Protecting future generations

A global survey of legal academics

Eric Martínez
Christoph Winter

PROTECTING FUTURE GENERATIONS:
A GLOBAL SURVEY OF LEGAL ACADEMICS

Eric Martinez[*] & Christoph Winter[†]

ABSTRACT

The laws and policies of today may have historically unique consequences for future generations, yet their interests are rarely represented in current legal systems. The climate crisis has shed light on the importance of taking into consideration the interests of future generations, while the COVID-19 pandemic has shown that we are not sufficiently prepared for some of the most severe risks of the next century. What we do to address these and other risks, such as from advanced artificial intelligence and synthetic biology, could drastically affect the future. However, little has been done to identify how and to what degree the law can and ought to protect future generations. To respond to these timely questions of existential importance, we sought the expertise of legal academia through a global survey of over 500 law professors (n=516).

This Article elaborates on the experimental results and implications for legal philosophy, doctrine, and policy. Our results strongly suggest that law professors across the English-speaking world widely consider the protection of future generations to be an issue of utmost importance that can be addressed through legal intervention. Strikingly, we find that law professors desire more than three times the perceived current protection for humans living in the far future (100+ years from now), roughly equal to the perceived level of current protection for present generations. We also found that the gap between the average desired and perceived current level of protection was higher for humans living in the far future than for any other group surveyed on, which included non-human animals and humans outside the jurisdiction. Furthermore, the vast majority of law professors (72%) responded that legal mechanisms are among the most predictable, feasible mechanisms through which to influence the long-term future, with environmental and constitutional law particularly promising. Curiously, these findings hold true independent of demographic factors such as age, gender, political affiliation, and legal training. Taken together, the results support the jurisprudential claim that law and legal institutions can and ought to protect those in the far future—the view of legal longtermism.

Further, responses indicated that law professors believe there is a plausible legal basis for granting standing to future generations in at least some cases. Other topics surveyed included which specific constitutional mechanisms were perceived as more able to protect future generations. Insofar as law professors can be considered experts on these topics, our results suggest various ways in which the legal system can and should protect future generations.

PROTECTING FUTURE GENERATIONS:

A GLOBAL SURVEY OF LEGAL ACADEMICS

CONTENTS

INTRODUCTION

The climate crisis has brought to public and scholarly attention the importance of taking into consideration the interests of future generations, while the ongoing COVID-19 pandemic has shown that we are not sufficiently prepared for some of the most severe risks of the next century. Whether we are willing and able to address these risks and others—such as those resulting from advanced artificial intelligence, synthetic biology and nuclear weapons—will drastically affect not only our well-being in the present, but also the well-being of future generations. Although our laws and policies may have historically unique consequences for future generations, their interests are rarely represented in current legal systems. Additionally, it is far from clear *to what degree,* and *how* the law *can* and *ought* to protect future generations. To respond to these timely questions of existential importance, we sought the expertise of legal academia and conducted the largest ever survey of law professors in the English-speaking world on substantive legal questions (n=516).[1]

More precisely, our study seeks to (1) address the following questions and (2) elaborate on the normative implications of the experimental results for legal philosophy, doctrine, and policy.

1. To what extent do legal experts believe that the law *should* protect the welfare of future generations (both relative to how much they are currently valued, and relative to how much they believe other groups are / should be valued);
2. To what extent do legal experts believe the law *can* protect the welfare of future generations (both overall and relative to mechanisms outside the law);
3. To what extent do certain demographic factors, if any, influence a legal expert's propensity to believe that law can and/or should protect future generations;
4. To what degree do legal experts believe there is an existing legal basis for granting future generations standing to bring forth a lawsuit (both overall and relative to other groups that do or do not have the ability to represent themselves in court);
5. And to what extent do legal experts believe particular legal mechanisms might be more effective than others in protecting future generations.

Our results strongly suggest that law professors across the English-speaking world widely consider the protection of future generations to be an issue of utmost importance that can be addressed through legal intervention. Strikingly, we find that law professors' desired level of protection for humans living in the far future (100+

---

[1] There have been larger studies, in particular in the United States, that surveyed law professors on topics relevant for legal academia but did not ask about substantive legal questions. *See, e.g.*, Joint Statement Regarding Articles Length, HARV. L. REV., http://harvardlawreview.org/wp-content/uploads/2014/03/articles_length_policy.pdf (last visited Aug. 16, 2021) (regarding the length of a law review article); James Lindgren, *Measuring Diversity: Law Faculties in 1997 and 2013*, 39 HARV. J. L. & PUB. POL'Y 89 (regarding the demographic makeup of law school staff and faculty); Elizabeth Mertz et al., After Tenure: Post-Tenure Law Professors in the United States, AM. BAR. FOUND. (2011), http://www.americanbarfoundation.org/uploads/cms/documents/after_tenure_report-_final-_abf_4.1.pdf (national survey and interviews with post-tenure law professors).

years from now) is over three times higher than the perceived current level of protection for humans living in the far future, roughly equal to the perceived level of current protection for present generations. We also find that the gap between the average desired and perceived current level of protection was higher for humans living in the far future than for any other group surveyed on. Furthermore, the vast majority of law professors (72%) responded that legal mechanisms are among the most predictable, feasible mechanisms through which to influence the long-term future, with environmental and constitutional law particularly promising. These findings hold true independent of demographic factors such as age, gender, political affiliation, and legal training.

Further, although future generations have not been granted standing in any cases to date, responses indicated that law professors believe there is a plausible legal basis for granting standing to future generations in at least some cases. Our results further suggest that this is the case, not only for future generations, but for other neglected groups as well, such as the environment and non-human animals who, in principle, may be entitled to bring forth a lawsuit despite never being granted standing in any case to date.

This Article is divided into four Parts. Part I provides the theoretical and empirical framework and motivation for the study. Section A introduces the philosophy of (legal) longtermism, Section B presents the status quo of legal protection offered to future generations, and Section C explains the reasons behind and our use of the methods of the emerging field of experimental jurisprudence in the context of the long-term future.

Part II describes the study itself and is divided into five Sections. The first two cover the general aims and design of the survey, while the final three cover in greater detail the methods and results of each of the three substantive parts of the study. The three substantive Sections correspond to what we refer to as the philosophical, doctrinal, and applied level questions and results. At the philosophical level, we ask to what degree the current level of legal protection afforded to future generations is justified from a legal-philosophical perspective. In other words, how much ideally should the law protect the interests of future generations independent of the actual content of current legal doctrine? At the doctrinal level, we ask how much the law should protect the interests of future generations according to the best interpretation of existing legal doctrine. At the applied level, we seek to determine which legal mechanisms and instruments ought to be prioritized and/or implemented so as to provide the appropriate level of legal protection to future generations.

Unlike conventional surveys, this Article is concerned not only with descriptive questions of fact but also with normative questions of legal philosophy, doctrine, and policy. Accordingly, in Part III, we discuss to what extent the increased understanding of legal academics' perceptions of the protection of future generations informs these normative questions. Part IV outlines future research directions (the emerging approach of experimental longtermist jurisprudence might take).

I. BACKGROUND

The goal of the present study is to investigate legal academics' views regarding the appropriate form and level of legal protection of future generations. In this Part, we provide background regarding, in Section A, the view that law and legal systems ought to protect those in the far future and ensure that the long-term future goes particularly well, also referred to as legal longtermism; in Section I.B, the degree to which present legal systems provide both *de jure* and *de facto* legal protection to future generations; and in Section C, the use of experimental methods to evaluate whether the current level of legal protection is warranted and, to the extent that it is not warranted, how it might best be rectified.

A. Legal Longtermism

The view that law and legal systems ought to protect those in the far future and ensure that the long-term future goes particularly well can be referred to as *legal longtermism*. Legal longtermism can be thought of as an extension of philosophical longtermism, the set of theories associated with the view that one should be particularly concerned with ensuring that the long-term future goes well. Although a concern for the long-term future may seem immediately intuitive or obvious, longtermism has only recently been developed and formalized in the philosophical literature. Here we provide a basic overview of each of these views, including the main assumptions underlying them, as well as some of the basic objections.

1. Philosophical Longtermism

The set of theories associated with the more general view that one should be particularly concerned with ensuring that the long-run future goes well has been referred to as philosophical longtermism.[2] Longtermism is based on three main

---

[2] WILLIAM MACASKILL, WHAT WE OWE THE FUTURE (forthcoming). However, there is not yet a widely accepted definition of longtermism. *See, e.g.*, William MacAskill, 'Longtermism', EA FORUM (July 25, 2019), https://forum.effectivealtruism.org/posts/qZyshHCNkjs3TvSem/longtermism. Also note that there are several different versions of longtermism. The version that we lay out here is most similar to "weak longtermism," which holds merely that we should be particularly concerned with ensuring that the long-run future goes well, as opposed to "strong longtermism," which holds that impacts on the long-run future are the most important feature of our actions. For more information on further distinctions within strong longtermism, see Hilary Greaves & William MacAskill, *The Case for Strong Longtermism* (Glob. Priorities Inst., Univ. Oxford, Working Paper No. 5-2021, 2021), https://globalprioritiesinstitute.org/hilary-greaves-william-macaskill-the-case-for-strong-longtermism-2/. For more information on the philosophical foundations of longtermism more generally, see *id.*; DEREK PARFIT, REASONS AND PERSONS (1986); Nicholas Beckstead, On the Overwhelming Importance of Shaping the Far Future (May 2013) (Ph.D. dissertation, Rutgers University), https://rucore.libraries.rutgers.edu/rutgers-lib/40469/PDF/1/play/; Nicholas Beckstead, *A Brief Argument for the Overwhelming Importance of Shaping the Far Future*, in EFFECTIVE ALTRUISM (Hilary Greaves & Theron Pummer eds., 2019).

assumptions (or premises)[3]—one normative, two empirical—which we briefly detail here in turn.[4]

The first assumption, often referred to as the normative assumption, is that when assessing the moral value of our actions, all consequences matter equally—independent of when, where, or how they occur.[5] For example, just as many of the most influential thought experiments in contemporary moral philosophy have argued or implied that the welfare of someone living far away geographically ought to be valued the same as the welfare of someone living close by[6], according to longtermism, so too should the welfare of someone living far away in the future be valued the same as the welfare of someone living right now.

Longtermism also argues, in a similar vein as other mainstream philosophical views[7] that, *ceteris paribus*, indirect consequences ought to be given the same value as direct consequences, and unintended consequences ought to be given the same

---

[3] Note that in the original longtermist literature, the more common terminology is "assumption." However, we also use the term "premise" here, given that what we are describing is more similar to "a statement or proposition from which another is inferred or follows as a conclusion," as opposed to "a thing that is accepted as true or as certain to happen, without proof." *Premise*, OXFORD ENGLISH DICTIONARY (3d ed. 2007).

[4] Note that our presentation of the case for longtermism deviates slightly from the presentation in the formal longtermist literature in that (a) we provide three assumptions instead of two (the feasibility argument is not presented as an "assumption" in longtermist literature), and (b) we do not explicitly discuss any of the objections to longtermism. These deviations are largely for the purpose of brevity and readability; for a more thorough discussion of the objections, see Greaves & MacAskill, *supra* note 2; Christian Tarsney, *The Epistemic Challenge to Longtermism* (Glob. Priorities Inst., Univ. Oxford, Working Paper No. 10-2019, 2019), https://globalprioritiesinstitute.org/christian-tarsney-the-epistemic-challenge-to-longtermism/. For a concise overview of these objections that is tailored to a legal audience, see Christoph Winter, Jonas Schuett, Eric Martinez, Suzanne Van Arsdale, Renan Araújo, Nick Hollman, Jeff Sebo, Andrew Stawasz, Cullen O'Keefe & Giuliana Rotola, *Legal Priorities Research: A Research Agenda*, LEGAL PRIORITIES PROJECT (Jan. 2021), https://www.legalpriorities.org/research_agenda.pdf.

[5] Another way of framing this assumption specifically as it relates to longtermism is to say that (a) all consequences matter equally insofar as they affect welfare, and (b) the welfare of those living in the future matters equally as the welfare of those living today. That said, while the use of the term "consequences" might imply that longtermism is an inherently consequentialist theory, note that this is just one approach to justifying longtermism; one might alternatively argue (from a deontological perspective) that we owe a duty to future generations, independent of what a consequentialist or utilitarian calculus might demand, or (from a virtue ethics perspective) that it is a virtue to act in a way that protects future generations by exercising patience, self-discipline, benevolence, and taking responsibility for our actions. Jeffrey M. Gaba, *Environmental Ethics and Our Moral Relationship to Future Generations: Future Rights and Present Virtue*, 24 COLUM.J. ENV'T L. 249, 283–287 (1999); *cf.* TOBY ORD, THE PRECIPICE: EXISTENTIAL RISK AND THE FUTURE OF HUMANITY (2020). One might also conceivably value future generations from a purely aesthetic or intellectual achievement standpoint. *See* Benjamin Todd, Future Generations and Their Moral Significance, 80,000 HOURS (Oct. 2017), https://80000hours.org/articles/future-generations/. That said, since most non-consequentialist ethical theories maintain that, *ceteris paribus*, consequences matter to some degree, we take a consequentialist approach when discussing arguments for and against longtermism.

[6] *E.g.*, Peter Singer, *Famine, Affluence, and Morality*, 1 PHIL. & PUB. AFF. 229 (1972); JOHN RAWLS, A THEORY OF JUSTICE (1971); THOMAS POGGE, REALIZING RAWLS (1989); Charles R. Beitz, *Cosmopolitan Ideals and National Sentiment*, 80 J. PHIL. 591 (1983).

[7] *See, e.g.*, Philip Pettit & Michael Smith, *Global Consequentialism*, *in* MORALITY, RULES, AND CONSEQUENCES 121 (Brad Hooker, Elinor Mason & Dale E. Miller eds., 2000); *cf.* PARFIT, *supra* note 2, at 24–25.

value as intended consequences.[8] For example, if as a result of your saving a drowning child, this child grows up to be a firefighter and rescues a different child from a burning building, then the latter consequence ought to be seen as equally valuable as the former, even if your initial rescue of the child is seen as more "direct" or "intentional" than their eventual rescue of another child. If this is right, and all such consequences matter equally across time and space, then insofar as future generations exist, it follows that future generations are of equal value in principle as the current generation.[9]

The second assumption states that, *in expectation*, the future is vast in size—that is, it is likely to consist of at least a fairly large number of future generations, each consisting, on average, of a fairly large number of individuals, such that the number of individuals[10] living in the future will collectively be far greater than the number of individuals living in the present. One way to estimate the future lifespan of humans is by extrapolating from the typical lifespan of a mammalian species, estimated to be anywhere from 600,000 years[11] to 1.7 million years[12]. Since *homo sapiens* is estimated to be 300,000 years old,[13] this would suggest that *homo sapiens* has 300,000 to 1.4 million years of potential flourishing before extinction. Given that *homo sapiens* in many ways might be considered more successful than other mammalian species and, in particular, appears less vulnerable to the typical threats

---

[8] Hilary Greaves & William MacAskill, *The Case for Strong Longtermism* 6 (Glob. Priorities Inst., Univ. Oxford, Working Paper No. 7-2019, 2019), https://globalprioritiesinstitute.org/wp-content/uploads/Hilary-Greaves-and-William-MacAskill_strong-longtermism.pdf.

[9] While it may still seem counterintuitive that we should not adopt a "social discount rate" (as we do for money, for example), this view seems to be shared by most, if not all, moral philosophers that have written about the issue, *see, e.g.*, PARFIT, *supra* note 2; Tyler Cowen & Derek Parfit, *Against the Social Discount Rate*, *in* JUSTICE BETWEEN AGE GROUPS AND GENERATIONS 144 (Peter Laslett & James S. Fishkin eds., 1992); John Broome, *Discounting the Future*, 23 PHIL. & PUB. AFF. 128 (1994); Andreas Mogensen, *Maximal Cluelessness* (Glob. Priorities Inst., Univ. Oxford, Working Paper No. 2-2019, 2019), https://globalprioritiesinstitute.org/wp-content/uploads/2020/Andreas_Mogensen_maximal_cluelessness.pdf, as well as by many theoretical economists—thirty-eight percent according to a survey by Moritz Drupp et al., *Discounting Disentangled*, 10 AM. ECON. J.: ECON. POL'Y 109 (2018). As we outline later on, legal scholars seem to broadly share this view. *See infra* Parts II, III.

[10] Note that although the paragraph argues mostly from the perspective of humans, the term "individuals" here can refer not only to humans but to potentially all other forms of sentience, as well (e.g., non-human animals, sentient artificial intelligence [assuming its existence]). Indeed, there appear to be very compelling arguments for including this broader set of sentient beings within a moral calculus, and, by extension, within the definition of individuals as presented above. *See, e.g.*, JEREMY BENTHAM, AN INTRODUCTION TO THE PRINCIPLES OF MORALS AND LEGISLATION (1789); PETER SINGER, ANIMAL LIBERATION (1973); Lori Gruen, *The Moral Status of Animals*, STANFORD ENCYCLOPEDIA OF PHILOSOPHY (Aug. 23, 2017), https://plato.stanford.edu/entries/moral-animal/. That said, independent of how one defines individuals here, the associated arguments—both for this assumption and for longtermism as a whole—would proceed similarly as presented in the main body text.

[11] Anthony D. Barnosky et al., Has the Earth's Sixth Mass Extinction Already Arrived, 471 NATURE 5 (2011); Gerardo Ceballos et al., Accelerated Modern Human–Induced Species Losses: Entering the Sixth Mass Extinction, 1 SCIENCE ADVANCES e1400253 (2015).

