]	.76 [.66, .84]	2.73	3.38	< .001
<i>Neither</i>	1731	.54 [.35, .73]	.83 [.76, .89]	4.24	4.98	< .001
<i>Gender</i>						
<i>Female</i>	1348	.53 [.33, .71]	.81 [.73, .87]	3.85	4.72	< .001
<i>Male</i>	1416	.55 [.35, .73]	.82 [.74, .88]	3.72	4.60	< .001
<i>Non-binary</i>	12	.39 [.14, .71]	.80 [.58, .92]	6.45	2.29	.022
<i>Age bracket</i>						
<i>24 or younger</i>	682	.52 [.38, .66]	.83 [.38, .66]	4.95	5.45	< .001
<i>25 to 34</i>	794	.52 [.32, .70]	.79 [.70, .85]	5.88	4.29	< .001
<i>35 to 44</i>	571	.58 [.38, .76]	.82 [.74, .88]	3.19	3.92	< .001
<i>45 to 54</i>	369	.59 [.39, .77]	.84 [.76, .89]	3.51	4.08	< .001
<i>55 to 64</i>	192	.64 [.43, .81]	.86 [.78, .91]	3.47	3.71	< .001
<i>65 or older</i>	127	.64 [.43, .81]	.88 [.81, .93]	4.27	3.99	< .001