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Reasoning and empathy are not competing but complementary features of altruism

Kyle Fiore Law[1], Stylianos Syropoulos[1], Paige Amormino[2], Abigail Marsh[2,3], Liane Young[4,5] & Brendan Bo O'Connor[6]

[1]College of Global Futures, Arizona State University, Tempe, Arizona, USA
[2]Department of Psychology, Georgetown University, Washington, DC, USA
[3]Interdisciplinary Neuroscience Program, Georgetown University, Washington, DC, USA
[4]Department of Psychology & Neuroscience, Boston College, Chestnut Hill, MA, USA
[5]The Schiller Institute for Integrated Science and Society, Boston College, Chestnut Hill, MA, USA
[6]Department of Psychology, University at Albany, State University of New York, Albany, NY, USA

***Corresponding Author:** Kyle Fiore Law

Corresponding Author Email: kylelaw@asu.edu

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Abstract

Humans can care about distant strangers, an adaptive advantage that enables our species to cooperate in increasingly large-scale groups. Theoretical frameworks accounting for an expansive moral circle and altruistic behavior are often framed as a dichotomy between competing pathways of emotion-driven empathy versus logic-driven reasoning. Here, in a pre-registered investigation comparing variations in empathy and reasoning capacities across different exceptionally altruistic populations — effective altruists (EAs) who aim to maximize welfare gains with their charitable contributions (N = 119) and extraordinary altruists (XAs) who have donated organs to strangers (N = 65) –– alongside a third sample of demographically-similar general population controls (N = 176), we assess how both capacities associate with altruistic behaviors that transcend conventional parochial boundaries. We find that, while EAs generally manifest heightened reasoning ability and XAs heightened empathic ability, both empathy and reasoning independently predict greater engagement in equitable and effective altruism on laboratory measures and behavioral tasks. Interaction effects suggest empathy and reasoning, when combined, often predict the strongest willingness to prioritize welfare impartially and maximize impact. These results suggest complementary candidate roles for empathy and reasoning in overcoming biases that constrain altruism, supporting a unified framework for expansive altruism and challenging the empathy-reasoning dichotomy in existing theory.

Significance Statement

This research employs a unique special-population approach to begin resolving a longstanding theoretical debate on the roles of reasoning and empathy in altruism. By comparing for the first time effective altruists (EAs)—who maximize welfare through evidence-based, stranger-directed giving—and extraordinary altruists (XAs)—who have donated organs to strangers—to demographically-similar controls, we illuminate distinct candidate cognitive and affective pathways toward impartial, high-impact altruism. Our findings call into question the conventional empathy-reasoning dichotomy, suggesting these capacities may function synergistically to reduce parochial biases and support more equitable, effective forms of giving. This work lays the foundation for a unified theoretical framework that explains how individuals transcend social boundaries to prioritize the welfare of distant others for the greater good.

Main Text

Introduction

Humans possess an unprecedented capacity to help, up to and including saving the lives of distant strangers, thanks to advances in technology, economics, and medicine[1–3]. However, this capacity is often underutilized. Although understanding and reducing various forms of parochial bias has been a key aim of research in psychology and behavioral science over the past half-century[4–6], inequality in altruism still persists. People routinely prioritize caring for socially close individuals, such as family and friends, and are far less likely to extend help to distant, unrelated others[7–9]. But overcoming inequality in care and altruism may be necessary for tackling major societal challenges, such as global poverty, hunger, preventable diseases causing early mortality, and the disproportionate impacts of climate change on marginalized populations. These challenges require both individual and collective action to help others *equitably* in order to maximize welfare and reduce suffering most *effectively*[10–14]. What features of the human mind give rise to altruistic equity—impartial concern for others across social, spatial, and temporal divides—and altruistic effectiveness—a focus on maximizing welfare for the greatest number?

While empathy has traditionally been championed as a prosocial force[15,16], more recent theoretical perspectives within psychology[10,17,18] and moral philosophy[12,13] suggest that empathy—particularly affective empathy, as it is conceptualized here—hinders impartial altruism. These perspectives propose deliberative reasoning, guided by utilitarian principles, as a more reliable foundation for achieving altruistic equity. This theoretical framing, which positions empathy and reasoning as opposing forces, has gained significant traction in philosophical and psychological discussions, particularly within the context of “effective altruism” (EA). EA, a social movement at times associated with utilitarianism, emphasizes using evidence and reason to maximize the welfare impact of altruistic actions, often by prioritizing causes that benefit socially and geographically distant individuals in the greatest need[12]. Within[13] and beyond[19,20] EA, scholars increasingly frame empathy as inherently biased and limited in its ability to expand care and altruism to distant others[10,21]. This growing emphasis on reasoning represents a theoretical

shift away from the traditional view, which considers empathy to be the cornerstone of prosocial behavior[15,16,22].

However, emerging empirical research on extraordinary altruists, such as organ donors who undergo great personal costs to help strangers, challenges the shift away from empathy as a force for prosocial good. Rather than showing *reduced* empathy, these individuals exhibit *heightened* empathic responses to the suffering of psychologically distant others[23]. Consistent findings of empathic enrichments within this group suggest that empathy can play a critical role in motivating impartial care[24–26]. Despite this, research on organ donors has predominantly focused on emotional abilities, leaving the role of rational abilities in extraordinary altruism largely unexplored. Conversely, self-identifying adherents to the effective altruism movement remain understudied altogether, but particularly with regard to their emotional capacities, as much of the existing philosophical discourse surrounding effective altruism prioritizes reasoning over empathy.

Here, we study extraordinary altruists and effective altruists, two hyper-altruistic populations who both prioritize helping distant others, to better understand the features that might promote exceptional altruism in the general population. This approach builds on a well-established methodology: research on experts often reveals key insights into general cognitive or behavioral phenomena. For example, studies of professional taxi drivers—experts in spatial navigation—have illuminated the understanding of spatial reasoning and memory in the general population, including the neural adaptations associated with navigation expertise[27]. Similarly, research on professional artists has deepened our understanding of creativity and its variability among typical adults[28]. In the same way, we aim to apply this expert population approach to learn more about the cognitive and affective features that foster altruistic equity (impartial concern for others) and altruistic effectiveness (maximizing welfare) in everyday contexts by studying exceptional prosociality. By doing so, we seek to work towards reconciling theoretical ambiguity about the roles of reasoning and empathy in promoting altruism.

Although extraordinary altruists and effective altruists are not the same, they share a critical commonality: engaging in costly prosocial behavior that transcends the parochial biases

often observed in the general population[18,26]. Parochial bias, frequently attributed to empathy by critics, constrains altruistic behavior to those who are psychologically closer. The existing literature, however, leaves a significant gap—it remains unclear whether the equitable and effective actions of these two populations are primarily driven by empathy, reasoning, or a combination of both. By studying both groups in the laboratory for the first time, this research aims to address these unanswered questions. Specifically, it seeks to provide novel insights into the potential roles emotional and rational pathways might play in driving exceptional altruism, while contributing to broader debates about whether empathy inherently limits prosociality[10,21] or can instead serve to promote equity and effectiveness in altruistic behavior.

Foundational Perspectives Suggest Empathy is a Force for Prosocial Good

Foundational research on the psychology of prosocial behavior supported the notion that empathy serves as a force for good with vast potential to promote altruism in general—moving concern from oneself to others—as well as across social, geographic, and ideological divides. In this vein, numerous studies have found a connection between experimentally induced empathy and subsequent acts of altruism, including altruism for strangers[15,16,22,29]. Research examining empathy's impact on intergroup relations suggests empathic perspective-taking and affect sharing can mitigate prejudice toward outgroup members[30–33], as well as toward distant others more broadly and historically marginalized groups[34,35]. Similarly, investigations into individual differences in empathy have yielded findings regarding its prosocial benefits[36–38], showing that individuals with greater empathic capacities tend to behave more prosocially towards others, even those who are socially distant or otherwise dissimilar.

Of course, this body of research cannot speak to the role of empathy in promoting equitable and effective altruism in the context of altruistic tradeoffs as they often manifest in the real world, where helping most effectively requires favoring helping distant others over less effective forms of helping towards those who are close[13,17]. Nonetheless, this work collectively suggests that empathy may occupy a significant place in the theoretical framework of human

prosociality, enabling individuals and groups to feel more concern for others and, in turn, foster altruistic behavior across group boundaries.

Empathic Bias and the Emphasis on Reasoning

Despite foundational research showing that empathy can promote prosocial behavior, more recent scholarship offers a nuanced theoretical perspective, highlighting that empathic responses are often selective and constrained. This perspective is underscored by work on the Identifiable Victim Effect[39,40], which encompasses a range of phenomena, including stronger emotional responses when beneficiaries are concretely identified (e.g., by name, photo, or personal narrative) and when the reference group is small. Similarly, research on scope insensitivity suggests that empathy does not scale proportionally with the number of people affected, leading to diminished concern for large-scale suffering[41–43]. Both effects have traditionally been viewed as psychological biases that can distort utility-maximizing prosocial behavior. Furthermore, empathy is often more easily extended toward close others, like family members and friends, over distant strangers[8,44–46] and toward those who share similarities with oneself over those who are more dissimilar[38,47].

So, while earlier research emphasized empathy as a key driver of prosocial behavior, recent findings and theoretical frameworks suggest that empathy's biases limit its utility in promoting impartial altruism. But rather than focusing on mitigating these biases to broaden altruism's reach, many scholars in psychology[10,17,18,48] and philosophy[12–14,49,50] have increasingly advocated for minimizing empathy's role altogether. These perspectives prioritize rational, consequential reasoning as a more effective mechanism for maximizing the preservation of lives––especially those in critical need, regardless of social proximity or relatedness[17,20,51–54]. This theoretical shift asserts a fundamental opposition deliberative reasoning and empathic emotion in altruistic and ethical decision-making aimed at benefiting the greater good, marking a stark contrast to earlier research that framed empathy as essential to transcending parochial boundaries and fostering altruism[55].

A Possible Plurality of Pathways Toward Altruistic Equity and Effectiveness?

While deliberative reasoning may be important for evaluating which among multiple causes will maximize welfare most effectively, the shift away from empathy risks undervaluing empathy's influence on altruistic decisions. Biased or not, empathy wields power over whether people allocate resources to others at all rather than keeping them—thus, donors often prioritize emotionally moving causes, even when those causes are demonstrably less effective[56]. This compelling motivational force of empathy raises critical questions about whether it can complement or enhance the effect of deliberative reasoning to foster greater altruistic equity and effectiveness or whether it is necessarily a countervailing force.

Importantly, emerging evidence challenges the idea that empathic bias is inevitable or immutable. Studies suggest that these biases often reflect broader social attitudes rather than inherent limitations of empathy itself[38,57]. Moreover, empathy can be expanded, at least temporarily, through interventions leveraging perspective-taking, narrative-building, imagination and other practices that foster connection to distant or faceless others[58–62]. These findings suggest that empathy's potential limitations can be mitigated, allowing it to contribute meaningfully to equitable prosocial outcomes and a place within contemporary theories of human prosocial behavior.

Most profoundly, empirical research on extraordinary altruists provides robust evidence that empathy can drive equitable prosocial behavior across parochial boundaries, even when it comes at a great cost to oneself. Living organ donors, for example, consistently demonstrate heightened empathic responses, including increased amygdala activation and self-other neural overlap in the empathy network when witnessing others' suffering[63,64]. These findings challenge the perspective that unbiased altruism stems purely from reasoning and suggest that empathy can play a pivotal role in motivating impartial and effective helping.

Of course, the merits of reasoning warrant consideration alongside empathy, as evidence suggests both capacities may play a role. Rational and emotional appeals have been shown to motivate altruistic behavior[65], though their influence on tradeoff decisions between effective causes benefiting distant others and less effective causes benefiting close others remain

understudied. And although emerging findings reveal that philanthropists exhibit not only heightened reasoning abilities but also enriched emotional capacities[66], this research has not focused on these capacities in the context of equitable and effective prosocial outcomes. These observations underscore the need to investigate how empathy and reasoning interact to foster altruistic equity and effectiveness. Could empathy and reasoning together overcome the limitations of parochial biases, driving forms of altruism that bridge social divides and maximize collective welfare? And might these capacities, when combined, reveal a synergy that reshapes our understanding of how humans achieve the most impactful and equitable prosocial outcomes? Exploring whether their relationship is interactive may reveal whether empathy and reasoning provide complementary—rather than opposing—pathways to impactful altruism.

Here we aim to test competing perspectives on the prosocial merits of empathy and reasoning by examining their individual and interactive roles in the altruistic decisions of effective altruists (EAs), extraordinary altruists (XAs), and demographically similar controls (see Table 1 for an in-depth description of the three samples). While recent perspectives emphasize deliberative reasoning, research on XAs suggests that empathy also plays a critical role in equitable prosociality. By studying these groups alongside controls, we aim to determine whether these pathways operate independently, in opposition, or synergistically within each population. First, we validate the exceptional altruism of EAs and XAs by measuring indicators of equitable, effective, and general prosociality. Next, we compare empathic and reasoning abilities between the groups to identify which capacities are heightened in these special populations. Finally, we examine how these abilities relate to prosociality within each group. In doing so, we seek to clarify whether empathy and reasoning complement each other in how they associate with impartial, impactful altruism, whether one pathway is more central overall, or whether distinct pathways manifest depending on the population in question. More broadly this research seeks to addresses whether framing empathy and reasoning as opposing forces may reflect a false dichotomy that impedes understanding in the prosocial domain.

[TABLE 1]

Results

Population Differences in Equitable and Effective Prosociality.

To formally investigate the architecture of prosociality among exceptional altruists and the general population, we included a battery of metrics capturing attitudes, judgments, decisions, and behaviors aligned with equitable and effective prosociality, as well as prosociality more broadly. We hypothesized that both samples of altruists would score higher on each of these metrics, which are outlined in Table 2. The analyses presented in the main text compare each special population to the entire control sample. An exploratory series of analyses, available in the "Supplementary Analyses" on the OSF, compares each special population to a subset of the control sample matched to each special population's demographics. The general patterns remain consistent across both series of analyses, but the findings presented here focus on the full control sample.

[TABLE 2]

We began by comparing the three samples on their reported engagement in real-world charitable actions[1], as real-world prosociality takes on numerous forms in ordinary adults[77], from financial contributions to volunteerism. Effective altruists (EAs) aim to do good primarily through financial donations to impactful causes[50,78]. By contrast, extraordinary altruists (XAs)–who earn their designation through substantial sacrifices such as donating parts of their bodies to strangers–are not necessarily unified by a commitment to financially benefiting others like EAs[23]. To capture diverse forms of real-world prosociality, participants reported both the proportion of income donated and time spent volunteering annually (Real-World Charitable Action or RWCA). One-way ANOVAs with Bonferroni corrections confirmed the exceptional altruism of EAs and XAs, who reported donating significantly more money and volunteering more time than general population controls (see Table 3 and Figure 1). Effect sizes were large (*Cohen's d* = 0.580–

[1] The measures capturing engagement in real-world charitable actions were included as part of the demographics survey, and analyses pertaining to these measures were not pre-registered.

1.013), and while EAs donated a higher percentage of income than XAs (15.5% vs. 10.5%), there was no difference in volunteering time.

These initial findings serve as an initial validity check, providing evidence that both special populations are indeed more generous overall than controls. They also suggest that the exceptional altruism of XAs is not limited to a single costly act of altruism. Rather, it runs deeper, as they report devoting substantially more of their time and money to benefit others than controls in their daily lives.