[12] Mike Foote & David M. Raup, *Fossil Preservation and the Stratigraphic Ranges of Taxa*, 22 PALEOBIOLOGY 121 (1996).

[13] *See* Julia Galway-Witham & Chris Stringer, *How Did* Homo sapiens *Evolve?*, 360 SCIENCE 1296 (2018); Carina M. Schlebusch et al., *Southern African Ancient Genomes Estimate Modern Human Divergence to 350,000 to 260,000 Years Ago*, 358 SCIENCE 652 (2017).

of extinction as other mammals,[14] this estimate may be overly conservative.[15] If so, humans might instead be expected to survive for as long as the earth remains habitable (anywhere between .9 and 1.5 billion years[16]), even setting aside the prospect of leaving earth and settle the stars[17], in which case the upper bound, however unlikely, would be as high as quintillions of years (the estimated expected end of the universe[18]).

In addition to the expected number of future generations, it also stands to reason that for most (if not all) future generations, there will be greater numbers of people living at any given time than there are presently. After all, the number of people who are living now is estimated to be more than ten times higher than the number of people who were living two hundred years ago (7 billion versus 600 million, respectively[19]), and current projections estimate that future generations will likewise be greater, even if global population growth continues to slow[20]. In combination with the first assumption (i.e., that consequences affecting each of these individuals would, all else equal, matter just as much as those affecting individuals living in the present), this would imply that insofar as we *can* positively influence the experiences of future generations, their sheer size and value dictates that we *ought* to protect them.

The third assumption states that there are feasible and predictable ways to positively influence the experiences of future generations. For example, while it may seem at first glance impossible or impractical to influence the future in ways that are reasonably foreseeable, longtermists have pointed to examples of both (a) historical trends that have had long-lasting effects on the trajectory of human civilization (e.g., religious values, the implementation of certain legal systems)[21] and (b) predictable and feasible ways of influencing the future, particularly with respect to existential risks associated with advanced artificial intelligence, extreme climate change, and synthetic biology[22]. Together with the previous assumptions, this implies that not

---

[14] The usual threats of extinction faced by species include environmental, demographic, and genetic factors. John F. Benson et al., *Interactions Between Demography, Genetics, and Landscape Connectivity Increase Extinction Probability for a Small Population of Large Carnivores in a Major Metropolitan Area*, 283 PROC. ROYAL SOC'Y B: BIOLOGICAL SCI. 20160957 (2016).

[15] At the same time, homo sapiens have also created new threats beyond the typical threats of extinction, and seem likely to continue to do so, in addition to making some threats more likely (e.g., increasing the environmental threat through climate change).

[16] Ken Caldeira & James F. Kasting, *The Life Span of the Biosphere Revisited*, 360 NATURE 721 (1992).

[17] Nick Beckstead, *Will We Eventually Be Able to Colonize Other Stars? Notes from a Preliminary Review*, FUTURE HUMAN. INST. (June 22, 2013), https://www.fhi.ox.ac.uk/will-we-eventually-be-able-to-colonize-other-stars-notes-from-a-preliminary-review/.

[18] Fred C. Adams & Gregory Laughlin, A Dying Universe: The Long-term Fate and Evolution of Astrophysical Objects, 69 REV. MOD. PHYSICS 337 (1997).

[19] Max Roser et al., *World Population Growth*, OUR WORLD IN DATA (May 2019), https://ourworldindata.org/world-population-growth.

[20] U.N. Department of Economic and Social Affairs, World Population Prospects Highlights 2019 (2019), https://population.un.org/wpp/Publications/Files/WPP2019_Highlights.pdf.

[21] See generally the emerging field of persistence studies, e.g., Paola Giuliano & Nathan Nunn, *Understanding Cultural Persistence and Change*, 88 REV. ECON. STUD. 1541 (2021), with further references therein.

[22] Winter et al., *supra* note 4; *see also infra* Section II.A.

only should we value and protect future generations in *principle*, but that we can—and therefore should—protect their interests in *practice*.[23]

2. Legal Longtermism

One of the primary means through which we might conceivably protect future generations is via the legal system. The set of views associated with the claim that law and legal institutions ought to protect those in the far future and ensure that the long-term future goes particularly well can be referred to as *legal longtermism*.[24] Normatively, the premises associated with legal longtermism are similar, if not identical, to those of philosophical longtermism (depending on the extent to which one believes that those with moral value warrant legal consideration). Empirically, the assumptions are also similar, with the additional supposition that there are feasible and predictable *legal* mechanisms to protect future generations.

That said, given that many of the examples cited in support of the feasibility assumption of philosophical longtermism relate to the legal system, as a practical matter one who accepts the assumptions of philosophical longtermism may automatically accept the premises of legal longtermism. In particular, some of the long-lasting, intergenerational effects of legal systems cited to by legal longtermists include (a) the medieval establishment of the common law's continued influence on the laws governing Great Britain and its former colonies[25]; (b) the long-lasting influence of Roman law on many civil-code systems[26]; and (c) and the persistence of Eastern legal institutions[27]. Legal longtermists have further argued that legal interventions could play a significant role in mitigating some of the catastrophic risks highlighted above and ensuring a more positive long-term trajectory[28]).

---

[23] Note that in terms of justifying longtermism, the extent to which premise three (feasible and predictable) must be true for longtermism to hold true arguably depends in part on the extent to which premise two (future is vast in size) turns out to be true (and vice-versa). The greater in size the future turns out to be, the more one can be confident in longtermism despite less feasible, predictable ways of influencing the long-term future. Conversely, the more feasible and predictable one believes it is to influence the long-term future, the smaller the number of future individuals must be for one to conclude that longtermism is true. To some extent, this is also the case with regard to premise one (all consequences matter equally); even if, in spite of the reasons laid out above, one does not believe the future is worth valuing *to the same degree* as the present, and thus discounts the value of future generations as discussed *supra* note 9, one could still conclude that longtermism is true depending on the expected size of future generations, feasibility and predictability of influence, and degree of discounting. Note that the interrelation of these premises/assumptions influences not only confidence in longtermism, but also confidence in weak longtermism versus strong longtermism discussed in note 2; that is, depending on such calculations, one might conclude that we should be not only "particularly", but rather "primarily" concerned with ensuring that the long-run future goes well. *Cf.* Greaves & MacAskill, *supra* note 2.

[24] As with philosophical longtermism, there are several possible versions of legal longtermism. For example, analogous to *strong philosophical longtermism*, we may define *strong legal longtermism* as the view that "the primary determinant of the value of a legal mechanism is the effect of that mechanism on the far future." *Cf.* Greaves & MacAskill, *supra* note 2.

[25] Harold J. Berman, Law and Revolution: The Formation of the Western Legal Tradition (1985).

[26] Alan Watson, Roman Law and Comparative Law (1991).

[27] Timur Kuran, *Legal Roots of Economic Underdevelopment in the Middle East*, Feb.–Mar. 2011 EUROPEAN FIN. REV. 10, (2011); EAST ASIAN LAW: UNIVERSAL NORMS AND LOCAL CULTURES (Lucie Cheng, Arthur Rosett & Margaret Woo, eds., 2003).

[28] Winter et al., *supra* note 4.

Despite these examples, one might still argue that the number of legal mechanisms that have long-term consequences is small. For example, although constitutions are often thought of as the most powerful and enduring type of legal instrument, it turns out that most constitutions are shockingly short-lived. In a study of constitutional longevity, Elkins, Ginsburg, and Melton found that (a) the average lifespan of a constitution is just seventeen years, and (b) the probability of a constitution lasting at least fifty years is just nineteen percent.[29] Even in the case of the United States, whose constitution (230 years) is the oldest of any written constitution on the planet, one might argue that it seems too early to say whether its effects will endure 1000 or more years into the future. With regard to other legal instruments, it also seems potentially unclear to what degree statutory mechanisms can influence the far future, despite the fact that there are many documented cases of legislation outlasting several iterations of a nation's constitution (such as the German Penal Code of 1871[30]).

Insofar as legal mechanisms do have long-term consequences, one might further argue that it is infeasible for us to predict these long-term consequences in advance. With regard to the United States constitution, for example, even many of the founding fathers were skeptical of its potential to endure past more than one generation, let alone several centuries, without being replaced by an entirely new document. Similarly, it is unclear to what degree many of the long-lasting consequences of the influential legal mechanisms mentioned above could have been feasibly predicted *ex ante*, as well as to what degree and how some of the contemporary pieces of legislation currently being considered by the world's various congressional bodies might impact future generations.

One might further argue that to the extent that said legal mechanisms do have predictable, feasible consequences, law still might not contain the best mechanisms for influencing the long-term future. Were this to be true, one might argue that resources might be better spent in other areas as opposed to the legal system so as to influence the far future.

One of the goals of the present study (detailed in Part II, *infra*) is to evaluate the plausibility of these objections using the tools of experimental jurisprudence (detailed in Section I.C, *infra*).

B. Legal Longtermist Landscape

Despite the intuitive appeal and increasingly robust literature regarding the protection of future generations, modern legal systems today overwhelmingly fail to grant legal protection to future generations and tend to focus on the short term. Here, we first detail what might be considered the legal near-termism paradigm, briefly going over the different areas of a legal system or government (e.g., executive, legislative, and judicial branches) and how they fail to grant protection to future

---

[29] Zachary Elkins et al., *The Lifespan of Written Constitutions*, U. CHICAGO L. SCH. (Oct. 15, 2009), https://www.law.uchicago.edu/news/lifespan-written-constitutions. For a searchable database of all of the world's currently in force constitutions, see *Constitutions*, CONSTITUTE, https://constituteproject.org/constitutions (last visited Jul 19, 2021).

[30] Gerhard O.W. Mueller, The German Penal Code of 1871, 107 (1961).

generations. We then provide examples of legal systems and mechanisms that are attempting to move towards a longtermist paradigm, along with a discussion of to what degree such paradigms / systems have been successful.

1. De Facto Legal Short-termism

It goes without saying that future generations' interests are not significantly taken into account in any of the three branches of present legal systems, nor the democratic process. In the legislature, for example, the right to vote and participate in the democratic process is almost universally limited to present adult citizens, typically defined as those who are at least 18 years old, though it can range between 16 and 21 years old.[31] Although there is periodic debate over ways to lower the voting age below its current status[32], there appears to be very little discussion regarding ways to increase democratic involvement among future generations.[33]

With regard to the executive branch and administrative state, the interests of future generations are likewise neglected. In the United States, for example, where cost-benefit analyses play a significant (though not always decisive) role in regulatory decision making, agencies employ a discount rate that deviates quite startlingly from that prescribed by moral philosophers and which effectively marginalizes the interests of future generations to an astonishingly low level.[34] Although the Office of Management and Budget (OMB) acknowledges the argument that human welfare-related effects such as health ought not be discounted in the same way as monetary effects—a year of life saved today cannot be invested to save more lives down the line—it ultimately concludes that the same discount rates should apply to both, reasoning that (a) the resources used to save lives can be invested, (b) people have been observed to prefer immediate welfare gains to those in the future, and (c) future health benefits must be discounted if future costs are, otherwise it will always be more attractive to invest even further in the future.[35] These discount rates range between three percent to as high as ten percent,[36] both of which far exceed that which would be applied from a purely longtermist perspective. In other jurisdictions, the discount rates are often as high or higher; agencies in South Africa, China, Canada, and New Zealand use an eight percent discount rate, while Pakistan, India, the Philippines, and the world bank all use discount rates of or above ten percent.[37]

---

[31] Voter Registration, ACE Project, The Electoral Knowledge Network (last updated July 27, 2021).

[32] See, e.g., Markus Wagner et al., Voting at 16: Turnout and the Quality of Vote Choice, 31 ELECTORAL STUD. 372 (2012); Olof Rosenqvist, Rising to the Occasion? Youth Political Knowledge and the Voting Age, 50 BRITISH J. POL. SCI. 781 (2017).

[33] While not possible directly via the right to vote, it could be done indirectly via representation in the legislature, for example. But see Tyler John & William MacAskill, Longtermist Institutional Reform, in THE LONG VIEW (Natalie Cargill & Tyler M. John, eds.) (forthcoming), https://philarchive.org/rec/JOHLIR; IÑIGO GONZÁLEZ-RICOY & AXEL GOSSERIES, INSTITUTIONS FOR FUTURE GENERATIONS (2016).

[34] OMB, Exec. Office of the President, Circular A-4: Regulatory Analysis (2003), https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/circulars/A4/a-4.pdf.

[35] Id. at 34.

[36] Id. at 33.

[37] For an overview of discount rates, see Juzhong Zhuang et al., Theory and Practice in the Choice of Social Discount Rate for Cost-Benefit Analysis: A Survey (Econ. & Rsch. Dep't, Asia Dev. Bank, Working

With regard to the judiciary, the interests of future generations appear to fare no better than in either of the other two branches. Arguably the most fundamental and important right in the judiciary is that of standing, or *locus standi*, the capacity of a party to bring suit in court. In the United States, the three requirements for standing are (a) injury-in-fact, (b) causation, and (c) redressability.[38] As part of the injury-in-fact requirement, plaintiffs must show that they have suffered or imminently will suffer actual injury (i.e., neither conjectural nor hypothetical; not abstract), whereas virtually any harm suffered by future generations will in the present be hypothetical or abstract (that is, neither actual nor imminent). Although standing requirements can vary widely with regard to jurisdiction,[39] no jurisdiction has explicitly extended the doctrine of *locus standi* to future generations.[40]

2. De Jure Legal Longtermism

Despite the lack of *de facto* legal protection afforded to future generations, there does appear to be a rise in the amount of *de jure* legal protection afforded to them, particularly at the constitutional level. For example, as documented by Constitute[41] and discussed by Araújo and Koessler[42], there are now over 81 constitutions in force referencing future generations in some capacity, as compared to zero in the 1940s and less than two dozen in the early 1990s. Constitutions referencing future generations now comprise roughly one-third of the total constitutions in force. Most of these provisions have referenced future generations alongside or in the context of

---

Paper No. 94, May 2007), https://www.adb.org/publications/theory-and-practice-choice-social-discount-rate-cost-benefit-analysis-survey, 17 tbl. 4, 17–18, 20; *see also* Louise Young, Determining the Discount Rate for Government Projects, New Zealand Treasury Working Paper 02/21 (Sept. 2002), https://www.treasury.govt.nz/publications/wp/determining-discount-rate-government-projects-wp-02-21-html; Canadian Cost-Benefit Analysis Guide: Regulatory Proposals, Treasury Board of Canada (2007), https://www.tbs-sct.gc.ca/rtrap-parfa/analys/analys-eng.pdf; Michael Spackman, *Social Discount Rates for the European Union: An Overview* (Univ. Milan, Dep't Econ., Bus. & Stat., Working Paper No. 2006-33, Oct. 2006), http://wp.demm.unimi.it/files/wp/2006/DEMM-2006_033wp.pdf; *Cost Benefit Analysis*, S. Afr. Dep't of Env't Affs. & Tourism, Integrated Env't Mgmt. Info. Series 8, https://www.environment.gov.za/sites/default/files/docs/series8_costbenefit_analysis.pdf; Sam Abusah & Clinton de Bruyn, *Getting Auckland on Track: Public Transport and New Zealand's Economic Transformation* (Ministry Econ. Dev. Working Paper, Aug. 2007).

[38] Lujan v. Defenders of Wildlife, 504 U.S. 555 (1992); *see also* County of Riverside v. McLaughlin, 500 U.S. 44 (1991); Northeastern Fla. Chapter of the Associated Gen. Contractors v. City of Jacksonville, 508 U.S. 656 (1993).

[39] *See, e.g.*, Canadian Council of Churches v. Canada (Minister of Employment and Immigration), [1992] 1 S.C.R. 236 (describing the doctrine of public interest standing in Canadian law). *See generally* Directorate Gen. for Internal Policies, Pol'y Dep't C: Citizens' Rts & Const. Affs., *Standing Up for Your Right(s) in Europe: A Comparative Study on Legal Standing (Locus Standi) Before the EU and Member States' Courts*, PE 462.478 (2012), https://www.europarl.europa.eu/RegData/etudes/etudes/join/2012/462478/IPOL-JURI_ET(2012)462478_EN.pdf.

[40] *See, e.g.*, Sanja Bogojević, *Human Rights of Minors and Future Generations: Global Trends and EU Law Particularities*, 29 REV. EUR., COMPAR. & INT'L ENV'T L. 191 (2020) (discussing the challenges and failures of extending the doctrine of standing in climate law cases).

[41] CONSTITUTE, *supra* note 29.

[42] Renan Araújo & Leonie Koessler, The Rise of the Constitutional Protection of Future Generations (July 2021) (unpublished manuscript, on file with authors).

protecting the environment, though there have also been a few that have mentioned future generations in isolation.[43]

With regard to the ideological and geographic composition of these provisions, a recent empirical analysis showed that constitutional provisions that reference future generations were (a) more likely to be found in universalist constitutions than liberal constitutions and (b) widely distributed across the regional groupings of Africa, the Americas, Asia and the Pacific, Eastern Europe and Central Asia, and Western Europe.[44] However, despite the strong *de jure* protection in many of these constitutions, case studies of countries with some of the strongest *de jure* protection—such as Niger, South Sudan, and Tunisia—find they have thus far been unsuccessful in enforcing such protection.[45]

The remaining constitutions that do not explicitly protect future generations do not explicitly prohibit their protection either. Although data regarding the protection of future generations outside the constitutional context (e.g., at the statutory level) is much scarcer, there do appear to be mechanisms that could be implemented to provide *de jure* protection to future generations and which are compatible with constitutional law. For example, in the United States, the President could appoint an advisor on existential risk[46] and Congress could pass a law mandating that agencies assign a more favorable discount rate to future generations when performing cost-benefit analysis.[47] Although for the moment these cases seem fanciful, analogous mechanisms have gained traction in other countries; a proposed bill in the United Kingdom, for example, would require all public bodies to assess the effects of policies on "all future generations . . . at least 25 years" from the publication date.[48] Proposed and existing *de jure* protection to future generations notwithstanding, the status quo is to not protect the interests of future generations.

