

Why Poverty in the Present Matters for Intergenerational Concern and the Future of Humanity

*†Kyle Fiore Law¹, †Stylianios Syropoulos², Amanda Signorini³, C. Jinhee Capozzoli², Liane Young^{3,4} & Brendan Bo O'Connor⁵

¹ Department of Psychology, University of Utah, Salt Lake City, UT

² School of Sustainability, College of Global Futures, Arizona State University, Tempe, AZ

³ Department of Psychology and Neuroscience, Boston College, Chestnut Hill, MA

⁴ The Schiller Institute for Integrated Science and Society, Boston College, Chestnut Hill, MA

⁵ Department of Psychology, University at Albany, State University of New York, Albany, NY

***Corresponding Author:** Kyle Fiore Law; **Corresponding Author Email:** kyle.fiore.law@utah.edu

†Denotes joint first-authorship and equal contribution

Author Contributions: Conceptualization: KFL, SS, BBO; Methodology: KFL, SS, BBO; Software: KFL, SS, CJC; Validation: SS (Lead), KFL; Formal analysis: SS (Lead), KFL, AS, CJC; Investigation: SS, KFL, AS; Resources: BBO, KFL; Data Curation: SS; Writing - Original Draft: KFL (Lead), SS, AS, CJC; Writing - Review & Editing: All authors; Visualization: KFL; Supervision: BBO, LY, SS, KFL; Project administration: SS, KFL; Funding acquisition: BBO, KFL

Competing Interest Statement: The authors have no competing interests to disclose.

Funding Statement: This research was supported by a grant from the John Templeton Foundation: “Universal Love: Expanding the Limits of Exceptional Care (Grant ID: 62597).”

Ethics Statement: This research was conducted in compliance with protocol number 22X187: “Universal Love - Social Judgment and Decision Making Study (Online),” which received approval from the University at Albany, SUNY Institutional Review Board.

Wordcount: 12,833 (with references); 9,657 (without references); Please see cover letter for a detailed justification.

Abstract

Contrary to perceived tensions between addressing present and future societal needs, we find present-day poverty and inequality are deeply connected with attitudes toward far-future welfare at both societal and individual levels. Study 1 (144 countries) shows that poorer, more unequal nations score lower on indices of intergenerational concern and farsighted policies. Study 2 (34 countries, $N = 123,502$) shows that subjective SES predicts greater obligation to sacrifice for future lives, especially in nations with less inequality. In Study 3 ($N = 1,264$ Americans), individuals randomly assigned more resources allocate more to future generations, though not proportionately more. Replicating Studies 1 and 2, real-world SES predicts higher donations beyond situational framings. Thus, combatting present-day societal challenges may be key to increasing concern and action for humanity's future.

Keywords: global poverty, inequality, socioeconomic status, future thinking, existential risk

Why Poverty in the Present Matters for Intergenerational Concern and the Future of Humanity

Poverty and inequality are two of society's most urgent challenges (Nations, 2024a; Our World in Data, 2020; Roser & Ortiz-Ospina, 2019). From families living in desperate conditions to widespread preventable illness and childhood malnutrition, these issues cause immense suffering and are major contributors to premature mortality worldwide (Singer, 2016). According to the latest World Inequality Report (Chancel et al., 2021), the poorest 50% of the human population shares only two percent of global wealth, while the richest 10% controls a staggering 76%. However, the challenges facing humanity extend far beyond the present, reaching into the distant future. On the temporal horizon lie the looming threats of environmental collapse due to climate change, the catastrophic potential of nuclear conflict amid rising geopolitical tensions, and the unpredictable risks posed by rapidly advancing artificial intelligence. Existential risks like these, while seemingly distant in time, demand attention and action now to impede their progression (Cooban, 2024; Greaves & MacAskill, 2019; IPCC, 2023; Luccioni & Bengio, 2020; MacAskill, 2022; Ord, 2021). But should society be more concerned with addressing the needs of present-day humanity or preparing to address the needs of the collective future? How can we decide between the "Sophie's Choice" of prioritizing the present or future welfare of humanity?

Perspectives on intergenerational beneficence from ethical and political philosophy (González-Ricoy & Gosseries, 2016; MacAskill, 2022; Ord, 2021), psychology (Coleman & DeSteno, 2024; Syropoulos, Law, & Young, 2024b; Syropoulos, Law, Kraft-Todd, Mah, et al., 2025), and behavioral economics (Wade-Benzoni, 2008; Wade-Benzoni & Tost, 2009) are increasingly shaping public discourse and informing institutional conversations, including within the United Nations (2021), about how best to protect humanity's long-term future from existential threats. Central to these discussions is the ethical framework of longtermism

(MacAskill, 2022), which argues that positively influencing the far future should be a moral priority. Alongside these philosophical developments, political proposals have emerged advocating for formal representation of future generations in government (González-Ricoy & Gosseries, 2016; Lawrence, 2021), while behavioral scientists are actively testing interventions to increase concern for long-term collective welfare (Hauser et al., 2014; Law, Syropoulos, Coleman, Gainsburg, et al., 2024; Law, Syropoulos, Young, et al., 2024; Syropoulos et al., 2023; Syropoulos, Law, & Young, 2024b, 2024a; Wade-Benzoni, 1999, 2008; Wade-Benzoni & Tost, 2009).

Yet, critiques of intergenerational initiatives are mounting, often centered on the perceived tradeoff between addressing present-day and long-term societal challenges (Emba, 2022; Fisher, 2023). This tension has been sharpened by more extreme formulations of longtermism, sometimes termed “strong longtermism” (Greaves & MacAskill, 2019), which argue that because the future may contain vastly more people than the present, our moral obligation is overwhelmingly directed toward improving the far future, even if doing so comes at the expense of present-day needs. In this view, prioritizing existential risk reduction is not just one important goal among many, but the *central* moral imperative, rendering trade-offs with current suffering a necessary consequence of long-term moral calculus. As a result, intergenerational ethics has become a flashpoint in public discourse, drawing both philosophical scrutiny and popular backlash (Crary, 2023; Emba, 2022; Fisher, 2023).

Despite critiques of strong longtermism, the broader aim of supporting long-term human welfare remains a compelling focus of ongoing philosophical (Jecker et al., 2024), psychological (Syropoulos, Law, Kraft-Todd, & Young, 2025), and policy work (United Nations, 2021), particularly as concerns about mounting existential risks continue to grow (Law, Syropoulos, & Earp, 2024). However, public support remains a bottleneck, especially when future-oriented

action is perceived to come at the expense of present-day wellbeing. Recent findings underscore this challenge, showing that people judge zero-sum tradeoffs favoring the future particularly harshly, even when aiding the future results in greater gains in human welfare than aiding the present (Law, Syropoulos, Young, et al., 2024). Without widespread buy-in, the political will needed to enact structural, forward-looking reforms (e.g., formal representation for future generations; González-Ricoy & Gosseries, 2016; Lawrence, 2021), may prove elusive.

We argue the prevailing zero-sum logic of strong longtermism, while rhetorically salient in popular and academic discourse, may be overstated and potentially counterproductive. It risks obscuring the ways in which efforts to alleviate current suffering could actually support, rather than undermine, concern for future generations. For instance, if poverty compels people to focus narrowly on immediate survival rather than abstract, long-term risks, then reducing present-day deprivation may expand the psychological and cognitive capacity required for longtermist engagement. In this way, understanding the potential interconnectedness between addressing present-day societal ills and motivating future-oriented concern and action could offer a more integrative theoretical understanding and practical path forward that mobilizes support for safeguarding the future without dismissing the moral urgency of present needs.

Here, we investigate whether poverty and inequality undermine concern for the long-term welfare of humanity across two levels: (1) nationally, using data from 144 countries, and (2) psychologically, using nationally representative surveys from 34 European nations and a large U.S. sample. While poverty and inequality are widely recognized global challenges (UN, 2024b), they reduce institutional capacity (UNDP, 2023), potentially limiting *national* investments beyond the present. However, research on Scarcity Theory shows they also shape individual decision-making, undermining farsightedness for one's own future (e.g., Haushofer & Fehr, 2014), encouraging ingroup favoritism (e.g., Chae et al., 2022), and reducing ethical and

prosocial behavior (e.g., Elbæk et al., 2021). Accordingly, the psychological effects of economic hardship may limit *people's* capacity to care about future generations. If both propositions are true, this would suggest that poverty, inequality, and intergenerational concern are more tightly linked than previously assumed both within individual-level psychological orientations and at the level of society. Understanding these connections may be a critical step toward addressing both present and future societal challenges.

To be clear, while Study 1 analyzes country-level data, we are careful not to assume that national trends necessarily reflect the psychology of individuals within those countries. To avoid this ecological fallacy, we supplement our country-level analysis (Study 1) with individual-level survey data (Study 2) and a controlled behavioral experiment (Study 3), allowing us to examine how structural conditions like poverty and inequality relate to both national priorities and personal concern for future generations. Importantly, we do not imply that disadvantaged individuals or nations are to blame for long-term societal challenges. Rather, we argue that poverty and inequality—conditions into which anyone may be born (Haushofer & Fehr, 2014)—may constrain intergenerational generosity (and national investments in the future). As global inequality rises and far-future risks intensify, it is essential, for societal welfare today *and* tomorrow, to understand how present-day disadvantage shapes future-oriented attitudes and action.

What Drives Concern for the Future?

Before evaluating whether concern for future generations is influenced by structural forces like poverty and inequality, it is useful to step back and take stock of what we know at present regarding the factors that drive concern for the long-term future of humanity in the first place. A growing body of work in psychology (Coleman & DeSteno, 2024; Law, Syropoulos, Coleman, Gainsburg, et al., 2024; Syropoulos, Law, Kraft-Todd, & Young, 2025), behavioral

economics (Wade-Benzoni, 1999, 2008; Wade-Benzoni & Tost, 2009), and organizational behavior (Fox et al., 2024; Hauser et al., 2014; Szpunar et al., 2014) has begun to identify the proximal psychological forces that shape whether people extend moral concern across time, often studied as intergenerational beneficence (i.e., willingness to incur costs in the present to benefit future others). A central theme across this literature is that future-oriented concern is constrained by psychological distance (see Wade-Benzoni & Tost, 2009).

As outcomes recede into the future, people discount them (intertemporal discounting), and as beneficiaries become socially (or interpersonally) removed, people discount them as well (social discounting) (Jones & Rachlin, 2009). Intergenerational dilemmas combine both temporal and interpersonal distance, which can amplify present-focused choices and reduce willingness to sacrifice for future others (Capozzoli et al., 2025; Wade-Benzoni & Tost, 2009). At the same time, intergenerational contexts are also psychologically distinctive because they involve power asymmetries (the present can affect the future, but not vice versa) and a lack of direct reciprocity, which can make moral responsibility salient in ways that sometimes increase ethical motivation (Syropoulos, Law, & Young, 2024b) and at others demotivate people from making costly, long-term societal investments (Hauser et al., 2014). This work suggests that intergenerational beneficence is shaped by multiple interacting influences, some that push toward selfish extraction and some that elicit ethical reflection (Syropoulos, Law, Kraft-Todd, & Young, 2025), responsibility (Keij & van Meurs, 2023), and legacy motives (i.e., the desire to leave a positive mark on the world; (Fox et al., 2010, 2024; Zaval et al., 2015).

Beyond these general constraints of distance, research also highlights several more specific drivers that predict greater concern and action for the future. First, institutional structures can dramatically shape whether cooperative motives are expressed. In an intergenerational public-goods paradigm, cooperation with future groups collapses under

unregulated individual choice, but becomes sustainable when groups use binding democratic decision rules that allow a prosocial majority to constrain a selfish minority and reassure conditional cooperators that their restraint will not be futile (Hauser et al., 2014). Second, beliefs and values that prioritize the far future can be cultivated and are meaningfully associated with downstream outcomes (e.g., sustainable policy support, monetary investments, fundraising effort; Coleman & DeSteno, 2024; Law et al., 2025; Syropoulos, Law, et al., 2024c, 2024b). For instance, brief educational interventions (Anthis & Paez, 2021; Syropoulos, Law, & Young, 2024b) that introduce philosophical arguments centered on intergenerational responsibility shift personal ethical beliefs about the future, which in turn predict more future-focused behaviors (including policy support and giving), consistent with the idea that intergenerational beneficence is partly driven by endorsement of moral beliefs about the importance of protecting future generations.

Third, future concern also appears to depend on people's capacity to mentally represent *better* futures, for instance, the ability to imagine concrete "cognitive alternatives" to the status quo predicts engagement in collective action aimed at long-run environmental protection (Badaan et al., 2020; Wright et al., 2020), suggesting that future-oriented motivation is partly constrained by what people can envision as possible. Relatedly, difficulty vividly imagining the far-future in general can constrain the extent to which people empathize and feel a sense of shared moral identity with future targets (Coleman & DeSteno, 2024; Law, Syropoulos, Coleman, Gainsburg, et al., 2024; Law, Syropoulos, Coleman, & Young, 2024). Finally, cross-national work suggests that orientations toward intergenerational beneficence vary systematically across societies and can be captured by national-level constructs (e.g., long-term orientation, intergenerational solidarity), underscoring that future concern is not only an individual difference but also a cultural and institutional property of societies (Bearden et al., 2006; McQuilkin, 2018).

Together, these perspectives suggest a broader conceptual model in which concern for the future is shaped by at least four classes of influences: (a) distance-based constraints (the combination of temporal and social discounting; Wade-Benzoni & Tost, 2009), (b) moral and identity-based motives (responsibility, legacy, identification with future others; Coleman & DeSteno, 2024; Law, Syropoulos, Coleman, Gainsburg, et al., 2024), (c) cognitive capacities for representing futures (imagination and perceived tractability of change; Badaan et al., 2020; Wright et al., 2020), and (d) institutions and social structure that determine whether prosocial motives can be expressed and coordinated (Hauser et al., 2014). Importantly, however, much of the empirical literature has emphasized factors “inside the person” (beliefs, preferences, imagination, identity) or the immediate structure of intergenerational dilemmas, while paying less attention to how structural socioeconomic conditions may shape these drivers in everyday life upstream. This gap is consequential, because if poverty and inequality systematically narrow attention to immediate needs, heighten competitive or distrustful social climates, and constrain the institutional capacity to invest beyond the present, they may indirectly reduce future concern by shifting the very mechanisms that prior research has identified as central (e.g., discounting tendencies, social identification, perceived efficacy/tractability, and the feasibility of coordination through institutions). In this way, poverty and inequality may not merely compete with future-oriented goals for moral attention, but they may help determine whether future-oriented concern can emerge and be sustained in the first place.