[TABLE 3]

[FIGURE 1]

The findings above shed light on how the three samples differ on real-world prosocial behavior overall. Nonetheless, the particular focus of the present investigation is to shed light on the architecture of prosocial attitudes and actions that are *equitable*, in that they are not constrained by parochial biases that routinely limit everyday prosocial displays towards close, identifiable or otherwise similar beneficiaries[9,10,17,18,36,45,79], and *effective*, in that they have a high potential for maximizing welfare gains. To mimic the types of tradeoffs between social closeness and gains in welfare that are common in the real world, where resources–from the perspective of the affluent–can do greater good when donated to distant strangers, a subset of the prosociality metrics captured attitudes towards a modality of altruism that is simultaneously equitable and effective. Moreover, while the measures discussed above rely on self-reports, the metrics that follow incorporate behavioral tasks and laboratory measures to provide a more objective assessment of prosociality.

On each of these behavioral tasks, there was a significant omnibus effect of Sample, with 10.0% to 18.5% of the variance in these outcomes being attributable to differences between the three subject groups (see Table 3 and Figure 2). On the Moral Judgment Vignettes (MJV) task, both EAs and XAs reported more positive third-party moral judgments of welfare-maximizing altruism (i.e., effectiveness) directed towards distant strangers that came at the expense of not being able to help a less-effective but socially closer alternative (i.e., equitability). On balance,

subjects from the two special populations did not differ from one another in their judgments of these altruistic decisions. Similarly, both special populations made a greater number of decisions in the Social Discounting Task (SDT) to allocate larger monetary rewards (i.e., effectiveness) to other individuals across a range of social distances (i.e., equitability) rather than keeping smaller rewards for themselves. Especially intriguing is that XAs demonstrated greater prosociality than EAs on this task. Overall, these findings provide support that the moral judgments and prosocial decisions of both special populations favor equitability and effectiveness in altruism in the context of real-world tradeoffs–where supporting the most effective causes also happens to require a departure from the parochial biases which generally constrain prosociality towards those who are close.

[FIGURE 2]

We also included measures that capture equitable and effective prosociality in isolation, to disentangle whether and how the three samples differ on each facet when considered separately. On the expansive altruism subscale of the Effective Altruism Interest Scale (EAIS), which captures impartiality regarding the relational proximity of prosocial beneficiaries–a measure that uniquely captures altruistic equity, both special populations scored higher on average than general population controls, with EAs scoring higher on average than XAs (see Table 3 and Figure 2).

On the effectiveness focus subscale of the EAIS, however, EAs scored higher than both general population controls *and* XAs, with XAs scoring even lower than members of the general population. This finding deviates from our pre-registered hypothesis and the earlier results on measures capturing equitability and effectiveness together. However, it aligns with broader distinctions between the two groups of altruists. EAs explicitly prioritize consequentialist principles, emphasizing impact and effectiveness as codified rules, whereas XAs show a stronger alignment with equitability in their real-world prosocial actions, with less explicit focus on maximizing effectiveness. Yet, on a behavioral metric of effectiveness prioritization—the Behavioral Donation Task or BDT, where participants allocated resources between effective and

ineffective causes across 16 trials—both EAs and XAs chose the effective charitable option more frequently than the control sample (see Table 3 and Figure 2). These findings suggest that extraordinary altruists lean toward effective causes in their behaviors, decisions, and judgments, even if this is not consistently reflected in their explicit attitudes.

In summary, the findings largely support our pre-registered predictions. Both EAs and XAs scored higher than members of the general population on 6 out of 7 prosociality measures, indicating greater equitable and effective prosociality, as well as broader prosocial tendencies. While EAs outperformed XAs in measures focusing on effectiveness, this pattern did not hold on the BDT, a behavioral metric of effective prosociality. Together, the findings highlight that both effective and extraordinary altruists demonstrate prosociality in their real-world behaviors and in laboratory settings. Although XAs' real-world altruism–organ donation to strangers–aligns more closely with altruistic equity in overcoming parochial bias, their behavior also reflects a preference for impactful causes.

Population Differences in Empathic and Reasoning Ability.

After finding evidence that both EAs and XAs exhibit equitable and effective prosociality in the lab, we examined differences in empathic and reasoning abilities, key features in debates on prosociality across psychology and philosophy. Namely, prosocial behavior is often shaped by parochial tendencies, favoring those who are relationally close or similar[5,30,38,80], even when helping distant others could achieve greater good[9]. Empathy is a key driver of prosocial actions[15,55,81]. However, like prosociality more broadly, empathy is often expressed in a parochial pattern—it is more easily felt for those who are closer and more similar[19,38]. Psychological inquiry has long sought to address these biases to promote greater equity in altruism[5,30,55]. Yet, some researchers and philosophers, including proponents of effective altruism, have argued that empathy itself is to blame for parochial bias, encouraging would-be donors to downregulate empathic emotion in favor of rational, deliberative decision-making as a way to mitigate parochial tendencies and expand the scope of altruism[10,18,21,51].

Despite prevailing skepticism regarding empathy's potential to promote altruism at a distance, emerging evidence suggests that empathy can be a force for equitable and effective good[36,59]. Of particular relevance, empathy has been shown to drive prosocial attitudes and behaviors even towards distant strangers among altruistic organ donors (i.e., extraordinary altruists or XAs[79]). Moreover, this exceptionally altruistic population has been shown to possess profound enhancements in empathic ability compared to general population controls. While proponents of effective altruism advocate reasoning over empathy as a better guide for equitable and effective altruism, the research on XAs raises the question of whether effective altruists (EAs)–who have been empirically understudied to date–also show similar enhancements in empathic ability, and whether empathy drives their prosocial engagement. It is also possible that reasoning ability is heightened among EAs exclusively, or among EAs and XAs collectively, and represents a distinct or complementary route, alongside empathy, in fostering altruistic equity and effectiveness.

Given conflicting theory and evidence in the extant literature, we wagered three alternative hypotheses: Relative to general population controls, (1) consistent with EA discourse and research on XAs, EAs might score higher on reasoning ability and XAs higher on empathic ability; (2) considering the abundance of evidence for heightened empathy among XAs and limited evidence on the cognitive and affective profiles of EAs, both altruistic populations might score highly on measures of empathic but not reasoning ability; or (3) EAs and XAs might score higher on measures of empathic and reasoning ability alike.

Our results showed that with regard to empathic ability, members of the three populations differed on several measures: empathic concern (EC) on the Interpersonal Reactivity Index (IRI), capacities in correctly identifying emotional content in written statements on the Emotionally Evocative Statements Task (EEST), alexithymia on the Toronto Alexithymia Scale (TAS), and primary and secondary psychopathy on the Levenson Self-Report Psychopathy (LSRP) scale. For the latter three measures, higher scores (reverse-coded) correspond to greater empathic ability. The three populations did not differ significantly on beliefs regarding the within-person

malleability of empathy on the Theories of Empathy Scale (TES), nor on feelings of outgroup empathy on the Parochial Empathy Scale (PES; though results trended toward significance on the PES, with XAs scoring marginally higher than controls[2]). Confirming the findings from research on altruistic organ donors[23,79], XAs, relative to controls, scored higher on EC on the IRI, reverse-coded alexithymia on the TAS, and reverse coded primary and secondary psychopathy on the LSRP. Moreover, on each of these metrics, as well as the EEST, XAs scored higher than EAs, though there was no significant difference in performance on the EEST between XAs and controls. Intriguingly, EAs, relative to controls, showed deficits in emotion recognition on the EEST. And, while EAs differed significantly from controls on no other metric, they trended lower on most (see Table 4 and Figure 3).

[TABLE 4]

[FIGURE 3]

With respect to reasoning ability, the three populations differed meaningfully on Need for Cognition (NFC) and tendencies to engage in deliberative processes to arrive at correct answers to challenging word problems on both the Cognitive Reflection Test (CRT) and a battery of Heuristics and Bias Tasks (HBT). No significant differences were observed among the populations in self-reported reasoning ability on the Rational Experiential Index (REI), nor in beliefs about changing one's mind to accommodate evidence that challenges existing viewpoints on the Actively Open-Minded Thinking (AOT) scale. Intriguingly, and largely consistent with perspectives advanced among philosophers and researchers associated with the effective altruism movement, EAs scored higher than controls on NFC, the CRT, and the HBT. Moreover, XAs scored lower than EAs and controls on the CRT, but higher than controls on the HBT. This suggests that while EAs exhibit a strong tendency towards deliberative reasoning across various measures, XAs may engage in greater reasoning relative to controls in specific contexts, highlighting distinct cognitive profiles between these groups (see Table 4 and Figure 4).

[2] Despite not reaching significance, this effect had a *Cohen's d* of 0.315, which is greater than negligible. Nonetheless, further research with a larger sample size is required to elucidate whether this effect is robust or more likely to be an artifact. As such, these findings are inconclusive and should be interpreted with caution.

[FIGURE 4]

In summary, these findings align with previous research on altruistic organ donors (XAs), highlighting their heightened empathic abilities[23]. However, they provide new insights into their cognitive profiles, which remain understudied. XAs report similar enjoyment of effortful thinking (NFC) as the general population but perform worse on the Cognitive Reflection Test (CRT), which measures the ability to override intuitive but incorrect answers. Interestingly, they outperform the general population on heuristics and bias tasks, which are more challenging but less reliant on suppressing intuitive responses relative to the CRT[71,73,82,83]. Thus, the key difference between EAs and XAs may lie in their *motivation* to engage in effortful thinking rather than reasoning *ability* itself. While both groups show unique cognitive strengths, their *preferences* for challenging cognitive tasks differ significantly.

Furthermore, these findings offer new insights into the cognitive and affective profiles of EAs, revealing their heightened reasoning ability compared to controls and reduced empathic ability relative to XAs. In fact, EAs sometimes score lower than the general population in specific aspects of empathy, such as emotion identification. So, while both groups excel in equitable and effective altruism, they manifest divergent trait levels of cognitive and affective abilities: EAs favor reasoning, while XAs excel in empathy. And, because both altruistic populations manifest higher levels of altruistic equity *and* effectiveness on the behavioral tasks measured here, these findings suggest that reasoning and empathy may not be opposing forces but perhaps alternative pathways to altruistic equity and effectiveness.

The Cognitive and Affective Architecture of Equitable and Effective Altruism.

To examine further whether reasoning and empathy both present candidate pathways to equitable and effective altruism, we began by estimating bivariate correlations between each measure of empathic and reasoning ability with each prosocial outcome within each sample (see Figure 5 below and Tables S1-S3 in the Supplementary Online Materials [SOM]). In line with our predictions, across samples, most measures of empathic and reasoning ability were associated positively with most attitudes and behaviors in line with equitable and effective prosociality,

though many of these relationships, particularly in the smaller sample of XAs, were non-significant. Intriguingly, these bivariate relationships were strongest among effective altruists, even with respect to empathic predictors. However, associations with general real-world prosociality measures (which relied on self-report and did not explicitly assess equitability or effectiveness) were often weaker or even negative. This pattern suggests that affective and cognitive abilities may be more strongly linked to the psychological architecture of equitable and effective altruism than to broadly defined prosociality. Nonetheless, it is also possible that the behavioral and task-based measures employed here provide a more valid indicator of meaningful altruistic engagement than these self-report metrics.

It is also worth noting that in the general population, empathy appeared to be a stronger predictor of equitable and effective altruism than reasoning. These finding stand in contrast to perspectives on the inherent parochiality of empathy[10] and the primacy of reasoning[18] in the prosocial context. They suggest instead that our ability to empathize with others may live among the most critical tools at our disposal–rather than among our greatest limitations–for promoting the greater good through beneficent action.

[FIGURE 5]

For the focal analysis, we conducted a series of seven multiple regression models per sample (one per prosocial outcome, 21 in total), entering a composite factor for empathy and a composite factor for reasoning as simultaneous predictors. The goal of estimating these models was to ascertain whether empathy, reasoning, or both accounted for unique variance in each outcome, above and beyond the effect of the alternative capacity. As pre-registered, because of the vast number of number of metrics we included to capture empathic and reasoning ability, we reduced the dimensionality of both categories of predictors (see Tables S4-S5 and Figures S1-S2 in the SOM). First, we conducted Exploratory Factor Analysis (EFA) using the maximum likelihood extraction method in combination with oblimin rotation on the battery of measures of empathic ability and reasoning ability, separately. For empathic ability, a single factor emerged, but beliefs in the malleability of empathy on the TES failed to load onto the factor, while outgroup

empathy on the PES and scores on the EEST had weak loadings, below 0.5, and thus were excluded from the next stage of analysis. Likewise, for reasoning ability, each measure loaded onto a single factor, but scores on the CRT had loadings below 0.5, and thus were excluded from the next stage of analysis.

For empathic ability, scores on the TAS (reverse-coded), IRI-EC, LSRP-P (reverse-coded), and LSRP-S (reverse-coded) were retained, z-transformed, and averaged (*Cronbach's* α = 0.79). For reasoning ability, scores on the NFC, IRI-EC, AOT, and HBT were retained, z-transformed, and averaged (*Cronbach's* α = 0.69). We also assessed reliability without excluding the TES, PES and EEST for empathic ability (*Cronbach's* α = 0.20) and without excluding the CRT for reasoning ability (*Cronbach's* α = 0.64). Because reliability was greater when including only the predictors indicated by the results of the EFA, we went forward with estimating the regression models using the composites derived from EFA (rather than separate composites including all of the predictors). Nonetheless, regression models that include all measures of empathy and reasoning as simultaneous predictors of each prosocial outcome are presented in the SOM in Table S5.

Within each sample, the multiple regression results largely confirmed that both empathic and reasoning ability may be forces for good (see Table 5 below and Table S5 in the SOM). Notably, scores on the empathic ability composite factor were positively and significantly associated with: (1) moral judgments of equitable and effective prosociality on the Moral Judgment Vignettes task among EAs, (2) generosity on the Social Discounting Task among EAs and controls; (3) attitudes aligned with expansive altruism (altruistic equity) on the EAIS among all three samples; (4) behavioral donations to effective charitable causes among EAs and XAs; and (5) real world monetary charitable contributions (as the percentage of income donated in a given year) among controls. Beyond the findings presented above, which demonstrate that exceptionally caring individuals show enhancements in empathy, these findings suggest that among exceptional altruists and ordinary adults alike, greater empathy and emotionality often predicts greater attitudes, judgments, decisions and behaviors in line with altruistic equity,

effectiveness, and real-world charitable action, above and beyond differences in reasoning ability. Critically, they provide clear evidence that arguments against empathy may be misguided[10,13], as greater ability to empathize with others appears to associate positively with rather than inhibit boundary transcendent altruism and prosociality that maximizes welfare.

[TABLE 5]

Furthermore, these results partially align with assertions raised in discourse related to the effective altruism movement[12] and with some earlier empirical findings[17] suggesting that reasoning ability underlies the prioritization of altruistic equity and effectiveness. Namely, variation on the reasoning ability composite factor was significantly and positively associated with: (1) moral judgments of equitable and effective prosociality on the MJV task among EAs and controls; the prioritization of (2) expansiveness (equity; among EAs) and (3) effectiveness (among EAs and XAs) in altruism on the EAIS; and (4) behavioral donations to effective causes among EAs and XAs on the BDT. However, it is noteworthy that the associations between reasoning ability with equitable and effective prosociality were most pronounced among members of the EA subject group, who explicitly emphasize applying reasoning skills to guide altruistic decision-making.

Collectively, these findings suggest that both empathy and reasoning, rather than one over the other, are generally associated with greater altruistic equity, effectiveness, and real-world charitable action. Importantly, empathy does not consistently constrain the scope of equity and impact. However, there are exceptions, especially when examining associations with individual facets of affective ability in finer-grained detail (see Table S5 in the SOM). For instance, accurately identifying emotions in written statements (measured by the EEST) were negatively associated with generosity on the SDT among EAs and the prioritization of expansiveness in altruism among controls. These unexpected results warrant further investigation to clarify their implications.

It is also notable that controls who reported more malleable lay theories of empathy scored significantly lower in their prioritization of effectiveness in altruism. Prior research

suggests that individuals with more malleable versus fixed theories of empathy exert greater empathic effort toward distant and stigmatized targets[58]. Thus, this result was unexpected. One possibility is that it reflects an "empathic bystander effect"[84], wherein holding stronger beliefs about the malleability of empathy allows individuals to diffuse personal responsibility for addressing large-scale suffering. Because the measure captures beliefs about the malleability of empathy not only for oneself but also for others, individuals who score higher might overestimate others' empathic capacities, assuming others will prioritize effectiveness in their stead. Further research is needed to explore this possibility.