The mismatch between the increasingly robust body of scholarship promoting the protection of future generations and the lack of protection afforded to future generations raises three big questions. First, to what degree the current level of legal protection afforded to future generations is justified from a legal-philosophical perspective. In other words, how much ideally should the law protect the interests of future generations, and in what form? Second, from a purely doctrinal perspective, to what extent is the current level of legal protection permissible or obligatory? In other words, how much should the law protect the interests of future generations according to the best interpretation of existing legal doctrine? Third, insofar as the current level of protection afforded to future generations is not justified, what are the most desirable and feasible legal mechanisms for protecting the interests of future generations. In the next Section, we discuss an empirical framework for evaluating these questions, which we implement in the present study.

---

[43] Id.

[44] *Id.* at 15.

[45] *Id.* at 35–39.

[46] This would be possible under the Appointments Clause. U.S. CONST. art. II, § 2.

[47] U.S. CONST. art. I, § 5.

[48] Wellbeing of Future Generations 2019–2020, HL Bill [15] (UK); *see also* Chris Smith, Wellbeing of Future Generations Bill [HL], HOUSE OF LORDS LIBRARY (June 16, 2021), https://lordslibrary. parliament.uk/wellbeing-of-future-generations-bill-hl/.

C. Experimental Longtermist Jurisprudence

So far, we have discussed the theoretical underpinnings of legal longtermism—the view that the legal system should protect the interests of future generations—as well as the extent to which legal systems do and do not currently protect those interests. In this Section we discuss a methodological framework for evaluating the appropriate role of the legal system with regard to the interests of future generations. This framework can be referred to as *experimental longtermist jurisprudence* (XLJ). XLJ can be thought of as a branch of *experimental jurisprudence*, which we briefly describe in Section I.C.1, particularly as it relates to longtermism, and it consists of three interrelated levels of abstraction, each with a distinct set of descriptive and normative aims, introduced in more detail in Section I.C.2.

1. Experimental Jurisprudence

Experimental jurisprudence is a burgeoning field that employs methods traditionally associated with the field of experimental psychology in order to explore substantive questions traditionally associated with the field of jurisprudence.[49] As Professor Kevin Tobia writes, it is "scholarship that addresses *jurisprudential* questions with *experiments*."[50]

Although jurisprudence can take on several possible meanings, here we take a broad understanding of the term to refer both to questions of legal philosophy (more meta questions relating to the concept of law and how it should be used) and questions of legal doctrine (more nuts-and-bolts questions relating to arguments that could be plausibly made in good faith in a courtroom). In this sense, experimental jurisprudence is not only an experimental branch of legal philosophy (or a legal branch of experimental philosophy) but also an experimental branch of and aid to legal-doctrinal analysis. This distinction will be further clarified when discussing the levels of abstraction framework in Section I.C.2, *infra*.

With regard to methodology, by experimentation we refer broadly to both surveys and controlled experiments. Here we briefly discuss each of these in turn.

Administering surveys in the context of experimental jurisprudence research, as in other, more traditional forms of empirical legal studies research, involves straightforwardly asking people questions regarding aspects of legal longtermism or some legal longtermism-relevant issue. Such research may be aimed at either testing a specific hypothesis or merely gathering information. For example, a survey might evaluate the level of acceptance of different aspects of legal longtermism by identifying which arguments in favor of and against legal longtermism resonate with participants and for what reasons. The results may fuel other hypotheses and be used as inputs into other experimental jurisprudence research.

Controlled experiments, on the other hand, involve indirectly examining people's views regarding legal longtermism by, for example, asking participants questions about carefully controlled stimuli. Such stimuli are often in the form of

---

[49] *Cf.* Joshua Knobe et al., *Experimental Philosophy*, 63 ANN. REV. PSYCH. 81 (2012); Kevin P. Tobia, *Experimental Jurisprudence*, 89 U. CHICAGO L. REV. (forthcoming 2022), https://privpapers.ssrn.com/sol3/papers.cfm?abstract_id=3680107.

[50] Tobia, *supra* note 49.

contrastive vignettes, in which particular aspects of a situation are systematically manipulated to identify the psychological processes underlying certain concepts, intuitions, or judgments relevant to legal longtermism. In contrast to the survey method, the primary descriptive aim of the controlled-experiment technique is to better understand the cause of people's beliefs as opposed to the beliefs themselves.

Unlike conventional surveys and controlled experiments, however, experimental jurisprudence is concerned not only with descriptive questions of fact but also with normative questions of legal philosophy, doctrine, and policy.[51] Thus, experimental jurisprudence can be considered a two-step process. In Step 1, a researcher takes the role of a cognitive scientist, trying to gain insight into a legal longtermism-relevant feature of the human mind via an experimental study. In Step 2, a researcher takes the role of a philosopher, legal theorist, lawyer and/or policy maker, reasoning about the normative implications of the experimental findings uncovered at Step 1.

2. Levels of Abstraction

In addition to being a two-step process, experimental jurisprudence can also be conceptualized as containing three separate but interdependent levels of abstraction:

1. the *philosophical level*, concerned with using experimental methods to help answer questions of legal philosophy;
2. the *doctrinal level*, concerned with using experimental methods to help answer questions of legal doctrine and advance legal arguments;
3. the *applied level* (or *policy level*), concerned with using experimental methods (and/or insights from the above two levels) to help answer questions of legal policy.

In the case of longtermism a research project at the philosophical level would ultimately be concerned with determining whether and to what extent future generations ought to be provided legal protection, independent of the actual content of current legal doctrine. At the doctrinal level, the ultimate normative aim would be to determine to what extent and how future generations ought to be provided legal protection according to the doctrines of the current legal system (such as the concepts of standing and personhood). Finally, at the applied level, the normative aim would be to determine which legal mechanisms and instruments ought to be prioritized and/or implemented so as to provide the appropriate level of legal protection to future generations.

In the present study, we are concerned with all three levels of abstraction and corresponding normative aims. The present study can thus be thought of as a philosophical level, doctrinal level, and applied level XLJ project. In the next Part, we detail in greater depth the aims, methods, and results of the present study, while in the final Part we discuss the implications of these results, including to what extent the findings contribute to the aims of XLJ.

---

[51] *See* Tobia, *supra* note 49, at 21 et seq.

II. SURVEY STUDY

Having provided the theoretical and empirical framework and motivation for this study, this Part aims at describing the study itself. It is split into five Sections. The first two Sections describe the general aims and design of the survey, while the final three Sections cover in greater detail the methods and results of each of three substantive parts of the study.

A. Aims of Study

As mentioned in Section I.C.2, *supra*, this study can be thought of as an XLJ project at the philosophical, doctrinal and applied levels. As such, it follows that this study has three corresponding sets of normative aims described there. Here we discuss the descriptive aims of the study, whereas the normative aims are recapitulated in Section III.B, *infra*.

At the philosophical level, we primarily sought to determine to what extent legal academic experts endorse the tenets of legal longtermism. We also sought to understand the reasons behind their level of endorsement. Specifically, we sought to answer the following questions:

1. To what extent do legal academics believe that the law *should* protect the welfare of future generations (relative to how much they are currently valued and relative to how much they believe other groups are and should be valued);
2. To what extent do legal academics believe the law *can* protect the welfare of future generations (overall and relative to mechanisms outside the law);
3. To what extent do certain demographic factors, if any, influence a law professor's propensity to believe that law can and/or should protect future generations.

At the doctrinal level, we sought to investigate to what degree legal academic experts believe there is an existing legal basis for granting future generations standing to bring forth a lawsuit (both overall and relative to other groups that do or do not have the ability to represent themselves in court).

Finally, at the applied level, we sought to investigate to what extent legal academic experts believe particular legal mechanisms might be more effective than others in protecting future generations.

B. General Survey Design

To answer these questions, we designed and administered a survey to legal academics from around the English-speaking world. Here we discuss the participant sample and recruitment procedure, as well as the general design of the survey itself.

1. Participant Sample and Recruitment

Our target participant group consisted of legal academics at top universities from the English-speaking and common-law world. We sent direct email invitations

(n~3500) to faculty at leading law schools (as rated by QS World Rankings[52]) in the following countries: Canada, United Kingdom, South Africa, India, Bangladesh, New Zealand and Australia.[53] Faculty emails were collected based on publicly available information on department websites.

We performed two rounds of recruitment, spaced roughly two months apart. For both rounds of recruitment, we reached out to the above-mentioned faculty while ensuring that there was no overlap of participants between the two rounds (the same IP address could not complete the survey more than once). Between the two rounds of recruitment, 849 professors read and agreed to the information on the consent form and completed at least some part of the questionnaire. Of these 849 participants, 516 made it past the demographics questionnaire and completed at least part of the substantive materials.[54] These 516 participants were retained in our final analyses.

The demographic makeup of these participants is detailed in Table 1. 88.6% of respondents self-identified as faculty, while the remaining 11% self-identified as postdoctoral researchers, graduate students or "other." The self-reported gender of participants was 42.2% female, and the age of participants ranged from 24 to 79 (with a median age of 44). With regard to geography, a plurality of participants (36.1%) lived and worked in Europe, followed by Oceania (30.1%), Americas (19.2%), Asia (9.3%), and Africa (5.2%). Similar distributions were observed with respect to place of legal training and origin. The distribution of political views was observed to be much less diverse; the vast majority of participants (80.4%) self-identified as at least somewhat liberal, while 13.2% identified as "centrist", and just 6.6% identified as even somewhat conservative.

2. Materials and Procedure

Our survey consisted of three sets of substantive materials, each corresponding to one of the levels of abstraction and corresponding questions detailed in the previous Section. In addition to the substantive questions, we also constructed a demographics questionnaire.

The sets of materials shown to the participants differed slightly between Rounds 1 and 2. In Round 1, participants were shown all of the materials corresponding to the philosophical-level questions in the survey, as well as a demographics questionnaire. In Round 2, participants were shown all of the materials shown in Round 1, plus the remaining subsets of materials corresponding to the doctrinal and applied levels. In other words, participants in Round 2 were

---

[52] World University Rankings by Subject 2021: Law & Legal Studies, QS Top Univ. (last visited July 30, 2021), https://www.topuniversities.com/university-rankings/university-subject-rankings/2021/law-legal-studies.

[53] For each of the above countries, invitations were sent to faculty from the 15 highest-ranked law schools according to QS. For some countries, there were fewer than 15 law schools among the QS rankings. For these countries, invitations were sent to faculty at all law schools among the QS rankings.

[54] Note that there appeared to be no significant differences in demographic makeup between those who dropped out of the survey after completing the demographics questionnaire and those who completed some or all of the main survey questions, thus providing evidence against a potential selection effect or response bias among participants. See Part III, infra, for further discussion.

shown all of the materials, while participants in Round 1 were shown a slightly smaller subset of these questions.

The general order in which participants were shown questions was the same for all participants in Rounds 1 and 2. Participants were first shown the demographics questionnaire, followed by the materials pertaining to the normative premise of legal longtermism (except for one open prompt), and then the materials pertaining to the descriptive premise of legal longtermism. The open prompt, which asked participants to specify any additional considerations that would make them more likely to be in favor or against providing legal protection to future generations, was displayed at the end of the survey. The demographics questions and the substantive questions were displayed in separate screens, and participants were unable to go back to the first screen after moving on to the second.

Before viewing the materials, participants were given a consent form informing them of the nature of the survey and encouraging them to reach out with any questions to the investigators of the survey, as well as the Internal Review Board of Instituto Tecnológico Autónomo de México granting approval to the study. Participation in the survey was completely anonymous, and investigators had no access to personally identifiable or sensitive information of any single participant.[55]

In the next three Sections, we detail in greater depth the materials and results of each of the three substantive portions of the study.

---

[55] Note that not only did the study not directly ask for any personally identifiable information, but the sample size (both overall and for different groups) was such that there was no reasonable basis for identifying any individual that participated in the study (nor, by extension, their individual answers).

Table 1: Demographic Makeup of Survey Respondents

Response	n	%
Affiliation (if tenure system)		
Adjunct faculty / non-tenure-track	19	7.0
Graduate student	2	0.7
Junior faculty / tenure-track	35	13.0
Other (please specify)	18	6.7
Postdoctoral researcher/scholar	12	4.4
Senior faculty / tenured	184	68.1
Affiliation (if no tenure system)		
Full-time faculty (5 or more years experience)	165	67.1
Full-time faculty (less than 5 years experience)	51	20.7
Graduate student	1	0.4
Other (please specify)	5	2.0
Part-time faculty	13	5.3
Postdoctoral researcher/scholar	11	4.5
Age group		
18-24	2	0.5
25-34	58	13.4
35-44	155	35.9
45-54	123	28.5
55-64	70	16.2
65+	24	5.6
Continent of origin		
Africa	38	7.4
Americas	113	22.0
Asia	72	14.0
Europe	174	33.9
Oceania	117	22.8
Continent of legal training		
Africa	37	7.4
Americas	113	22.6
Asia	63	12.6
Europe	170	34.1
Oceania	116	23.2
Continent of work/residence		
Africa	27	5.2
Americas	99	19.2
Asia	48	9.3
Europe	186	36.1
Oceania	155	30.1
Gender		
Female	218	42.2
Male	286	55.4
Prefer not to specify	9	1.7
Prefer to self-identify:	3	0.6
Politics		
centrist	66	13.2
moderately conservative	13	2.6
moderately liberal	186	37.1
somewhat conservative	18	3.6
somewhat liberal	61	12.2
strongly conservative	2	0.4
strongly liberal	155	30.9
Legal training system		
Civil law	98	19.0
Common law	342	66.3
Hybrid / other system	60	11.6
not applicable (no formal legal background)	16	3.1
Tenure system?		
No	205	39.7
Not sure	41	7.9
Yes	270	52.3

C. Philosophical-level questions

The main goal of the philosophical-level questions was to better understand to what degree legal academics endorse legal longtermism, both in terms of desirability (i.e., *should* the law protect future generations), and feasibility (i.e., *can* the law protect future generations). We were also interested in understanding to what extent certain demographic factors might account for one's propensity for endorsing legal longtermism—in other words, is the protection of future generations rejected or accepted across the board, or is it accepted by some groups and rejected by others? Here we detail the methods for evaluating these questions in our study, as well as the results of this portion of the study.

1. Materials

With regard to our first question on desirability, we designed a set of materials that asked participants to rate how much their legal system (i) currently does and (ii) ideally should protect the welfare (broadly understood as the rights, interests, and/or well-being[56]) of the following groups:

1. Humans inside the jurisdiction
2. Humans outside the jurisdiction
3. Non-human animals
4. Environment (e.g., rivers, trees, or nature itself)
5. Sentient artificial intelligence (assuming its existence)
6. Humans living now
7. Humans living in the near future (0–25 years from now)
8. Humans living in the medium future (25–100 years from now)
9. Humans living in the far future (100+ years from now)

Participants rated their level of agreement on a scale of 0 to 100, with 0 representing "not at all" and 100 representing "as much as possible."

With regard to the second question on feasibility, we designed a subset of materials that asked participants to rate their level of agreement with the proposition that there are predictable, feasible mechanisms through which the law can influence the long-term future (understood as at least 100 years from now) and very long-term future (understood as at least 1000 years from now). Participants were then asked to rate their level of agreement with the proposition that legal mechanisms are among *the most* predictable, feasible ways to influence the long-term future. For both questions, participants rated their level of agreement on a scale of 1 to 7, with 1 representing "strongly disagree" and 7 representing "strongly agree."

---

[56] A broad definition of welfare was provided to allow participants to rate each group appropriately and consistently; if a participant adopted a more narrow definition of welfare, limited to "interests," for example, even those who advocate for protection of the environment might nonetheless rate the environment as zero both normatively and descriptively because they do not think that the environment has interests.

In addition to these closed-response questions, we additionally designed a free response prompt which asked one to specify any additional considerations that would make them more likely to be in favor or against providing legal protection to future generations (see supplemental information document for the complete materials). Because of the inherent difficulty of systematically analyzing open-ended questions, here we report the results and analyses of only the closed questions.

2. Analysis and Results

With regard to our first question, Figure 1 illustrates participants' desired and perceived current level of legal protection for various groups. Descriptively, participants' desired level of protection for humans living in the far future (100+ years from now) was, on average, 68 out of 100 (95% CI: 66.55 to 71.60),[57] over three times higher than the perceived current level of protection for humans living in the far future, which was rated on average to be 22 out of 100 (95% CI: 20.37 to 24.68). The gap between average desired and perceived current level of protection was higher for humans living in the far future than for any other group, followed by humans living in the medium future (25–100 years from now), the environment, humans living outside the jurisdiction, and humans living in the near future (0–25 years from now). The average level of desired protection for those living in the far future was also roughly equal to the average perceived level of current legal protection to the current generation.