Poverty and Inequality Focus People on Immediate (Versus Longer-Term) Personal Needs

Decades of research across psychology and behavioral economics have shed light on how poverty shapes the psychology and personal choices of individuals. For one, poverty induces chronic psychological states of scarcity (de Bruijn & Antonides, 2022; Haushofer & Fehr, 2014; Mullainathan & Shafir, 2013; Zhao & Tumm, 2018)—a sense that one has less than they need to

survive (Mullainathan & Shafir, 2013)—as well as negative affect, and stress. Under these conditions, attention becomes narrowly constrained towards immediate needs (Lichand & Mani, 2020; Shah et al., 2012; Zhao & Tumm, 2017), people grow more susceptible to trade-off mindsets when weighing economic alternatives (Fehr et al., 2019; Mullainathan & Shafir, 2013; Plantinga et al., 2018; Shah et al., 2015; Spiller, 2011), and time biases favoring smaller immediate gains over larger delayed ones proliferate (Carvalho et al., 2016; Dalton et al., 2020; Haushofer & Fehr, 2014; Mani et al., 2013; i.e., delay or temporal discounting; Amlung et al., 2017; Herschfield, 2011; Jones & Rachlin, 2009; Odum et al., 2020). This is not to say that the psychological consequences of scarcity are inherently maladaptive. In fact, research suggests that decisions to favor smaller immediate rewards over larger delayed ones can serve as a reasoned strategy amidst low resource and unpredictable environments, rather than a failure of self-control (Kidd et al., 2013). Moreover, the effects of scarcity on temporal orientations have been hard to pin down *causally*, as recent evidence suggests that short-term *experimental primes* of scarcity at times fail to produce effects as large as once assumed or as large as the effects of chronic scarcity in the wild (Camerer et al., 2018; O'Donnell et al., 2021; Shah et al., 2019). Nonetheless, poverty is particularly pernicious and difficult to overcome in part because it tracks alongside, oftentimes out of necessity, near-term focused attitudes and behaviors (Haushofer & Fehr, 2014; Shah et al., 2015, 2019; Tversky & Shafir, 1992; Zhao & Tumm, 2018).

While inequality can impact behaviors through similar mechanisms as poverty, it also influences behavior through its own mechanisms, such as heightened status competition and reduced social trust, which contribute to short-term decision-making and personal future planning (Davidai, 2023; Sánchez-Rodríguez et al., 2020; Sommet et al., 2019). These mechanisms can amplify the salience of conditions related to poverty and affluence (as seen in research on relative deprivation; Walker & Pettigrew, 1984) and exacerbate the psychological

effects of one's perceived status within society (Brown & Turner, 2002; Delhey et al., 2017; Festinger, 1954; Sánchez-Rodríguez et al., 2019; Schmalor & Heine, 2021; Sommet et al., 2019). As such, the lines of inquiry above have shed light on how poverty and inequality influence decision-making to favor addressing immediate rather than long-term *personal* needs. What remains unexplored is whether conditions of poverty and economic inequality affect attitudes and decisions about longer-term *societal* needs, potentially limiting concern for and investments in future generations by both individuals and societies.

Poverty (and Inequality) Might Also Focus People (and Countries) on Immediate Versus Longer-Term Societal Needs

Despite limited direct evidence to elucidate answers to the questions above, existing literature provides an initial basis for making predictions. At the most basic level, poverty limits the resources available to individuals (Our World in Data, 2020; Roser & Ortiz-Ospina, 2019), imposing tangible constraints on intergenerational generosity (Singer, 2016). That is, having less for oneself means having less to give to others, including those in future generations. Indeed, poverty is well known to constrain generosity outside of the intergenerational context (Ahl et al., 2024; Na et al., 2024; Roux et al., 2015). Similarly, at the societal level, widespread economic hardship or inequality may shape *collective* priorities, reducing institutional capacity (UNDP, 2023) and political will for long-term investment. Indeed, we investigate the relationships between poverty and inequality with long-term investment at the societal level in Study 1.

Yet, poverty may not only constrain the *physical* resources individuals and societies have available to allocate towards the future but may also diminish attitudes and concerns for long-term future welfare at a *psychological* level. To address this question, we turn our focus to the individual level of analysis in Studies 2 and 3. Specifically, we investigate whether the impacts of poverty on long-term planning and temporal discounting discussed above may extend beyond

the scope of personal economic decisions to limit the extent to which people plan and prepare for the future of society. Providing support for this perspective, recent findings indicate that farsighted personal outlooks known to be constrained by economic scarcity (de Bruijn & Antonides, 2022)—such as feelings of connectedness to one’s future self (Hershfield, 2011) and the extent to which people consider the future consequences of their actions (Joireman, 1999)—predict greater intergenerational concern (Law, Syropoulos, Coleman, & Young, 2024). Moreover, research indicates that poverty-induced scarcity can deepen divisions between groups by promoting ingroup favoritism and outgroup bias (Chae et al., 2022; Cui et al., 2023; Krosch & Amodio, 2014, 2019). This, combined with emerging evidence that social biases track negatively with intergenerational beneficence (Law, Syropoulos, Coleman, Gainsburg, et al., 2024; Wade-Benzoni & Tost, 2009), raises the question of whether economic hardship may constrain levels of concern for the future welfare of humanity.

Inequality may constrain intergenerational concern in a similar manner to poverty, through both distinct and overlapping mechanisms. Like poverty, inequality heightens perceptions of scarcity, leading individuals to prioritize immediate needs over long-term concerns (Brown & Turner, 2002; Delhey et al., 2017; Festinger, 1954; Sánchez-Rodríguez et al., 2019; Schmalor & Heine, 2021; Sommet et al., 2019). Even relatively affluent individuals, when living in highly unequal societies, may experience relative deprivation, feeling as though they lack sufficient resources despite their material wealth (Ahl et al., 2024; Cheung & Lucas, 2016; Walker & Pettigrew, 1984).

However, inequality has unique psychological and social consequences that shape present-focused behavior. Research suggests that inequality fosters heightened status competition (Davidai, 2023; Sánchez-Rodríguez et al., 2020; Sommet et al., 2019), reduces social trust (Rothstein, 2011), and increases perceptions of systemic unfairness (Reyes & Gasparini, 2022),

all of which encourage short-term, self-interested decision-making. Greater inequality also correlates with higher tolerance for and engagement in unethical and antisocial behaviors for personal gain (Côté & Willer, 2020; Elbaek et al., 2021; Hershfield et al., 2012; Martinangeli & Windsteiger, 2024), particularly among those in more privileged economic positions (Côté et al., 2015). These tendencies extend into the intergenerational domain, as individuals who engage in more self-interested behaviors exhibit weaker concern for future generations and are less willing to make sacrifices on their behalf (Syropoulos, Law, Amormino, et al., 2024). Likewise, beyond intergenerational considerations, inequality also affects generosity and social cohesion more broadly, increasing ingroup favoritism while limiting generosity toward outgroup members. This suggests that inequality may erode prosocial motivations that support long-term collective well-being (Ahl et al., 2024; Jetten, 2019; Jetten et al., 2015; Kirkland et al., 2023).

Exploring Potential Interactions Among Poverty and Inequality

The evidence summarized above suggests that poverty and inequality may each independently reduce concern for and investment in future generations. In other words, individuals facing higher levels of either may score lower on indicators of intergenerational concern and long-term commitment. Because widespread poverty and inequality constrain national capacity for long-horizon investment (UNDP, 2023), we also expect both to predict lower intergenerational investment at the national level. However, personal economic hardship and societal inequality may influence intergenerational attitudes through different pathways, and inequality may moderate the association between socioeconomic status and future concern. One possibility is that inequality most strongly undermines future-oriented attitudes among lower-SES individuals, because it heightens the salience of deprivation and scarcity in everyday comparison contexts. Living alongside extreme wealth may reinforce perceptions of deprivation (Jetten et al., 2015; Walker & Pettigrew, 1984), exacerbating feelings of scarcity (Chae et al.,

2022; Cui et al., 2023; Krosch & Amodio, 2014, 2019) and constraining future-oriented decision-making (Carvalho et al., 2016; Dalton et al., 2020; Haushofer & Fehr, 2014; Mani et al., 2013).

A second possibility is that inequality most strongly dampens future-oriented concern and investment among higher-SES individuals by promoting status competition and weakening support for long-term collective welfare (Davidai, 2023; Rothstein, 2011; Sánchez-Rodríguez et al., 2020). While poverty can narrow attention to immediate needs and make long-term tradeoffs harder, inequality may also reshape social dynamics by amplifying status concerns and reducing generosity, effects that may be especially evident among relatively advantaged groups (Côté et al., 2015; Jetten, 2019; Jetten et al., 2015; Kirkland et al., 2023; Sánchez-Rodríguez et al., 2019; Singer, 2016). On this view, higher inequality may not further reduce future-oriented concern among the poorest to the same extent as it does among those who are most advantaged, because scarcity-driven tradeoffs are already highly constraining under low resources (de Bruijn & Antonides, 2022; Haushofer & Fehr, 2014; Mullainathan & Shafir, 2013; Zhao & Tumm, 2018). Instead, the impact of poverty, or one's socioeconomic status more broadly, on intergenerational generosity may be stronger in lower-inequality societies, where more cooperative norms exist and affluent individuals are more likely to engage in prosocial behaviors (Davidai, 2023; Rothstein, 2011; Sommet et al., 2019). In other words, in societies with low inequality, differences in intergenerational generosity between the rich and poor may be more pronounced, as greater economic equality may remove the binds that often constrain cooperative behaviors among those most privileged.

In sum, novel perspectives from ethical and political philosophy are beginning to influence consequential discussions in public discourse and international politics on how to combat rising threats of long-term catastrophic risk to human well-being (González-Ricoy &

Gosseries, 2016; MacAskill, 2022; Ord, 2021; United Nations, 2021). Research across behavioral economics (Wade-Benzoni, 2008; Wade-Benzoni & Tost, 2009) and emerging psychological inquiry into the science of intergenerational beneficence (Law, Syropoulos, Coleman, Gainsburg, et al., 2024; Law, Syropoulos, Young, et al., 2024; Syropoulos, Law, & Young, 2024b, 2024a) continue to deepen our understanding of the factors that contract and expand intergenerational generosity. Yet, efforts to cultivate support for farsighted initiatives face an uphill battle, as salient perspectives that pit present against future societal needs are becoming the public face of multigenerational ethics (Greaves & MacAskill, 2019; Law, Syropoulos, & Earp, 2024), in turn driving down public perceptions of farsighted initiatives (Crary, 2023; Law, Syropoulos, Young, et al., 2024)—perceptions which could be critical in fostering necessary collective action for the sake of humanity’s long-term future.

The Present Research

Here, across three studies, we investigate the role of systemic present-day factors (i.e., poverty and income inequality) in the context of intergenerational concern and decision-making, challenging a perspective that has become the nexus of prevailing debates on intergenerational ethics among key decision-makers and general public alike: that fighting for the present and future are necessarily at odds (see Table 1 for a description of key constructs). Study 1 uses cross-national data from $k = 144$ countries to test whether national levels of poverty and inequality relate to national levels of long-term policy orientation and intergenerational solidarity. Study 2 shifts the focus to individual-level data from $N = 123,502$ participants across $k = 34$ European nations, assessing whether subjective socioeconomic status predicts perceived obligation to future generations and whether this relationship varies by national inequality. Study 3 uses an economic game in a U.S. sample of $N = 1,264$ participants to test whether measured real-world SES, along with manipulated situational framings of resource availability and

distributional inequality, shape intergenerational generosity. Participants' personal ethical commitments to future generations are also measured to examine their unique contribution. Together, these studies investigate how present-day economic disadvantage may shape the psychological (and societal) foundations of future-oriented concern and investment. All relevant materials (data, surveys, code for analyses) are available on the Open Science Framework (OSF), https://osf.io/m42xj/?view_only=1e592d2871f04065b2885434941ef041.

Table 1.*Key predictors and outcomes*

Variable	Measure	Level	Description	Study
Poverty/Affluence (Predictor)	Multidimensional Poverty Index (MPI)	Country	Measures the proportion of people in a country living in poverty.	1
	Subjective Socioeconomic Status (SES)	Individual	Assesses an individual's perceived social and economic standing relative to others in their society	2, 3
Inequality (Predictor)	Gini Index (Gini)	Country	Captures the extent to which the distribution of income among individuals or households within an economy deviates from an equal distribution.	1, 2
	Human Development Index (HDI) ¹	Country	"A summary measure of average achievement in key dimensions of human development: a long and healthy life, being knowledgeable and having a decent standard of living."	1, 2
Future-Oriented Concern (Outcome)	Long Term Orientation (LTO)	Country	Measures the extent of values and education efforts within a society geared towards better preparing for the future	1
	Intergenerational Solidarity	Country	Captures the degree to which nations show concern for and measures towards protecting future generations	1

Obligation to Protect Future Generations (OFG)	Individual	Single Item: “We need to reform to benefit future generations even if that means making some sacrifices now.”	2
Behavioral Intergenerational Generosity	Individual	Monetary donations to a future-oriented charity.	3
Impartial Intergenerational Beneficence Inventory (IIBI) ²	Individual	Beliefs aligned with the "longtermism" ethical philosophy, which advocates mitigating long-term catastrophic risks.	3

Note. ¹Used as a complementary indicator of national development (though not a distributional inequality measure itself, correlates strongly and negatively; Castells-Quintana et al., 2022). ²Used as a predictor/control in Study 3 to evaluate the impact of economic factors on intergenerational generosity above and beyond personal-held ethical beliefs.

Study 1

Study 1 tested whether countries with higher poverty and inequality show lower investments for the long-term future. Using preregistered analyses (https://aspredicted.org/RFP_C3M), we examined national poverty (Multidimensional Poverty Index) and inequality (Gini coefficient; Human Development Index was used as an additional proxy of national develop that, although not a measure of distributional inequality itself, correlates strongly and negatively with distributional inequality; see Castells-Quintana et al., 2022; Syropoulos, Crimston, Markowitz, et al., 2024) in relation to Long Term Orientation (LTO) and the Intergenerational Solidarity Index (ISI). Linear regressions were conducted with and without adjusting for governance, GDP, and population size.

Methods

Data Collation

All aspects of the study were pre-registered (https://aspredicted.org/RFP_C3M). Country-level data were collated by the research team from publicly available datasets. The collated dataset encompasses information from 144 countries pertinent to our research objectives. Specifically, 108 countries provided scores for the Long Term Orientation index and 122 countries for the Intergenerational Solidarity Index. In our sensitivity analysis, using an alpha of

0.05, power of 0.80, and accounting for three predictors (Gini, Human Development [HDI], and Poverty [MPI]), we established that we could discern effect sizes as small as $f^2=0.25$ and 0.26, corresponding to the respective sample sizes.