Deviations from expected results were observed not only in measures of empathic ability but also in reasoning ability. For instance, Actively Open-Minded Thinking (AOT)—the willingness to change one's mind when faced with new evidence—was moderately negatively associated with real-world charitable donations and volunteerism for EAs and weakly negatively associated for controls. Similar results were observed for the reasoning ability composite factor (see Table 5). These findings suggest that, in some contexts, reasoning abilities may backfire by increasing focus on the opportunity costs of giving. This effect may occur even among individuals who typically prioritize effectiveness in their altruistic efforts. However, these findings were exceptions to the general trend across samples and measures, where both reasoning ability and empathic ability were positively associated with equitable and effective prosocial attitudes and behaviors.

The Interactive Effects of Reasoning and Empathy on Equitable and Effective Altruism.

For exploratory purposes, to investigate the cognitive and affective architecture of altruism in greater depth, we next investigated whether reasoning and empathy interact within each population concerning their associations with measures of prosociality. This analysis aimed to determine if the combined influence of reasoning and empathy might relate to prosocial behaviors differently than either trait alone. Twenty-one multiple regression analysis mirroring those above were estimated, this time specifying as predictors the empathic ability composite, reasoning ability composite, and their interaction. See Table 6 for the results from these models.

[TABLE 6]

Here, largely in line with the findings above (where the empathy-reasoning interaction was not accounted for), scores on the empathic ability factor were associated with greater: (1) moral acceptability judgments of equitable and effective altruism on the MJV task among EAs; (2) generosity on the SDT among controls; (3) attitudes aligned with expansive altruism (altruistic equity) on the EAIS among all three subject groups; (4) behavioral donations to effective charitable causes among EAs and XAs; and (5) real-world monetary charitable contributions among controls. Likewise, scores on the reasoning ability factor were associated with greater: (1) generosity on the SDT among controls; (2) prioritization of expansive altruism and effectiveness focus on the EAIS among EAs; and (3) behavioral donations to effective causes among EAs and XAs. Also mirroring the findings in which the interaction was not considered, in a few instances, the reasoning ability factor showed negative associations with prosociality. Namely, reasoning ability was associated negatively with real-world monetary contributions to charity among EAs and Controls and with real-world volunteerism among EAs. Also notable is that the empathic ability factor in no instances associated significantly and negatively with any facet of prosociality in any sample.

Significant interactions were observed between empathic and reasoning abilities in a few key contexts (see Figure 6). These interactions emerged in their associations with behavioral donations (BDT) and real-world monetary charitable contributions among EAs, moral judgments on the MJV task among XAs, and the prioritization of expansive and effective altruism among controls. For the BDT and MJV judgments, greater empathic ability acted as a protective factor against lower reasoning ability, such that empathy was more strongly and positively associated with prosociality at lower reasoning levels. Conversely, in the context of real-world charitable action (among EAs) and the prioritization of expansiveness (equity) in altruism (among controls), empathic ability was more strongly and positively associated with prosociality at higher levels of reasoning ability. These findings suggest that the interplay between empathy and reasoning varies across contexts and populations, with each capacity compensating for the alternative in

promoting prosocial outcomes in some contexts and potentially amplifying the prosocial benefits of the alternative capacity in others.

[FIGURE 6]

Perhaps most intriguing was that a significant crossover interaction characterized the relationship between reasoning and empathy with the prioritization of effectiveness in altruism among the control sample. At lower levels of empathy, greater reasoning ability was linked to less prioritization of effectiveness, whereas at higher levels of empathy, greater reasoning ability predicted more prioritization of effectiveness. Similarly, empathy was negatively associated with effectiveness prioritization at lower reasoning levels but positively associated at higher reasoning levels. These findings collectively highlight the possibility that reasoning and empathy may enhance equity and effective altruism best when working together. In the general population in particular—those who comprise the majority and thus hold the greatest prosocial potential—– reasoning associates with greater impact prioritization only when empathy is high, and empathy associates positively with prioritizing impact only when reasoning is also high. Although further experimental work building on the present findings is warranted, the current data underscore the value of cultivating both reasoning and empathy as complementary capacities that, together, might better promote altruistic behavior than either alone.

Discussion

Addressing many of the world's greatest challenges—from poverty and hunger to climate change—–requires directing prosociality towards outgroups, socially distant others and statistical collectives in the greatest amount of need[85]. As such, social psychologists have long sought to understand and address the biases that drive prosocial favoritism toward ingroup members, socially close others, and singular identifiable targets[5,38]. While foundational research underscores empathy's role in fostering prosocial behavior by enabling individuals to share the emotions of others in need[15,16,22,29], empathy, like prosociality, is more easily elicited by relationally close or similar individuals and singular victims[8,38,44–47]. In response to these biases, some contemporary perspectives in psychology and beyond (e.g., the effective altruism

movement) advocate for combatting empathy with deliberative reasoning and evidence-based strategies to promote greater altruistic equity and effectiveness[17,20,51–54].

The present research employs an exceptional population approach, examining effective altruists (EAs), extraordinary altruists (XAs—living, non-directed organ donors), and general population controls to challenge the notion that empathy and reasoning are inherently at odds. Our findings reveal that both EAs and XAs, who prioritize equity and impact in their prosocial decisions and behaviors, possess enriched but distinct psychological capacities: EAs demonstrate heightened reasoning abilities, while XAs exhibit heightened empathy. However, rather than opposing one another, empathy and reasoning associate positively with altruistic equity and effectiveness across all groups and for most outcomes. By and large, these results suggest that empathy and reasoning may represent complementary forces that work together to increase equity and impact in altruistic behavior, rather than operating as competing pathways. Notwithstanding the value of further experimental research to shed light on causal directionality, these findings highlight the possibility that a theoretical reconceptualization of empathy and reasoning as synergistic contributors to altruism, rather than as opposing forces, may be in order.

The findings align with and build upon previous research and discourse on altruism—particularly studies examining the psychological underpinnings of extraordinary altruism and the philosophical tenets of effective altruism—and contribute to broader debates over the prosocial merits (or detriments) of empathy. Prior work on XAs has consistently highlighted empathy as a central driver of their prosocial tendencies, enabling them to emotionally connect with the suffering of distant and unrelated others[24,25,64,86,87]. However, the role of reasoning among XAs has been understudied to date, leaving a gap in understanding how cognitive capacities might also contribute to their altruistic behaviors. Conversely, while philosophical discussions on EA[12,50]—as well as investigations into the drivers of effectiveness prioritization among the general population[17,18,51,80]—have emphasized reason and evidence as critical for driving their high-impact altruistic actions[12,50,78], empirical research on the EA population remains sparse, limiting our ability to validate these theoretical claims through data-driven analysis. In other words,

despite the shared commitment to altruism that transcends conventional parochial boundaries among EAs and XAs, the literatures on these two exceptionally altruistic groups remain disparate and often conflicting.

By incorporating both EAs and XAs alongside general population controls, the present research helps to address these gaps, offering an empirical examination of reasoning in XAs and providing much-needed data on the psychological profiles of EAs for the first time. Indeed, we find that EAs largely perform better than controls on tasks and measures capturing reasoning ability, and we replicate prior findings of heightened empathic and affective ability among XAs. Despite differences in baseline levels of these capacities across subject groups, empathic and reasoning abilities function not as opposing or independent pathways but as complementary forces that collectively associate positively with altruistic equity and effectiveness. In some instances, one capacity appears to offset limitations in the other (e.g., prioritizing effective charitable causes in the MJV task and BDT among exceptionally altruistic groups), while in other contexts, higher levels of both capacities are associated with the strongest prosocial outcomes (e.g., the real-world prosociality of EAs and the equitable, effective altruistic attitudes of typical adults). These findings not only begin to expand our understanding of the unique psychological capacities underlying altruistic behavior among the special populations but also challenge the dichotomy[10,19,21] between emotion and cognition in prosocial decision-making more broadly, highlighting the potential prosocial utility of both capacities across diverse altruistic contexts.

Our interpretation of the present findings is not inherently in conflict with the extensive evidence that empathy is often influenced by parochial biases[19,45]. Rather, we argue that parochial biases are neither intrinsic to nor a necessary outcome of empathy itself. Empathy, we contend, does not drive parochial bias; instead, it likely motivates altruism—perhaps at times more powerfully than reasoning. For example, individuals often prioritize emotionally compelling causes even when evidence indicates that other causes may have greater impact[56]. While our attention, beliefs and motivations can narrow the focus of empathy[38], this does not imply that empathy should always be downregulated when the goal of altruism is to maximize welfare for

distant others in greatest need. Instead, it highlights the potential importance of cultivating empathy—enhancing the capacity to empathize deeply with distant others and with causes that have greater potential for impact. By broadening and strengthening empathy, we may harness its motivational power to promote both altruistic equity and effectiveness. The present findings provide initial support for this possibility, not only for those who are exceptionally altruistic, but also for the broader population with untapped potential for prosocial impact.

This research also suggests that descriptive theories of prosociality may require a reconceptualization to reconcile longstanding debates about the roles of empathy and reasoning in altruistic behavior. This revised framework would view reasoning and empathy not as isolated nor competing forces but as interdependent and complementary contributors to equity and effectiveness in altruism. However, further research is critical to develop, refine, and validate such a model. Experimental work, in particular, is necessary to disentangle how empathy and reasoning operate during prosocial decision-making, rather than measuring them solely as individual differences in baseline capacities, as we did here. Future studies could investigate the situational and contextual factors that activate or suppress the dynamics between empathy and reasoning, exploring how these processes jointly shape decisions about whether to help, whom to help, how much to help, and in what ways. For example, experiments could manipulate the salience of emotional appeals or rational cost-benefit considerations to determine how these elements interact to drive prosocial outcomes in real-time decision-making.

While some work comparing the relative efficacy of rational and emotional appeals to prosocial action has already begun[65], it has yet to adequately address the context of real-world tradeoffs, such as sacrificing the psychological closeness of beneficiaries to prioritize greater gains in overall welfare. Future experimental research could focus on directly manipulating empathic emotion and prosocial reasoning in the context of such nuanced tradeoffs by presenting participants with scenarios that require choosing between helping individuals with whom they share a closer relational bond and allocating resources to those in greater need but at a greater psychological or social distance. Such studies would provide valuable insights into how empathy

and reasoning dynamically interact under the tradeoff conditions explicitly discussed in the context of effective altruism[17,50], where helping others most effectively requires prosociality towards those who are distant.

Future research building towards a prosociality model that unifies reasoning and empathy under the same theoretical framework should also prioritize replication of these findings across diverse populations to ensure generalizability, particularly among large samples of non-exceptional altruists in the general population. Furthermore, this model must integrate the role of parochial bias, exploring not only how it constrains the prosocial reach of empathy[8,19,45] but also how it influences the reasoning process. Research on self-serving and close-other serving biases highlights how parochial biases shape reasoning and decision-making, often reinforcing preferential treatment toward those perceived as similar or connected to oneself [88–93]. Examples such as nationalism, confirmation bias, and the ultimate attribution error illustrate how parochiality shapes cognition. These insights, often overlooked in critiques of empathy, deserve greater attention to clarify the interplay between affect, cognition, and altruism. By examining the susceptibility of both empathy and reasoning to parochial tendencies, researchers can better identify strategies for mitigating bias and enhancing the alignment of both processes with altruistic impact. Ultimately, this program of research would provide a more nuanced and actionable understanding of how empathy and reasoning jointly contribute to prosocial decision-making, informing interventions that harness their combined potential to foster more impactful and inclusive altruism.

While maximizing altruistic impact and promoting equality in altruism may seem commendable in the abstract, the ethical foundation of effective altruism has been widely debated by scholars and the general public[94,95]. Critics argue that EA prioritizes consequentialist decisions benefiting the greater good at the expense of personal obligations to family and friends. At its most extreme, critics contend that EA can justify harmful behaviors based on speculative utilitarian welfare gains. In response, proponents claim that humans can transcend parochial evolutionary programming that favored cooperating in small groups and emphasize that EA does

not explicitly endorse instrumental harm[50,96]. However, many people morally disapprove of the form of altruism promoted by EA and impose social penalties on those who adopt it[9,97,98]. Existing research suggests that XAs, despite engaging in costly altruism toward strangers, maintain rich and fulfilling personal relationships with close others, challenging assumptions that highly impartial altruism necessarily undermines personal bonds[99]. Nonetheless, future research is essential to determine whether real-world EAs experience social consequences, such as strained personal relationships, and to examine the extent to which EAs themselves endorse instrumental harm. Such investigations could bridge descriptive and normative ethical theories of prosociality, providing a foundation for more ethically sensitive interventions and guiding how altruistic practices can be promoted without alienating individuals or undermining moral intuitions.

The broader patterns in the data confirm that EAs and XAs both endorse equity and effectiveness, with EAs showing greater reasoning ability and XAs displaying greater empathy, and that both capacities contribute to altruism. However, some findings challenge these general trends. For example, while XAs prioritize altruistic effectiveness in their decisions, judgments, and consequential behaviors, this emphasis is not consistently reflected in their explicit attitudes. Similarly, despite their heightened empathic abilities, XAs outperformed the general population on heuristics and bias tasks, a measure typically associated with reasoning ability. Additionally, certain cognitive and affective capacities were unexpectedly associated with reduced prosociality in specific contexts—for instance, beliefs in the malleability of empathy were negatively linked to explicit attitudes supporting altruistic equity and effectiveness on the EAIS, and self-reported reasoning ability negatively correlated with general prosociality. Future research could examine whether XAs implicitly prioritize equity and effectiveness, explaining the discrepancy between their attitudes and behaviors, or if they excel in reasoning ability without consistently activating it in decision-making, as suggested by their performance on heuristics and bias tasks. Similarly, studies could investigate whether beliefs in the malleability of empathy diffuse responsibility for prosociality or whether reasoning primarily guides where resources are donated rather than determining how much is given.

Finally, the research boasts numerous methodological strengths, such as the first-ever sample comprising EAs and XAs alike—two rare and exceptionally altruistic populations—as well as comprehensive open-science practices. However, several limitations warrant attention. First, the sample size for XA sample of living organ donors was constrained by the rarity of this population, limiting statistical power. Efforts to expand this sample in future research, through partnerships with hospitals or targeted outreach, could enhance the robustness of these findings. Additionally, while the study focused on EAs and organ donors, other altruistic populations, such as humanitarian aid workers and individuals tackling global challenges, were not included. Examining these groups could reveal additional insights into the diverse architectures of prosociality. Finally, while this study included a diverse sample spanning multiple countries, future work could benefit from larger, internationally representative samples to explore cultural differences in prosociality and their implications for global welfare initiatives.

Conclusion

Psychologists and philosophers have often framed reasoning and empathy as being in opposition when it comes to promoting equality and effective altruism. However, the findings here suggest this divide may be misplaced. While effective altruists (EAs) lean on reasoning and extraordinary altruists (XAs) demonstrate the power of empathy, neither works in isolation nor appears to be competing. Both reasoning and empathy associate positively with altruistic equity and effectiveness. That is, a balance between affective and cognitive capacities appears to offer a more integrated and impactful approach to helping others than either capacity on its own.

Materials and Methods

Open Science Practices.

This article examines empathic ability, reasoning ability, and prosociality among Effective Altruists, Extraordinary Altruists, and general population controls. It is part of a larger project leveraging the same extensive dataset to address a variety of distinct research questions that will be presented in separate articles. Due to the uniqueness and rarity of the subject groups, data for all related projects were collected simultaneously to ensure efficiency and make the best use of

our participants' time. Additional articles from this dataset will explore topics such as moral beliefs and values, creative and imaginative capacity, close relationship quality, future-oriented thinking, and attitudes toward animals and nature within the same samples. Further details about the full dataset and the broader project are available in a "Read Me" file on the Open Science Framework (OSF) at https://osf.io/gsr8x/?view_only=d8773d7723404e36834782b945e4f46f. The OSF also houses additional relevant materials, including the raw dataset (featuring all measured variables across the related projects), the cleaned dataset containing the variables specific to this article, the full surveys administered to each sample, and analysis scripts related to the current article.