---

[57] Note that all confidence interval calculations were performed using the bias-corrected and accelerated (BCa) bootstrap method and based on 5000 replications of the sample data.
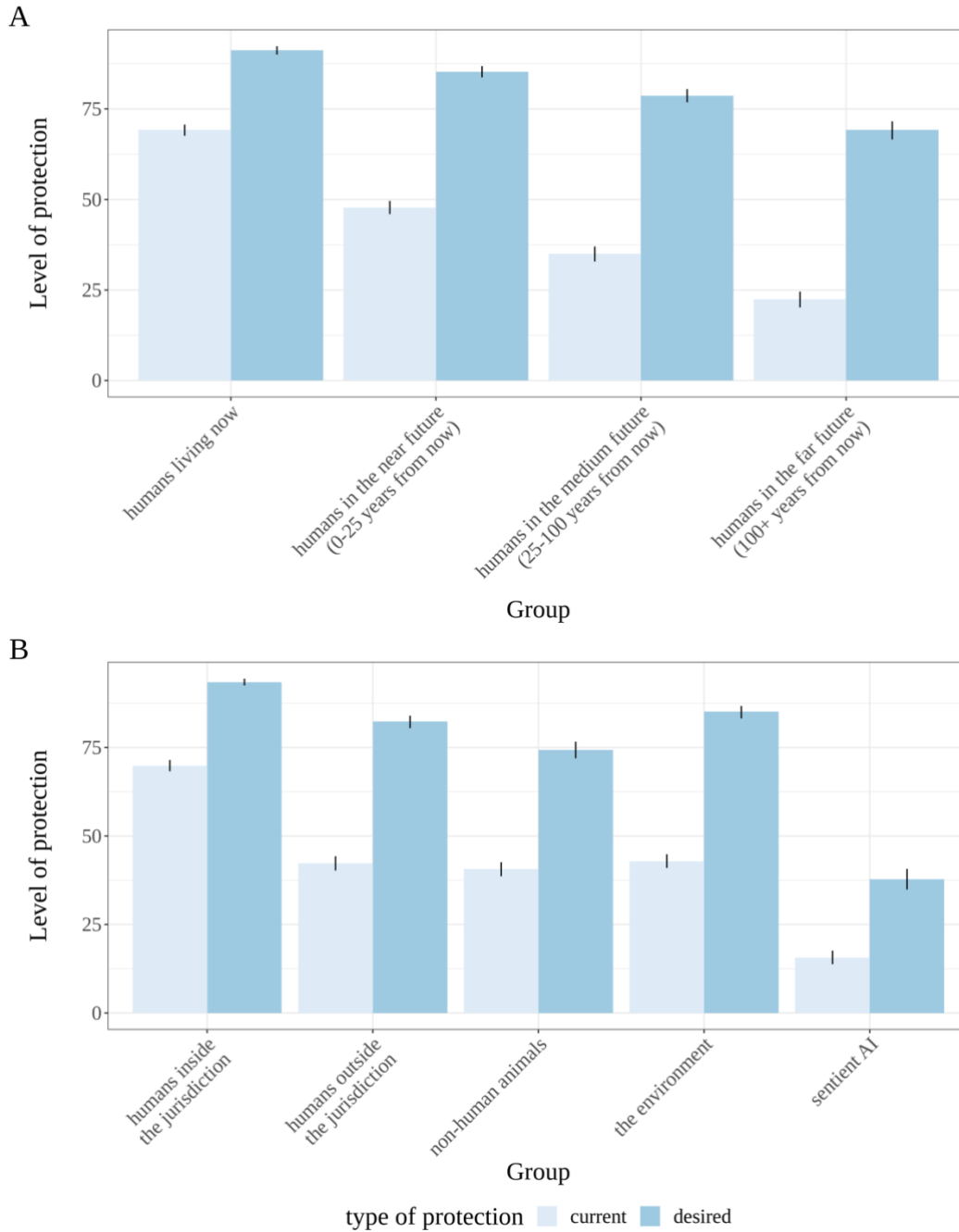
Figure 1: Current vs desired legal protection for (A) humans living now and in the future and (B) other groups

To more rigorously evaluate how legal academics rated desired vs current level of protection for current and future generations, we conducted a mixed-effects linear regression with the following variables: (a) subquestion (desired vs. current level of protection), subgroup (e.g., humans living now, humans living in the near future, etc.), and the interaction between subquestion and subgroup as fixed effects; (b) participant as a random effect; and (c) response (out of 100) as the outcome

variable.[58] Comparing this model to other models with fewer predictors, we found that this model had a lower Akaike information criterion (AIC) than all of them, indicating a better fit with the predictors.[59] Therefore, we report the results of the model fit as opposed to the simpler models.

According to our regression model, we found a significant[60] main effect of subquestion (β=37.5363, SE=.5425, P<2×10^{-16}) subgroup (β=-17.1344, SE=.3836, P<2×10^{-16}), and the interaction between subquestion and subgroup (β=8.9555, SE=.5426, P<2×10^{-16}).[61] In other words, although the gap between the desired versus perceived current level of protection was significant for humans living at any time point (i.e., now, in the near future, in the medium future, and the far future), this gap was significantly wider for future generations than for current generations, and most significant for humans living in the far future.

Turning to the second question, Figure 2 illustrates participants' responses related to the feasibility of influencing the long-term future via law. To provide a more nuanced and assumption-free view of participants' responses, we report confidence intervals of participants' responses (in particular, participants' endorsement of the relevant proposition) using the bias-corrected and accelerated

---

[58] Mixed-effects linear regression is a type of regression that has both fixed effects (parameters that do not vary) and random effects (parameters that are themselves random variables and do vary) as predictor variables, whereas simple linear regressions assume that all predictor variables are fixed. *E.g.*, Douglas Bates et al., *Fitting Linear Mixed-Effects Models Using lme4*, 67(1) J. STATISTICAL SOFTWARE 1 (2015); JOSÉ C. PINHEIRO & DOUGLAS M. BATES, MIXED-EFFECTS MODELS IN S AND S-PLUS (2000). In our survey design, because each participant is drawn from a larger sample (i.e., legal academics), participants are more appropriately characterized as a random effect. And because our survey design has random effects as opposed to just fixed effects (such as type of protection, which are not drawn from a larger sample but are rather "fixed" in our design), it makes more sense here to use a mixed-effects model design as opposed to simple linear regression.

Mixed-effects models are also seen as providing more robust and accurate measurements than other alternative statistical techniques, such as repeated measures analysis of variance (ANOVA). *See, e.g.*, Charlene Krueger & Lili Tian, *A Comparison of the General Linear Mixed Model and Repeated Measures ANOVA Using a Dataset with Multiple Missing Data Points*, 6 BIOLOGICAL RSCH. FOR NURSING 151 (2004); Matthieu P. Boisgontier & Boris Cheval, *The ANOVA to Mixed Model Transition*, 68 NEUROSCIENCE & BIOBEHAVIORAL REV. 1004 (2016). Overall, the use of mixed-effects regression, and in particular the decision to cast "participant" as a random-effect predictor, allows us to conservatively estimate the effect of the fixed-effects predictors and ensure that any significant effect is generalizable to the participant sample (legal academics) rather than the result of certain participant idiosyncrasies.

[59] The Akaike information criterion (AIC) is a mathematical method for evaluating how well a model fits the data it was generated from—in other words, how much variation does the model predict relative to the number of predictor variables. Htrotugu Akaike, *Maximum Likelihood Identification of Gaussian Autoregressive Moving Average Models*, 60 BIOMETRIKA 255 (1973); YOSIYUKE SAKAMOTO ET AL., AKAIKE INFORMATION CRITERION STATISTICS (1986); Joseph E. Cavanaugh & Andrew A. Neath, *The Akaike Information Criterion: Background, Derivation, Properties, Application, Interpretation, and Refinements*, 11 WILEY INTERDISC. REV. COMPUTATIONAL STAT. e1460 (2019). The lower the AIC, the greater the amount of variation a model explains relative to the number of predictors (i.e., the better the model fits the data). In our study, we calculated the AIC using the anova function in R (not to be confused with the repeated-measures ANOVA mentioned *supra* note 58).

[60] Our threshold for reporting significance is a p-value of below .05, which is the standard in psychology and other social science research. As evident from the main text, the p-values from our regression model were all several orders of magnitude lower than this threshold, which suggests an astoundingly robust effect.

[61] Note that the value P<2×10^{-16} is the lowest p-value generated by the lme4 package in R.

(BCa) bootstrap method[62] as opposed to the results of a hypothesis test.[63] All calculations were based on 5000 replications of the sample data.

With regard to the proposition that there are feasible, predictable mechanisms through which the law can affect the long-term future (understood as at least 100 years from now), 74.5% of legal academics (95% CI: 70.2% to 78.0%) responded with a 5 or higher (5 for "somewhat agree," 6 for "moderately agree," or 7 for "strongly agree"), while 72.78% (95% CI: 66.27% to 79.88%) of legal academics responded with a 5 or higher to the proposition that legal mechanisms are among *the most* predictable, feasible ways to influence the long-term future.

---

[62] Bootstrapping is a statistical procedure that involves resampling a single dataset to create many simulated samples. Thomas J. DiCiccio & Bradley Efron, *Bootstrap Confidence Intervals*, 11 STAT. SCI. 189 (1996). It allows one to construct confidence intervals of virtually any statistic, regardless of how that statistic is distributed (e.g., bell-shaped, bimodal). The bias-corrected and accelerated (BCa) method is a type of bootstrapping technique that adjusts for both bias and skewness in the distribution and has been demonstrated to yield highly accurate confidence intervals. *See* Bradley Efron, *Better Bootstrap Confidence Intervals*, 82 J. AM. STAT. ASSOC. 171 (1987); Peter Hall, *Theoretical Comparison of Bootstrap Confidence Intervals*, 16 ANNALS STAT. 927 (1988); Thomas J. DiCiccio, *On Parameter Transformations and Interval Estimation*, 71 BIOMETRIKA 477 (1984); Thomas J. DiCiccio & Joseph P. Romano, *On Bootstrap Procedures for Second-Order Accurate Confidence Limits in Parametric Models*, 5 STATISTICA SINICA 141 (1995); BRADLEY EFRON & ROBERT J. TIBSHIRANI, AN INTRODUCTION TO THE BOOTSTRAP (1st ed. 1993).

[63] Whereas hypothesis tests (such as t-tests) use data from a sample to test a specified hypothesis, confidence intervals—such as those obtained via bootstrapping—simply use data from a sample to estimate a population parameter, independent of some proposed hypothesis. *E.g.*, ANTHONY C. DAVISON & DAVID V. HINKLEY, BOOTSTRAP METHODS AND THEIR APPLICATION (1997); Bradley Efron, *Bootstrap Methods: Another Look at the Jackknife*, 7 ANNALS STAT 1 (1979); EFRON & TIBSHIRANI, *supra* note 62; PETER HALL, THE BOOTSTRAP AND EDGEWORTH EXPANSION (1992); CLIFFORD E. LUNNEBORG, DATA ANALYSIS BY RESAMPLING: CONCEPTS AND APPLICATIONS (1st ed. 2000); CHRISTOPHER Z. MOONEY & ROBERT DUVAL, BOOTSTRAPPING: A NONPARAMETRIC APPROACH TO STATISTICAL INFERENCE (1993); Michael Wood, *Bootstrapped Confidence Intervals as an Approach to Statistical Inference*, 8 ORGANIZATIONAL RSCH. METHODS 454 (2005). Because we did not have a proposed hypothesis but rather sought to estimate a population parameter (i.e., the percentage of legal academics who endorsed the feasibility assumption), we chose to calculate confidence intervals rather than conduct a hypothesis test.
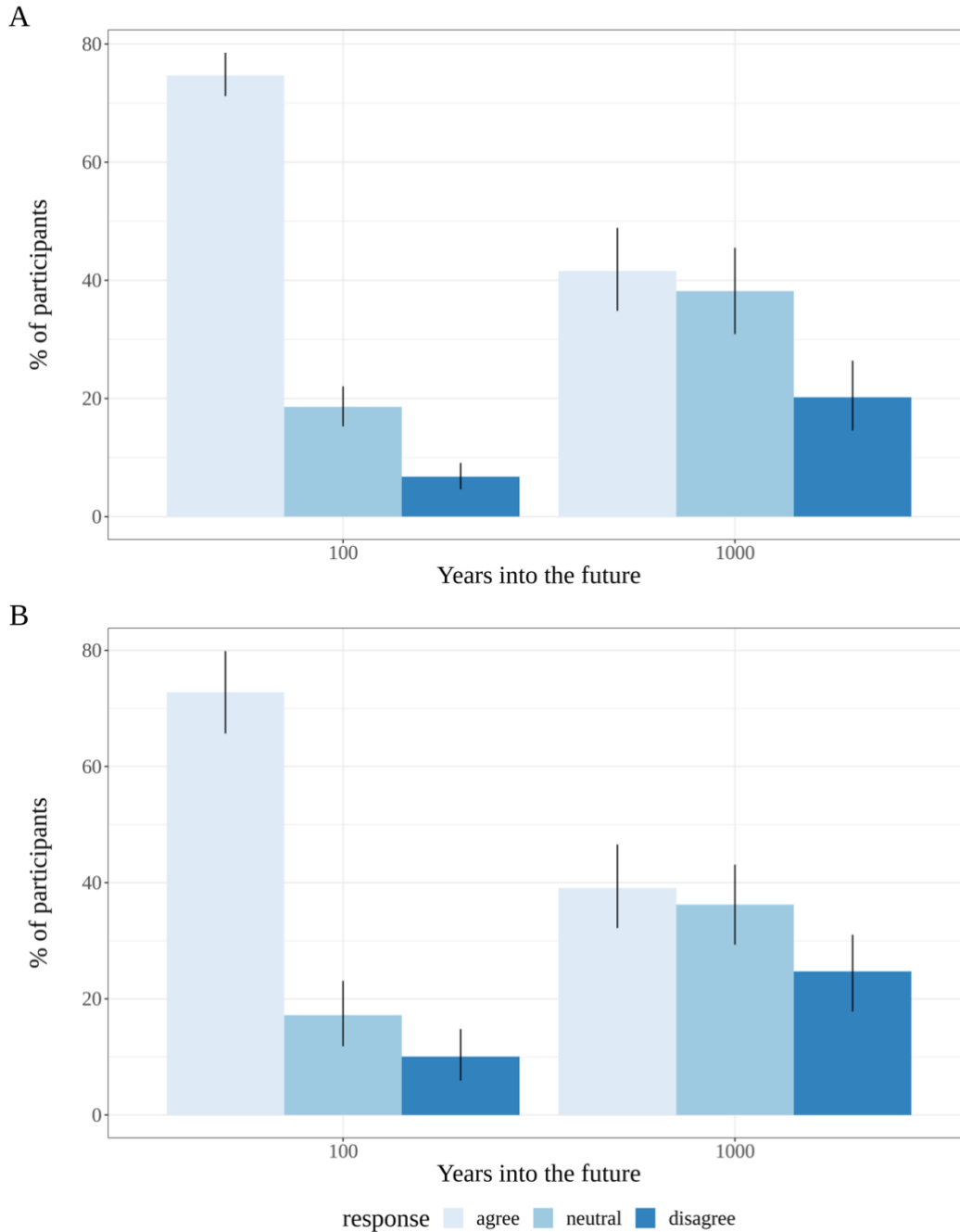
A

B

Figure 2: Percentage of participants who endorsed ("somewhat agree," "moderately agree," or "strongly agree") the proposition that (A) there are predictable, feasible legal mechanisms through which to influence the long-term future (understood as at least 100 years from now), and (B) legal mechanisms are among *the most* predictable, feasible ways to influence the long-term future

When asked similar questions regarding the feasibility of influencing the very long-term future (understood as at least 1000 years from now) through law, a plurality of legal academics (40.9%) responded with a 5 or higher to the general

proposition that there are feasible, predictable mechanisms through which the law can affect the very long-term future, and a majority (61.4%) responded with a 4 or higher (see Figure 2 for complete results).

With regard to demographics, we sought to determine whether our main findings held for different demographics subgroups. With respect to the normative premise, we did so by running our regression model separately for each major subgroup[64] within the demographic variables of age, gender, politics, legal training, and continent of residence/work and evaluated whether the coefficients of our predictor variables remained significant.[65] Strikingly, the regression coefficients for all of our predictor variables remained significant for each demographic subgroup within age, gender, politics, and legal training, indicating that the main findings did hold for each subgroup. The same was also true for the continent of residence/work, with one exception—we did not find a significant interaction between subquestion (desired vs. current level of protection) and subgroup (e.g., humans living now, humans living in the near future, etc.) when looking at data from participants living/working in Asia.

We likewise looked at whether the proposition that there are feasible, predictable mechanisms through which the law can affect the long-term future (understood as at least 100 years from now) was endorsed not just by respondents as a whole but also by different demographic subgroups.[66] We did so by bootstrapping the mean agreement level within every subgroup and evaluating whether the lower bound of the 95% confidence interval for each one was at or above 50%. Using this method, we found that for every demographic subgroup the lower bound of the 95% confidence interval was in fact at or above 50%.

D. Doctrinal-level questions

The goal of the doctrinal-level questions was to investigate to what degree legal academic experts believed there was an existing legal basis for granting future generations standing to bring forth a lawsuit (both overall and relative to other groups that have or have not already been granted standing to bring forth a lawsuit in the jurisdictions surveyed).

1. Materials

To answer this question, we constructed a question that asked participants: "For which of the following groups do you consider there to be a reasonable legal basis for being granted standing to bring forth a lawsuit (*locus standi*) in at least some possible cases?" Participants were asked about the following groups:

---

[64] By "major subgroups" we refer to subgroups with at least 30 subjects. Note that for politics, we assigned all those who self-identified as at least "somewhat liberal" to a liberal subgroup, and all those who self-identified as at least "somewhat conservative" or "centrist" to a non-liberal subgroup. For age, we assigned all those 35 years old and younger to a "35 and younger" subgroup, and all those 55 and above to a "55 and older" subgroup. All other groups were the same as those detailed in Table 1.