Measures

The following indicators were collated from the various publicly available datasets described below. For each indicator, we utilized the most recent data available at the time of analysis.

Predictors: National Indicators of Poverty and Inequality. The indicators below were treated as predictors in our analyses.

Multidimensional Poverty Index (MPI; Poverty). The MPI was employed as a measure of the proportion of people in each country living in poverty. Scores ranged from 0.000 to 0.601 and were obtained from the United Nations Development Program Report (UNDP, 2023).

Gini Index (Inequality). The Gini index measures the extent to which the distribution of income among individuals or households within an economy deviates from an equal distribution. The most recent Gini index for each country was obtained via the World Bank (World Bank, 2024). Scores ranged from 23.2 to 63.

Human Development Index (HDI; Measure of National Development that Correlates Strongly and Negatively with Inequality). The HDI is a measure defined as “a summary measure of average achievement in key dimensions of human development: a long and healthy life, being knowledgeable and having a decent standard of living.” HDI scores were obtained from the United Nations Development Program Report (UNDP, 2023). Scores ranged from 0.380 to 0.967.

Outcomes: National Indicators of Concern for the Future of Humanity. The indicators below were treated as outcomes in our analyses.

Long-Term Orientation (LTO). Data pertaining to LTO was obtained from The Culture Factor Group's "Country Comparison Tool" website, which indexes nation-level data on cultural dimensions deriving from participant based data (The Cultural Factor Group, 2024). Countries who score high on the LTO index share values and education efforts to help their society better prepare for the future. Scores ranged from 0 to 100.

Intergenerational Solidarity Index (ISI). Data pertaining to ISI were collected by McQuilkin and colleagues (2018). We used the most recent version of the ISI, which was updated in 2021. This measure captures the degree to which nations show concern for and institute measures towards protecting future generations. It is accessible here (<https://www.romankrznaric.com/good-ancestor/intergenerational-solidarity-index>), and scores ranged from 1 to 100. Importantly, the ISI comprises four dimensions: environmental, economic, and social. Each dimension includes its own sub-indicators. The estimation of the index is described as follows:

"Indicators are aggregated arithmetically within dimensions (environmental, economic¹ and social) and then geometrically between dimensions, to recognize the limited or non-substitutability of different kinds of capital whilst allowing for some nations to have a medium or high overall score despite extreme low scores in one indicator. Last, a penalty adjustment is applied according to hydrocarbon production per capita, both due to its constituent effects on intergenerational welfare and ability to allow for disproportionate investments (e.g. through sovereign wealth funds) that would otherwise seem to be in the interests of future generations. The raw index average is multiplied by the percent score on

¹ It's important to acknowledge that in the economic dimension, the Gini coefficient is included as a sub-indicator. While it is one of three sub-indicators in the economic dimension, and one of nine total sub-indicators, it probable that associations between the Gini and the ISI are inflated.

this indicator to the power of 0.1 (i.e. a score of 1 out 100 would reduce total score by 33%; Whalen, 2024).”

Control Variables: National Indicators of Democratic Governance, Income and Population Size. The following indicators were treated as controls in our analyses.

Democracy Index (Democratic Governance). Scores were also obtained from 2023 Democracy index generated by the Economists Intelligence Unit (Economist Intelligence Unit, 2023). This indicator comprises five sub-categories, which include: electoral process and pluralism, civil liberties, functioning of government, political participation, and political culture. Scores ranged from 0 to 10.

Gross Domestic Product (GDP; Income) GDP figures for 139 countries, represented in USD, were obtained online from the Worldometer website (<https://www.worldometers.info/gdp/gdp-by-country/>). GDP assesses the average dollar value of goods and services produced within a country’s economy in a given year. For analyses, to account for the large degree of variability across countries, GDP values were adjusted by dividing them by 100 million.

Population Size. Finally, estimates for the country-level population were also obtained from the Worldometer website. Again, to account for the large amount of variability, population scores were divided by 100,000.

Hypotheses

We hypothesized that higher scoring on the MPI (poverty) and Gini (inequality) would be associated with less concern about the future, while higher scoring on the HDI (human development) would relate to greater concern about the future.

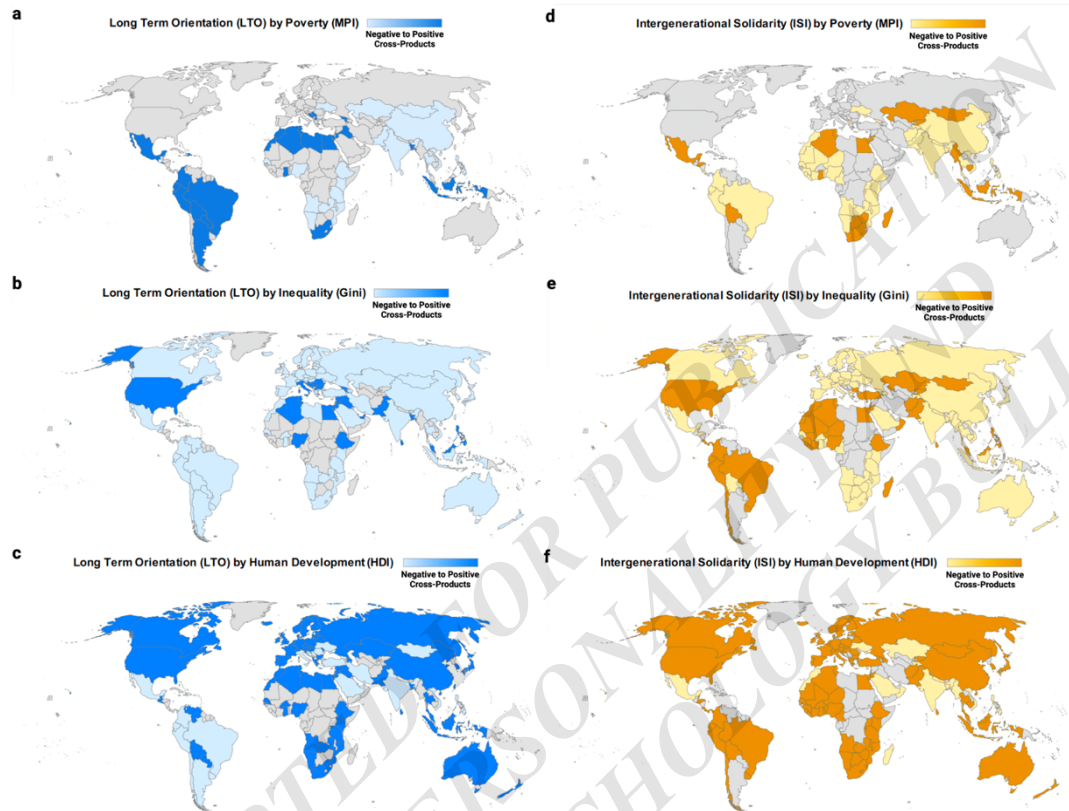
Results

All of our hypotheses were supported (see Figure 1). Moreover, all associations were robust to the inclusion of Democratic Governance, GDP, and population size in the model (see Table 2)².

² Though not pre-registered, we also estimated the same models while taking into account geographic similarity (i.e., spatial autocorrelations) between nations as an additional, exploratory robustness check. These results, presented in the Supplementary Materials, by and large mirror those from the pre-registered analyses reported here.

Figure 1

Country-level z-score cross-products of poverty, inequality, and human development predict/track with long term orientation and intergenerational solidarity



Note. Choropleths displaying the directionality of z-score cross-products for the relationships between outcomes capturing intergenerational concern (i.e., LTO [a–c] and ISI [d–f]) with each predictor capturing poverty (i.e., MPI) and inequality (i.e., Gini, and HDI [a measure of national development that correlates strongly and negatively with distributional inequality]). Scores for each variable were first converted to z-scores. Then, z-scores for each predictor were multiplied by z-scores for each outcome at the country level, yielding cross-products. Negative cross-products arise when high predictor scores correspond with low outcome scores (or vice-versa). Positive cross-products arise when high predictor scores correspond with high outcome scores, or low predictor scores correspond with low outcome scores. Thus, a greater number of negative cross-products indicates a more negative relationship, while a greater number of positive cross-products indicates a more positive relationship. For reference, Pearson product-moment correlation coefficients (r) are calculated as the average cross-product of z-scores between a given predictor and a given outcome.

Table 2

Mixed Linear regression models predicting Intergenerational Concern from measures of poverty, inequality, and human development, with and without controlling for possible confounding covariates of democracy, GDP and population size.

	Long Term Orientation		Intergenerational Solidarity	
	Model 1 (R ² =0.10)	Model 2 (R ² =0.23)	Model 1 (R ² =0.35)	Model 2 (R ² =0.40)
Predictors	b (SE)	b (SE)	b (SE)	b (SE)
MPI (Poverty)	-58.20*(24.60)	-51.69*(24.87)	-70.0*** (11.73)	-62.99*** (13.19)
Democracy		0.68 (1.84)		1.10 (1.12)
GDP		<.001 (<.001)		<.001 (<.001)
Population		<.001 (.002)		<.001 (.001)
Predictors	Model 1 (R ² =0.18)	Model 2 (R ² =0.33)	Model 1 (R ² =0.12)	Model 2 (R ² =0.45)
	b (SE)	b (SE)	b (SE)	b (SE)
Gini (Inequality)	-1.08*** (0.22)	-0.90*** (0.21)	-0.76*** (0.19)	-0.59*** (0.16)
Democracy		3.04*** (0.81)		4.62*** (0.58)
GDP		<.001 (<.001)		<.001 (<.001)
Population		<.001 (.001)		<.001 (<.001)
Predictors	Model 1 (R ² =0.36)	Model 2 (R ² =0.41)	Model 1 (R ² =0.53)	Model 2 (R ² =0.57)
	b (SE)	b (SE)	b (SE)	b (SE)
HDI (Human Development)	96.10*** (12.50)	94.23*** (16.08)	85.20*** (7.28)	69.33*** (9.76)
Democracy		0.73 (0.91)		1.92** (0.66)
GDP		<.001 (<.001)		<.001 (<.001)
Population		.002* (.001)		.001 (<.001)

Note. * $p < .05$. ** $p < .01$. *** $p < .001$. While it is theoretically plausible that inequality moderates links between poverty and future-oriented outcomes, country-level poverty, inequality, and human development indicators are highly collinear and partly overlapping in content. In Study 1, adding interaction terms would therefore introduce substantial multicollinearity and undermine interpretability given the country sample size; we accordingly pre-registered, and present, separate models for each indicator. We address the question of moderation at the individual level in Study 2.

Study 2

Study 1 provides evidence that national levels of poverty and inequality are associated with lower national levels of concern for future welfare. To move beyond the national level of analysis, and to enable inferences about individual-level psychology, we next examined whether individual variation in subjective Socioeconomic Status (SES) predicts greater personal feelings of obligation to protect future generations, even if doing so comes at a personal expense. In Study 2, we analyzed nationally representative data from 34 different countries and regions, spanning four different Eurobarometer surveys.

Methods

Participants. A total of 123,502 participants (66,254 female, $M_{age}=47.70$, $SD_{age}=12.01$) were surveyed. In total, 34 nations/regions from Europe were included across the four surveys.

Measures. Study 2 sought to examine whether personal socioeconomic status (SES), an indicator of personal levels of affluence, also predicts intergenerational concern, and whether this association is moderated by national indicators of inequality and human development. Seeking to test this research question robustly, we used nationally-representative data collected by previous Eurobarometer surveys that included measures of SES and intergenerational concern. Thus, we conducted secondary analyses on cross-sectional data from four rounds of the Eurobarometer (European Union, 2024): Eurobarometer 72.4 (October-November 2009), Eurobarometer 73.4 (May 2010), Eurobarometer 72.2 (November-December 2010), and Eurobarometer 75.3 (May 2011). We note that while we choose to use subjective SES as our primary measure to capture the spectrum of poverty to affluence, as our primary interest was in how people *perceive their position* in the social and material hierarchy, subjective SES is not isomorphic with income or poverty (Cundiff & Matthews, 2017; Tan et al., 2020). As such, we also present corresponding models using income instead of subjective SES in the Supplemental Materials for Study 3 in the SOM. Notably in Study 2, such a measure was not included in the dataset.

Concern for future generations was captured with a single item: “We need to reform to benefit future generations even if that means making some sacrifices now.” Responses were captured on a 4-point Likert scale (1=completely disagree, 4=completely agree). Subjective socioeconomic status (SES) was measured with a single item, “On the following scale, step ‘1’ corresponds to ‘the lowest level in the society’; step ‘10’ corresponds to ‘the highest level in the society.’ Could you tell me on which step you would place yourself?”. Age was measured in years, and gender was measured with two categories (male and female). Political ideology was measured with a 10-point Likert scale ranging from 1= Left to 10=Right. National-level scores

for Long Term Orientation (LTO), Intergenerational Solidarity (ISI), Human Development (HDI), Inequality (Gini), democracy, GDP, and population size were obtained in Study 1. Study 2 was not pre-registered.

Results

Analyses (random intercept multilevel models with participants nested in countries) noted that subjective SES positively predicted obligation to protect future generations ($b=0.047$, 95% C.I. [0.038, 0.056], $p<.001$). Thus, consistent with our expectations and the national level findings from Study 1, individuals' levels of poverty or affluence within a country appear to be associated with their personal sense of obligation to safeguard future welfare through present sacrifice. As such, it's likely that conditions of scarcity associated with poverty, which are known to constrain farsighted personal planning (Ahl et al., 2024; Elbaek et al., 2021; Fehr et al., 2019; Haushofer & Fehr, 2014), may also constrain planning for the future of society.

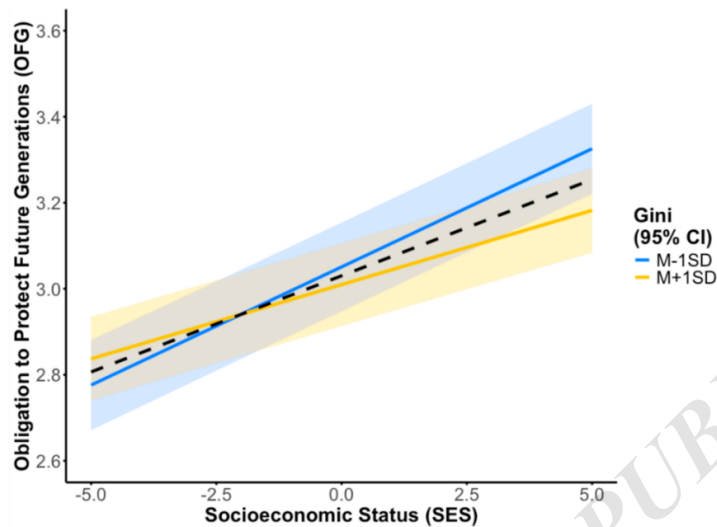
However, people do not exist in a vacuum but in societies where the wealth of others is often visible. Importantly, significant variability (an *ICC* of 0.07 or 7%) in individual-level obligation was attributable to country-level differences (e.g., levels of inequality between nations). Considering this, we estimated exploratory models to examine whether the effect of socioeconomic status (SES) on the obligation to protect future generations might vary depending on national levels of inequality (measured by the Gini coefficient) and human development (again, used as a measure of national development that tracks strongly and negatively with distributional inequality, measured by the Human Development Index or HDI).