Sample characteristics, as well as the hypotheses and analyses for both within-group and between-group comparisons, were pre-registered on aspredicted.org. Pre-registrations for within-group analyses (e.g., relationships between empathic ability, reasoning ability, and prosociality) are available for the Effective Altruist (EA) sample (https://aspredicted.org/ry48-3wjp.pdf), the Extraordinary Altruist (XA) sample (https://aspredicted.org/y8mp-7r8t.pdf), and the control sample (https://aspredicted.org/qnnh-8ssq.pdf). Pre-registrations for between-group analyses (e.g., comparisons across EA, XA, and control groups on key measures) can be found at https://aspredicted.org/xfsx-7dmd.pdf. Additional recruitment criteria specific to the demographic matching of controls to their target groups were pre-registered at https://aspredicted.org/czjn-yb3p.pdf. Since EA recruitment relied on social media, Slack channels, and forums, further exclusion criteria to identify and exclude fraudulent responses (i.e., survey bots) were pre-registered at https://aspredicted.org/vjnk-yhgb.pdf. Data from responses excluded based on these criteria are publicly accessible on the OSF.

Participants.

An a priori power analysis determined that a sample of N = 319 subjects per participant group would provide 95% power to detect an effect size of r = 0.2 (two-tailed test, $\alpha = 0.05$). Given the specialized nature of the two special population samples, we planned to collect as many cases as possible within 90 days of active data collection or until N = 319 was reached, whichever came first.

Sample 1: Effective Altruists (EAs). We recruited effective altruists (EAs) using social media channels associated with the EA movement (e.g., The "Giving What We Can" Slack Channel, The Effective Altruism Forum, the Twitter [X] account of Peter Singer, a prominent figure within the EA movement). Participants who self-identified as EAs were directed to complete a survey on Qualtrics, receiving $15 for their participation. After accounting for exclusions made on the basis of our pre-registered criteria for fraudulent responding (e.g., non-sensical or duplicate open-ended responses), 206 self-identifying EAs completed the survey during the 90 days of active recruitment. Of the 206 respondents, 87 were excluded for failing attention checks or possessing duplicate IP addresses, leaving N = 119 EAs in Sample 1. Sensitivity analysis indicated 95% power to detect $r = 0.32$ or 80% power to detect $r = 0.25$ (two-tailed test, $\alpha = 0.05$).

Sample 2: Extraordinary Altruists (XAs). Extraordinary altruists (i.e., XAs–non-directed kidney, liver and tissue donors) were recruited through an existing network of XAs maintained by a research laboratory at a prominent university in the Eastern United States. Participants who had donated an organ to a stranger completed the survey on Qualtrics and received $15. Of the 66 respondents who completed the survey, only one was excluded for failing attention checks, resulting in N = 65 donors (57 kidney donors, 7 kidney/liver double-donors, 1 kidney/marrow double-donor). This sample achieved 95% power to detect $r = 0.43$ or 80% power to detect $r = 0.34$ (two-tailed test, $\alpha = 0.05$). Though a small sample, this sample size aligns with similar research on non-directed living donors and reflects the rarity of such costly altruism[24,100,101].

Sample 3: General Population Controls. The control sample consisted of English-speaking general population participants who (1) did not identify as effective altruists and (2) had not donated an organ or body tissue to a stranger. The target sample size was designed to match the combined size of the two special population samples (Samples 1 and 2). We recruited control participants via Prolific in two phases, matching demographics to Sample 1 (EAs) and Sample 2 (XAs) respectively. In Phase 1, we aimed to recruit N = 119 controls matched to Sample 1 on nationality, gender, and age. To account for exclusions, N = 139 participants were recruited. One additional participant completed the survey without submitting for remuneration and was retained

in the raw dataset. After excluding 21 participants who failed more than three of the 13 attention checks, data from N = 109 participants were retained.

In Phase 2, we aimed to recruit N = 65 controls matched to Sample 2 on nationality, gender, age, and race/ethnicity. For the Phase 2 controls, Prolific's quota sampling functionality enabled us to include the additional dimension of race/ethnicity in the matching criteria due to the smaller number of nationalities represented in the XA sample. To allow for exclusions, N = 75 participants were recruited. Again, one additional participant completed the survey without submitting for remuneration and was retained in the raw dataset. Nine participants were excluded for failing attention checks, leaving N = 67 participants in this phase. Across both phases, no participants had duplicate IP addresses. In total, the control sample comprised N = 176 participants, achieving 95% power to detect $r = 0.27$ or 80% power to detect $r = 0.21$ (two-tailed test, $\alpha = 0.05$).

Combined Sample. Across all samples, data were collected from N = 360 participants (N = 119 EAs, N = 65 donors, N = 176 controls), achieving 95% power to detect r = 0.19 or 80% power to detect $r = 0.15$ (two-tailed test, $\alpha = 0.05$). Table 1 provides demographic details for each sample.

Materials and Procedure.

This research includes data from human participants and the procedures were approved by the University at Albany, SUNY IRB (Protocol Number: 22X187). After providing informed consent electronically, participants completed a Qualtrics survey containing well-validated measures assessing the predictors (i.e., empathic ability, reasoning ability) and outcomes (i.e., equitable and effective prosociality) in a randomized order. Demographic data and debriefing followed. Payment details were collected separately to protect anonymity, with Samples 1 and 2 receiving $15 gift cards via email and Sample 3 paid directly through Prolific. Table 2 comprehensively covers key information for each of these measures in detail, including example items, reliability statistics, scoring procedures, and scale interpretation. The full text of these items can be located with the full surveys on the OSF page.

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Competing Interests

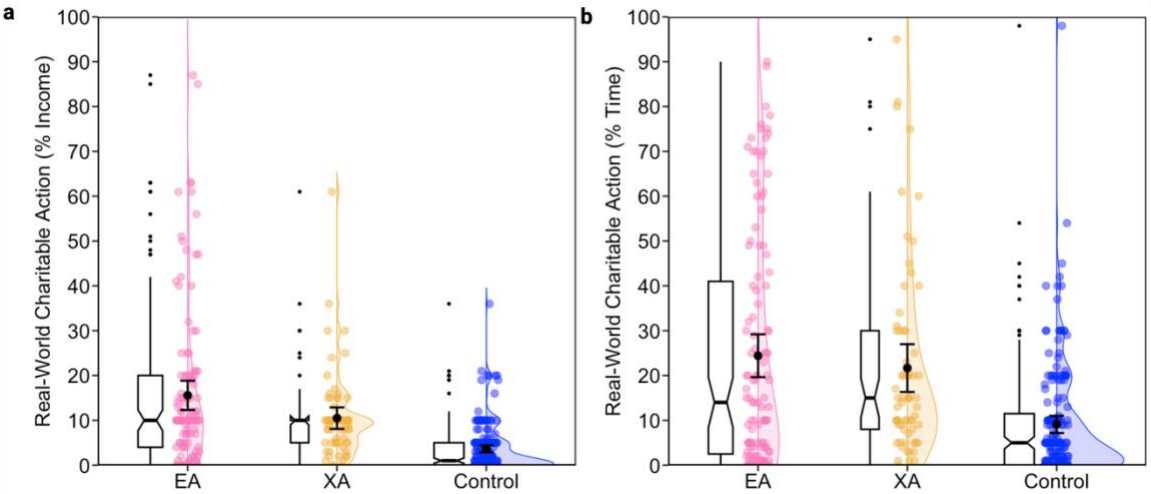
The authors have no competing interests to report.

Data Availability

Details about the full dataset and the broader project are available in a “Read Me” file on the Open Science Framework (OSF) at https://osf.io/gsr8x/?view_only=a0661bbcb3f84b2aa63ca3ac8504d792. The OSF also houses additional relevant materials, including the raw dataset (featuring all measured variables across the related projects), the cleaned dataset containing the variables specific to this article, the full surveys administered to each sample, and analysis scripts related to the current article.

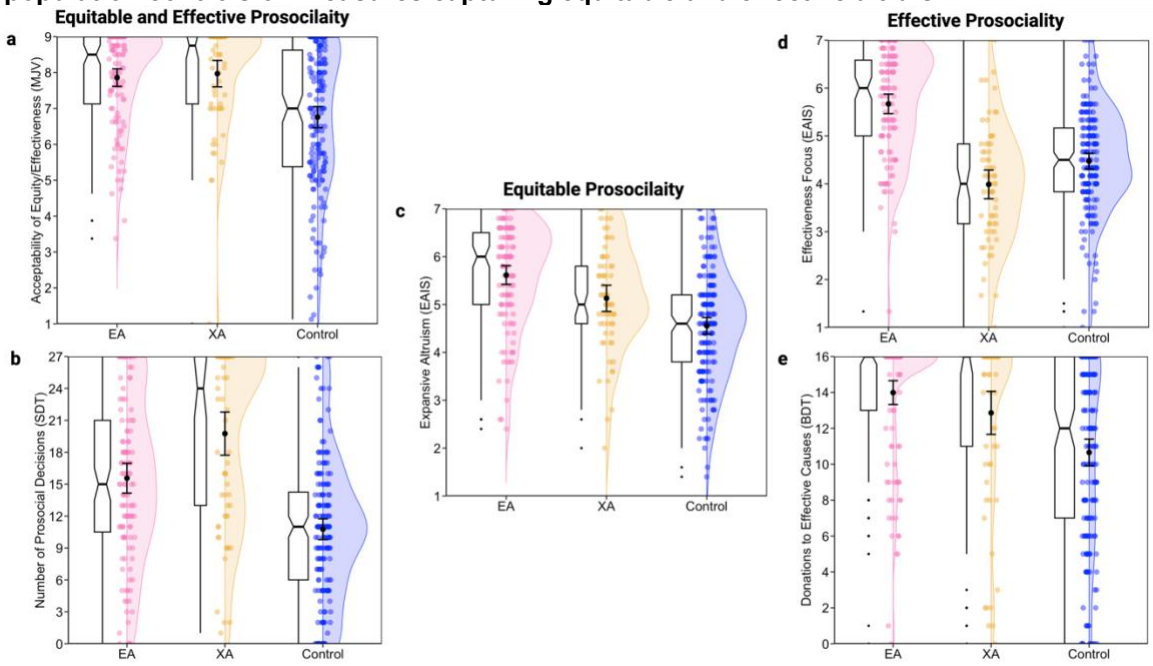
Figures

Figure 1. Reported real-world charitable action among effective altruists, extraordinary altruists and general population controls



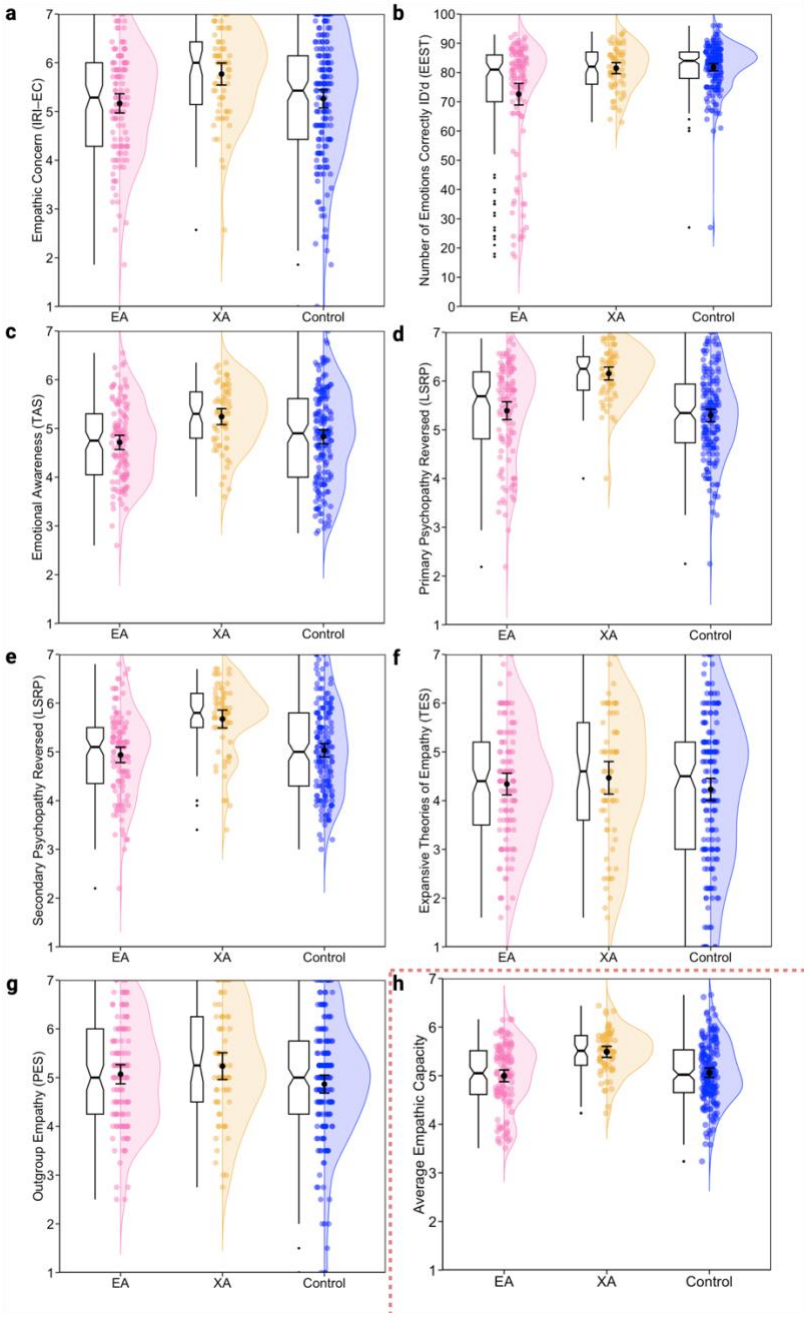
Raincloud plots displaying the levels of financial (**a**) and temporal (**b**) resources devoted to the benefit of others by EAs, XAs and demographically-similar controls.