[65] For example, with regard to gender, we ran a regression in which we filtered out all non-females beforehand, and then ran another regression in which we filtered out all non-males beforehand.

[66] Note that because of the lower sample size in Round 2 we did not attempt to do this with respect to the questions regarding whether legal mechanisms were among the best mechanisms through which to influence the long-term future.

1. Humans inside the jurisdiction
2. Humans outside the jurisdiction
3. Corporations
4. Unions
5. Non-human animals
6. Environment (e.g., rivers, trees, or nature itself)
7. Sentient artificial intelligence (assuming its existence)
8. Humans living in the near future (up to 100 years from now)[67]
9. Humans living in the far future (100+ years from now)
10. Other (fill in)

For each of these groups, participants had the following primary options:

1. Reject
2. Lean against
3. Uncertain
4. Lean towards
5. Accept

If participants could not or did not want to select one of the primary options, they were given the option to "select the best explanation of why it is not possible to rate your view," in which case they could either choose "other view" or "no opinion."

This question format was inspired by the format used by the University of Chicago's Initiative on Global Markets' US Economic Experts Panel,[68] as well as Martinez & Tobia's survey of US legal academics on questions related to the legal academy and legal theory,[69] with some deviations. The format was designed to be as clear and concise as possible and to encourage respondents to express ignorance or uncertainty if, for whatever reason, they could not give a categorical answer to the prompt for any of the groups listed.

2. Analysis and Results

In total, 136 participants responded to the doctrinal-level portion of the survey. Figure 3 illustrates their responses.

---

[67] Note that in this set of questions, we collapsed the groupings of humans "living in the near future (0–25 years from now)" and "in the medium future (25–100 years from now)."

[68] US Economic Experts Panel, The Initiative on Global Markets, Booth School of Business, The University of Chicago, https://www.igmchicago.org/igm-economic-experts-panel/ (last visited July 29, 2021).

[69] Kevin Tobia & Eric Martinez, *Further Details About the Legal Academy & Theory Survey*, Georgetown Lab for the Empirical Study of Law & Language (last visited July 29, 2021).
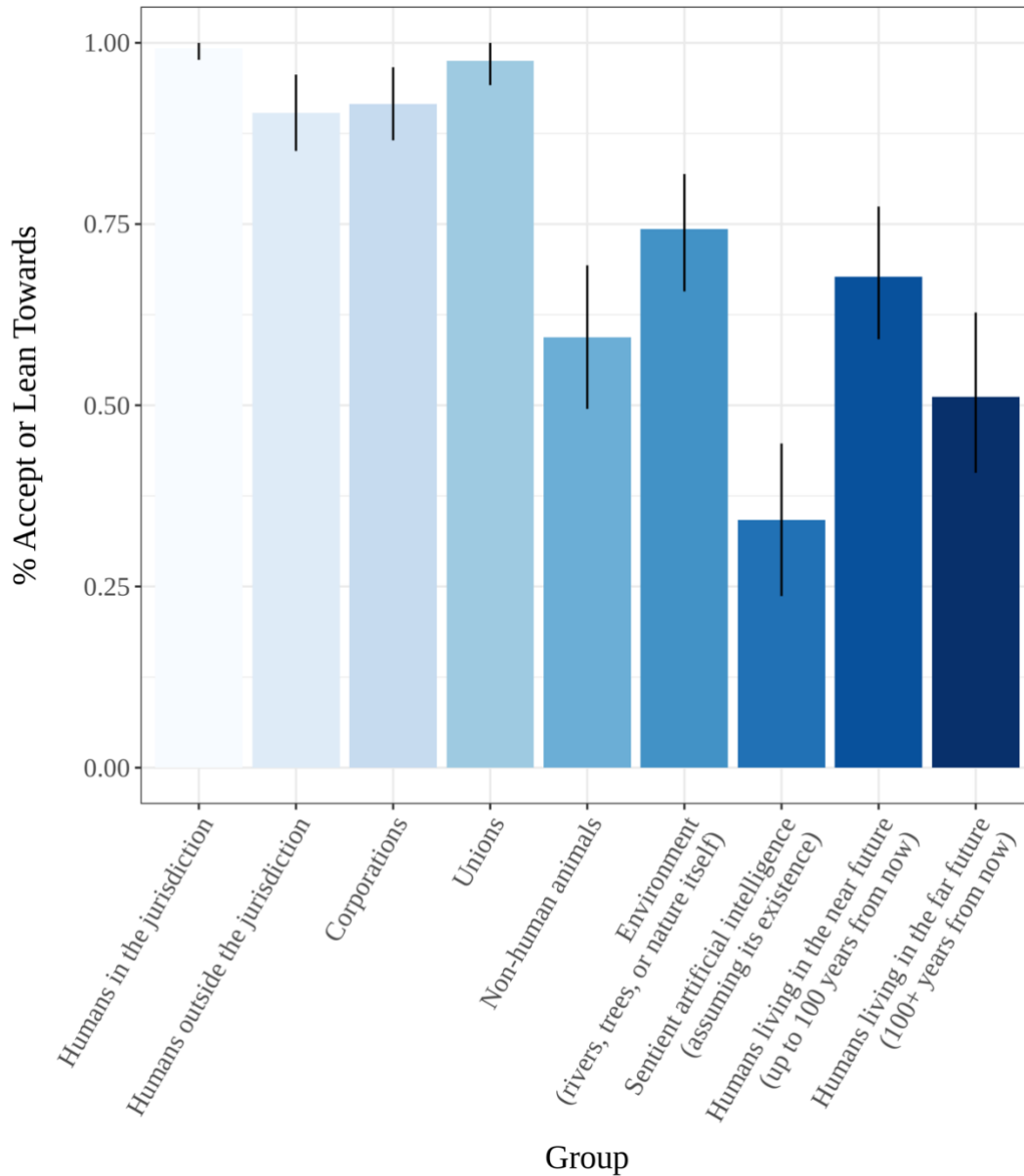
Figure 3: Percentage of participants who endorsed ("lean towards" or "accept") there being a reasonable legal basis for granting standing in at least some cases

Unsurprisingly, virtually everyone (99.22%) endorsed there being a reasonable legal basis for granting standing to humans inside the jurisdiction "in at least some possible cases" (95% CI: 97.66 to 100). Since humans inside a given jurisdiction have standing, this question acted as a control, with the nearly unanimous expected response indicating that participants were paying attention to the prompt and able to select the intended response without technical difficulty (as opposed to answering the question at random or incautiously). The next most highly endorsed groups were unions (97.50%; CI: 94.17 to 100), corporations (91.60%; CI: 85.71 to 96.64), and humans outside the jurisdiction (90.35%; CI: 84.21 to 95.61). The percentage for each of these groups was significantly higher than that of any other group (p<.05).

With regard to future generations, more than two-thirds (67.74%) of legal academics endorsed there being a reasonable legal basis for granting standing to humans living in the near future (understood as up to 100 years from now) (95% CI: 59.11 to 76.34), while a slight majority (51.16%) of legal academics endorsed the proposition with regard to humans living in the far future (understood as 100+ years from now) (95% CI: 39.53 to 61.63). Of the remaining groups, the endorsement percentage for the environment was highest (74.29%) (95% CI: 65.71 to 81.90), followed by non-human animals (59.41%) (95% CI: 49.50 to 69.31), and sentient artificial intelligence (34.21%) (95% CI: 23.68 to 44.74). Thus, more law professors endorsed there being a legal basis for granting standing to the environment than to humans in the near or far future, while all groups had a higher endorsement percentage than sentient artificial intelligence. [70]

E. Applied-level questions

The goal of the applied-level questions was to investigate to what degree law academic experts believed particular legal mechanisms might feasibly protect future generations (as opposed to the law as a whole). In particular, we wanted to know to what extent legal academics believed (a) specific areas of law might feasibly and predictably influence the long-term future; (b) whether the law might feasibly and predictably influence the long-term future with regard to more specific risks; and (c) how well certain specific legal mechanisms might safeguard the interests of future generations relative to others. Here we discuss in greater detail the methods used to answer these questions, as well as the analysis and results of participants' responses to these questions.

1. Materials

In order to investigate (a) to what degree legal academics believed that specific areas of law might feasibly and predictably influence the long-term future, we asked participants to rate their agreement with the following statement: "There are feasible mechanisms through which the law can influence the long-term future (understood as at least 100 years from now)" as applied to following specific areas of law:

1. Constitutional law
2. Administrative law
3. Criminal law
4. Environmental law
5. Contract law
6. Property law
7. Tort law / civil liability
8. International law

---

[70] Note that because of the relatively smaller sample size for the doctrinal portion, we did not seek to draw inferences based on demographic differences.

Participants were also asked to rate their agreement with a similar prompt regarding "very long-term future (understood as at least 1000 years from now)." Participants rated their level of agreement on a scale of 1 to 7, with 1 representing "strongly disagree" and 7 representing "strongly agree."

These areas of law were chosen due to the fact that, apart from environmental law, they comprise the typical areas taught in law schools across common-law jurisdictions. Environmental law was chosen in addition to the main areas due to the fact that it appears to be the area of law most commonly associated with influencing the long-term future,[71] particularly in the context of climate change.[72]

In order to investigate (b) law professors' beliefs regarding law's ability to address specific risks, we gave participants a similarly worded question that asked participants to rate their level of agreement, on a scale of 1 to 7, with the following statement: "There are feasible mechanisms through which the law can influence the long-term future (understood as at least 100 years from now)," as applied to the following set of risks:

1. Artificial intelligence
2. Climate change
3. Synthetic biology and biorisk
4. Animal welfare
5. Space governance
6. Nuclear war
7. Other (please specify)

Participants were similarly given the same prompt with regard to the "very long-term future (understood as at least 1000 years from now)". This set of questions was chosen due to the fact that these risks have been described in the prioritization literature as the most pressing concerns and representing the highest risk for the future of humanity relative to other risks.[73] However, given the high degree of empirical uncertainty and potential disagreement regarding which set of risks is more pressing than others, we allowed participants to rate another risk of their choosing.

Finally, with regard to (c) legal academics' attitudes towards more specific legal mechanisms, we asked participants to rate how much protection each of the following legal mechanisms, if incorporated into their country's constitution, would provide to future generations:

---

[71] For example, as mentioned in Part I.C.2, *supra*, the majority of constitutions that reference future generations do so alongside or in the context of environmental law. Araújo & Koessler, *supra* note 42.

[72] *See e.g.*, Michael Burger & Daniel J. Metzger, Global Climate Litigation Report: 2020 Status Review, U.N. Env't Programme (2020), https://www.unep.org/resources/report/global-climate-litigation-report-2020-status-review (noting the approximate doubling of climate change lawsuits brought forth globally in 2020 compared to 2017).

[73] Examples of organizations engaging in prioritization research include Global Priorities Institute at Oxford University, Open Philanthropy, and 80,000 Hours. For a discussion of this literature in the context of legal research and regarding these issues in particular, see Winter et al., *supra* note 4.

1. Protection against discrimination towards future generations
2. Commitment to spend 1% of GDP towards protection against existential risk (such as those posed by runaway climate change, artificial intelligence, or pandemics)
3. Provision granting standing (*locus standi*) to future generations
4. Commission or ombudsperson to oversee the protection of future generations
5. State goal to protect future generations

In designing the set of mechanisms, we sought to include a wide variety of types of mechanisms, as well as ones which have either been proposed by scholars as plausibly protecting future generations,[74] have already been implemented into existing constitutions,[75] or which one might otherwise think *a priori* would provide protection to future generations.[76] Participants rated the level of protection on a scale of 1 to 7, with 1 representing "none at all" and 7 representing "very much."

2. Analysis and Results

Figure 4 illustrates the results of legal academics' attitudes regarding the feasibility of different areas of law to influence the long-term and very long-term future. For each of the eight specific areas of law, the majority of participants endorsed (i.e., rated as 5 or higher) the proposition that there were predictable, feasible mechanisms through which to influence the long-term future (understood as at least 100 years from now), though this percentage varied by area (see Figure 4a). The area of law with the highest percent endorsement was environmental law, with 86.13% (80.35 to 91.33), followed by constitutional law (81.61%; CI: 75.29 to 87.36), property law (78.36%; CI: 72.50 to 84.21), international law (77.30%; CI: 70.55 to 84.05), tort law / civil liability (72.78%; CI: 66.27 to 79.29), administrative law (72.25%; CI: 65.90 to 78.63), contract law (64.12%; CI: 57.06 to 71.77), and finally, with the lowest percent of endorsement, criminal law (62.94%; CI: 55.29 to 70.59).

With regard to the very long-term future (understood as at least 1000 years from now), the mean endorsement percentage was lower than with regard to the long-term future. Of the eight areas of law, the area with the highest mean endorsement percentage was again environmental law (54.55%; CI: 47.27 to 62.42), while the area with the lowest endorsement percentage was again criminal law (32.10%; CI: 24.69 to 38.89). Similar to the responses for the general feasibility assumption (i.e., that there are feasible, predictable mechanisms through which the law can influence

---

[74] For example, an international agreement to spend 1% of GDP on reducing global risks was recently proposed by analogy to the agreement to spend %0.7 on foreign aid. *See* Hauke Hillebrandt, International Agreements to Spend a Fixed Percentage of GDP on Global Public Goods and Bads (unpublished manuscript, on file with authors), https://docs.google.com/document/d/e/2PACX-1vQxAD6LkXynI11Laph12nmGwnsf2i8YpzciHze1i8ORqax8PiGWJgrcRBihEuScbLq3L8v4_o7SkQ_P/pub; *see also* Bogojević, *supra* note 40.

[75] *See* GRUNDGESETZ [GG] [BASIC LAW], art. 20a, translation at http://www.gesetze-im-internet.de/englisch_gg/index.html (Ger.) (which puts a responsibility on the state to protect the "natural foundations of life" for future generations).

[76] For example, one might consider it plausible to infer that extending common forms of human rights protection to future generations would be effective, such as via discrimination protection to future generations or establishing a commission to protect future generations.

the very long-term future), for the majority of areas, most participants did not endorse the proposition.[77] However, for each of the areas, the majority of participants either endorsed or were at least neutral (i.e., did not disagree) with respect to the proposition.

Similar patterns emerged with respect to (b) legal academics' attitudes regarding specific risks (see Figure 5); the majority of participants endorsed the proposition that there are predictable, feasible mechanisms through which to influence the long-term future with respect to all risks mentioned, while the rate of agreement was higher for some areas (e.g., climate change: 83.93%; CI: 78.57 to 89.29) than for others (e.g., artificial intelligence: 56.3%; CI: 49.70 to 63.91). Looking at the lower bound of the bootstrapped 95% confidence intervals, the endorsement percentage remained at a majority for every risk area aside from artificial intelligence. With regard to the very long-term future, similar results were observed as with respect to different areas of law in that although most participants did not endorse the proposition, the majority of participants either endorsed or were at least neutral (i.e., did not disagree) with respect to the proposition for every area aside from artificial intelligence.

With respect to (c) legal academics' beliefs regarding the efficacy of specific legal mechanisms in safeguarding the rights of future generations, for each of the mechanisms that participants were surveyed on, the mean rating for level of protection was above a 4 (on a scale of 1 to 7, with 1 representing "none at all," 4 representing "some" and 7 representing "very much"; see Figure 6). The mechanism that was rated as granting the most protection was a commitment to spend 1% of GDP towards protection against existential risk (4.76; 95% CI: 4.50 to 5.05), followed by protection against discrimination towards future generations (4.62; 95% CI: 4.34 to 4.91), provision granting standing to future generations (4.22; 95% CI: 3.92 to 4.53), state goal to protect future generations (4.15; 95% CI: 3.88 to 4.43), and commission or ombudsperson to oversee the protection of future generations (4.13; 95% CI: 3.83 to 4.42).

---

[77] See *supra* Section II.C.2 (noting that "a plurality of legal academics (40.9%) responded with a 5 or higher to the general proposition that there are feasible, predictable mechanisms through which the law can affect the very long-term future," understood as at least 1000 years from now, while a majority (74.5%) endorsed the same proposition for the long-term future, understood as at least 100 years from now).