The effect of SES on the outcome was moderated by country-level inequality as expressed by the Gini coefficient. Intriguingly, and perhaps counterintuitively, SES was more strongly related to obligation in countries with lower inequality (i.e., greater equality; Table 3 and Figure 2). Although counterintuitive, this finding aligns with prior research suggesting that

inequality, especially for the wealthy, can paradoxically exacerbate self-interested behavior and limit other-oriented generosity (Côté et al., 2015; Côté & Willer, 2020; Jetten et al., 2017). The effect of SES and its interaction with national levels of inequality remained statistically significant even when controlling for age, gender, political ideology, democracy, GDP, and population size, as well as the interactions between these controls and inequality. So, while SES is positively associated with intergenerational obligation, this relationship is stronger in countries with lower levels of inequality, conditions under which prior research suggests the affluent tend to be more generous (Côté et al., 2015; Jetten et al., 2017; Martinangeli & Windsteiger, 2024). Notably, however, the effect of SES on the outcome was not moderated by levels of human development ($b=0.08$, 95% C.I. [-0.12, 0.29]), perhaps because human development encompasses more than merely economic inequality alone (e.g., human life expectancy, education levels).

Figure 2.

Interaction of country-level Gini with personal SES predicting obligation to protect future generations (OFG)



Note. Line graph displaying the predicted relationship between SES and OFG at high, low and average levels of inequality (Gini coefficient). SES was standardized to range from -5 to +5 and the y-axis is truncated to ease readability. The relationship between subjective SES and personal OFG was stronger in countries with lower versus higher levels of inequality.

Table 3.

*Cross-level interaction mixed linear regression models for the SES*Gini interaction*

	Model 1: Cross-level interaction	Model 2: Cross-level interaction and covariates	Model 3: Cross-level interaction, covariates, and interaction covariates
Predictor	<i>b</i> [95% C.I.]	<i>b</i> [95% C.I.]	<i>b</i> [95% C.I.]
SES	0.05*** [.04, .06]	0.05*** [.04, .06]	0.05*** [.04, .06]
Gini	-0.02 [-.02, .01]	0.001 [-.02, .02]	-0.01 [-.03, .02]
SES*Gini	-0.003*** [-.01, -.001]	-0.002*** [-.003, -.001]	-0.002* [-.004, -.0002]
Political Ideology		0.01*** [.007, .01]	0.01*** [.007, .01]
Age		0.001*** [.001, .002]	0.001*** [.001, .002]
Gender		-0.04*** [-.05, -.03]	-0.04*** [-.05, -.03]
Democracy Index		0.08 [-.01, .17]	0.07 [-.02, .15]
Gross Domestic Product		<.001 [-.0001, .00001]	<.001 [-.00003, .00002]
Population		0.001 [-.0003, .001]	<.001 [-.001, .001]
Political Ideology*Gini			<.001 [-.0004, .0007]
Age*Gini			<.001 [-.00006, .00008]
Gender*Gini			0.002 [-.0006, .004]
Democracy Index*Gini			-0.02 [-.04, .01]
Gross Domestic Product*Gini			<.001 [-.000005, .00001]
Population*Gini			<.001 [-.0002, .0001]

Note. * $p < .01$, ** $p < .01$, *** $p < .001$.

Study 3

Study 1 shows that nations with greater poverty and inequality exhibit lower investments in future welfare, suggesting that reducing present-day disparities may bolster long-term societal capacity to address existential risks. However, these findings were limited to the national level. Shifting to individual psychology, Study 2 analyzed Eurobarometer data from 34 countries and found that higher subjective SES predicted stronger obligations to future generations, especially in more equal societies (see Supplemental Materials).

Study 3 (pre-registered: https://aspredicted.org/RJ2_JJ1) extended these findings in a U.S. sample using a behavioral economic game measuring intergenerational generosity. It tested whether real-world SES predicts giving to future others, and it did so while simultaneously manipulating situational resource constraints and the salience of unequal distributions within the task. Conceptually, we designed the study to mirror the individual-level and contextual components of the cross-level interaction tests from Study 2, but in a way that also helps clarify mechanism. Because structural poverty and inequality cannot be experimentally assigned, Study 3 pairs measured, chronic economic standing (subjective SES) with two experimental manipulations that capture more proximal features often implicated in structural disadvantage: a Resource Endowment manipulation intended to approximate immediate differences in material resources available for allocation (a situational analogue of the resource scarcity part and parcel of poverty), and a Distributional Awareness manipulation intended to vary whether unequal allocations were made explicit in the decision context (an inequality-salience manipulation). Put differently, this design allows us to assess whether intergenerational giving is better explained by chronic, structural economic position, by immediate material constraints and inequality salience, or by a combination of the two. This approach is especially important given recent evidence that brief scarcity primes often produce smaller and less reliable downstream psychological effects

than chronic material hardship, making it valuable to test measured economic standing alongside tightly controlled situational constraints (Camerer et al., 2018; O'Donnell et al., 2021; Shah et al., 2019).

Finally, we also measured personal endorsement of longtermist ethics, since existing research on intergenerational beneficence (Anthis & Paez, 2021; Syropoulos, Law, Amormino, et al., 2024; Wade-Benzoni & Tost, 2009) has almost exclusively emphasized “within-person” attitudinal and value-based predictors of consequential future-oriented behaviors (e.g., donations). Beliefs in alignment with longtermist ethics, often captured using the Impartial Intergenerational Beneficence Inventory (Syropoulos, Law, Kraft-Todd, & Young, 2025) or similar measures of moral attitudes (Coleman & DeSteno, 2024; Keij & van Meurs, 2023; Paek et al., 2024), have become especially prominent in recent psychological work and public discourse (Fisher, 2023) as a proposed driver of willingness to prioritize the far future. By pairing this measure with subjective SES and experimental manipulations of resource availability and inequality salience, we can assess whether structural and situational economic factors contribute uniquely to intergenerational giving, beyond the belief-based drivers that have received most empirical attention.

Methods

Participants

We recruited 1,260 participants from Prolific based on an a priori power analysis conducted using G*Power (Faul et al., 2007). The analysis assumed a 6-group design, a small effect size ($f = 0.10$), and 80% power, which would allow detection of the main effect of Distributional Awareness (1 numerator degree of freedom), as well as the main effect of Resource Endowment and the interaction term in a 3×2 ANOVA (each with 2 degrees of freedom). We rounded the sample size up from 1,200 to 1,260 to account for potential exclusions

and to ensure adequate power for detecting smaller effects (e.g., $d = 0.20$) in pairwise comparisons. Six additional participants completed the survey but did not submit it for remuneration and were thus included in the final sample. After excluding participants with duplicate IP addresses ($N = 2$), the final analytic sample consisted of 1,264 participants, of whom 669 (53%) identified as female and 562 (45%) as male. The majority of participants were White American ($N = 945$), with 153 identifying as Black or African American and 142 as Asian or Asian American. The average age was 42.5 years ($SD = 13.15$).

Materials and Design

Participants took part in a resource allocation game where they first received points convertible to USD at a fixed rate. They could then choose to donate any portion of their points to a charity benefiting future generations, keeping the remainder for themselves. Specifically, participants were informed that they could “donate to organizations (i.e., charities) that engage in work that seeks to protect future generations.”

Prior to the resource allocation game, participants were randomly assigned to situational economic framing conditions that reflect key constraints associated with poverty and inequality by manipulating (1) their available resources (i.e., the amount of money they could donate or keep, ranging from \$5 to \$20) and (2) the salience of unequal distributions by varying whether participants were explicitly informed that other participants received more, less, or the same amount as they did in a 3 (Resource Endowment: \$5, \$10, \$20) $\times$ 2 (Distributional Awareness: Aware vs. Unaware of unequal distributions) design (see Table S3 in the Supplementary Materials for specific instructions). We refer to these factors as Resource Endowment and Distributional Awareness because they operationalize resource availability and inequality salience within the game rather than broader structural poverty and inequality. That is, we do not suggest that these brief manipulations reproduce the chronic realities of poverty or inequality, but

rather sought to examine whether even these relatively subtle situational constraints are sufficient to shape intergenerational allocations, or if instead, long-term economic conditions (i.e., actual perceived levels of economic standing) play a more central role.

To ensure that our behavioral measure of intergenerational generosity was consequential, participants were provided veridical instructions that 10 randomly-selected individuals would earn the portion of their points they chose to keep as a bonus, while the remaining points would be donated by the research team. We included two manipulation checks assessing participants' awareness of (a) their own point endowment and (b) whether others received the same amount or more/less than them. Excluding the subset of participants who missed either check did not change the results reported below (see Supplementary Materials for analyses conducted on only those who passed both checks).

Measures. In addition to making an allocation decision in the game described above, participants reported their subjective SES and personal beliefs in alignment with the ethics espoused within longtermist philosophy. Subjective socioeconomic status (SES) was measured with a single item, "On the following scale, step '1' corresponds to 'the lowest level in the society'; step '10' corresponds to 'the highest level in the society.' Could you tell me on which step you would place yourself?".

Endorsement of longtermist ethical principles was measured using the Impartial Intergenerational Beneficence Inventory (IIBI; Syropoulos, Law, Kraft-Todd, & Young, 2025). The IIBI consists of seven items, each rated across four future timeframes (i.e., 1,000, 10,000, 100,000, and 1,000,000 years) yielding 28 total responses per participant. Items assess the belief that we can, and should, take action to positively influence the long-term future to protect generations yet to come, even when doing so requires present-day sacrifice. Responses were recorded on slider scales ranging from 0 ("strongly disagree") to 100 ("strongly agree").

Following prior work with this scale, we computed an average score across all timeframes ($M = 57.34$, $SD = 28.14$, $\alpha = .98$), which served as our primary metric of endorsement for longtermist ethics. Also in line with prior scoring conventions, we additionally computed a dichotomous measure to capture impartial levels of endorsement that remain high regardless of timeframe. This secondary measure and its associations with key outcomes are reported in the Supplementary Materials.

Hypotheses

We hypothesized that participants with larger resource endowments in the allocation game would donate more to a future-oriented charity in *absolute* terms, as having more resources means having more to give. However, we made competing predictions regarding the *proportion* of their endowment they would donate. On the one hand, research shows that low-resource environments in economic games can lead to risk aversion and nearsighted decision-making as strategies for conserving resources (Kidd et al., 2013), suggesting that participants with fewer resources might donate proportionately less. On the other hand, research suggests that risk aversion and nearsighted decision-making are more commonly associated with chronic experiences of poverty than with situational economic scarcity (Haushofer & Fehr, 2014). Additionally, other studies suggest that resource scarcity can sometimes predict greater generosity (Pittarello et al., 2023). Thus, we also considered the possibility that participants with smaller endowments might not donate proportionately less than those with larger endowments in this situational context. Nonetheless, we hypothesized that greater real-world SES would be associated with donating proportionately more.

Results

First, to explore the effect of real-world structural economic factors on intergenerational generosity, we mirrored the analytical approach from Study 2, estimating a random intercept

multilevel model with participants nested in U.S. states. Consistent with our predictions, and with our earlier findings regarding intergenerational obligation from Study 2, real-world subjective SES positively predicted the relative amount donated to a future-oriented charity (i.e., the amount participants donated divided by the amount they were allotted) across experimental conditions in Study 3 ($b = 0.020$, 95% $CI [0.010, 0.030]$, $p < .001$). However, due to either consistently high inequality across the U.S. or the non-representative nature of the sample, state-level factors explained little variation ($ICC = 0.002$). Consequently, we did not explore whether state-level factors (e.g., Gini coefficients) influenced these results.

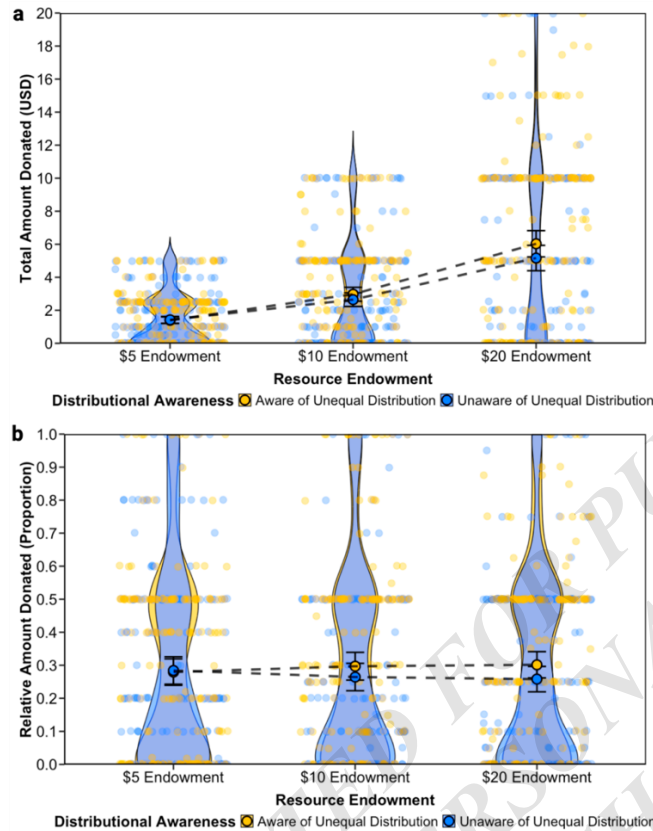
With respect to patterns of intergenerational generosity across the experimental conditions manipulating situational economic framings within the resource allocation game, a 3 (Resource Endowment: \$5, \$10, \$20) by 2 (Distributional Awareness: Aware vs. Unaware of unequal distributions) between-subjects ANOVA was estimated. In line with our predictions, for the total amount donated, the omnibus effect was significant ($F(5,1258) = 52.69$, $p < .001$, $\eta^2_p = 0.173$). However, no significant effect of Distributional Awareness ($F(1,1258) = 3.02$, $p = .082$) nor the interaction between Distributional Awareness and Resource Endowment ($F(2,1258) = 1.42$, $p = .242$) was noted³. Resource Endowment had a significant effect in the predicted direction ($F(2,1258) = 128.79$, $p < .001$, $\eta^2_p = 0.170$). Namely, post-hoc comparisons adjusted with a Bonferroni correction suggested participants in the \$20 condition donated more resources than those in the \$10 and \$5 endowment conditions, and that participants in the \$10 endowment condition donated significantly more than those in the \$5 endowment condition across levels of Distributional Awareness (see Figure 3a).