Figure 2. Differences between effective altruists, extraordinary altruists and general population controls on measures capturing equitable and effective altruism



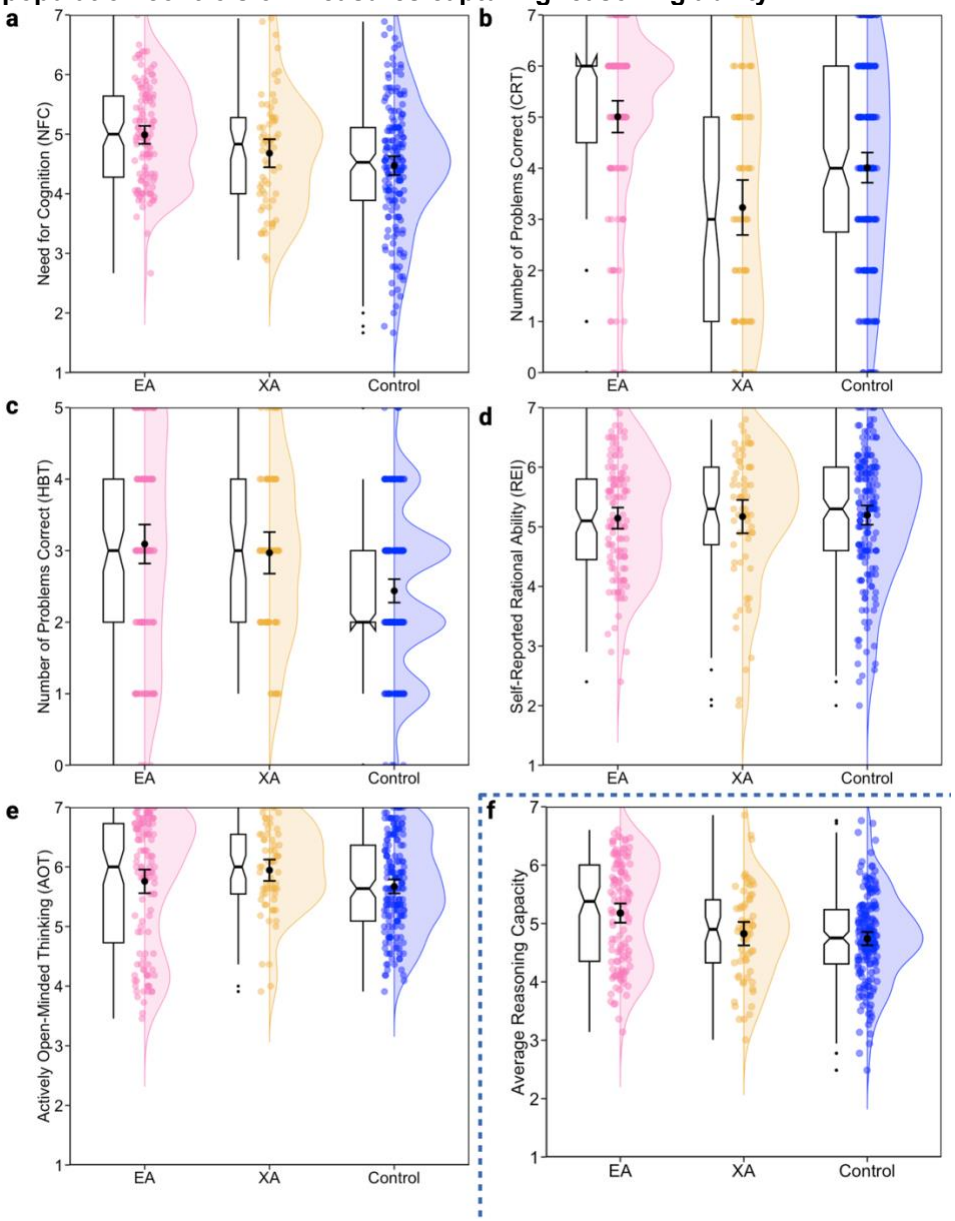
Raincloud plots displaying differences between EAs, XAs and demographically-similar controls on metrics capturing **(1) equitable and effective prosociality simultaneously:** moral judgments in the MJV task (**a**) and the number of prosocial decisions made in the SDT (**b**); **(2) equitable prosociality in isolation:** explicit attitudes in alignment with expansive altruism on the EAIS (**c**); and **(3) effective prosociality in isolation:** explicit attitudes in alignment with endorsing effectiveness prioritization in altruistic decisions on the EAIS (**d**) and the number of donations made to effective causes vs. ineffective causes on the BDT (**e**).

Figure 3. Differences between effective altruists, extraordinary altruists and general population controls on measures capturing empathic ability



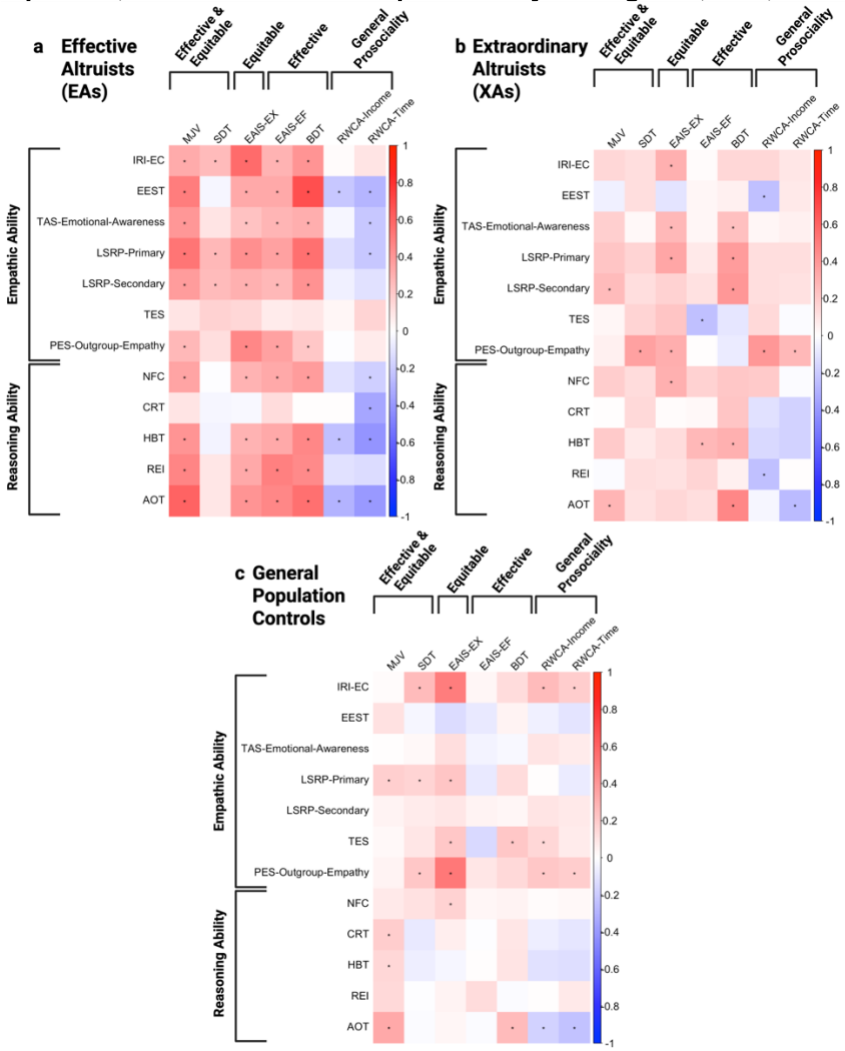
Raincloud plots displaying empathic concern on the IRI (**a**), the number of correctly identified emotions on the EEST (**b**), alexithymia reverse coded to convey emotional awareness on the TAS (**c**), primary and secondary psychopathy reverse coded to convey emotional ability on the LSRP (**d-e**), beliefs that empathy is malleable on the TES (**f**), outgroup empathy on the PES (**g**), and, for the sake of visualizing the overall pattern across measures, the average across all measures of empathic ability (**h**; EEST was transformed to be on a 1-7 scale prior being averaged). Plots display individual data-points, jittered for readability, with overlaid split-violins to illustrate the shape of the underlying probability distributions. Means and error bars depicting 95% CIs are also included, as well as box plots with notches to convey 95% CIs around the medians.

Figure 4. Differences between effective altruists, extraordinary altruists and general population controls on measures capturing reasoning ability



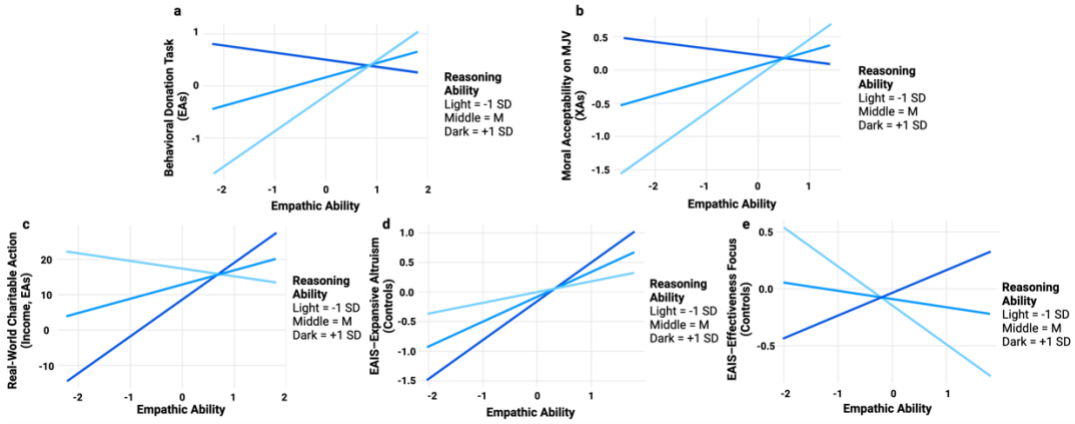
Raincloud plots displaying need for cognition on the NFC (**a**), the number of correctly solved problems on the CRT (**b**) and HBT (**c**), self-reported rational ability on the REI (**d**), actively open-minded thinking (AOT; **e**), and, for the sake of visualizing the overall pattern across measures, the average across all measures of reasoning ability (**f**; CRT and HBT were transformed to be on 1-7 scales prior being averaged). Plots display individual data-points, jittered for readability, with overlaid split-violins to illustrate the shape of the underlying probability distributions. Means and error bars depicting 95% CIs are also included, as well as box plots with notches to convey 95% CIs around the medians.

Figure 5. Bivariate relationships between empathic ability and reasoning ability with equitable, effective and overall prosociality among EAs, XAs, and controls



Heatmaps displaying correlation coefficients from -1 (blue) to +1 (red) in EAs **(a)**, XAs **(b)**, and controls **(c)**. Asterisks correspond to statistically significant relationships. Although secondary to the primary focus of the investigation, we included the "Personal Distress" subscale of the IRI, pre-registering that we would evaluate associations with prosociality metrics.

Figure 6. Interactions between empathic and reasoning ability on equitable, effective, and real-world prosociality



Plots displaying the interaction between empathy and reasoning on prosociality among EAs on the BDT (**a**), among XAs on the MJV (**b**), among EAs on RWCA–Income (**c**), and among controls on the EAIS (**d-e**). Plots display predicted values for y across values of x.

Tables

Table 1. Information about the three samples

Parameter		Sample 1: Effective Altruists (EAs)	Sample 2: Extraordinary Altruists (XAs)	Sample 3: Controls
Information About the Populations	Population Description	Individuals who self-identify with the effective altruism movement	Non-directed living organ donors	Ordinary adults
	Population Characteristics	EAs seek to maximize the impact of their altruistic actions through charitable donations that help strangers beyond their immediate community	XAs have voluntarily donated an organ—while living—to a complete stranger they have never met	Controls were recruited using quota sampling to be demographically similar to Samples 1 and 2
	Scale of Altruism	EAs, on average, reported donating 15.6% of their yearly income to charitable causes	XAs comprised 57 kidney, 7 kidney/liver, and 1 kidney/bone marrow donor(s)	Controls, on average, reported donating only 3.7% of their yearly income to charitable causes
	Recruitment Channels	EA slack channels, forums, and social media groups	A validated research database of living organ donors	Prolific
Gender	N_{Total}	119	65	176
	N_{Male}	79	22	97
	N_{Female}	36	42	77
	N_{Other}	4	1	2
Race	N_{White}	73	59	117
	N_{Black}	17	0	22
	N_{Asian}	13	3	19
	$N_{Multiracial}$	8	2	11
	$N_{OtherRace}$	8	1	7
Geographic Region	$N_{UnitedStates}$	46	61	103
	N_{Canada}	2	4	8
	$N_{UnitedKingdom}$	13	0	17
	$N_{AfricanContinent}$	21	0	13
	$N_{AsianContinent}$	8	0	8
	$N_{EuropeanContinent}$	21	0	19
	$N_{SAmericanContinent}$	1	0	1
	$N_{Australia\&NZ}$	7	0	7
Age (years)	M_{age}	31.9	53.0	37.2
	SD_{age}	8.8	12.5	12.1
Income[1]	M_{income}	3.0	4.5	3.0
	SD_{income}	1.9	1.5	1.6
Education[2]	$M_{education}$	7.9	8.0	6.9
	$SD_{education}$	1.9	1.8	2.0

Note. [1]Income was captured on a 1 "less than $25,000" – 6 "$150,000 or more" scale. On average, EAs and Controls fell into the "$50,000 – $74,999" bracket, while XAs fell into the "$75,000 – $100,000" bracket. [2]Education was captured on a 1 "no schooling completed" – 11 "doctorate degree" scale. On average, EAs and XAs obtained a bachelor's degree or equivalent, while controls obtained an associate's degree or equivalent.

Table 2. Key information on the measures capturing empathic ability, reasoning ability, and equitable and effective prosociality

Empathic Ability (Predictor)	
Measure, Example Item, Reliability	High Score Interpretation, Scale Points
IRI–Empathic Concern IRI–EC[37]; 7 items (e.g., "I am often quite touched by things that I see happen"; *α*=0.86)	Greater empathy for the suffering of others (1-7 Likert)
Emotionally Evocative Statements Task EEST[67]; 100 statements (e.g., Anger: "Don't you have any real friends?"; Disgust: "I haven't showered in days."; Fear: "I want to punch you."; Sadness: "I forgot your birthday."; Happiness: "You're amazing.")	Greater ability to correctly identify emotions conveyed in statements (Scored 0-100: The number of correctly identified emotions)
Toronto Alexithymia Scale (Reverse Coded) TAS[68]; 20 items (e.g., "I am often confused about what emotion I am feeling."; α=0.86)	Greater ability to recognize one's own emotions (1-7 Likert)
Levenson Self-Report Psychopathy Scale (Reverse Coded) LSRP[69]; Primary Psychopathy: 16 items (e.g., "Making a lot of money is my most important goal."; *α*=0.88); Secondary Psychopathy: 10 items (e.g., "I have been in a lot of shouting matches with other people."; *α*=0.76)	Lower primary and secondary psychopathy or Greater emotional ability (1-7 Likert)
Theories of Empathy Scale TES[58]; 6 items (e.g., "Anybody can change how empathic a person they are."; *α*=0.91)	Greater beliefs in the malleability of empathy (1-7 Likert)
Parochial Empathy Scale–Outgroup Empathy PES[38]; 4 items (e.g., "Anybody can change how empathic a person they are."; *α*=0.75)	Greater empathy for distant targets (1-7 Likert)
Reasoning Ability (Predictor)	
Measure, Example Item, Reliability	High Score Interpretation, Scale Points
Need for Cognition NFC[70]; 18 items (e.g., "I would prefer complex to simple problems."; *α*=0.90)	Greater enjoyment from effortful cognitive endeavors (1-7 Likert)
Cognitive Reflection Test CRT[71,72]; 7 word problems (e.g., "A bat and ball cost $1.10 in total. The bat costs $1 more than the ball. How much does the ball cost?", Intuitive Answer: $0.10, Correct answer: $0.05)	Greater tendency to override intuition and engage deliberative reasoning on word problems (Scored 1-7: The number of correctly answered problems)
Heuristics and Bias Tasks HBT[73]; 5 word problems (e.g., "Imagine that we are tossing a fair coin...it has just come up heads 5 times in a row. For the 6th toss do you think that...", Correct Answer: Heads and tails are equally probable on the sixth toss.)	Greater utilization of algorithmic reasoning versus heuristics on word problems (Scored 1-7: The number of correctly answered problems)
Rational Experiential Index–Reasoning Ability REI[74]; 10 items (e.g., "I have a logical mind."; *α*=0.89)	Greater self-reports of reasoning ability (1-7 Likert)
Actively Open-Minded Thinking Scale AOT[75]; 11 items (e.g., "People should take into consideration evidence which goes against conclusions they favor."; *α*=0.85)	Greater belief in changing one's mind on the basis of evidence (1-7 Likert)
Measures of Equitable and Effective Prosociality (Outcome)	