A

B

Figure 4: Percentage of participants who endorsed the proposition that there are predictable, feasible legal mechanisms through which to influence the long-term future via different areas of law (A: 100+ years from now; B: 1000+ years from now).
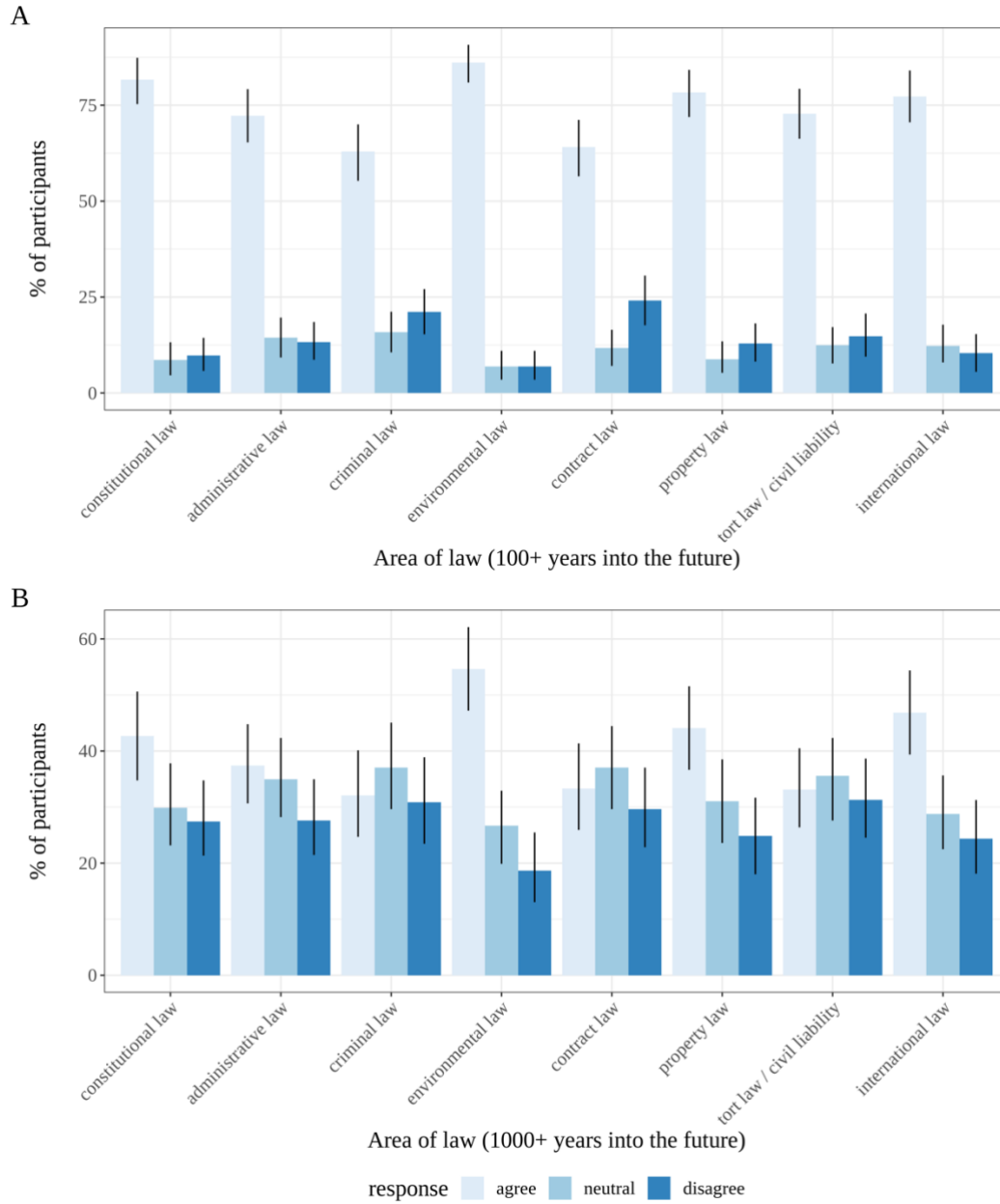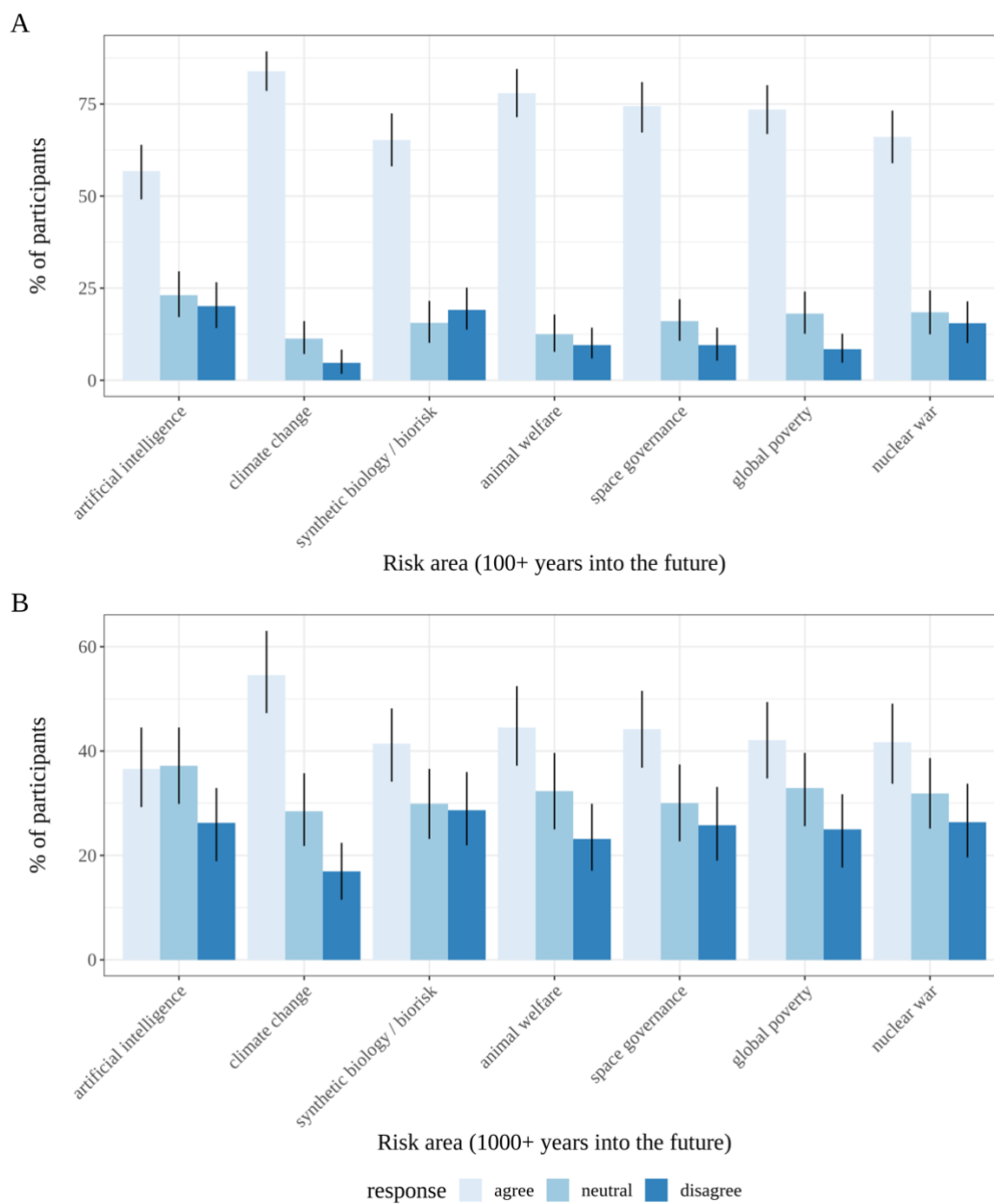
A

B

Figure 5: Percentage of participants who endorsed the proposition that there are predictable, feasible legal mechanisms through which to influence the long-term future with regard to different types of risks (A: 100+ years from now; B: 1000+ years from now)
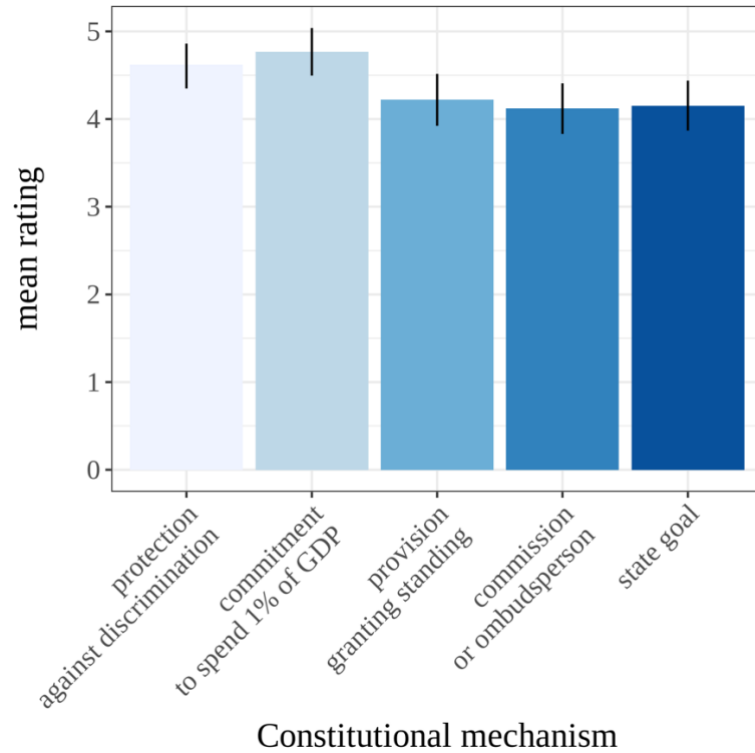
Figure 6: Mean rating of level of protection provided to future generations by various constitutional mechanisms

III. IMPLICATIONS

In the previous Part we discussed the methods and results of our study, both with regard to descriptive and inferential statistics. How well do these results satisfy the aims laid out at the beginning of the paper? Here we discuss the descriptive and normative implications of the results of the study, with regard to each of the three levels of abstraction, before turning to future directions this research might take in Part IV.

A. Philosophical Level

1. Descriptive Implications

With the philosophical-level questions, we first set out to determine to what degree legal academics endorsed the desirability of protecting future generations. The fact that participants' desired level of protection for humans living in the far future (100+ years from now) was over three times higher than the perceived current level of protection for humans living in the far future, and roughly equal to the perceived level of current legal protection to future generations indicate that legal academics are in favor of (a) tripling the level of legal protection granted to future generations, and (b) bringing the level of protection more into alignment with the level of protection currently granted to humans living now. Moreover, the fact that the gap between the average desired and perceived level of protection was higher

for humans living in the far future than for any other group surveyed on—including not just humans living in the present but groups such as the environment, humans living outside the jurisdiction, humans living inside the jurisdiction, and humans living now—suggests that not only are legal academics in favor of protecting future generations, but that the extent to which they believe the law should increase protection for future generations is higher than the extent to which they believe this for other protected and neglected groups[78].

Moreover, the fact that our statistical analysis (i.e., the mixed-effects linear regression) revealed these effects to be significant indicates that these results were likely not a result of chance; the p-value of the coefficients in our regression model were the lowest possible value yielded by statistical software, several orders of magnitude lower than the traditional cut-off for statistical significance in any scientific discipline.

The second question we sought to answer in the philosophical-level part of the survey related to the degree to which legal academics believed it to be feasible to influence the far future and protect future generations. The fact that the vast majority of legal academics at least somewhat agreed with the proposition that there are feasible, predictable mechanisms through which to influence the long-term future (understood as at least 100 years from now), as well as with the proposition that legal mechanisms are among *the most* predictable, feasible ways to influence the long-term future, suggests that legal academics not only believe that it is possible to influence the long-term future using legal mechanisms, but that it is more feasible than attempting to do so than using other non-legal mechanisms. Moreover, the fact that a plurality of legal academics endorsed the proposition that there are feasible, predictable mechanisms through which the law can affect the very long-term future, and a majority endorsed or were at least neutral with respect to the proposition, indicates that that most either agree or are at least neutral with regard to the idea that it is feasible to influence not just the long-term future but the very long-term future through law.

Finally, with respect to the third question we sought to answer in this part of the survey, our demographic analyses indicate that these main findings hold true, regardless of demographic status. For example, with respect to the desirability of protecting future generations, we found that the effects of our regression model remained significant even when controlling for factors such as age, gender, politics, country of origin, and form of legal training. Similarly, with respect to the feasibility of influencing the long-term future via law, we found that a significant majority of participants in virtually every major demographic group endorsed the proposition that there were feasible, predictable mechanisms to influence the long-term future via law.

Collectively, these findings strongly suggest that academic legal experts across the English-speaking world widely consider the protection of future generations to be an important and neglected issue that can be tractably addressed through legal intervention.

---

[78] Note that by "neglected" we refer to groups that lack fundamental access to the legal system, such as via personhood, standing, or representation in the legislature.

2. Normative Implications

To what extent do these findings inform questions of legal philosophy? In particular, how should the empirical results gained from the present study influence our confidence regarding the degree to which future generations ought to be provided legal protection (independent of the actual content of current legal doctrine)? Here we discuss to what extent our findings support the two of the three underlying premises of legal longtermism: (a) the normative premise that law *should* protect future generations and positively influence the long-term future, all-else-equal[79] and (b) the descriptive premise that the law *can* protect future generations and positively influence the long-term future[80].

With regard to the latter, overall our findings strongly support the feasibility and predictability assumption of legal longtermism. As discussed in Section I.B.2, *supra*, some of the primary objections to legal longtermism—even among those who believe that future generations are worth protecting—relate to skepticism of the ability to influence the long-term future via law, yet, as discussed above, legal academics appear very confident with respect to law's ability to influence the long-term future.[81] To the extent that legal academics are experts on the potential long-term effects of law, it follows that their endorsement of the claim that there are feasible, predictable mechanisms through which the law can influence the long-term future strengthens the same empirical premise underlying legal longtermism (i.e., that there are feasible, predictable mechanisms through which the law can influence the long-term future), which in turn would provide some evidentiary and normative weight to legal longtermism.[82]

---

[79] *See* supra notes 5–9 and accompanying text.

[80] *See* supra notes 10–20 and accompanying text.

[81] Note that although the majority of participants did not endorse the proposition with respect to the very long-term future, (a) the majority did not disagree with the proposition, and (b) the percentage of those who agreed (41.57%) is quite high considering that many longtermists assign a much lower level of confidence to being able to influence the long-term future in a predictable and feasible manner. In other words, legal academics often appear even more confident in the potential to influence the long-term future than many longtermists.

[82] Some might doubt the validity of this claim by arguing that although legal academics are experts in law, they are not experts in forecasting. Potential evidence in this regard includes the fact that some professors gave inconsistent answers (e.g., disagreeing with the proposition that there were feasible mechanisms through which to influence the long-term future via law while also agreeing with the proposition that there were feasible mechanisms through which to influence the long-term future via environmental law). On the other hand, this might also suggest that legal academics were too conservative in their answers (e.g., forgetting initially that there were possible ways to influence the long-term future until being confronted with a specific example that they found plausible). Future work (potentially surveying forecasting experts) could help resolve this uncertainty.

Setting this objection aside, one might also argue that, although legal academics may be experts in evaluating the feasibility and predictability of legal mechanisms, they are not experts in comparing this level of feasibility and predictability with that of other mechanisms (thus calling into question whether this strengthens the case for focusing on legal versus non-legal mechanisms with regard to influencing the long-term future). For example, lawyers may either (a) have decided to enter the legal profession due to a belief that law is more feasible than non-legal approaches, and (b) become fixated on the idea of using law once familiar with it. *See, e.g.*, ABRAHAM H. MASLOW, THE PSYCHOLOGY OF SCIENCE: A RECONNAISSANCE (1966), 15 ("I suppose it is tempting, if the only tool you have is a hammer, to treat everything as if it were a nail.").

With regard to the normative premise of legal longtermism, our results likewise provide some weight in favor of the view that the law *should*, all else equal, protect future generations, albeit less than the evidentiary weight provided towards the feasibility premise. As discussed at various points in this paper, participants by-and-large endorsed higher levels of legal protection towards future generations than are currently being afforded to them. Insofar as legal academics are experts at determining the appropriate level of legal protection for a particular group—just as, for example, it has been argued that moral philosophers are experts regarding what should be deemed morally appropriate[83], it would follow that their endorsement of higher levels of legal protection for future generations would signify that the appropriate level of legal protection for future generations is higher than it is currently.[84]

Of course, the view that legal academics should have a greater say in what constitutes the appropriate level of legal protection is by no means uncontroversial; one might alternatively argue (in line with what has been dubbed the folk law thesis[85]) that legal experts should not have any more say in how the law operates than should ordinary people, or even that ordinary people's intuitions should be even more meaningful than legal experts' intuitions in determining the appropriate form and level of legal protection afforded to certain groups. Even so, our results provide no indication that legal education or expertise was driving the tendency to endorse greater levels of legal protection for future generations; after all, our effect held independent of a multitude of disparate demographic factors such as age, gender, political affiliation, nationality, or type of legal training, lowering the plausibility of demographic factors influencing one's level of endorsement of legal protection towards future generations.

Furthermore, even if there were something particular about legal academics in this regard, it seems difficult to imagine any demographic factor accounting for the massive effect size observed between the desired versus perceived current level of protection of future generations. In other words, even if laypeople (or some other expert group) did not endorse the same levels of legal protection for different groups as law professors, it seems difficult to imagine they would not still endorse some increased level of legal protection, given the extremely high level of protection endorsed by legal academics towards future generations, as well as the lack of any obvious mechanism specific to legal academics that might account for said

---

[83] *See, e.g.*, Singer, *supra* note 6.

[84] The practice of assigning normative weight to a particular claim based on the tendency of relevant actors to make a judgment in favor of that claim has been referred to as the *if-then approach*. In the case of drawing normative inferences based on the judgments of experts, this has been referred to as the *technocratic if-then approach*, whereas the practice of drawing normative inferences based on laypeople has been referred to as the *democratic if-then approach*. The normative import provided by participants' judgments alone seems quite limited due to classic is-ought concerns, and said judgments will never be enough on their own to deliver an "all-things-considered" normative conclusion, even in cases where all actors agree. However, if one either assumes or makes additional arguments in favor of the reliability and trustworthiness of lay-people's or experts' intuitions in relevant contexts, then the if-then approach may help deliver valuable philosophical insights.

[85] Kevin Tobia, Legal Concepts and Legal Expertise (Feb. 10, 2020) (unpublished manuscript), https://privpapers.ssrn.com/sol3/papers.cfm?abstract_id=3536564.

endorsement (such as longtermism-oriented training in law school, or longtermism-relevant selection factors that might make one more likely to go to law school).