³ We predicted that participants with \$5 or \$10 endowments who were aware of unequal resource distributions would donate less, both in absolute terms and relative to their endowment, compared to those who were unaware. We did not make specific predictions for the effect of Distributional Awareness at the \$20 endowment level. Moreover, this null interaction held when excluding participants who failed manipulation checks, suggesting that the absence of an interaction is unlikely to reflect a failure to induce distributional awareness.

However, for the amount donated relative to one's total allotment of resource points, the omnibus effect was not significant ($F(5,1258) = 0.69, p = .632$). Further, no significant effect of Distributional Awareness ($F(1,1258) = 1.93, p = .165$), Resource Endowment ($F(2,1258) = 0.01, p = .995$) nor their interaction ($F(2,1258) = 0.75, p = .471$) was noted (see Figure 3b). These findings suggest that, while structural influences of real-world SES predict actual behaviors to help protect future generations, situational economic framings targeting the availability of resources to donate in an allocation game and participants' awareness of distributional inequality in the same context only limit intergenerational contributions to the extent that having fewer resources means having fewer to give. In other words, these one-shot economic framings do not affect intrinsic generosity, as the relative amounts donated did not differ across manipulated Resource Endowment levels and remained consistent regardless of participants' awareness of unequal resource allocations. These findings mirror recent evidence (Camerer et al., 2018; O'Donnell et al., 2021; Shah et al., 2019) that short-term manipulations intended to prime scarcity produce smaller effects on temporal orientations than once assumed, and smaller effects than those associated with chronic lived experience of scarcity. Together, this pattern highlights both the need for stronger causal approaches to studying poverty- and inequality-related psychological processes and the likelihood that many such effects emerge from sustained, cumulative exposure rather than brief situational conditions.

Figure 3

Total and relative amount donated across conditions of manipulated resource endowment and distributional awareness in the resource allocation game



Note. Raincloud plots displaying **a**, the total amount donated to a charitable cause that benefits future generations in USD, and **b**, the relative amount donated expressed as a proportion of the total amount donated to the total amount allotted. Results are displayed across all six experimental conditions. Error bars correspond to 95% CIs around the means. The total amount donated varied significantly between manipulated levels of resource endowment regardless of the level of distributional awareness. No significant condition differences were observed for the relative amount donated.

Finally, we simultaneously regressed donations in the resource allocation game (both total and relative amounts donated) on real-world SES, manipulated levels of Resource Endowment, and participants' scores on the IIBI (capturing personal endorsement of longtermist ethical principles). As illustrated in Table 4, real-world SES significantly predicted both total and relative amounts donated, even when controlling for experimentally manipulated resource endowments and pre-existing beliefs about intergenerational ethics. Notably, and in line with our predictions, ethical beliefs also accounted for unique variance in the relative amount donated,

highlighting their distinct role in shaping intergenerational generosity even when taking into account structural and situational economic factors. The influence of Distributional Awareness was not accounted for in these models given no effects were observed above.

Table 4

Linear regression models predicting the total and relative amount donated to charities protecting future generations

Predictors	Total Amount Donated ($R^2=0.21$)			Relative Amount Donated ($R^2=0.07$)		
	b	95% C.I.	β	b	95% C.I.	β
SES	2.11***	0.90, 3.33	0.09	0.02***	0.01, 0.03	0.11
Resource Endowment	20.65***	18.11, 23.19	0.40	-0.003	-0.02, 0.02	-0.01
Endorsement of Longtermist Ethics (IIBI)	0.30***	0.23, 0.38	0.20	.002***	0.002, 0.003	0.23

Note. * $p < .001$. Resource endowment was coded as -1=\$5 Endowment, 0=\$10 Endowment, 1=\$20 Endowment.

General Discussion

Here we find evidence that two of humanity's most urgent present-day challenges—poverty and income inequality—are related to concern for and investments in safeguarding far-future welfare at both national and individual psychological levels. Study 1 ($k = 144$ countries across the globe) reveals that poorer and more unequal nations score lower on indices of concern for future welfare and tangible public-policy actions addressing the challenges of tomorrow. Study 2 (Europe participants, $N = 123,502$ subjects) and Study 3 (U.S. participants, $N = 1,264$ subjects) replicate and extend these findings at the individual level, revealing that subjective Socioeconomic Status (SES) predicts a greater sense of obligation to sacrifice for the betterment of future lives (Study 2) and to donate more to a future-oriented charity (Study 3). Moreover, we find that the relationship between poverty and concern for the future is especially pronounced in nations with lesser economic inequality, conditions which prior research has found to cultivate generosity among the affluent (Côté et al., 2015; Côté & Willer, 2020; Martinangeli & Windsteiger, 2024).

Extreme formulations of longtermist philosophy (Greaves & MacAskill, 2019) have shaped public and academic debate by framing intergenerational ethics as a zero-sum tradeoff, where protecting the future is seen as coming at the cost of present needs (Crary, 2023; Emba, 2022; Fisher, 2023; Law, Syropoulos, Young, et al., 2024). This framing risks undermining support for the farsighted policies needed to secure long-term (González-Ricoy & Gosseries, 2016; Lawrence, 2021). Yet our findings suggest present- and future-oriented concerns need not be at odds. Addressing poverty and inequality today may in fact foster greater individual concern societal capacity to safeguard the future, complementing rather than competing with long-term aims.

Furthermore, our findings advance growing bodies of research across psychology (Coleman & DeSteno, 2024; Hauser et al., 2014; Law, Syropoulos, Coleman, Gainsburg, et al., 2024; Law, Syropoulos, O'Connor, et al., 2024; Law, Syropoulos, Young, et al., 2024; Syropoulos, Law, & Young, 2024b) and behavioral economics (Henderson & Bateman, 1995; Wade-Benzoni, 1999, 2008, 2017; Wade-Benzoni & Tost, 2009) investigating the forces that constrain and expand intergenerational beneficence. These domains of inquiry have largely focused on factors within individuals (Law, Syropoulos, Coleman, Gainsburg, et al., 2024; Wright et al., 2020). We add a new perspective on this work, (1) showing that systemic conditions of poverty and inequality can have downstream consequences for psychological phenomena with large-scale societal consequences and (2) by connecting the research on intergenerational beneficence to the disparate literatures on Scarcity Theory (de Bruijn & Antonides, 2022; Fehr et al., 2019; Haushofer & Fehr, 2014) and relative deprivation (Jetten et al., 2015; Walker & Pettigrew, 1984).

Prior research shows that poverty and inequality shape how people plan for the future (de Bruijn & Antonides, 2022; Fehr et al., 2019; Haushofer & Fehr, 2014) and treat distant others

(Jetten, 2019; Jetten et al., 2015; Sánchez-Rodríguez et al., 2019), narrowing temporal horizons and reducing generosity toward outgroups. While such tendencies can be adaptive in conditions of scarcity and uncertainty (Kidd et al., 2013), we find that these systemic economic forces not only limit long-term personal planning and generosity toward socially distant present-day others, but also predict reduced concern for and investment in the future of society. As global poverty and inequality rise (Chancel et al., 2021; UNDP, 2023; World Bank, 2024), this may jeopardize support for actions needed to mitigate existential threats (González-Ricoy & Gosseries, 2016; United Nations, 2021), threatening not only today's well-being but the welfare of future generations.

To summarize, our findings, which include metrics capturing real-world indicators of poverty (MPI scores, SES) and inequality (Gini coefficients, HDI scores as a proxy measure; Study 1 and Study 2), suggest that both factors relate to national and individual indicators of intergenerational concern and generosity. The results from Study 3 (N = 1,264 crowd-sourced Americans) extend those from Study 2 and provide deeper insight into these associations at the psychological level. Real-world SES predicts greater behavioral donations to a future-oriented charity in a resource allocation game. Notably, SES remains a significant predictor of farsighted generosity even when accounting for experimentally manipulated situational economic framings of resource availability and awareness of distributional inequality and pre-existing beliefs within the context of prevailing intergenerational ethical discourse. In contrast, the situational framings themselves showed little evidence of shifting generosity, especially when generosity was indexed as the proportion of one's endowment donated. This pattern suggests that the link between economic conditions and intergenerational generosity reflects more than immediate resource constraints, brief increases in inequality salience, or ethical attitudes alone. It also fits with recent high-powered replication efforts in the scarcity literature, which indicate that short-term scarcity

manipulations yield smaller and less reliable downstream psychological effects than originally proposed, with the most consistent effect being increased borrowing or resource-taking to meet present needs (Camerer et al., 2018; O'Donnell et al., 2021; Shah et al., 2019). In that light, the stronger associations we observe for real-world SES may reflect the cumulative, high-stakes conditions that often accompany chronic hardship, including sustained stress, uncertainty, and repeated tradeoffs that can narrow attention toward immediate needs and away from longer-horizon sacrifice (Fehr et al., 2019; Haushofer & Fehr, 2014). As such, addressing poverty and inequality may help create the psychological and material conditions that support future-oriented thinking and generosity, while also carrying immediate benefits for the current population.

Future research seeking to establish directional causality and elucidate the precise mechanisms that support relationships between economic factors with intergenerational attitudes and actions can look to more realistically simulate conditions of poverty and inequality in the laboratory. One potential avenue through which this may be achieved is by creating conditions under which resources in economic games carry more substantial significance. For instance, by collecting a fixed amount of resources from participants' endowments to simulate costs of living and personal expenses, effects more consistent with the observed associations between real-world economic indicators and intergenerational generosity may be observed even in a controlled laboratory environment. More immersive imaginative (Berntsen & Rubin, 2024; Liu & Szpunar, 2023), AI-guided (van Berkel et al., 2022), or virtual reality-based (Ganschow et al., 2021) interventions, which have been shown to robustly impact perspective taking, may also prove fruitful in better eliciting laboratory experiences that more closely resemble the experience of poverty and inequality in the real world. Nonetheless, poverty and inequality are chronic conditions brought on by the enduring stress and scarcity associated with living day-to-day with fewer resources than needed to live comfortably. Study 3 not only highlights the association

between real-world structural economic hardship and intergenerational generosity but emphasizes the importance of measuring economic hardship—and its downstream consequences—in real-world settings. In this regard, the most viable avenue to isolate causal mechanisms may be to measure real-world personal socioeconomic indicators and intergenerational outcomes in large-scale longitudinal designs.

While SES accounted for variance in intergenerational generosity above and beyond longtermist ethical values, our findings do suggest some promise in personally held ethical positions as a protective factor against the relationship between poverty and intergenerational generosity. Specifically, participants in Study 3 who expressed greater endorsement of the intergenerational ethical positions espoused within longtermist philosophy donated substantially more both overall and relative to their endowment of resource points. This effect emerged across experimental conditions targeting situational economic framings and even when accounting for real-world SES. Prior research has shown that longtermism beliefs are flexible and can be manipulated through laboratory interventions (Syropoulos, Law, & Young, 2024b), in turn influencing intergenerational concern and farsighted protective behaviors for the benefit of society. Further research can be conducted to examine whether similar interventions can serve to mitigate the effects elucidated in the present research.

While increasing farsighted ethical values might help mitigate the impact of economic hardship on intergenerational generosity, it does not address the core issue—real people are already suffering from resource scarcity in the present (Chancel et al., 2021; Singer, 2016). We do not suggest that people who are suffering economic hardship should bear the burden of safeguarding future welfare. Indeed, poverty and inequality are systemic issues that people are often born into (Haushofer & Fehr, 2014; Nations, 2024a; UNDP, 2023). Rather, we suggest that poverty is not merely an issue that faces the present, but an intergenerational issue. As such, we

suggest that focusing on immediate alleviation of poverty and resource scarcity may carry additional longer-term benefits, perhaps creating a foundation where intergenerational concern can naturally flourish. In this manner, addressing poverty and inequality in the present can be both an intra- and intergenerational solution, fostering a more thriving, generous, and future-oriented society.

Limitations

Beyond the strengths of the present investigation, several questions remain open for future research. First, limited concern for the future of humanity may also directionally predict psychological conditions that perpetuate poverty. Research has linked limited consideration of one's personal future to economic hardship later in life (Hershfield, 2011; Joireman, 1999; Law, Syropoulos, Coleman, & Young, 2024). Future studies could manipulate intergenerational concern and examine downstream consequences on farsighted, self-protective behaviors consistent with financial prudence. Additionally, while this research focuses on indicators of culturally held beliefs (e.g., Long Term Orientation; Bearden et al., 2006; Intergenerational Solidarity; McQuilkin, 2018), these features were examined at the national level, which does not allow for inferences to be made about individuals' psychological orientations. However, Study 1 demonstrates that even at the national level, structural dimensions like poverty and inequality are intertwined with long-term societal concern. Nonetheless, we do not interpret these findings as evidence of national psychological dispositions. Instead, Studies 2 and 3 provide complementary evidence that similar relationships manifest at the individual level, helping to clarify the potential psychological processes at play while avoiding ecological fallacy.

Future research should explore how the present relationships observed at the individual level (i.e., in Studies 2 and 3) vary across cultural dimensions. For instance, it's possible that people in cultures emphasizing collectivism (Booyesen et al., 2021) or intergenerational

stewardship (Bergstrom et al., 2003) might not show the same degree of relatedness between economic factors and intergenerational duty. Finally, while we employed globally diverse samples, further insights can be gained by replicating the present findings in larger, nationally representative samples within countries. This approach will allow for a better assessment of how poverty interacts with varying levels of inequality at the regional level within societies.

Conclusion

In conclusion, as global poverty intensifies and the divide between rich and poor deepens, future existential risks loom increasingly large on the temporal horizon (Chancel et al., 2021; MacAskill, 2022). Urgent collective action by people and nations will be needed to steer humanity's course for the better. Our findings reveal that these challenges are interconnected across levels of analysis. The downside is that worsening poverty and inequality today may yield greater hardship in the future. However, this interconnectedness also suggests that addressing poverty and inequality now may help pave the way for a brighter future. We therefore propose that poverty and inequality be treated as intergenerational issues, and encourage researchers, policymakers, and the public to adopt an intergenerational lens when seeking solutions. By confronting the most pressing problems of the present, we may also cultivate deeper concern for improving the future for generations to come.