Measure, Example Item, Reliability	High Score Interpretation, Scale Points
Moral Judgment Vignettes MJV[9]; 8 short vignettes (e.g., "To what extent was it morally acceptable for the person in the story to donate money to the UN charity for people in another country instead of 1 friend?"; α=0.93	Greater moral acceptability of welfare-maximizing altruism directed towards distant beneficiaries (**equitable and effective altruism captured**; 1-9 Likert)
Social Discounting Task SDT[76]; 27 hypothetical decisions ("Would you prefer $80 for yourself or $85 dollars for [a mutual friend or acquaintance]")	Greater preference for larger rewards for distant others over smaller rewards for oneself (**equitable and effective altruism captured**; Scored 0-27: The number of choices favoring a target other than oneself)
Behavioral Donation Task BDT; Developed for the current research; 16 consequential choices between lifesaving (e.g., The Malaria Consortium) and life-improving (e.g., National Caregiving Foundation) charitable causes	Greater number of donations to effective vs. ineffective causes (**effective altruism captured**; Scored 0-16: The number of choices to donate actual resources [USD] to an effective versus ineffective cause)
Effective Altruism Interest Scale EAIS[18]; Expansive Altruism: 6 items (e.g., "I am willing to make significant sacrifices for people in need that I don't know and will never meet."; α=0.87); Effectiveness Focus: 6 items (e.g., "It would be the right choice to refrain from helping one person if that makes it possible to help a larger number of people."; α=0.82	Greater endorsement of **effective** (effectiveness focus subscale) and **equitable** (expansive altruism subscale) altruism (1-7 Likert)
Reported Real-World Charitable Action RWCA; Developed for the current research; Income: "In a given year, what percentage (out of 100) of your yearly income do you donate to charity?"; Time: "In a given year, what percentage (out of 100) of your time do you devote towards volunteering to help others?"	Greater proportions of income devoted to philanthropic causes (for income) and volunteerism (for time) in a given year (**general prosociality measured**; 0%-100% Slider)

Table 3. Results from one-way ANOVAs with Bonferroni-corrected post-hoc tests comparing Samples 1-3 on measures capturing prosociality

Sample	Prosociality
Percentage of Income Donated (RWCA, Overall Prosociality)[1]	
Omnibus	$F(2, 357) = 37.2$, $p < .001$, $\eta^2_p = .172$
EA vs. Control	$t(357) = 8.53$, $p < .001$, *Cohen's d* = 1.013
XA vs. Control	$t(357) = 4.00$, $p < .001$, *Cohen's d* = 0.580
EA vs. XA	$t(357) = 2.80$, $p = .016$, *Cohen's d* = 0.432
Percentage of Time Spent Volunteering (RWCA, Overall Prosociality)[1]	
Omnibus	$F(2, 357) = 23.9$, $p < .001$, $\eta^2_p = .118$
EA vs. Control	$t(357) = 6.51$, $p < .001$, *Cohen's d* = 0.772
XA vs. Control	$t(357) = 4.36$, $p < .001$, *Cohen's d* = 0.633
EA vs. XA	$t(357) = 0.90$, $p > .999$, *Cohen's d* = 0.139
Moral Judgment Vignettes (MJV, Equitable & Effective Prosociality)	
Omnibus	$F(2, 357) = 20.20$, $p < .001$, $\eta^2_p = 0.102$
EA vs. Control	$t(357) = 5.45$, $p < .001$, *Cohen's d* = 0.647
XA vs. Control	$t(357) = 4.90$, $p < .001$, *Cohen's d* = 0.711
EA vs. XA	$t(357) = -0.42$, $p > .999$, *Cohen's d* = -0.065
Social Discounting (SDT, Equitable & Effective Prosociality)	
Omnibus	$F(2, 357) = 40.40$, $p < .001$, $\eta^2_p = 0.185$
EA vs. Control	$t(357) = 5.55$, $p < .001$, *Cohen's d* = 0.659
XA vs. Control	$t(357) = 8.51$, $p < .001$, *Cohen's d* = 1.235
EA vs. XA	$t(357) = -3.73$, $p < .001$, *Cohen's d* = -0.576
Expansive Altruism (EAIS, Equitable Prosociality)	
Omnibus	$F(2, 357) = 31.80$, $p < .001$, $\eta^2_p = .151$
EA vs. Control	$t(357) = 7.92$, $p < .001$, *Cohen's d* = 0.940
XA vs. Control	$t(357) = 3.51$, $p = .002$, *Cohen's d* = 0.509
EA vs. XA	$t(357) = 2.79$, $p = .017$, *Cohen's d* = 0.431
Effectiveness Focus (EAIS, Effective Prosociality)	
Omnibus	$F(2, 357) = 59.30$, $p < .001$, $\eta^2_p = .249$
EA vs. Control	$t(357) = 8.92$, $p < .001$, *Cohen's d* = 1.058
XA vs. Control	$t(357) = -2.96$, $p = .010$, *Cohen's d* = -0.429
EA vs. XA	$t(357) = 9.64$, $p < .001$, *Cohen's d* = 1.488
Behavioral Donations to Effective Causes (BDT, Effective Prosociality)	
Omnibus	$F(2, 357) = 19.8$, $p < .001$, $\eta^2_p = .100$
EA vs. Control	$t(357) = 6.14$, $p < .001$, *Cohen's d* = 0.729
XA vs. Control	$t(357) = 3.32$, $p = .003$, *Cohen's d* = 0.482
EA vs. XA	$t(357) = 1.60$, $p = .329$, *Cohen's d* = 0.247

Note. [1]These models were estimated without controlling for variation in income. To rule out the possibility that the observed Sample effects on real-world charitable action owe to differences in income between the three samples, exploratory, non-preregistered models controlling for income can be found in the analysis script posted on OSF. In short, these exploratory models revealed the same patterns as those presented in the main text.

Table 4. Results from one-way ANOVAs with Bonferroni-corrected post-hoc tests comparing Samples 1-3 on measures of empathic and reasoning ability

Sample	Empathic Ability
Empathic Concern (IRI–EC)[1]	
Omnibus	$F(2, 357) = 6.34$, $p = .002$, $\eta^2p = .034$
EA vs. Control	$t(357) = -0.69$, $p > .999$, *Cohen's d* = -0.082
XA vs. Control	$t(357) = 3.07$, $p = .007$, *Cohen's d* = 0.445
EA vs. XA	$t(357) = -3.42$, $p = .002$, *Cohen's d* = -0.527
Ability to Identify Emotions in Statements (EEST)	
Omnibus	$F(2, 357) = 18.70$, $p < .001$, $\eta^2p = .095$
EA vs. Control	$t(357) = -5.82$, $p < .001$, *Cohen's d* = -0.691
XA vs. Control	$t(357) = -0.17$, $p > .999$, *Cohen's d* = -0.025
EA vs. XA	$t(357) = -4.32$, $p < .001$, *Cohen's d* = -0.666
Emotional Awareness (TAS)	
Omnibus	$F(2, 357) = 8.22$, $p < .001$, $\eta^2p = .044$
EA vs. Control	$t(357) = -1.14$, $p = .762$, *Cohen's d* = -0.136
XA vs. Control	$t(357) = 3.30$, $p = .003$, *Cohen's d* = 0.479
EA vs. XA	$t(357) = -3.98$, $p < .001$, *Cohen's d* = -0.614
Reverse-Coded Primary Psychopathy (LSRP Primary Psychopathy)	
Omnibus	$F(2, 357) = 24.00$, $p < .001$, $\eta^2p = .118$
EA vs. Control	$t(357) = 0.92$, $p > .999$, *Cohen's d* = 0.109
XA vs. Control	$t(357) = 6.78$, $p < .001$, *Cohen's d* = 0.984
EA vs. XA	$t(357) = -5.67$, $p < .001$, *Cohen's d* = -0.875
Reverse-Coded Secondary Psychopathy (LSRP Secondary Psychopathy)	
Omnibus	$F(2, 357) = 16.40$, $p < .001$, $\eta^2p = .084$
EA vs. Control	$t(357) = -0.90$, $p > .999$, *Cohen's d* = -0.107
XA vs. Control	$t(357) = 5.03$, $p < .001$, *Cohen's d* = 0.731
EA vs. XA	$t(357) = -5.43$, $p < .001$, *Cohen's d* = -0.838
Beliefs that Empathy is Malleable (TES)	
Omnibus	$F(2, 357) = 0.72$, $p = .486$, $\eta^2p = .004$
EA vs. Control	$t(357) = 0.66$, $p > .999$, *Cohen's d* = 0.078
XA vs. Control	$t(357) = 1.17$, $p = .731$, *Cohen's d* = 0.170
EA vs. XA	$t(357) = -0.59$, $p > .999$, *Cohen's d* = -0.092
Outgroup Empathy (PES)[2]	
Omnibus	$F(2, 357) = 2.67$, $p = .071$, $\eta^2p = .015$
EA vs. Control	$t(357) = 1.46$, $p = .433$, *Cohen's d* = 0.174
XA vs. Control	$t(357) = 2.17$, $p = .092$, *Cohen's d* = 0.315
EA vs. XA	$t(357) = -0.92$, $p > .999$, *Cohen's d* = -0.141
Sample	**Reasoning Ability**
Need for Cognition (NFC)	
Omnibus	$F(2, 357) = 10.20$, $p < .001$, $\eta^2p = .054$
EA vs. Control	$t(357) = 4.51$, $p < .001$, *Cohen's d* = 0.536
XA vs. Control	$t(357) = 1.49$, $p = .414$, *Cohen's d* = 0.216
EA vs. XA	$t(357) = 2.07$, $p = .116$, *Cohen's d* = 0.320
Ability to Override Intuition on Word Problems (CRT)	
Omnibus	$F(2, 357) = 19.40$, $p < .001$, $\eta^2p = .098$
EA vs. Control	$t(357) = 4.34$, $p < .001$, *Cohen's d* = 0.515
XA vs. Control	$t(357) = -2.78$, $p = .017$, *Cohen's d* = -0.403
EA vs. XA	$t(357) = 5.96$, $p < .001$, *Cohen's d* = 0.919
Tendency to Use Algorithmic vs. Heuristic Thinking on Word Problems (HBT)	
Omnibus	$F(2, 357) = 10.80$, $p < .001$, $\eta^2p = .057$
EA vs. Control	$t(357) = 4.37$, $p < .001$, *Cohen's d* = 0.520
XA vs. Control	$t(357) = 2.91$, $p = .012$, *Cohen's d* = 0.422
EA vs. XA	$t(357) = 0.63$, $p > .999$, *Cohen's d* = 0.098

Self-Reported Reasoning Ability (REI)	
Omnibus	$F(2, 357) = 0.08$, $p = .920$, $\eta^2p < .001$
EA vs. Control	$t(357) = -0.41$, $p > .999$, *Cohen's d* = -0.048
XA vs. Control	$t(357) = -0.16$, $p > .999$, *Cohen's d* = -0.023
EA vs. XA	$t(357) = -0.16$, $p > .999$, *Cohen's d* = -0.025
Actively Open-Minded Thinking (AOT)	
Omnibus	$F(2, 357) = 2.22$, $p = .110$, $\eta^2p = .012$
EA vs. Control	$t(357) = 0.81$, $p > .999$, *Cohen's d* = 0.096
XA vs. Control	$t(357) = 2.11$, $p = .108$, *Cohen's d* = 0.306
EA vs. XA	$t(357) = -1.36$, $p = .522$, *Cohen's d* = -0.210

Note. [1]Although secondary to the primary focus of the investigation, we included the "Personal Distress" subscale of the IRI, pre-registering that we would evaluate sample differences on this measure. An omnibus effect of sample was observed, $F(2, 357) = 17.59$, $p < .001$, $\eta^2p = .065$. Intriguingly, XAs scored lower than both Controls ($t(357) = -4.65$, $p < .001$, *Cohen's d* = -0.675) and EAs ($t(357) = -4.53$, $p < .001$, *Cohen's d* = -0.698), while Controls and EAs did not differ from one another, $t(357) = -0.20$, $p > .999$, *Cohen's d* = -0.023. These findings further suggest that XAs show enrichments in empathic ability–feeling concern for the welfare others without becoming personally distressed. Personal distress was negatively associated with some measures of prosociality (see the SOM for details). [2]We additionally included the ingroup empathy subscale of the PES, but did not have specific predictions regarding group differences. The omnibus test was non-significant, $F(2, 357) = 2.98$, $p = .052$, $\eta^2p = .016$. Interestingly, however, ingroup empathy had significant positive associations with some measures of prosociality among EAs (see the SOM for details).

Table 5. Results from multiple linear regression models evaluating associations between individual variation in the empathic ability factor and the reasoning ability factor with individual variation in equitable, effective, and real-world prosociality within Samples 1, 2, and 3

Outcome	**EA**		**XA**		**Control**	
Predictor	(R^2 = 0.40)		(R^2 = 0.10)		(R^2 = 0.07)	
MJV	*β*	*p*	*β*	*p*	*β*	*p*
Empathic Ability	**0.290**	**0.001**	0.234	0.064	-0.050	0.547
Reasoning Ability	**0.423**	**< .001**	0.171	0.173	**0.277**	**< .001**
Outcome	**EA**		**XA**		**Control**	
Predictor	(R^2 = 0.10)		(R^2 = 0.04)		(R^2 = 0.08)	
SDT	*β*	*p*	*β*	*p*	*β*	*p*
Empathic Ability	**0.379**	**< .001**	0.108	0.406	**0.281**	**< .001**
Reasoning Ability	-0.163	0.125	0.142	0.275	-0.010	0.856
Outcome	**EA**		**XA**		**Control**	
Predictor	(R^2 = 0.27)		(R^2 = 0.16)		(R^2 = 0.10)	
EAIS-EX	*β*	*p*	*β*	*p*	*β*	*p*
Empathic Ability	**0.376**	**<.001**	**0.318**	**0.010**	**0.334**	**< .001**
Reasoning Ability	**0.213**	**0.027**	0.180	0.139	-0.062	0.447
Outcome	**EA**		**XA**		**Control**	
Predictor	(R^2 = 0.28)		(R^2 = 0.07)		(R^2 = 0.01)	
EAIS-EF	*β*	*p*	*β*	*p*	*β*	*p*
Empathic Ability	0.161	0.092	0.018	0.890	-0.052	0.544
Reasoning Ability	**0.420**	**<.001**	**0.262**	**0.042**	0.084	0.325
Outcome	**EA**		**XA**		**Control**	
Predictor	(R^2 = 0.41)		(R^2 = 0.23)		(R^2 = 0.02)	
BDT	*β*	*p*	*β*	*p*	*β*	*p*
Empathic Ability	**0.324**	**< .001**	**0.326**	**0.006**	0.034	0.705
Reasoning Ability	**0.406**	**< .001**	**0.275**	**0.020**	0.121	0.107
Outcome	**EA**		**XA**		**Control**	
Predictor	(R^2 = 0.07)		(R^2 = 0.04)		(R^2 = 0.06)	
RWCA ($)	*β*	*p*	*β*	*p*	*β*	*p*
Empathic Ability	0.100	0.352	0.184	0.158	**0.250**	**0.003**
Reasoning Ability	**-0.309**	**0.005**	-0.135	0.298	**-0.200**	**0.016**
Outcome	**EA**		**XA**		**Control**	
Predictor	(R^2 = 0.14)		(R^2 = 0.05)		(R^2 = 0.03)	
RWCA (Time)	*β*	*p*	*β*	*p*	*β*	*p*
Empathic Ability	0.089	0.391	0.182	0.159	0.162	0.056
Reasoning Ability	**-0.420**	**< .001**	-0.196	0.130	-0.146	0.084

Note. Bolded effects indicate statistical significance at $p < .05$.