Furthermore, insofar as respondents' judgments may have been biased by unreliable factors, this would be more likely to cause respondents to endorse a lower protection of future generations, for example due to cognitive biases such as present bias, hyperbolic discounting[86], and diminishing marginal utility of life[87].[88] If this were true, it would suggest that the appropriate level of legal protection is even higher than that endorsed by respondents in our study.

B. Doctrinal Level

1. Descriptive Implications

With the doctrinal-level questions, we sought to investigate a slightly more concrete issue of legal doctrine by investigating to what degree legal academics believed that it was legally permissible to grant future generations standing to bring forth a lawsuit within the confines of existing legal doctrine.

The fact that more than two-thirds (67.74%) of legal academics leaned towards or accepted the proposition that there was a reasonable legal basis for granting standing to humans living in the near future (understood as up to 100 years from now), while a slight majority (51.16%) of legal academics at least leaned towards the proposition with respect to humans living in the far future (understood as 100+ years from now), suggests that legal academics across the English-speaking world appear to agree that, even under the current legal system, there are at least some cases where one might make a reasonable legal argument for allowing those living within the next 100 years to bring forth a lawsuit. Our results also suggest that legal academics feel the same way not just about future generations but about other groups surveyed as well. In particular, the vast majority of legal academics leaned towards or accepted the proposition that there was a reasonable legal basis for granting standing to the environment (e.g., rivers, trees or nature itself) in at least some cases. Moreover, the fact that fewer legal academics believed there was a reasonable basis for granting standing to those living in the far future relative to the near future indicates that at least some of those who believe the doctrine of standing reasonably

---

[86] *E.g.*, Walter Mischel & Ebbe B. Ebbesen, *Attention in Delay of Gratification*, 16 J. PERSONALITY & SOCIAL PSYCH. 329 (1970); Ted O'Donoghue & Matthew Rabin, *Doing It Now or Later*, 16 AM. ECON. REV. 329 (1999); Ted O'Donoghue & Matthew Rabin, *Present Bias: Lessons Learned and To Be Learned*, 105 AM. ECON. REV. 273 (2015).

[87] Joshua Greene & Jonathan Baron, *Intuitions About Declining Marginal Utility*, 14 J. BEHAVIORAL DECISION MAKING 243 (2001).

[88] The practice of assigning negative normative weight to judgments that are unreliable is known as *debunking*. According to one prevalent version of this approach, known as cognitive debunking, a judgment is considered to be unreliable if the underlying psychological process giving rise to that judgment does not reliably "get to the truth", Wedgwood, *Normativism Defended*, in CONTEMPORARY DEBATES IN PHILOSOPHY OF MIND (McLaughlin & Cohen eds., 2007), or "track the truth", Andow, *Reliable But Not Home Free? What Framing Effects Mean for Moral Intuitions*, 29 PHIL. PSYCHOLOGY 904 (2016), or it cannot be classified as a "truth-tracking process", JOSHUA GREENE, MORAL TRIBES: EMOTION, REASON, AND THE GAP BETWEEN US AND THEM (2013); Joshua Greene, *Beyond Point-and-Shoot Morality: Why Cognitive (Neuro) Science Matters for Ethics*, 124 ETHICS 695 (2014); CHRISTOPH WINTER, METAMORALISCHES STRAFRECHT (unpublished manuscript).

extends to some humans not yet alive do not believe that standing is fully indifferent to time.

2. Normative Implications

To what extent do these findings inform questions of legal doctrine? In particular, how do the empirical results gained from the doctrinal-level questions in the present study inform the extent to which future generations ought to be provided legal protection according to the doctrines of the current legal system? First, insofar as legal academic opinion reflects or is indicative of legal doctrine (as it is or ought to be interpreted), the fact that the majority of legal academics believed there to be a reasonable legal basis for granting standing to future generations suggests that according to at least one area of legal doctrine, future generations ought to be provided more legal protection than is currently being granted to them.

The fact that respondents endorsed the proposition that there is a plausible legal basis for granting standing to future generations in at least some cases despite the fact that future generations have not been granted standing in any cases[89] is puzzling and lends itself to three potential explanations. The first explanation is that future generations are being denied legal protection that they ought to be afforded according to existing legal doctrine, and that judges may be misapplying the law. The second explanation is that—at least in some jurisdictions—the right exists but has either (a) not been asserted, or (b) been asserted under the wrong circumstances or using inappropriate arguments. In other words, judges are correctly applying the law in the cases that come before them (or at least the arguments being made before them), but lawyers are either not bringing forth the correct lawsuits or providing sufficient counsel on behalf of future generations within those lawsuits; If true, this would imply that attempts to assert the right of standing on behalf of future generations in a court of law would be successful, if attempted in the right cases using the right argumentation.

A third explanation relates to an alternative interpretation of reasonable (as well as the famed debate between H.L.A. Hart and Ronald Dworkin regarding whether every case has a right answer[90]); that is, although the majority of respondents believe there to be a reasonable legal basis for granting standing to future generations, perhaps they also believe there to be a reasonable legal basis for denying standing to future generations in all cases. This would imply that there are cases in which a judge could be correctly (or at least reasonably) applying the law, both when denying or granting standing to future generations. This explanation also suggests that future attempts to assert standing for future generations may or may not be successful, depending on which reasonable legal basis a judge chooses to rely on or apply.

---

[89] Bogojević, *supra* note 40.

[90] *See* H.L.A. HART, THE CONCEPT OF LAW (Penelope Bulloch & Joseph Raz, eds., 3d ed. 2012); RONALD DWORKIN, *Justice and Rights*, *in* TAKING RIGHTS SERIOUSLY 150 (1977). For a discussion of the Hart-Dworkin debate, see SCOTT J. SHAPIRO, *The "Hart-Dworkin" Debate: A Short Guide for the Perplexed*, *in* RONALD DWORKIN 22 (Arthur Ripstein ed., 2007).

Whatever the explanation, our results suggest that this is not just the case for future generations but for other groups as well, such as the environment and non-human animals, who may be reasonably justified in bringing forth a lawsuit despite never being granted this right in any case to date.

For those living in the far future, the fact that fewer legal academics (albeit still a slight majority) believed there was a legal reasonable basis for granting them standing suggests that they are less likely to receive legal protection according to current doctrine. Given the setup of our study, it is unclear whether this is due to (a) a belief that those living 100+ years from now should not be granted standing *per se* as a matter of law, or (b) a belief that it is simply unlikely (though in principle possible) that someone living in the far future could demonstrate the adequate requirements (e.g., injury-in-fact, causation, and redressability in the United States). In either case, the fact that there is less of a reasonable basis for granting standing to humans living in the far future than the near future raises interesting questions regarding the line between being granted standing and not being granted standing. In other words, how many years into the future would one cease to possess the possibility of being granted standing?

C. Applied Level

1. Descriptive Implications

With the applied-level questions, we sought to investigate to what degree legal academics believed (a) specific areas of law might feasibly and predictably influence the long-term future; (b) whether the law might feasibly and predictably influence the long-term future with regard to more specific risks; and (c) certain specific legal mechanisms might safeguard the interests of future generations relative to others.

With regard to (a), as shown in Section II.E.2 and visualized in Figure 4, for every area of law surveyed on, a significant majority of legal academics at least somewhat agreed that there were predictable, feasible mechanisms to influence the long-term future (understood as at least 100 years from now). These results, in addition to observed differences between some of the areas of law (environmental law and constitutional law were rated as significantly higher than contract law and criminal law, for example), indicate that although legal academics generally agree that law can feasibly have predictable consequences 100+ years into the future, their level of confidence varies with respect to different areas of law. In particular, this suggests that academics are perhaps more likely to endorse more areas of law that are more foundational (constitutional law) or specifically oriented towards future risks (environmental law) compared to other more general areas of (such as criminal law and tort law / civil liability).

Although participants were less confident with respect to whether law had predictable, feasible mechanisms through which one could influence the very long-term future (understood as at least 1000 years from now), the fact that for every area of law, a plurality of participants endorsed (i.e., at least somewhat agreed with) the proposition, and a significant majority of participants either endorsed or were neutral (i.e., did not disagree) with respect to the proposition, suggests that the majority of legal academics may be cautiously optimistic or simply highly uncertain with regard

to most areas of law's ability to influence the future 1000 years from now in predictable ways.

With respect to both 100 and 1000 years from now, the fact that the level of endorsement for environmental law's ability to feasibly influence the long term future was higher than that for the law as a whole indicates that at least some participants who did not agree that there were any feasible, predictable mechanisms through which to influence the long-term future via law in general nonetheless agreed that there were feasible, predictable mechanisms through which to influence the long-term future via environmental law. These puzzling and seemingly contradictory responses appear indicative of a bias related to the conjunction fallacy[91] (where people are more likely to view certain more specific events such as A and B as higher probability than less specific events, such as A, even if mathematically this can not be the case), and/or the availability heuristic[92] (the tendency to rely more than is warranted on knowledge that is more available to you in estimating probabilities).

With respect to (b), the fact that for every long-term risk surveyed on except for one (artificial intelligence), the majority of legal academics at least somewhat agreed that there were predictable, feasible legal mechanisms to influence the long-term future (understood as at least 100 years from now) suggests that legal academics have an optimistic view towards the law's ability to address a variety of long-term risks. Moreover, the observed differences among different areas (e.g., climate change, space governance, animal welfare, and global poverty were all rated significantly higher than artificial intelligence) suggests that, as in specific areas of law, legal academics' level of confidence varies with respect to different risks.

With regard to the very long-term future (i.e., 1000+ years from now), we observed similar patterns regarding specific areas of law: (i) for every risk except one, artificial intelligence, a plurality of respondents endorsed (i.e., at least somewhat agreed with) the proposition that there are feasible, predictable mechanisms through which to influence the long-term future, and (ii) for every area, a significant majority of respondents either endorsed or were neutral with respect to (i.e., did not disagree with) the proposition.

As with environmental law in (a), we found that a higher percentage of participants endorsed the proposition that there were feasible, predictable ways in which law could influence the long-term future with respect to climate change compared to the percentage of participants who endorsed the proposition that there were such ways law could influence the long-term or very long-term future at all,

---

[91] Amos Tversky & Daniel Kahneman, Judgments of and by Representativeness, STANFORD UNIV. (1981), https://apps.dtic.mil/sti/citations/ADA099502; Amos Tversky & Daniel Kahneman, *Judgments of and by Representativeness*, *in* JUDGMENT UNDER UNCERTAINTY: HEURISTICS AND BIASES (Daniel Kahneman et al. eds., 1982); Amos Tversky & Daniel Kahneman, *Extension Versus Intuitive Reasoning: The Conjunction Fallacy in Probability Judgment*, 90 PSYCH. REV. 293 (1983).

[92] *Availability Heuristic*, OXFORD REFERENCE (last visited Aug. 9, 2021). http://www.oxfordreference.com/view/ 10.1093/oi/authority.20110803095436724; Adam Hayes, *Guide to Investing Psychology*, INVESTOPEDIA (May 28, 2021), https://www.investopedia.com/terms/b/behavioralfinance.asp (referring to availability bias also as experiential bias and recency bias).

thus suggesting a similar influence of biases such as the availability heuristic and conjunction fallacy on participants' judgments.[93]

With respect to (c), as visualized in Figure 5, some constitutional mechanisms (i.e., commitment to spend 1% GDP on existential risks) were rated as higher than others (e.g., commissioner or ombudsperson to protect future generations), suggesting that although legal academics are confident in constitution law's ability overall to influence the long-term future, they are not equally confident with respect to different provisions' ability to protect future generations. At the same time, the observed differences—even when taking account the most extreme confidence interval values—were quite small, suggesting that legal academics do not believe that the choice among provisions suggested in the survey would make that much of a difference in the level of protection provided to future generations.

2. Normative Implications

How might these results influence legal policy? In particular, which legal mechanisms and instruments ought to be prioritized and implemented so as to provide the appropriate level of legal protection to future generations? Our results were informative in at least three ways, which we detail here in turn.

First, our results provide insight into which areas of law ought to be prioritized from a legal longtermist perspective. Respondents' collective confidence in the possibility for areas such as constitutional law and environmental law to feasibly and predictably influence the long-term future was significantly higher than that for contract and criminal law, for example. Thus, insofar as legal academics are experts in judging the relative impact of different areas of law[94], it follows that from a legal longtermist perspective, *ceteris paribus*, one should focus on implementing longtermism-friendly legal instruments in the context of constitutional and environmental law as opposed to criminal law and contract law.

Second, our results also provide insight into which types of long-term risks law is most suitable to address. Respondents' endorsement of the proposition that there

---

[93] *See supra* nn. 88–89 and accompanying text.

[94] One might alternatively argue that because legal academics often specialize in one or more areas of law, they may not be skilled in judging the relevant impact of other areas of law (and may also be biased towards their own area of expertise, for example). If this were true, it would predict that areas with a larger number of specialists would be rated higher in terms of feasibly and predictably influencing the long-term future than areas with fewer specialists. This prediction, however, did not appear to be borne out. Although we did not collect specialty data on our participants, looking at the departments of our target sample suggests that areas of law that were rated higher (such as environmental law) were under-represented relative to areas of law that were rated lower (such as criminal law). For example, the University of Oxford faculty page lists 4 times as many faculty members specializing in criminal law relative to the number of members specializing in environmental law. *Academics*, UNIV. OXFORD (last visited Aug. 9, 2021), https://www.law.ox.ac.uk/people/academic.

Moreover, the same line of reasoning that suggests that legal academics are biased towards their own specialty would also predict that law professors are biased towards areas of law that they have more formal training in. The fact that environmental law was among the highest-rated areas despite the fact that—as mentioned in in Section II.E.1, *supra*—it is not considered a core area of the legal curriculum, indicates that this prediction was not borne out, further undercutting the idea that professors' responses were biased. Nonetheless, we do not rule out the possibility that other groups (such as forecasting experts) might be better at predicting the long-term effects of legal mechanisms than legal academics. We note this as a further direction of the study in Section IV.A, *infra*.

are feasible, predictable legal mechanisms through which to influence the long-term future was significantly higher for areas such as climate change, animal welfare, space governance, and global poverty than for artificial intelligence. Again, insofar as legal academics are experts in judging law's relative ability to impact different types of risks[95], then it follows that, all else equal, legal longtermists should focus their efforts on using law to influence areas such as climate change, animal welfare, space governance and global poverty as opposed to artificial intelligence.[96]

Third, within the context of constitutional law, our results provide insight into which types of constitutional provisions might provide better protection for future generations than others. For example, respondents rated provisions such as a commitment to spend 1% of GDP on existential risk as providing more protection than a commissioner or ombudsperson tasked with protecting future generations.[97] Insofar as legal academics are experts in predicting the relative efficacy of different mechanisms,[98] it follows that, *ceteris paribus*, legal longtermists should focus more of their efforts on implementing provisions that mandate spending financial resources on protecting against existential risk relative to those that institute an ombudsperson to protect future generations.[99]

IV. FUTURE DIRECTIONS

In addition to the descriptive and normative implications discussed in Part III, there are also several research questions left open by the present study. Here we discuss some of these research questions at each of the three main levels of abstraction.

A. Philosophical Level

Three main ways to extend the present study experimentally at the philosophical level are to investigate (a) the legal longtermism-related beliefs of other groups;

---

[95] *See supra* note 94.

[96] Note, however, that other factors relevant for such prioritization efforts are crucial to consider as well. For instance, one might argue that climate change is receiving significantly more attention than artificial intelligence, from the public as well as legal academia. The issues and risks resulting from climate change are therefore less neglected than those resulting from the application and development of artificial intelligence, making it more likely that said issues will (not) be solved before it is too late. *Cf.* ORD, *supra* note 4 with further references.

[97] The mean rating for level of protection, on a scale of 1 to 7, was 4.76 for 1% of GDP towards protection against existential risk (95% CI: 4.50 to 5.05) compared to 4.13 for commission or ombudsperson to oversee the protection of future generations (95% CI: 3.83 to 4.42). *See supra* Section II.E.2.

[98] *See supra* note 94. Similar to how one might doubt lawyers' abilities to judge the relative impact of different areas of law, one might also doubt their ability to judge the relative impact of different legal mechanisms within the same area of law.

[99] There are, of course, other concerns at play, as well. For example, it may be the case that implementing a mandate to spend resources on protecting against existential risk might be more difficult to implement than a mandate to institute an ombudsperson to protect future generations. Indeed, given that the observed difference in rated protection between these mechanisms was small (that is, the latter was rated as providing weaker protection to future generations from the former but not that much weaker), a mechanism that is easy to implement might be preferable from a longtermist standpoint than a mechanism that provides slightly more protection but is harder to implement.

(b) the nature of the legal-social discounting curve in more depth; and (c) the psychological mechanisms underlying people's legal longtermist beliefs.

With regard to (a), the present study was limited to surveying the beliefs of a specific target demographic group (i.e., legal academics in English-speaking countries). Although this group was diverse on many dimensions (including age and gender), it nonetheless consisted of a narrow slice of the human population, and even of the legal profession. Given the many dimensions on which legal academics differ from the general population—such as general education level, specialized legal knowledge, and socioeconomic status—it seems reasonable to infer that some of these differences may also translate into differing levels of endorsement of the tenets of legal longtermism. If so, it would make sense to survey a broader and more representative sample of the general population in order to draw better inferences regarding whether our main findings also hold for the population at large.

Aside from laypeople, an additional demographic group that it would make sense to survey, particularly in the context of evaluating the feasibility assumption, would be forecasters. In our own survey, we started from the premise that legal academics were experts in evaluating the future effects of law given their expertise in law. However, another natural group to survey would be those with expertise in evaluating and predicting the future more generally. As such, surveying forecasters on their beliefs regarding law's potential to influence the long-term future (both overall and relevant to non-legal mechanisms) would provide additional insight into the validity of the feasibility assumption of legal longtermism.