References

- Ahl, R. E., Amir, D., & McAuliffe, K. (2024). Recalling experiences of scarcity reduces children's generosity relative to recalling abundance. *Journal of Experimental Child Psychology*, 243, 105914. <https://doi.org/10.1016/j.jecp.2024.105914>
- Amlung, M., Vedelago, L., Acker, J., Balodis, I., & MacKillop, J. (2017). Steep delay discounting and addictive behavior: A meta-analysis of continuous associations. *Addiction*, 112(1), 51–62. <https://doi.org/10.1111/add.13535>
- Anthis, J. R., & Paez, E. (2021). Moral circle expansion: A promising strategy to impact the far future. *Futures*, 130, 102756. <https://doi.org/10.1016/j.futures.2021.102756>
- Badaan, V., Jost, J. T., Fernando, J., & Kashima, Y. (2020). Imagining better societies: A social psychological framework for the study of utopian thinking and collective action. *Social and Personality Psychology Compass*, 14(4), e12525. <https://doi.org/10.1111/spc3.12525>
- Bearden, W. O., Money, R. B., & Nevins, J. L. (2006). A measure of long-term orientation: Development and validation. *Journal of the Academy of Marketing Science*, 34(3), 456–467. <https://doi.org/10.1177/0092070306286706>
- Bergstrom, A., Cleary, L. M., & Peacock, T. D. (2003). *The Seventh Generation: Native Students Speak about Finding the Good Path*. ERIC/CRESS, P. <https://eric.ed.gov/?id=ED472385>
- Berntsen, D., & Rubin, D. C. (2024). Collectives closer to the self are anticipated to have a brighter future: Self-enhancement in collective cognition. *Journal of Experimental Psychology: General*, 153(5), 1226–1235. <https://doi.org/10.1037/xge0001550>
- Booyesen, F., Guvuriro, S., & Campher, C. (2021). Horizontal and vertical individualism and collectivism and preferences for altruism: A social discounting study. *Personality and Individual Differences*, 178, 110856. <https://doi.org/10.1016/j.paid.2021.110856>

- Brown, P. M., & Turner, J. C. (2002). *The role of theories in the formation of stereotype content*. 67–89. <https://doi.org/10.1017/cbo9780511489877.005>
- Camerer, C. F., Dreber, A., Holzmeister, F., Ho, T.-H., Huber, J., Johannesson, M., Kirchler, M., Nave, G., Nosek, B. A., Pfeiffer, T., Altmejd, A., Buttrick, N., Chan, T., Chen, Y., Forsell, E., Gampa, A., Heikensten, E., Hummer, L., Imai, T., ... Wu, H. (2018). Evaluating the replicability of social science experiments in Nature and Science between 2010 and 2015. *Nature Human Behaviour*, 2(9), 637–644. <https://doi.org/10.1038/s41562-018-0399-z>
- Capozzoli, C. J., Law, K. F., & Syropoulos, S. (2025). *Future Generations Hold the Lowest Moral Standing, Even Below Present-Day Marginalized Human and Non-Human Outgroups*. OSF. https://doi.org/10.31234/osf.io/c9p8f_v1
- Carvalho, L. S., Meier, S., & Wang, S. W. (2016). Poverty and Economic Decision-Making: Evidence from Changes in Financial Resources at Payday. *American Economic Review*, 106(2), 260–284. <https://doi.org/10.1257/aer.20140481>
- Castells-Quintana, D., Gradín, C., & Royuela, V. (2022). *Inequality and human development: The role of different parts of the income distribution* (Working Paper Wp-2022-96; WIDER Working Paper Series). World Institute for Development Economic Research (UNU-WIDER). <https://EconPapers.repec.org/RePEc:unu:wpaper:wp-2022-96>
- Chae, J., Kim, K., Kim, Y., Lim, G., Kim, D., & Kim, H. (2022). Ingroup favoritism overrides fairness when resources are limited. *Scientific Reports*, 12(1), 4560. <https://doi.org/10.1038/s41598-022-08460-1>
- Chancel, L., Piketty, T., Saez, E., & Zucman, G. (2021). *World Inequality Report 2022*. World Inequality Lab. wir2022.wid.world

- Cheung, F., & Lucas, R. E. (2016). Income Inequality Is Associated With Stronger Social Comparison Effects: The Effect of Relative Income on Life Satisfaction. *Journal of Personality and Social Psychology*, 110(2), 332–341.
<https://doi.org/10.1037/pspp0000059>
- Coleman, M., & DeSteno, D. (2024). Intertemporal empathy decline: Feeling less distress for future others' suffering. *Emotion (Washington, D.C.)*.
<https://doi.org/10.1037/emo0001402>
- Cooban, A. (2024). AI will shrink workforces within five years, say company execs. *CNN*.
<https://www.cnn.com/2024/04/05/business/ai-job-losses/index.html>
- Côté, S., House, J., & Willer, R. (2015). High economic inequality leads higher-income individuals to be less generous. *Proceedings of the National Academy of Sciences*, 112(52), 15838–15843. <https://doi.org/10.1073/pnas.1511536112>
- Côté, S., & Willer, R. (2020). Replications provide mixed evidence that inequality moderates the association between income and generosity. *Proceedings of the National Academy of Sciences*, 117(16), 8696–8697. <https://doi.org/10.1073/pnas.1918979117>
- Crary, A. (2023). The toxic ideology of longtermism. *Radical Philosophy*, (214), 49–57.
- Cui, F., Deng, K., Liu, J., Huang, X., Yang, J., Yuejia Luo, Chunliang Feng, & Ruolei Gu. (2023). Resource scarcity aggravates ingroup bias: Neural mechanisms and cross-scenario validation. *British Journal of Psychology*, 114(4), 778–796.
<https://doi.org/10.1111/bjop.12654>
- Cundiff, J. M., & Matthews, K. A. (2017). Is subjective social status a unique correlate of physical health? A meta-analysis. *Health Psychology*, 36(12), 1109–1125.
<https://doi.org/10.1037/hea0000534>

- Dalton, P. S., Nhung, N., & Rüschepöhler, J. (2020). Worries of the poor: The impact of financial burden on the risk attitudes of micro-entrepreneurs. *Journal of Economic Psychology, The Impact of Life Experiences on Risk Taking*, 79, 102198. <https://doi.org/10.1016/j.joep.2019.102198>
- Davidai, S. (2023). Economic Inequality Fosters the Belief That Success Is Zero-Sum. *Personality and Social Psychology Bulletin*, 01461672231206428. <https://doi.org/10.1177/01461672231206428>
- de Bruijn, E.-J., & Antonides, G. (2022). Poverty and economic decision making: A review of scarcity theory. *Theory and Decision*, 92(1), 5–37. <https://doi.org/10.1007/s11238-021-09802-7>
- Delhey, J., Schneickert, C., & Steckermeier, L. C. (2017). Sociocultural inequalities and status anxiety: Redirecting the Spirit Level Theory: *International Journal of Comparative Sociology*, 58(3), 215–240. <https://doi.org/10.1177/0020715217713799>
- Economist Intelligence Unit. (2023). *Democracy Index 2023*. Economist Intelligence Unit. <https://www.eiu.com/n/campaigns/democracy-index-2023/>
- Elbaek, C., Mitkidis, P., Aarøe, L., & Otterbring, T. (2021). *Material Scarcity and Unethical Economic Behavior: A Systematic Review and Meta-Analysis*. <https://doi.org/10.21203/rs.3.rs-800481/v2>
- Elbæk, C. T., Mitkidis, P., Aarøe, L., & Otterbring, T. (2021). *Material Scarcity and Unethical Economic Behavior: A Systematic Review and Meta-Analysis*. <https://doi.org/10.21203/rs.3.rs-800481/v1>
- Emba, C. (2022, September 5). *Opinion | Why 'longtermism' isn't ethically sound*. Washington Post. <https://www.washingtonpost.com/opinions/2022/09/05/longtermism-philanthropy-altruism-risks/>

European Union. (2024). *Eurobarometer – Public opinion in the European Union*.

<https://europa.eu/eurobarometer/screen/home>

Faul, F., Erdfelder, E., Lang, A.-G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, 39(2), 175–191. <https://doi.org/10.3758/BF03193146>

Fehr, D., Fink, G., & Jack, K. (2019). *Poverty, Seasonal Scarcity and Exchange Asymmetries* (Working Paper No. 26357). National Bureau of Economic Research. <https://doi.org/10.3386/w26357>

Festinger, L. (1954). A Theory of Social Comparison Processes. *Human Relations*, 7(2), 117–140. <https://doi.org/10.1177/001872675400700202>

Fisher, R. (2023). What is longtermism and why do its critics think it is dangerous? *New Scientist*. <https://www.newscientist.com/article/mg25834382-400-what-is-longtermism-and-why-do-its-critics-think-it-is-dangerous/>

Fox, M., Tost, L. P., & Wade-Benzoni, K. A. (2010). The Legacy Motive: A Catalyst for Sustainable Decision Making in Organizations. *Business Ethics Quarterly*, 20(2), 153–185. <https://doi.org/10.5840/beq201020214>

Fox, M., Wade-Benzoni, K. A., & Covin, J. G. (2024). Legacy: The meaning of lasting impact for family, business, and beyond. *Journal of Family Business Strategy*, 15(3), 100633. <https://doi.org/10.1016/j.jfbs.2024.100633>

Ganschow, B., Cornet, L., Zebel, S., & van Gelder, J.-L. (2021). Looking Back From the Future: Perspective Taking in Virtual Reality Increases Future Self-Continuity. *Frontiers in Psychology*, 12. <https://doi.org/10.3389/fpsyg.2021.664687>

González-Ricoy, I., & Gosseries, A. (2016). *Institutions for Future Generations*. Oxford University Press.

Greaves, H., & MacAskill, W. (2019). *The Case for Strong Longtermism*.

<https://philpapers.org/rec/GRETCF-4>

Hauser, O. P., Rand, D. G., Peysakhovich, A., & Nowak, M. A. (2014). Cooperating with the future. *Nature*, 511(7508), Article 7508. <https://doi.org/10.1038/nature13530>

Haushofer, J., & Fehr, E. (2014). On the psychology of poverty. *Science*, 344(6186), 862–867. <https://doi.org/10.1126/science.1232491>

Henderson, N., & Bateman, I. (1995). Empirical and public choice evidence for hyperbolic social discount rates and the implications for intergenerational discounting. *Environmental and Resource Economics*, 5(4), 413–423. <https://doi.org/10.1007/BF00691577>

Hershfield, H. (2011). Future self-continuity: How conceptions of the future self transform intertemporal choice. *Annals of the New York Academy of Sciences*, 1235(1), 30–43. <https://doi.org/10.1111/j.1749-6632.2011.06201.x>

Hershfield, H., Cohen, T. R., & Thompson, L. (2012). Short horizons and tempting situations: Lack of continuity to our future selves leads to unethical decision making and behavior. *Organizational Behavior and Human Decision Processes*, 117(2), 298–310. <https://doi.org/10.1016/j.obhdp.2011.11.002>

IPCC. (2023). *AR6 Synthesis Report: Summary for Policymakers*. The Intergovernmental Panel on Climate Change. <https://www.ipcc.ch/report/ar6/syr/summary-for-policymakers>

Jecker, N. S., Atuire, C. A., Bélisle-Pipon, J.-C., Ravitsky, V., & Ho, A. (2024). AI and the falling sky: Interrogating X-Risk. *Journal of Medical Ethics*, 50(12), 811–817. <https://doi.org/10.1136/jme-2023-109702>

Jetten, J. (2019). The wealth paradox: Prosperity and opposition to immigration. *European Journal of Social Psychology*, 49(6), 1097–1113. <https://doi.org/10.1002/ejsp.2552>

- Jetten, J., Mols, F., & Postmes, T. (2015). Relative Deprivation and Relative Wealth Enhances Anti-Immigrant Sentiments: The V-Curve Re-Examined. *PLOS ONE*, *10*(10).
<https://doi.org/10.1371/journal.pone.0139156>
- Jetten, J., Wang, Z., Steffens, N. K., Mols, F., Peters, K., & Verkuyten, M. (2017). A social identity analysis of responses to economic inequality. *Current Opinion in Psychology*, *18*, 1–5. <https://doi.org/10.1016/j.copsyc.2017.05.011>
- Joireman, J. A. (1999). Additional Evidence for Validity of the Consideration of Future Consequences Scale in an Academic Setting. *Psychological Reports*, *84*(3_suppl), 1171–1172. <https://doi.org/10.2466/pr0.1999.84.3c.1171>
- Jones, B. A., & Rachlin, H. (2009). Delay, Probability, and Social Discounting in a Public Goods Game. *Journal of the Experimental Analysis of Behavior*, *91*(1), 61–73.
<https://doi.org/10.1901/jeab.2009.91-61>
- Keij, D., & van Meurs, B. R. (2023). Responsibility for Future Climate Justice: The Direct Responsibility to Mitigate Structural Injustice for Future Generations. *Journal of Applied Philosophy*, *40*(4), 642–657. <https://doi.org/10.1111/japp.12674>
- Kidd, C., Palmeri, H., & Aslin, R. N. (2013). Rational snacking: Young children's decision-making on the marshmallow task is moderated by beliefs about environmental reliability. *Cognition*, *126*(1), 109–114. <https://doi.org/10.1016/j.cognition.2012.08.004>
- Kirkland, K., Crimston, C. R., Jetten, J., Rudnev, M., Acevedo-Triana, C., Amiot, C. E., Ausmees, L., Baguma, P., Barry, O., Becker, M., Bilewicz, M., Boonyasiriwat, W., Castelain, T., Costantini, G., Dindins, G., Espinosa, A., Finchilescu, G., Fischer, R., Friese, M., ... Bastian, B. (2023). Moral Expansiveness Around the World: The Role of Societal Factors Across 36 Countries. *Social Psychological and Personality Science*, *14*(3), 305–318. <https://doi.org/10.1177/19485506221101767>