Table 6. Results from multiple linear regression models evaluating associations between individual variation in the empathic ability factor, the reasoning ability factor, and their interaction with individual variation in equitable, effective, and real-world prosociality within Samples 1, 2, and 3

Outcome	**EA**		**XA**		**Control**	
Predictor	(R^2 = 0.41)		(R^2 = 0.18)		(R^2 = 0.07)	
MJV	*β*	*p*	*β*	*p*	*β*	*p*
Empathic Ability	**0.370**	**.001**	0.168	.177	-0.046	.570
Reasoning Ability	-0.150	.158	0.156	.201	**0.283**	**< .001**
Interaction	0.004	.964	**-0.244**	**.027**	0.032	.693
Outcome	**EA**		**XA**		**Control**	
Predictor	(R^2 = 0.09)		(R^2 = 0.04)		(R^2 = 0.04)	
SDT	*β*	*p*	*β*	*p*	*β*	*p*
Empathic Ability	0.198	.076	0.094	.481	**0.203**	**0.015**
Reasoning Ability	**0.277**	**.031**	0.130	.322	-0.087	0.299
Interaction	-0.076	.398	-0.066	.574	0.072	0.387
Outcome	**EA**		**XA**		**Control**	
Predictor	(R^2 = 0.28)		(R^2 = 0.17)		(R^2 = 0.12)	
EAIS-EX	*β*	*p*	*β*	*p*	*β*	*p*
Empathic Ability	**0.385**	**<.001**	**0.315**	**.014**	**0.326**	**< .001**
Reasoning Ability	**0.217**	**.024**	0.170	.167	-0.083	.302
Interaction	0.020	.815	-0.036	.738	**.185**	**.021**
Outcome	**EA**		**XA**		**Control**	
Predictor	(R^2 = 0.28)		(R^2 = 0.07)		(R^2 = 0.04)	
EAIS-EF	*β*	*p*	*β*	*p*	*β*	*p*
Empathic Ability	0.157	.112	0.004	.976	-0.055	.507
Reasoning Ability	**0.415**	**<.001**	0.257	.050	0.056	.501
Interaction	-0.027	.752	-0.046	.687	**0.211**	**.012**
Outcome	**EA**		**XA**		**Control**	
Predictor	(R^2 = 0.50)		(R^2 = 0.26)		(R^2 = 0.02)	
BDT	*β*	*p*	*β*	*p*	*β*	*p*
Empathic Ability	**0.218**	**.009**	**0.292**	**.015**	0.032	.705
Reasoning Ability	**0.347**	**< .001**	**0.278**	**.019**	0.136	.107
Interaction	**-0.324**	**< .001**	-0.128	.216	-0.018	.827
Outcome	**EA**		**XA**		**Control**	
Predictor	(R^2 = 0.13)		(R^2 = 0.05)		(R^2 = 0.07)	
RWCA ($)	*β*	*p*	*β*	*p*	*β*	*p*
Empathic Ability	0.182	.095	0.159	.235	**0.248**	**.003**
Reasoning Ability	**-0.239**	**.023**	-0.142	.279	**-0.195**	**.019**
Interaction	**0.279**	**.004**	-0.105	.369	-0.117	.153
Outcome	**EA**		**XA**		**Control**	
Predictor	(R^2 = 0.13)		(R^2 = 0.09)		(R^2 = 0.04)	
RWCA (Time)	*β*	*p*	*β*	*p*	*β*	*p*
Empathic Ability	0.086	.429	0.149	.253	0.163	.051
Reasoning Ability	**-0.380**	**< .001**	-0.237	.067	-0.146	.081
Interaction	0.050	.600	-0.172	.131	-0.121	.147

Note. Bolded effects indicate statistical significance at p < .05.

Reasoning and empathy are not competing but complementary features of altruism

Supplementary Materials

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Correlation Matrices

EA Sample

See Table S1 for correlations among measures of prosociality, empathic ability, and reasoning ability for the EA sample.

Table S1

Correlations among measures of prosociality, empathic ability, and reasoning ability for the EA sample

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1. MJV	—																			
2. SDT	0.175	—																		
3. EAIS-EX	0.535***	0.228*	—																	
4. EAIS-EF	0.692***	0.157	0.632***	—																
5. BDT	0.493***	0.117	0.498***	0.495***	—															
6. RWCA-Money	-0.268**	0.141	-0.111	-0.239**	-0.147	—														
7. RWCA Time	-0.365***	0.124	-0.109	-0.283**	-0.195*	0.494***	—													
8. IRI-EC	0.322***	0.265**	0.578***	0.299***	0.413***	0.012	0.107	—												
9. EEST	0.51***	-0.038	0.339***	0.339***	0.682***	-0.219*	-0.287**	0.333***	—											
10. TAS	0.401***	0.108	0.237**	0.288**	0.316***	-0.031	-0.211*	0.275**	0.465***	—										
11. LSRP-P	0.535***	0.276**	0.433***	0.368***	0.558***	-0.129	-0.219*	0.57***	0.666***	0.555***	—									
12. LSRP-S	0.384***	0.262**	0.309***	0.279**	0.429***	-0.06	-0.114	0.379***	0.492***	0.65***	0.588***	—								
13. TES	0.107	0.171	0.155	0.074	0.095	0.036	0.169	0.338***	-0.009	0.044	0.202*	0.156	—							
14. PES (Outgroup)	0.279**	0.125	0.46***	0.364***	0.219*	-0.007	0.074	0.489***	0.095	-0.052	0.226*	0.087	0.234*	—						
15. NFC	0.356***	-0.001	0.297**	0.339***	0.384***	-0.116	-0.186*	0.193*	0.475***	0.318***	0.408***	0.261**	0.046	0.011	—					
16. CRT	0.105	-0.031	-0.029	0.132	0.005	0.003	-0.343***	-0.229*	0.049	0.105	0.045	-0.07	-0.278**	-0.254**	0.191*	—				
17. HBT	0.412***	-0.044	0.296**	0.336***	0.462***	-0.25**	-0.411***	-0.019	0.592***	0.408***	0.434***	0.193*	-0.14	-0.079	0.429***	0.401***	—			
18. REI	0.473***	0.095	0.331***	0.498***	0.453***	-0.115	-0.139	0.181*	0.424***	0.342***	0.327***	0.383***	0.061	0.236**	0.641***	0.176	0.384***	—		
19. AOT	0.605***	0.096	0.415***	0.465***	0.557***	-0.292**	-0.397***	0.36***	0.701***	0.501***	0.746***	0.402***	0.056	0.135	0.602***	0.23*	0.665***	0.475***	—	
20. IRI-PD[1]	-0.294**	-0.141	-0.239**	-0.251**	-0.162	0.083	0.164	-0.008	-0.204*	-0.446***	-0.21*	-0.35***	-0.073	0.024	-0.23*	-0.12	-0.25**	-0.25**	-0.17	—
21. PES (Ingroup)[2]	0.269**	0.089	0.391***	0.217*	0.321***	-0.052	0.044	0.554***	0.21*	0.04	0.365***	0.205*	0.247**	0.728***	0.046	-0.3**	-0.06	0.226*	0.193*	0.154

Note. * p < .05, ** p < .01, *** p < .001. [1]The personal distress subscale of the IRI, which measures reported feelings of discomfort in response to the suffering of others, was unintentionally included in the key dependent variables section of the pre-registration, though it was originally intended as a filler scale. In keeping with our commitment to transparency, we are nonetheless reporting the variable's associations here. The findings corroborate earlier ones demonstrating that personal distress is negatively associated with empathy and prosociality[1]. [2]We additionally included the ingroup empathy subscale of the PES, but did not have specific predictions regarding its associations with measures of prosociality. Intriguingly, we observed positive associations with scores on the MJV, the expansive altruism and effectiveness focus subscales of the EAIS, as well as the BDT. These unexpected findings corroborate the broader pattern of results, suggesting that empathy, even for those who are close, may serve as a launching point for altruistic equity and effectiveness.

XA Sample

See Table S2 for correlations among measures of prosociality, empathic ability, and reasoning ability for the XA sample.

Table S2

Correlations among measures of prosociality, empathic ability, and reasoning ability for the XA sample

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1. MJV	—																			
2. SDT	0.124	—																		
3. EAIS-EX	0.163	0.243	—																	
4. EAIS-EF	0.101	-0.036	0.099	—																
5. BDT	0.328**	-0.041	0.387**	0.21	—															
6. RWCA-Money	0.101	0.137	0.124	0.096	-0.011	—														
7. RWCA Time	-0.096	0.141	0.006	-0.343	-0.059	0.252*	—													
8. IRI-EC	0.155	0.125	0.308*	0.019	0.156	0.154	0.098	—												
9. EEST	-0.058	0.129	-0.102	0.038	0.05	-0.248*	0.086	0.047	—											
10. TAS	0.187	0.021	0.273*	0.032	0.248*	0.035	0.055	0.278*	0.116	—										
11. LSRP-P	0.222	0.166	0.344**	0.087	0.38**	0.129	0.127	0.46***	0.09	0.329**	—									
12. LSRP-S	0.261*	0.125	0.176	0.114	0.407***	0.128	0.12	0.273*	0.144	0.604***	0.473***	—								
13. TES	0.03	0.168	0.23	-0.249*	-0.094	0.141	-0.017	0.067	-0.157	-0.047	0.09	-0.09	—							
14. PES (Outgroup)	0.052	0.369**	0.312*	0.007	-0.074	0.41***	0.273*	0.507***	-0.087	0.206	0.124	0.179	0.235	—						
15. NFC	0.199	0.133	0.307*	0.171	0.215	0.201	-0.011	-0.059	0.085	0.335**	0.123	0.233	0.117	0.106	—					
16. CRT	0.005	0.143	0.017	0.023	0.229	-0.115	-0.173	-0.144	0.227	-0.083	0.029	-0.07	0.223	-0.279*	0.252*	—				
17. HBT	0.206	0.084	0.133	0.273*	0.308*	-0.142	-0.179	-0.236	0.226	0.102	0.113	0.061	-0.187	-0.156	0.252*	0.248*	—			
18. REI	-0.014	0.13	0.118	0.162	0.053	-0.248*	0.003	0.049	0.306*	0.25*	0.049	0.158	-0.027	-0.093	0.384**	0.236	0.275*	—		
19. AOT	0.281*	0.112	0.154	0.122	0.46***	-0.034	-0.268*	0.028	0.16	0.195	0.492***	0.257*	0.134	-0.26*	0.363**	0.48***	0.384**	0.095	—	
20. IRI-PD	-0.171	-0.139	-0.198	-0.156	-0.151	-0.062	-0.227	-0.15	-0.031	-0.354**	-0.24	-0.3*	-0.017	-0.173	-0.35**	-0.18	-0.02	-0.48***	-0.05	—
21. PES (Ingroup)	0.027	0.119	0.153	-0.038	-0.008	0.306*	0.138	0.54***	-0.075	0.146	0.158	0.077	0.177	0.664***	-0.08	-0.33**	-0.23	-0.33**	-0.06	-0.02

Note. * p < .05, ** p < .01, *** p < .001. [1]The personal distress subscale of the IRI, which measures reported feelings of discomfort in response to the suffering of others, was unintentionally included in the key dependent variables section of the pre-registration, though it was originally intended as a filler scale. In keeping with our commitment to transparency, we are nonetheless reporting the variable's associations here. The findings corroborate earlier ones demonstrating that personal distress is negatively associated with empathy and prosociality[1]. [2]We additionally included the ingroup empathy subscale of the PES, but did not have specific predictions regarding its associations with measures of prosociality. Intriguingly, we observed positive associations with real world engagement in philanthropy.

Control Sample

See Table S3 for correlations among measures of prosociality, empathic ability, and reasoning ability for the Control sample.

Table S3

Correlations among measures of prosociality, empathic ability, and reasoning ability for the Control sample

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1. MJV	—																			
2. SDT	0.044	—																		
3. EAIS-EX	0.121	0.203**	—																	
4. EAIS-EF	0.144	0.108	0.267***	—																
5. BDT	0.321***	0.075	0.205**	0.071	—															
6. RWCA-Money	-0.053	0.207**	0.225**	0.007	0.024	—														
7. RWCA Time	-0.04	0.164*	0.2**	0.072	0.133	0.475***	—													
8. IRI-EC	0.014	0.263***	0.506***	0.031	0.134	0.269***	0.193*	—												
9. EEST	0.119	-0.033	-0.133	-0.084	0.046	-0.051	-0.102	0.099	—											
10. TAS	0.002	0.023	0.124	-0.043	-0.022	0.108	0.075	0.323***	0.238**	—										
11. LSRP-P	0.184*	0.168*	0.222**	-0.081	0.132	0.002	-0.073	0.491***	0.282***	0.467***	—									
12. LSRP-S	0.046	0.077	0.092	0.044	0.035	0.105	0.086	0.366***	0.12	0.659***	0.539***	—								
13. TES	0.022	0.099	0.218**	-0.144	0.21**	0.154*	0.071	0.208**	-0.085	0.046	0.095	0.101	—							
14. PES (Outgroup)	0.045	0.214**	0.525***	0.095	0.144	0.212**	0.194**	0.572***	-0.023	0.212**	0.241**	0.224**	0.223**	—						
15. NFC	0.083	0.119	0.173*	0.034	0.043	0.016	0.021	0.285***	0.025	0.313***	0.301***	0.393***	0.165*	0.266***	—					
16. CRT	0.191*	-0.089	0.063	-0.003	0.097	-0.061	-0.095	-0.057	0.083	-0.014	0.061	-0.04	-0.004	-0.112	0.186*	—				
17. HBT	0.16*	-0.066	-0.031	0.001	0.108	-0.118	-0.123	-0.17*	0.021	-0.016	0.13	-0.02	-0.067	-0.204**	0.213**	0.381***	—			
18. REI	0.144	-0.008	0.043	0.131	-0.016	0.009	0.089	0.213**	0.08	0.473***	0.245**	0.518***	0.025	0.149*	0.641***	0.091	0.084	—		
19. AOT	0.339***	-0.019	0.033	-0.013	0.267***	-0.18*	-0.23**	0.119	0.33***	0.209**	0.477***	0.213**	0.063	0.045	0.258***	0.268***	0.277***	0.229**	—	
20. IRI-PD	-0.131	0.061	-0.044	0.016	0.068	-0.053	-0.095	-0.111	0.008	-0.516***	-0.25***	-0.47***	-0.151*	-0.036	-0.39***	0.011	-0.11	-0.47***	-0.14	—
21. PES (Ingroup)	-0.038	0.186*	0.364***	-0.059	0.098	0.228**	0.177*	0.585***	-0.097	0.192*	0.293***	0.277***	0.235**	0.596***	0.205**	-0.01	-0.03	0.214**	0.118	-0.023

Note. * p < .05, ** p < .01, *** p < .001. [1]The personal distress subscale of the IRI, which measures reported feelings of discomfort in response to the suffering of others, was unintentionally included in the key dependent variables section of the pre-registration, though it was originally intended as a filler scale. In keeping with our commitment to transparency, we are nonetheless reporting the variable's associations here. The findings corroborate earlier ones demonstrating that personal distress is negatively associated with empathy and prosociality[1]. [2]We additionally included the ingroup empathy subscale of the PES, but did not have specific predictions regarding its associations with measures of prosociality. Intriguingly, we observed positive associations with scores on the SDT, the expansive altruism subscale of the EAIS, and with real world engagement in philanthropy and volunteerism. These unexpected findings corroborate the broader pattern of results, suggesting that empathy, even for those who are close, may serve as a launching point for altruistic equity and effectiveness.

Dimension Reduction

Exploratory Factor Analysis

Prior to estimating regression models to assess the independent and interactive effects of empathic ability and reasoning ability on the battery of prosociality metrics, we conducted Exploratory Factor Analysis (EFA) using the maximum likelihood extraction method in combination with oblimin rotation on the battery of measures of empathic ability and reasoning ability, separately. For empathic ability, the measures loaded onto a single factor, but outgroup empathy on the PES and scores on the EEST had weak loadings, below 0.5, and thus were excluded from the next stage of analysis. Likewise, for reasoning ability, each measure loaded onto a single factor, but scores on the CRT had loadings below 0.5, and thus were excluded from the next stage of analysis. See Table S4 and Figures S1-S2 for the results from the EFAs.