With regard to (b), in addition to a more representative population sample one might also explore at a more granular level people's legal longtermist beliefs. For example, while the present study sought to determine whether participants believed the welfare of future generations was neglected relative to its current level (and relative to other groups), the experimental paradigm did not allow more specific inferences regarding the exact nature of the discounting curve with respect to future generations (such as whether it is exponential, logistic or linear in nature), nor did it allow inferences regarding those living in the very far future (e.g., 1000+ years from now). Evaluating the nature of this curve with respect to those living in the near, medium, and far future would provide better insight into the nature of people's longtermist beliefs.

With regard to (c), the present study was also limited in the degree to which one might draw inferences regarding the underlying cause of people's legal longtermist beliefs. For example, previous work in behavioral economics has yielded insight into a bias known as hyperbolic discounting[100], in which people tend to undervalue rewards that occur in the future relative to rewards that will occur right now. Evaluating the degree to which this and other biases (such as scope insensitivity) might affect legal-social discounting (i.e., the extent to which people discount the legal welfare of an individual as a function of time) would provide better insight into psychological mechanisms shaping people's legal longtermist beliefs.

---

[100] *E.g.*, Walter Mischel & Ebbe B. Ebbesen, *Attention in Delay of Gratification*, 16 J. PERSONALITY & SOCIAL PSYCH. 329 (1970); Ted O'Donoghue & Matthew Rabin, *Doing It Now or Later*, 16 AM. ECON. REV. 329 (1999); O'Donoghue & Rabin, *supra* note 86.

In addition to cognitive biases and heuristics, it would also be useful to more thoroughly explore the role of political affiliation in shaping people's legal longtermist beliefs. Previous work in political psychology suggests that political conservatives and liberals differ in their expanse of empathy[101], compassion, and moral circle[102]; political conservatives appear to expend their empathy towards more local targets (i.e., smaller, closer, more well-defined, and less encompassing social circles), whereas liberals tend to empathize with more global targets (i.e., larger, farther, less structured, and more encompassing social circles, including nonhumans).[103] Curiously, in our own study we found that conservatives and liberals alike endorse greater levels of legal protection for future generations than those granted to future generations under current legal institutions, suggesting either that future generations are within the moral circle of both liberals and conservatives, or that something else was at play for our sample of legal academics that would not have been true for the broader population. As alluded to before, the sample of conservatives in our sample was very small (fewer than 10% of participants identified as even somewhat conservative and none identified as strongly conservative), and future work should seek to replicate our findings with a more balanced ideological sample of participants.

B. Doctrinal Level

Two main ways to extend the project at the doctrinal level include (a) investigating other legally relevant concepts aside from standing, and (b) surveying a different population (such as laypeople as opposed to legal experts).

With regard to (a), in the present study we decided to limit our question to one relevant part of legal doctrine with legal-longtermist implications (i.e., standing), but there are plenty of other types of legal concepts of longtermist relevance. One such example is personhood or legal personality, defined as the "capacity for legal relations"[104] or "any being whom the law regards as capable of rights and duties"[105], which typically allows an entity to sue and be sued, own property, and enter into

---

[101] Adam Waytz et al., *Ideological Differences in the Expanse of Empathy*, in SOC. PSYCHOLOGY OF POL. POLARIZATION 61 (Piercarlo Valdesolo & Jesse Graham eds., 2016) [hereinafter Waytz et al., *Empathy*; Adam Waytz et al., *Ideological Differences in the Expanse of the Moral Circle*, 10 NATURE COMMC'N 1 (2019) [hereinafter Waytz et al., *Moral Circle*]; Benjamin Enke et al., *Moral Universalism and the Structure of Ideology* (Nat'l Bureau Econ. Rsch. Working Paper 27511, July 2020), https://www.nber.org/system/files/working_papers/w27511/w27511.pdf; Yossi Hasson et al., *Are Liberals and Conservatives Equally Motivated to Feel Empathy Toward Others?*, 44 PERSONALITY & SOC. PSYCH. BULL. 1449 (2018); Ruthie Pliskin et al., *When Ideology Meets Conflict-Related Content: Influences on Emotion Generation and Regulation*, 18 EMOTION 159 (2018).

[102] Waytz et al., *Moral Circle*, *supra* note 101.

[103] Evidence also points not only to ideological differences in the expanse of empathy but with regard to absolute levels of empathy, as well. For example, one study found in a representative sample of Canadian citizens that "the probability of identifying with the Conservative party declines as empathy increases". Peter John Loewen et al., Empathy and Political Preferences 11 (unpublished manuscript). However, ideological differences in absolute empathy are "not as strong as people believe" they are, PAUL BLOOM, AGAINST EMPATHY: THE CASE FOR RATIONAL COMPASSION 114 (2016), and seem unlikely to be as relevant a predictor for our study as differences in the expanse of empathy.

[104] Bryant Smith, *Legal Personality*, 37 YALE L.J. 283 (1928).

[105] *Legal Personality*, BLACK'S LAW DICTIONARY (9th ed. 2009).

contracts. As it stands, future generations have not explicitly been granted personhood in any jurisdiction, and it remains unclear to what extent jurisdictions would be amenable to doing so. Surveying legal experts (academic or otherwise) on personhood and other longtermism-relevant concepts would yield insight into to what extent existing legal doctrines might be extended to future generations (both overall and in comparison to other groups seeking personhood and other rights, such as non-human animals).

With regard to (b), another way to extend this study would be to survey laypeople in addition to legal experts regarding certain longtermism-relevant aspects of legal doctrine. For example, although it makes sense to survey legal experts to the exclusion of laypeople for *locus standi* and other specialized legal concepts, surveying laypeople (either in tandem or to the exclusion of experts) may make more sense for legally relevant concepts that have an ordinary language counterpart familiar to laypeople—such as hybrid concepts like personhood, rights, and duties, or ordinary concepts such as "January," "dollar," or "vegetable"[106].

The justification for surveying lay intuitions—either in addition to or in lieu of those of legal experts—is baked into the doctrine of ordinary meaning analysis. Ordinary meaning has been referred to as "the most fundamental principle" of legal interpretation.[107] According to the ordinary meaning rule, words in a statute[108], treaty[109], contract[110], or other legal document should generally be interpreted according to their ordinary meaning or usage (as opposed to their technical definition, for example).[111] Although there is debate as to what "ordinary meaning" itself means, most jurists seem to agree that it to some extent encompasses how a typical or reasonable person generally understands and uses a given word or concept.[112] Since lay intuitions are more likely to be an accurate proxy for ordinary meaning than the intuitions of experts, it follows that surveying laypeople may be more useful (and less costly) than surveying experts for longtermism-relevant legal

---

[106] *See* Tobia, *supra* note 85.

[107] Brian G. Slocum, Ordinary Meaning: A Theory of the Most Fundamental Principle of Legal Interpretation, (2015).

[108] *See, e.g.*, Moskal v. United States, 498 U.S. 103 (1990); United States v. Turkette, 452 U.S. 576 (1981); Richards v. United States, 369 U.S. 1 (1962).

[109] *See, e.g.*, Vienna Convention on the Law of Treaties art. 31, May 23, 1969, 1155 U.N.T.S. 331; 8 I.L.M. 679 (1969) [hereinafter Vienna Convention]; Brian G. Slocum & Jarrod Wong, *The Vienna Convention and the Ordinary Meaning of International Law*, 46 YALE J. INT'L L. (forthcoming), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3556892.

[110] *See, e.g.*, Cal. Civ. Code (2018); Jowett, Inc. v. United States, 234 F.3d 1365 (Fed. Cir. 2000); Harris v. Dep't of Veterans Affairs, 142 F.3d 1463 (Fed. Cir. 1998).

[111] For an overview of the ordinary meaning analysis doctrine, see generally Brian G. Slocum, Ordinary Meaning: A Theory of the Most Fundamental Principle of Legal Interpretation, (2015).

[112] *See, e.g.*, Kevin Tobia, *Testing Ordinary Meaning*, 134 HARV. L. REV. 726 (2020); Thomas R. Lee & Stephen C. Mouritsen, *Judging Ordinary Meaning*, 127 YALE L.J. 788 (2018); Shlomo Klapper, Soren Schmidt & Tor Tarantola, *Ordinary Meaning from Ordinary People*, U. CAL. IRVINE L. REV. (forthcoming). For example, in Addison v. Holly Hill Fruit Products, Inc., 322 U.S. 607, 618 (1944), the court stated: "Legislation when not expressed in technical terms is addressed to the common run of men and is therefore to be understood according to the sense of the thing, as the ordinary man has a right to rely on ordinary words addressed to him."

issues that are dependent on ordinary meaning analysis.[113] Given that most jurisdictions appear to employ some form of ordinary meaning analysis,[114] surveying laypeople may be appropriate in informing longtermism-relevant issues in many places outside the United States. At the same time, given dialectical differences of language interpretation, the ordinary meaning of a term in one jurisdiction may differ from that of the same word in a different jurisdiction, even if both jurisdictions speak the same language, and therefore the results of a survey of ordinary meaning in one jurisdiction may not be applicable to another jurisdiction.

C. Applied Level

Two ways of extending our findings at the applied level include (a) identifying implementable longtermist policies and legal instruments in a given jurisdiction; (b) identifying legal instruments that, once implemented, would most effectively and appropriately protect the interests of future generations.

With regard to (a), the present study was limited to investigating law professor's beliefs regarding the tractability of influencing the long-term future via certain areas of law as opposed to the feasibility of implementing specific longtermist policies. One way to extend the findings towards the latter would be to survey laypeople regarding a few different sorts of provisions—for example, in an area that the present study determined to be of higher long-term impact, such as constitutional law or environmental law—and see which of the types of instruments laypeople would be most in favor of implementing. For example, suppose that the vast majority of voters in the United States are in favor of allocating 1% of GDP towards protecting future generations but are not in favor of establishing a commission for the protection of future generations. Insofar as legislative decisionmakers are receptive to the popular will of their constituents[115], this would imply that

---

[113] Lay intuitions may also be useful in cases that do not involve ordinary meaning analysis. For example, in cases involving terms of art—i.e., where the terms are to be given their technical as opposed to ordinary meaning, Felix Frankfurter, *Some Reflections on the Reading of Statutes*, 47 COLUM. L. REV. 527 (1947)—lay intuitions (in combination with expert intuitions) could be useful in terms of (a) identifying terms of art, *cf.* Nix v. Hedden, 149 U.S. 304 (1893), and (b) interpreting terms of art, once identified. For example, in cases where it is unclear whether a given longtermism-relevant word is a term of art, one could compare the interpretations of ordinary people and legal experts (or experts in the relevant field) to verify whether the two interpretations tend to deviate significantly from one another.

[114] Examples of jurisdictions that explicitly employ some version of ordinary meaning analysis include Australia, *e.g.*, Elec. Generation Corp. v Woodside Energy Ltd. (2014) 306 ALR 25, the United Kingdom, *e.g.*, River Wear Commissioners v. Adamson (1877) 2 App. Cas. 743 (HL), South Africa, *e.g.*, Venter v. R 1907 TS 910; Terrence R. Carney, *Using Frames to Determine Ordinary Meaning in Court Cases: The Case of "Plant" and "Vermin"*, 45 STELLENBOSCH PAPERS IN LINGUISTICS 31 (2016), the United States, *see generally* SLOCUM, *supra* note 111, and Singapore, Interpretation Act Sec. 9A (1993), as well as international law, Vienna Convention art. 31, *supra* note 109. Ordinary meaning has also been found to be relevant in civil-code jurisdictions, as well, including Argentina, Finland, France, Germany, Italy, Poland, and Sweden. *See generally* INTERPRETING STATUTES: A COMPARATIVE STUDY (D. Neil MacCormick & Robert S. Summers eds., 1991).

[115] The assumption that lawmakers are receptive to the interests of the public is not always warranted. For example, in the United States, the majority of Americans believe that the government has a responsibility to provide healthcare for all, Bradley Jones, *Increasing Share of Americans Favor a Single Government Program to Provide Health Care Coverage*, PEW RSCH. CTR. (Sept. 29, 2020), https://www.pewresearch.org/fact-tank/2020/09/29/increasing-share-of-americans-favor-a-single-

implementing a mandatory federal budget for protecting future generations would be more feasible than establishing a commission for the protection of future generations, and that, *ceteris paribus*, from a longtermist perspective one should prefer to attempt to implement the former as opposed to the latter[116].

With regard to (b), the present study was limited to investigating legal experts' intuitions regarding the efficacy of different constitutional mechanisms purported to protect future generations. The same experimental paradigm could be extended to assess the relative efficacy of constitutional versus statutory mechanisms, for example: Do experts believe that a constitutional provision mandating 1% of the annual budget be allocated towards protecting future generations would be more effective in protecting future generations than a statutory provision saying the same thing? Intuitively, one might expect yes, as constitutions constitute the highest and thus in some sense most powerful law within a given legal system. On the other hand, constitutions are surprisingly short-lived,[117] whereas statutes are hardly ever repealed and can outlive several iterations of a country's constitution.[118] Surveying experts directly regarding the efficacy of these mechanisms may help reduce this uncertainty, and in turn help determine which type of legal instrument would be most effective in protecting future generations and ensuring that the long-term future goes well.[119]

CONCLUSION

How can and ought future generations be protected within the law? This Article started to respond to such ambitious questions using the novel methodological toolkit offered by *experimental jurisprudence*. We outlined the diverse paths in which experimental jurisprudence might contribute to these questions in Part I, presented the findings of the largest ever conducted survey of law professors across the English-speaking world (n=516) on substantive legal opinion in Part II, and discussed both the empirical and normative implications of the study's results in Part III. Part IV focused on future research directions.

---

government-program-to-provide-health-care-coverage/, yet the United States famously does not provide healthcare to all of its citizens, *e.g.*, Gabriel Zieff, *Universal Healthcare in the United States of America: A Healthy Debate*, 56 MEDICINA (KAUNAS) 580 (2020).

[116] Again, considering factors relevant to prioritization, discussed supra note 96.

[117] *See supra* note 29 and accompanying text.

[118] Some examples of statutory mechanisms outliving one or more iterations of a constitution include (a) the German penal code of 1871, MUELLER, *supra* note 30 at 107, (b) the French Napoleonic Code of 1804, Code Civil des Français XII [French Civil Code of 1804], CODE CIVIL DES FRANÇAIS: ÉDITION ORIGINALE ET SEULE OFFICIELLE [French Civil Code: Original and Only Official Edition] 1804; *see also* Xavier Blanc-Jouvan, *Worldwide Influence of the French Civil Code of 1804, on the Occasion of its Bicentennial Celebration* (Cornell Law School Berger International Speaker Papers, Paper 3, Sept. 27, 2004), https://scholarship.law.cornell.edu/biss_papers/3; Guy Canivet, *French Civil Law Between Past and Revival*, 51 LOYOLA L. REV. 39 (2005), and (c) the civil codes of Libya and Syria, Dan E. Stigall, *The Civil Codes of Libya and Syria: Hybridity, Durability, and Post-Revolution Viability in the Aftermath of the Arab Spring*, 28 EMORY INT'L L. REV. 283, 341 (2014).

[119] Note that "expert" here may not only refer to legal expert but forecasting expert, as well. As noted in Part IV.A, *supra*, for various reasons the assumption that lawyers are the most credible source regarding the long-term impacts of law may be unfounded. Surveying other types of experts to compensate for this uncertainty (or even try to resolve it) would be an additional way to build upon the present study's findings.

Particularly noteworthy results indicate that law professors, independent of demographic factors such as age, gender, political affiliation, and legal training, consider the current level of protection for humans living in the far future (100+ years from now) to be egregiously insufficient. More specifically, we found that law professors' desired level of protection for humans living in the far future is over three times higher than the perceived current level of protection. Furthermore, we also found that the gap between the average desired and perceived current level of protection was higher for humans living in the far future than for any other group surveyed on, which included non-human animals and humans outside the jurisdiction. Since the vast majority of law professors (72%) also responded that legal mechanisms are among the most predictable and feasible mechanisms through which to influence the long-term future, the results support the claim that law and legal institutions can and ought to protect those in the far future and ensure that the long-term future goes particularly well—the view of *legal longtermism*.

Another important finding of the survey is that more than two-thirds of legal academics leaned towards or accepted the proposition that there was a reasonable legal basis for granting standing to humans living in the near future, while a slight majority of legal academics at least leaned towards the proposition with respect to humans living in the far future. This suggests that legal academics across the English-speaking world appear to agree that, even under the current legal system, one might make a reasonable legal argument for granting future generations the right to bring forth a lawsuit in at least some cases.

Additionally, we outlined some limitations of the study. For example, one might doubt legal scholars' ability to estimate the long-term impact of law and legal systems due to cognitive biases, such as the conjunction fallacy and availability heuristic, as well as a lack of training in general forecasting. Although our results indicate that this may particularly be the case with regard to specific areas of law (such as environmental law, as well as those in which legal scholars' lack specialized knowledge or expertise), one cannot rule out the possibility of it being a wider phenomenon on the basis of this study alone. Finally, we outlined potential directions for future research endeavors. One crucial direction certainly aims at identifying which provisions work best with regards to achieving the appropriate protection of future generations.

This Article made clear that legal experts across the political spectrum from top law schools throughout the English-speaking world believe future generations ought to have much stronger protection. While this arguably provides evidence in support of such protection, it is ultimately upon present legislatures to decide whether to follow these experts' evaluations and implement laws that ensure the rights and wellbeing of those we will never meet.