- Krosch, A. R., & Amodio, D. M. (2014). Economic scarcity alters the perception of race. *Proceedings of the National Academy of Sciences of the United States of America*, 111(25), 9079–9084. <https://doi.org/10.1073/pnas.1404448111>
- Krosch, A. R., & Amodio, D. M. (2019). Scarcity disrupts the neural encoding of Black faces: A socioperceptual pathway to discrimination. *Journal of Personality and Social Psychology*, 117(5), 859–875. <https://doi.org/10.1037/pspa0000168>
- Law, K. F., Syropoulos, S., Coleman, M., Gainsburg, I., & O'Connor, B. B. (2024). Moral future-thinking: Does the moral circle stand the test of time? *Personality and Social Psychology Bulletin*, 01461672241284324. <https://doi.org/10.1177/01461672241284324>
- Law, K. F., Syropoulos, S., Coleman, M., & Young, L. (2024). A Future Beyond Ourselves: Can Self-Oriented Prospection Motivate Intergenerational Beneficence? *Personality and Individual Differences*. <https://doi.org/10.31234/osf.io/29jeb>
- Law, K. F., Syropoulos, S., & Earp, B. D. (2024). Artificial intelligence, existential risk and equity: The need for multigenerational bioethics. *Journal of Medical Ethics*, 50(12), 799–801. <https://doi.org/10.1136/jme-2024-110583>
- Law, K. F., Syropoulos, S., O'Connor, B. B., & Young, L. (2024). The Probabilistic Price of Life Across Time: Generational and Probabilistic Distance Render a Life Today Worth More than Ten Tomorrow. *Personality and Social Psychology Bulletin*. <https://doi.org/10.31234/osf.io/s346z>
- Law, K. F., Syropoulos, S., Young, L., & O'Connor, B. B. (2024). *What we owe the present: The perceived morality of longtermism and helping distant future people*. OSF. <https://doi.org/10.31234/osf.io/s5jkc>
- Law, K. F., Young, L., & Syropoulos, S. (2025). Cultivating multigenerational moral expansion: Interventions cultivate moral concern for future generations in boundless and zero-sum

- contexts. *British Journal of Social Psychology*, 64(2), e12892.
<https://doi.org/10.1111/bjso.12892>
- Lawrence, P. (2021). *Justifying Institutions for Future Generations Based on the Mitigation of Bias and Intergenerational Justice*. University of Tasmania.
https://figshare.utas.edu.au/articles/chapter/Justifying_Institutions_for_Future_Generations_Based_on_the_Mitigation_of_Bias_and_Intergenerational_Justice/23065328/1
- Lichand, G., & Mani, A. (2020). Cognitive droughts. *Working Paper Series / Department of Economics*, (341), Article 341. <https://doi.org/10.5167/uzh-185364>
- Liu, J. H., & Szpunar, K. K. (2023). Structure and dynamics of personal and national event cognition. *Journal of Applied Research in Memory and Cognition*, 12(1), 1–15.
<https://doi.org/10.1037/mac0000094>
- Luccioni, A., & Bengio, Y. (2020). On the Morality of Artificial Intelligence [Commentary]. *IEEE Technology and Society Magazine*, 39(1), 16–25.
<https://doi.org/10.1109/MTS.2020.2967486>
- MacAskill, W. (2022). *What We Owe The Future*. <https://whatweowethefuture.com/>
- Mani, A., Mullainathan, S., Shafir, E., & Zhao, J. (2013). Poverty Impedes Cognitive Function. *Science*, 341(6149), 976–980. <https://doi.org/10.1126/science.1238041>
- Martinangeli, A. F. M., & Windsteiger, L. (2024). Inequality shapes the propagation of unethical behaviours: Cheating responses to tax evasion along the income distribution. *Journal of Economic Behavior & Organization*, 220, 135–181.
<https://doi.org/10.1016/j.jebo.2024.02.012>
- McQuilkin, J. (2018). Doing Justice to the Future: A global index of intergenerational solidarity derived from national statistics. *Intergenerational Justice Review*, 4(1), Article 1.
<https://doi.org/10.24357/igjr.12.1.639>

- Mullainathan, S., & Shafir, E. (2013). *Scarcity: Why Having Too Little Means So Much* (8.4.2013 edition). Times Books.
- Na, Z., Yujia, D., & Hengxing, Z. (2024). Generosity in poverty: The impact of material scarcity from a self-construction perspective. *Acta Psychologica Sinica*, 56(9), 1176.
<https://doi.org/10.3724/SP.J.1041.2024.01176>
- Nations, U. (2024a). *Ending Poverty*. United Nations. United Nations.
<https://www.un.org/en/global-issues/ending-poverty>
- Nations, U. (2024b). Human Development Report 2023-24. In *Human Development Reports*. United Nations. <https://hdr.undp.org/content/human-development-report-2023-24>
- O'Donnell, M., Dev, A. S., Antonoplis, S., Baum, S. M., Benedetti, A. H., Brown, N. D., Carrillo, B., Choi, A. L., Connor, P., Donnelly, K., Ellwood-Lowe, M. E., Foushee, R., Jansen, R., Jarvis, S. N., Lundell-Creagh, R., Ocampo, J. M., Okafor, G. N., Azad, Z. R., Rosenblum, M., ... Nelson, L. D. (2021). Empirical audit and review and an assessment of evidentiary value in research on the psychological consequences of scarcity. *Proceedings of the National Academy of Sciences*, 118(44), e2103313118.
<https://doi.org/10.1073/pnas.2103313118>
- Odum, A. L., Becker, R. J., Haynes, J. M., Galizio, A., Frye, C. C. J., Downey, H., Friedel, J. E., & Perez, D. M. (2020). Delay discounting of different outcomes: Review and theory. *Journal of the Experimental Analysis of Behavior*, 113(3), 657–679.
<https://doi.org/10.1002/jeab.589>
- Ord, T. (2021). *The Precipice: Existential Risk and the Future of Humanity a book by Toby Ord*. Hachette Books. <https://bookshop.org/p/books/the-precipice-existential-risk-and-the-future-of-humanity-toby-ord/14906429>

Our World in Data. (2020). *Total population living in extreme poverty, by world region*. Our World in Data. <https://ourworldindata.org/grapher/total-population-living-in-extreme-poverty-by-world-region>

Paek, J. J. W., Goya-Tocchetto, D., & Wade-Benzoni, K. A. (2024). The Andrew Carnegie Effect: Legacy Motives Increase the Intergenerational Allocation of Wealth to Collective Causes. *Social Psychological and Personality Science*, 19485506231201684. <https://doi.org/10.1177/19485506231201684>

Pittarello, A., Motsenok, M., Dickert, S., & Ritov, I. (2023). When the poor give more than the rich: The role of resource evaluability on relative giving. *Journal of Behavioral Decision Making*, 36(1), e2293. <https://doi.org/10.1002/bdm.2293>

Plantinga, A., Krijnen, J. M. T., Zeelenberg, M., & Breugelmans, S. M. (2018). Evidence for Opportunity Cost Neglect in the Poor. *Journal of Behavioral Decision Making*, 31(1), 65–73. <https://doi.org/10.1002/bdm.2041>

Reyes, G., & Gasparini, L. (2022). Are fairness perceptions shaped by income inequality? Evidence from Latin America. *The Journal of Economic Inequality*, 20(4), 893–913. <https://doi.org/10.1007/s10888-022-09526-w>

Roser, M., & Ortiz-Ospina, E. (2019). Global Extreme Poverty. *Our World in Data*. <https://ourworldindata.org/extreme-poverty>

Rothstein, B. (2011). *The Quality of Government: Corruption, Social Trust, and Inequality in International Perspective*. University of Chicago Press.

Roux, C., Goldsmith, K., & Bonezzi, A. (2015). On the Psychology of Scarcity: When Reminders of Resource Scarcity Promote Selfish (and Generous) Behavior. *Journal of Consumer Research*, 42(4), 615–631.

- Sánchez-Rodríguez, Á., Jetten, J., Willis, G. B., & Rodríguez-Bailón, R. (2019). *High Economic Inequality Makes Us Feel Less Wealthy*. 32(1), 17. <https://doi.org/10.5334/irsp.333>
- Sánchez-Rodríguez, Á., Rodríguez-Bailón, R., & Willis, G. B. (2020). Economic inequality affects perceived normative values. *Group Processes & Intergroup Relations*, 136843022096814. <https://doi.org/10.1177/1368430220968141>
- Schmalor, A., & Heine, S. J. (2021). The Construct of Subjective Economic Inequality. *Social Psychological and Personality Science*, 194855062199686. <https://doi.org/10.1177/1948550621996867>
- Shah, A. K., Mullainathan, S., & Shafir, E. (2012). Some Consequences of Having Too Little. *Science*, 338(6107), 682–685. <https://doi.org/10.1126/science.1222426>
- Shah, A. K., Mullainathan, S., & Shafir, E. (2019). An exercise in self-replication: Replicating Shah, Mullainathan, and Shafir (2012). *Journal of Economic Psychology, Replications in Economic Psychology and Behavioral Economics*, 75, 102127. <https://doi.org/10.1016/j.joep.2018.12.001>
- Shah, A. K., Shafir, E., & Mullainathan, S. (2015). Scarcity Frames Value. *Psychological Science*, 26(4), 402–412. <https://doi.org/10.1177/0956797614563958>
- Singer, P. (2016). *Famine, Affluence, and Morality*. Oxford University Press.
- Sommet, N., Elliot, A. J., Jamieson, J. P., & Butera, F. (2019). Income Inequality, Perceived Competitiveness, and Approach-Avoidance Motivation. *Journal of Personality*, 87(4), 767–784. <https://doi.org/10.1111/jopy.12432>
- Spiller, S. A. (2011). Opportunity Cost Consideration. *Journal of Consumer Research*, 38(4), 595–610. <https://doi.org/10.1086/660045>
- Syropoulos, S., Crimston, C. R., Markowitz, E., Milfont, T. L., Law, K. F., Claessens, S., Kyritsis, T., Atkinson, Q., Bastian, B., & Rottman, J. (2024). *Cross-cultural insights into*

moral expansiveness: Selective valuation of nature versus humans. OSF.

<https://doi.org/10.31234/osf.io/3z5aj>

Syropoulos, S., Law, K. F., Amormino, P., & Young, L. (2024). Mapping the personality of (exceptional) intergenerational concern. *Personality and Individual Differences*, 231, 112814. <https://doi.org/10.1016/j.paid.2024.112814>

Syropoulos, S., Law, K. F., Kraft-Todd, G., Mah, A., Markowitz, E., & Young, L. (2025). Responsibility to future generations: A strategy for combatting climate change across political divides. *British Journal of Social Psychology*, 64(1), e12775. <https://doi.org/10.1111/bjso.12775>

Syropoulos, S., Law, K. F., Kraft-Todd, G., & Young, L. (2023). *The Longtermism Beliefs Scale: Measuring Lay Beliefs for Protecting Humanity's Longterm Future*. PsyArXiv. <https://doi.org/10.31234/osf.io/e34kv>

Syropoulos, S., Law, K. F., Kraft-Todd, G., & Young, L. (2025). Impartial intergenerational beneficence: The psychology of feeling (equal) intergenerational concern for all future generations. *Personality and Social Psychology Bulletin*, 01461672241307800. <https://doi.org/10.1177/01461672241307800>

Syropoulos, S., Law, K. F., & Young, L. (2024a). Caring for Present and Future Generations Alike: Longtermism and Moral Regard Across Temporal and Social Distance. *Group Processes & Intergroup Relations*. <https://doi.org/10.31234/osf.io/hzwrt>

Syropoulos, S., Law, K. F., & Young, L. (2024b). Longtermist education interventions increase concern for and action to protect future generations. *Social Psychological and Personality Science*, 19485506241228465. <https://doi.org/10.1177/19485506241228465>

- Syropoulos, S., Law, K. F., & Young, L. (2024c). The case for longtermism: Concern for the far future as a catalyst for pro-climate action. *Npj Climate Action*, 3(1), 1–10.
<https://doi.org/10.1038/s44168-024-00110-8>
- Szpunar, K. K., Spreng, R. N., & Schacter, D. L. (2014). A taxonomy of prospection: Introducing an organizational framework for future-oriented cognition. *Proceedings of the National Academy of Sciences*, 111(52), 18414–18421.
<https://doi.org/10.1073/pnas.1417144111>
- Tan, J. J. X., Kraus, M. W., Carpenter, N. C., & Adler, N. E. (2020). The association between objective and subjective socioeconomic status and subjective well-being: A meta-analytic review. *Psychological Bulletin*, 146(11), 970–1020. <https://doi.org/10.1037/bul0000258>
- The Cultural Factor Group. (2024). *Country comparison tool*. <https://www.hofstede-insights.com/country-comparison-tool>
- Tversky, A., & Shafir, E. (1992). The Disjunction Effect in Choice under Uncertainty. *Psychological Science*, 3(5), 305–310. <https://doi.org/10.1111/j.1467-9280.1992.tb00678.x>
- United Nations. (2021). *Our Common Agenda* [Report of the Secretary-General]. United Nations. <https://www.un.org/en/common-agenda>
- United Nations Development Programme. (2023). *2023 Global Multidimensional Poverty Index (MPI)*. <https://www.undp.org/turkiye/publications/2023-global-multidimensional-poverty-index-mpi>
- van Berkel, N., Tag, B., Goncalves, J., & Hosio, S. (2022). Human-centred artificial intelligence: A contextual morality perspective. *Behaviour & Information Technology*, 41(3), 502–518. <https://doi.org/10.1080/0144929X.2020.1818828>

- Wade-Benzoni, K. A. (1999). Thinking About the Future: An Intergenerational Perspective on the Conflict and Compatibility Between Economic and Environmental Interests. *American Behavioral Scientist*, 42(8), 1393–1405.
<https://doi.org/10.1177/00027649921954912>
- Wade-Benzoni, K. A. (2008). Maple Trees and Weeping Willows: The Role of Time, Uncertainty, and Affinity in Intergenerational Decisions. *Negotiation and Conflict Management Research*, 1(3), 220–245. <https://doi.org/10.1111/j.1750-4716.2008.00014.x>
- Wade-Benzoni, K. A. (2017). A Golden Rule Over Time: Reciprocity in Intergenerational Allocation Decisions. *Academy of Management Journal*, 45(5), 1011–1028.
<https://doi.org/10.5465/3069327>
- Wade-Benzoni, K. A., & Tost, L. P. (2009). The Egoism and Altruism of Intergenerational Behavior. *Personality and Social Psychology Review*, 13(3), 165–193.
<https://doi.org/10.1177/1088868309339317>
- Walker, I., & Pettigrew, T. F. (1984). Relative deprivation theory: An overview and conceptual critique. *British Journal of Social Psychology*, 23(4), 301–310.
<https://doi.org/10.1111/j.2044-8309.1984.tb00645.x>
- Whalen, C. (2024). *Method—Intergenerational Solidarity Index*. Roman Krznaric.
<https://www.romankrznaric.com/good-ancestor/intergenerational-solidarity-index/method>
- World Bank. (2024). *World Bank Group—International Development, Poverty, & Sustainability*.
<https://www.worldbank.org/en/home>
- Wright, J. D., Schmitt, M. T., Mackay, C. M. L., & Neufeld, S. D. (2020). Imagining a sustainable world: Measuring cognitive alternatives to the environmental status quo. *Journal of Environmental Psychology*, 72, 101523.
<https://doi.org/10.1016/j.jenvp.2020.101523>

Zaval, L., Markowitz, E. M., & Weber, E. U. (2015). How Will I Be Remembered? Conserving the Environment for the Sake of One's Legacy. *Psychological Science*, 26(2), 231–236.
<https://doi.org/10.1177/0956797614561266>

Zhao, J., & Tamm, B. M. (2017). Attentional Trade-Offs Under Resource Scarcity. In D. D. Schmorow & C. M. Fidopiastis (Eds.), *Augmented Cognition. Enhancing Cognition and Behavior in Complex Human Environments* (pp. 78–97). Springer International Publishing. https://doi.org/10.1007/978-3-319-58625-0_6

Zhao, J., & Tamm, B. M. (2018). Psychological Responses to Scarcity. In *Oxford Research Encyclopedia of Psychology*. Oxford University Press, USA.
<https://oxfordre.com/psychology/display/10.1093/acrefore/9780190236557.001.0001/acrefore-9780190236557-e-41>

Why Poverty in the Present Matters for Intergenerational Concern and the Future of Humanity

Supplementary Materials

ACCEPTED FOR PUBLICATION
IN PERSONALITY AND
SOCIAL PSYCHOLOGY BULLETIN

Table of Contents

Study 1 Supplementary Online Materials.....	3
Study 2 Supplementary Online Materials.....	4
Study 3 Supplementary Online Materials.....	5

ACCEPTED FOR PUBLICATION
IN PERSONALITY AND
SOCIAL PSYCHOLOGY BULLETIN

Study 1 Supplementary Online Materials

Table S1

Regression models accounting for geographic similarity (spatial autocorrelations) between countries, predicting Intergenerational Concern from measures of poverty, inequality, and human development, with and without controlling for possible confounding covariates of democracy, GDP and population size.

	Long Term Orientation		Intergenerational Solidarity	
	Model 1 (Pseudo R ² =0.31)	Model 2 (Pseudo R ² =0.37)	Model 1 (Pseudo R ² =0.36)	Model 2 (Pseudo R ² =0.42)
Predictors	b (SE; p)	b (SE)	b (SE)	b (SE)
MPI (Poverty)	-55.24 (29.04; .057)	-48.43 (29.21; .097)	-64.99 (20.06; .001)	-48.09 (21.02; .022)
Democracy		0.37 (1.93; .850)		1.72 (1.50; .251)
GDP		0.00 (0.00; .155)		0.00 (0.00; .105)
Population		-0.00 (0.00; .686)		-0.00 (0.00; .441)
Predictors	Model 1 (Pseudo R ² =0.27)	Model 2 (Pseudo R ² =0.41)	Model 1 (Pseudo R ² =0.27)	Model 2 (Pseudo R ² =0.39)
	b (SE)	b (SE)	b (SE)	b (SE)
Gini (Inequality)	-0.55 (0.41; .184)	-0.94 (0.39; .016)	0.25 (0.34; .467)	-0.24 (0.33; .474)
Democracy		3.37 (2.00; .092)		3.23 (1.58; .042)
GDP		0.00 (0.00; .013)		0.00 (0.00; .018)
Population		-0.00 (0.00; .283)		-0.00 (0.00; .158)
Predictors	Model 1 (Pseudo R ² =0.38)	Model 2 (Pseudo R ² =0.43)	Model 1 (Pseudo R ² =0.42)	Model 2 (Pseudo R ² =0.46)
	b (SE)	b (SE)	b (SE)	b (SE)
HDI (Human Development)	88.50 (29.87; .003)	84.64 (32.10; .008)	83.24 (21.29; < .001)	73.66 (22.91; .001)
Democracy		-0.36 (1.87; .846)		1.23 (1.47; .401)
GDP		0.00 (0.00; .490)		0.00 (0.00; .397)
Population		0.00 (0.00; .797)		0.00 (0.00; .972)

Note. Pseudo R² Type = Nagelkerke.

Study 2 Supplementary Online Materials

Table S2

Mixed linear regression models predicting obligation to future generations

Predictors (in separate models)	b (SE)
SES	0.05*** [0.04, 0.06]
Gini	-0.01 [-0.02, 0.01]
Democracy Index	0.06 [-0.003, 0.12]
Gross Domestic Product	-0.00 [-0.00, 0.00]
Population	-0.00 [-0.00, 0.00]
HDI	1.34 [-0.17, 2.87]

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

ACCEPTED FOR PUBLICATION
IN PERSONALITY AND
SOCIAL PSYCHOLOGY BULLETIN

Study 3 Supplementary Online Materials

Overview of Situational Economic Framing Conditions

Table S3 provides a detailed description of instructions for each of the economic framing conditions.

Table S3

Overview of the six experimental conditions targeting situational economic framings in the context of the resource allocation game.

Economic Framing Condition	Total Points	Potential Bonus	Point value	Instructions for Distributional Awareness
Aware of Unequal Distribution + \$5 Endowment (N=216)	50	\$5	\$0.10	NOT everyone participating in study is given 50 resource points. 1/3 of participants were given 100 resource points (\$10). Another 1/3 was given 200 resource points (\$20). This places you in the group that has the least resource points.
Aware of Unequal Distribution + \$10 Endowment (N=205)	100	\$10	\$0.10	NOT everyone participating in study is given 100 resource points. 1/3 of participants were given 50 resource points (\$5). Another 1/3 was given 200 points (\$20). This places you in the group that is in the middle (i.e., you don't have the least or the most resource points).
Aware of Unequal Distribution + \$20 Endowment (N=209)	200	\$20	\$0.10	NOT everyone participating in study is given 200 resource points. 1/3 of participants were given 50 resource points (\$5). Another 1/3 was given 100 points (\$10). This places you in the group with the most resource points.
Unaware of Unequal Distribution + \$5 Endowment (N=215)	50	\$5	\$0.10	Everyone participating in study is given 50 resource points (\$5)
Unaware of Unequal Distribution + \$10 Endowment (N=208)	100	\$10	\$0.10	Everyone participating in study is given 100 resource points (\$10)
Unaware of Unequal Distribution + \$20 Endowment (N=211)	200	\$20	\$0.10	Everyone participating in study is given 200 resource points (\$20)

Post-Hoc Comparisons for Effects of Situational Economic Framing Condition on Donation Amount

Table S4 highlights the means and standard deviations for each condition.

Table S4

Post-hoc comparisons with Bonferroni corrections

Condition	N	Total Donation		Relative Donation	
		M	SD	M	SD
Aware + \$5	216	13.98	15.01	0.28	0.30
Aware + \$10	205	29.72	30.66	0.30	0.31
Aware + \$20	209	60.29	58.61	0.30	0.29
Unaware + \$5	215	14.21	15.53	0.28	0.31
Unaware + \$10	208	26.44	30.47	0.26	0.30
Unaware + \$20	211	51.64	57.00	0.26	0.29

Table S5 offers an overview of all possible post-hoc comparisons. Overall, we observe a pattern of results which suggests that participants in a condition with more resource points tended to donate more to the charity protecting future generations.

Table S5

Post-hoc comparisons with Bonferroni corrections for total amount donated by each economic framing condition

Group 1	Group 2	Comparison	Cohen's <i>d</i>
Unaware + \$20	Unaware + \$10	$t = 6.67^{***}$	0.55
Unaware + \$20	Unaware + \$5	$t = 9.99^{***}$	0.90
Unaware + \$20	Aware + \$20	$t = -2.29$	-0.15
Unaware + \$20	Aware + \$10	$t = 5.78^{***}$	0.48
Unaware + \$20	Aware + \$5	$t = 10.06^{***}$	0.91
Unaware + \$10	Unaware + \$5	$t = 3.25^*$	0.51
Unaware + \$10	Aware + \$20	$t = 08.94$	-0.72
Unaware + \$10	Aware + \$10	$t = -0.86$	-0.11
Unaware + \$10	Aware + \$5	$t = 3.31^*$	0.52
Unaware + \$5	Aware + \$20	$t = -12.27$	-1.08
Unaware + \$5	Aware + \$10	$t = -4.11^{***}$	-0.64
Unaware + \$5	Aware + \$5	$t = 0.06$	0.02
Aware + \$20	Aware + \$10	$t = 8.04^{***}$	0.65
Aware + \$20	Aware + \$5	$t = 12.34^{***}$	1.09
Aware + \$10	Aware + \$5	$t = 4.17^{***}$	0.66

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

Analyses Excluding Participants Who Missed Manipulation Checks

We included two manipulation checks, which asked participants to indicate how many points they received, and whether other participants received the same points, or received more or less than them. Across both manipulation checks, a total of 137 participants answered incorrectly. However, as described below, removing these participants did not alter our results. Thus, we retained these participants in our sample.

For both outcomes (relative and total amount donated) a 2 (distributional awareness: aware vs. unaware of unequal distributions) by 3 (resource endowment: \$5, \$10, \$20) between-subjects ANOVA was estimated. For the total amount donated, the omnibus effect was significant ($F(5,1121) = 47.69, p < .001, \eta^2_p = 0.175$). No significant effect of distributional awareness ($F(1,1121) = 3.02, p = .082$) or distributional awareness*resource endowment interaction ($F(2,1121) = 1.60, p = .202$) was noted. However, resource endowment had a significant effect ($F(2,1258) = 116.10, p < .001, \eta^2_p = 0.171$). Post-hoc comparisons adjusted with a Bonferroni correction suggested that the \$20 condition scored significantly higher than the \$10 and \$5 conditions, and that the \$10 condition scored significantly higher than the \$5 condition, regardless of the distributional awareness condition (see Table S6).

Table S6

Post-hoc comparisons with Bonferroni corrections for total amount donated by each economic framing condition

Group 1	Group 2	Comparison	Cohen's <i>d</i>
Unaware + \$20	Unaware + \$10	$t = 6.49^{***}$	0.57
Unaware + \$20	Unaware + \$5	$t = 9.38^{***}$	0.90
Unaware + \$20	Aware + \$20	$t = -2.20$	-0.15
Unaware + \$20	Aware + \$10	$t = 5.59^{***}$	0.49
Unaware + \$20	Aware + \$5	$t = 9.55^{***}$	0.92
Unaware + \$10	Unaware + \$5	$t = 2.93$	0.47
Unaware + \$10	Aware + \$20	$t = -8.74^{***}$	-0.75
Unaware + \$10	Aware + \$10	$t = -0.72$	-0.09
Unaware + \$10	Aware + \$5	$t = 3.19^*$	0.52
Unaware + \$5	Aware + \$20	$t = -11.64^{***}$	-1.09

POVERTY AND INTERGENERATIONAL CONCERN SOM

Unaware + \$5	Aware + \$10	$t = -3.57^{**}$	-0.59
Unaware + \$5	Aware + \$5	$t = 0.29$	0.07
Aware + \$20	Aware + \$10	$t = 7.78^{***}$	0.67
Aware + \$20	Aware + \$5	$t = 11.79^{***}$	1.11
Aware + \$10	Aware + \$5	$t = 3.81^{**}$	0.64

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

For the amount donated relative to one's total points, the omnibus effect was not significant ($F(5,1121) = 0.71, p = .619$). Further, no significant effect of distributional awareness ($F(1,1121) = 0.81, p = .369$), resource endowment ($F(2,1121) = 0.07, p = .929$) or distributional awareness*resource endowment interaction ($F(2, 1121) = 1.29, p = .277$) were noted, suggesting that regardless of whether a participant had more or less resources in the allocation game, or whether they were/were not aware of the unequal distribution of resources, participants on average donated the same amount of resource points.

Endorsement of Longtermist Ethics and Donation of Resources when the IIBI is coded dichotomously and considered with and without Exclusions

Endorsement of longtermist ethics on the IIBI predicted higher total donation amounts and relative donation proportions when including the effects of economic framing condition and real-world subjective socioeconomic status (SES) in the same model. This was true when the IIBI was scored dichotomously (i.e., endorsing longtermist ethics on the IIBI highly [having a score of 75 or above] for all future generations, no matter how distant) and continuously (i.e., taking the average of all items for all timeframes on the IIBI) as well as with/without excluding participants who missed our manipulation checks. Table S7 offers an overview of these results, which are supplementary to the results reported in the main manuscript, which present the continuous effect of the IIBI without exclusions.

Table S7

Linear regression models predicting the total and relative amount donated to charities

protecting future generations, with and without excluding participants who missed manipulation checks.

	Total Amount Donated ($R^2=0.19$)			Relative Amount Donated ($R^2=0.04$)		
Predictors (no exclusions)	<i>b</i>	95% C.I.	β	<i>b</i>	95% C.I.	β
SES	2.25***	1.02, 3.47	0.09	0.02***	0.01, 0.03	0.12
Resource Endowment	20.78***	18.21, 23.35	0.40	-0.01	-0.02, 0.01	-0.01
IIB (dichotomous)	16.13***	10.92, 21.35	0.15	0.15***	0.08, 0.16	0.16
	Total Amount Donated ($R^2=0.19$)			Relative Amount Donated ($R^2=0.03$)		
Predictors (with exclusions)	<i>b</i>	95% C.I.	β	<i>b</i>	95% C.I.	β
SES	2.49***	1.19, 3.78	0.10	0.02***	0.01, 0.03	0.13
Resource Endowment	20.88***	18.16, 23.60	0.40	-0.001	-0.02, 0.02	-0.002
IIB (dichotomous)	12.95***	7.41, 18.50	0.12	0.10***	0.06, 0.14	0.13
	Total Amount Donated ($R^2=0.21$)			Relative Amount Donated ($R^2=0.07$)		
Predictors (with exclusions)	<i>b</i>	95% C.I.	β	<i>b</i>	95% C.I.	β
SES	2.38***	1.10, 3.66	0.10	0.02***	0.01, 0.03	0.12
Resource Endowment	20.73***	18.05, 23.42	0.40	-0.002	-0.02, 0.02	-0.01
IIB (continuous)	0.27***	0.20, 0.35	0.18	0.002***	0.001, 0.003	0.22

Note. * $p < .001$. Condition was coded as -1 = \$5, 0 = \$10, 1 = \$20.

IIB = Impartial Intergenerational Beneficence.

Table S8

Linear regression models predicting the total and relative amount donated to charities protecting future generations

Predictors	Total Amount Donated ($R^2=0.18$)			Relative Amount Donated ($R^2=0.02$)		
	b	95% C.I.	β	b	95% C.I.	β
Income	0.52**	0.07, 0.97	0.06	0.01**	0.001, 0.01	0.08
Resource Endowment	20.91***	18.16, 23.64	0.41	-0.003	-0.02, 0.02	-0.001
Endorsement of Longtermist Ethics (IIBI)	12.99***	7.41, 18.58	0.12	.10***	0.06, 0.14	0.13

Note. * $p < .001$. Resource endowment was coded as -1=\$5 Endowment, 0=\$10 Endowment, 1=\$20 Endowment.