Table S4

Factor loadings from EFA

Variable	Factor	
Empathic Ability	1	Uniqueness
LSRPC_S	0.784	0.385
LSRP_P	0.779	0.394
TAS	0.715	0.489
IRI-EC	0.586	0.657
EEST	0.446	0.801
PES-Outgroup	0.321	0.897
TES	0.975	
Variable	Factor	
Reasoning Ability	1	Uniqueness
NFC	0.751	0.436
REI	0.626	0.608
AOT	0.571	0.674
HBT	0.518	0.732
CRT	0.362	0.869

Figure S1

Scree plot for empathic ability

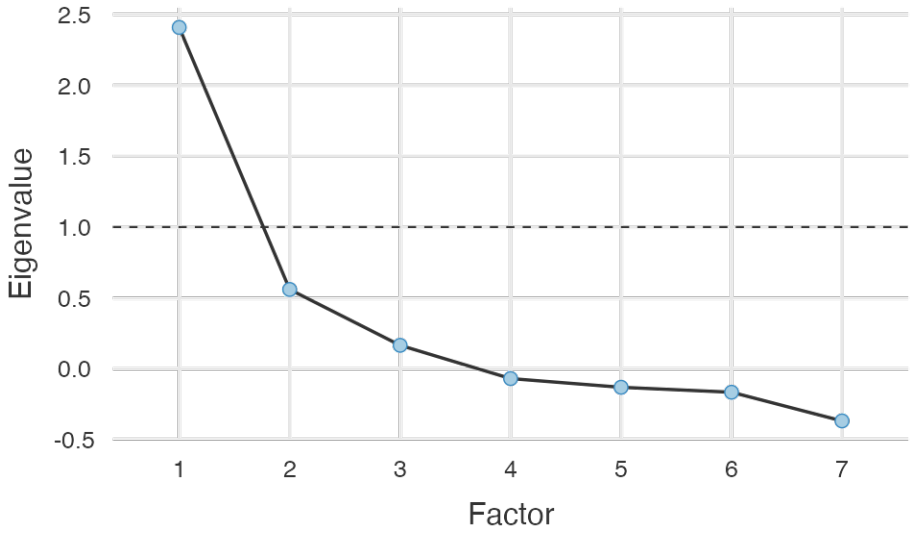
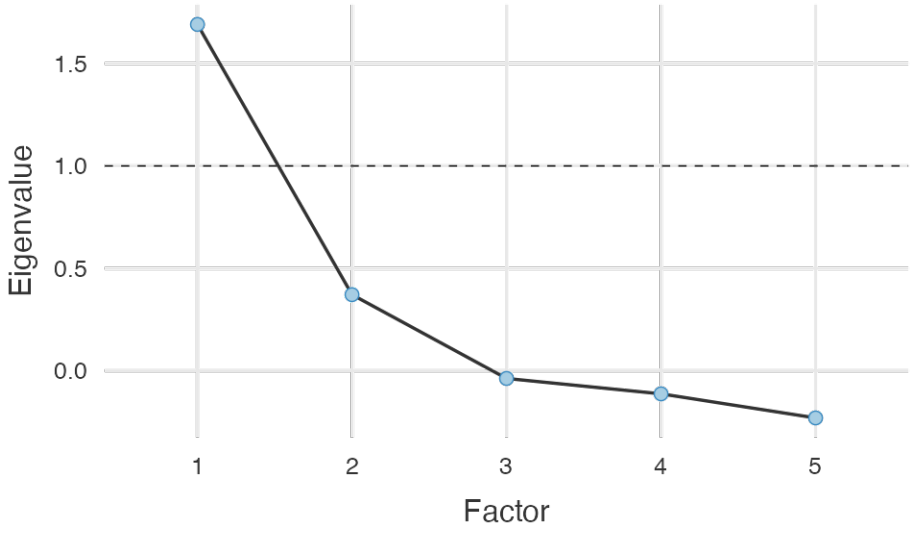


Figure S2

Scree plot for reasoning ability



Multiple Regressions Including All Measures of Empathy and Reasoning as Simultaneous Predictors of Prosociality

We conducted a series of seven multiple regression models per sample (one per prosocial outcome, 21 in total), entering each measure of empathy and reasoning as a simultaneous predictor. The goal of estimating these models was to ascertain which predictors accounted for unique variance in the outcomes, above and beyond the effects of the other predictors. As pre-registered, because of the vast number of number of predictors included, we evaluated the variance inflation factor (VIF) for each predictor, which ranged from 1.11 to 2.34, indicating the predictors were only moderately correlated with one another and that multicollinearity was not problematic[2].

Within each sample, these results largely confirmed that both empathic and reasoning ability can be a force for good (see Table S5). Notably, empathic capacities were positively and significantly associated with: (1) generosity on the Social Discounting Task for EAs and XAs; (2) attitudes aligned with expansive altruism (altruistic equity) on the EAIS for EAs and controls; and intriguingly, with (3) attitudes aligned with effectiveness prioritization on the EAIS for EAs, (4) behavioral donations to effective charitable causes across all three samples, (5) real world monetary charitable contributions (as the percentage of income donated in a given year) for XAs and controls, and (6) with real-world time invested volunteering (as the percentage of time spent volunteering in a given year) among XAs. These findings suggest that among exceptional altruists and ordinary adults alike, greater empathy and emotionality often predicts greater attitudes, judgments, decisions and behaviors in line with altruistic equity, effectiveness, and real-world charitable action, above and beyond differences in reasoning ability. Critically, they provide clear evidence that arguments against empathy may be misguided[3,4], as greater ability to empathize with others appears to associate positively with rather than inhibit boundary transcendent altruism and prosociality that maximizes welfare.

Table S5

Results from multiple linear regression models evaluating associations between individual variation in empathy and reasoning with individual variation in equitable, effective, and real-world prosociality within Samples 1, 2, and 3

Outcome	**EA**		**XA**		**Control**	
Predictor	(R^2 = 0.47)		(R^2 = 0.20)		(R^2 = 0.16)	
MJV	*β*	*p*	*β*	*p*	*β*	*p*
IRI-EC	-0.013	.898	0.255	.168	-0.081	.424
EEST	0.103	.387	-0.116	.402	0.028	.727
TAS	0.080	.447	-0.030	.859	-0.154	.130
LSRP-P	0.072	.610	-0.087	.632	0.129	.234
LSRP-S	0.024	.832	0.214	.217	-0.028	.802
TES	0.036	.653	0.073	.621	0.020	.790
PES	0.159	.086	-0.105	.564	0.111	.223
NFC	-0.139	.199	0.157	.336	-0.142	.169
CRT	0.033	.700	-0.108	.508	0.105	.193
HBT	0.011	.924	0.255	.109	0.052	.542
REI	**0.237**	**.029**	-0.141	.367	**0.216**	**.043**
AOT	**0.368**	**.013**	0.158	.440	**0.254**	**.005**
Outcome	**EA**		**XA**		**Control**	
Predictor	(R^2 = 0.23)		(R^2 = 0.28)		(R^2 = 0.11)	
SDT	*β*	*p*	*β*	*p*	*β*	*p*
IRI-EC	0.143	.261	-0.216	.218	0.166	.111
EEST	**-0.438**	**.003**	0.085	.518	-0.032	.694
TAS	-0.156	.218	-0.168	.292	-0.076	.466
LSRP-P	**0.426**	**.013**	0.126	.463	0.141	.207
LSRP-S	0.247	.067	0.067	.683	-0.009	.938
TES	0.021	.827	-0.006	.967	0.020	.801
PES	-0.061	.584	**0.603**	**< .001**	0.069	.464
NFC	-0.120	.357	-0.088	.567	0.143	.178
CRT	0.009	.932	0.155	.318	-0.071	.393
HBT	0.047	.740	-0.025	.869	-0.016	.852
REI	0.151	.247	0.184	.218	-0.114	.299
AOT	-0.013	.939	0.165	.396	-0.069	.460
Outcome	**EA**		**XA**		**Control**	
Predictor	(R^2 = 0.50)		(R^2 = 0.33)		(R^2 = 0.40)	
EAIS-EX	*β*	*p*	*β*	*p*	*β*	*p*
IRI-EC	**0.492**	**< .001**	0.204	.229	**0.336**	**< .001**
EEST	-0.113	.324	-0.151	.235	**-0.171**	**.012**
TAS	-0.074	.466	0.112	.465	0.075	.381
LSRP-P	-0.089	.513	0.242	.148	0.065	.476
LSRP-S	0.152	.158	-0.079	.617	-0.139	.134
TES	-0.031	.683	0.171	.211	0.068	.284
PES	**0.264**	**.004**	0.096	.566	**0.349**	**< .001**
NFC	0.098	.350	0.241	.110	-0.004	.962
CRT	-0.005	.955	0.011	.941	0.115	.090
HBT	**0.374**	**.001**	0.212	.145	0.063	.378
REI	0.015	.889	-0.001	.993	-0.056	.535
AOT	0.012	.932	-0.120	.521	-0.022	.773
Outcome	**EA**		**XA**		**Control**	
Predictor	(R^2 = 0.40)		(R^2 = 0.17)		(R^2 = 0.09)	
EAIS-EF	*β*	*p*	*β*	*p*	*β*	*p*

IRI-EC	0.079	.482	0.046	.804	0.057	.587
EEST	-0.053	.673	-0.092	.513	-0.068	.410
TAS	0.057	.607	-0.165	.334	-0.153	.150
LSRP-P	-0.063	.676	0.022	.904	-0.156	.168
LSRP-S	0.042	.723	0.084	.632	0.126	.270
TES	-0.005	.948	-0.277	.072	**-0.175**	**.027**
PES	**0.274**	**.006**	0.101	.587	0.143	.133
NFC	-0.048	.678	0.120	.469	-0.092	.390
CRT	0.083	.371	-0.008	.960	0.004	.961
HBT	0.099	.424	0.190	.238	0.037	.677
REI	**0.288**	**.013**	0.114	476	0.195	.079
AOT	**0.245**	**.117**	0.075	.720	0.054	.565
Outcome	**EA**		**XA**		**Control**	
Predictor	(R^2 = 0.57)		(R^2 = 0.39)		(R^2 = 0.15)	
BDT	*β*	*p*	*β*	*p*	*β*	*P*
IRI-EC	**0.211**	**.028**	0.207	.203	0.086	.399
EEST	**0.423**	**< .001**	-0.119	.325	-0.002	.980
TAS	-0.174	.069	-0.028	.847	-0.105	.306
LSRP-P	0.054	.673	0.063	.692	-0.039	.720
LSRP-S	0.117	.247	**0.327**	**.034**	0.050	.651
TES	0.014	.843	-0.106	.415	**0.175**	**.023**
PES	-0.001	.994	-0.119	.457	0.116	.207
NFC	-0.065	.509	0.080	.574	-0.087	.404
CRT	-0.047	.544	0.173	.227	0.029	.720
HBT	**0.215**	**.042**	0.234	.093	0.099	.248
REI	**0.201**	**.041**	-0.133	.330	-0.039	.718
AOT	-0.005	.972	0.158	.379	**0.268**	**.004**
Outcome	**EA**		**XA**		**Control**	
Predictor	(R^2 = 0.15)		(R^2 = 0.33)		(R^2 = 0.15)	
RWCA ($)	*β*	*p*	*β*	*p*	*β*	*p*
IRI-EC	0.083	.533	-0.034	.842	**0.264**	**.010**
EEST	-0.034	.821	-0.163	.200	0.004	.964
TAS	0.179	.179	-0.134	.386	0.086	.404
LSRP-P	0.149	.403	0.120	.468	-0.125	.252
LSRP-S	-0.075	.596	0.113	.476	0.074	.506
TES	0.022	.828	-0.025	.852	0.108	.159
PES	0.033	.779	**0.338**	**.047**	0.068	.462
NFC	0.122	.373	**0.313**	**.039**	-0.050	.632
CRT	0.151	.169	0.039	.795	0.028	.728
HBT	-0.123	.402	-0.065	.651	0.022	.797
REI	-0.033	.806	-0.262	.071	-0.038	.725
AOT	**-0.484**	**.010**	-0.060	.750	**-0.188**	**.040**
Outcome	**EA**		**XA**		**Control**	
Predictor	(R^2 = 0.29)		(R^2 = 0.24)		(R^2 = 0.14)	
RWCA (Time)	*β*	*p*	*β*	*p*	*β*	*p*
IRI-EC	0.222	.070	-0.230	.204	0.190	.065
EEST	-0.075	.583	0.151	.267	-0.029	.722
TAS	-0.027	.823	-0.038	.815	0.036	.724
LSRP-P	0.045	.783	**0.383**	**.034**	-0.141	.199
LSRP-S	-0.068	.595	0.046	.784	0.060	.587
TES	0.061	.509	-0.063	.663	0.038	.623
PES	-0.076	.476	0.249	.167	0.109	.241
NFC	0.056	.657	0.062	.696	-0.090	.390
CRT	-0.203	.045	0.037	.816	-0.005	.950
HBT	-0.073	.590	-0.166	.283	0.025	.770
REI	0.104	.403	0.023	.883	0.125	.246
AOT	**-0.398**	**.020**	-0.384	.059	**-0.215**	**.020**

Note. Bolded effects indicate statistical significance at $p < .05$.

Furthermore, these results partially align with assertions raised in discourse related to the effective altruism movement[5] and with some earlier empirical findings[6] suggesting that reasoning ability underlies the prioritization of altruistic equity and effectiveness. Namely, variation in reasoning ability was significantly and positively associated with: (1) moral judgments of equitable and effective prosociality on the MJV task among EAs and controls; (2) the prioritization of expansiveness (equity) and effectiveness in altruism on the EAIS among EAs; (5) behavioral donations to effective causes among EAs and Controls; and (6) real-world monetary contributions to charity among XAs. However, it is noteworthy that the associations between reasoning ability with equitable and effective prosociality were most pronounced among members of the EA subject group, who explicitly emphasize applying reasoning skills to guide altruistic decision-making.

Collectively, these findings suggest that both empathy and reasoning, rather than one over the other, are generally associated with greater altruistic equity, effectiveness, and real-world charitable action. Importantly, empathy does not consistently constrain the scope of equity and impact. However, there are exceptions. For instance, broader emotional abilities, such as accurately identifying emotions in written statements (measured by the EEST), were negatively associated with generosity on the SDT among EAs and the prioritization of expansiveness in altruism among controls. These unexpected results warrant further investigation to clarify their implications.

It is also notable that controls who reported more malleable lay theories of empathy scored significantly lower in their prioritization of effectiveness in altruism. Prior research suggests that individuals with more malleable versus fixed theories of empathy often exert greater empathic effort toward distant and stigmatized targets[8]. Thus, this result was unexpected. One possibility is that it reflects an “empathic bystander effect”[9], where holding stronger beliefs

about the malleability of empathy allows individuals to diffuse personal responsibility for addressing large-scale suffering. Because the measure captures beliefs about the malleability of empathy not only for oneself but also for others, individuals who score higher might overestimate others' empathic capacities, assuming others will prioritize effectiveness in their stead. Further research is needed to explore this possibility.

Deviations from expected results were observed not only in measures of empathic ability but also in reasoning ability. For instance, Actively Open-Minded Thinking (AOT)—the willingness to change one's mind when faced with new evidence—was moderately negatively associated with real-world charitable donations and volunteerism for EAs and weakly negatively associated for controls. These findings suggest that, in some contexts, reasoning abilities may backfire by increasing focus on the opportunity costs of giving. This effect may occur even among individuals who typically prioritize effectiveness in their altruistic efforts. However, these findings were exceptions to the general trend across samples and measures, where both reasoning ability and empathic ability were positively associated with equitable and effective prosocial attitudes and behaviors.

Supplementary References

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Consent

ONLINE RESEARCH INFORMED CONSENT: Please read the document thoroughly and sign the bottom to give your consent to participate in this study.

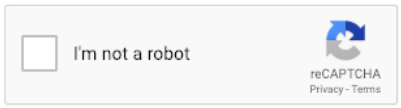
PURPOSE: The purpose of this research is to learn about social judgment and decision-making.
PROCEDURES: During this study, you will be asked to read short scenarios or statements on a computer screen and answer questions regarding what you have read. Questions about the scenarios/statements will be asked using an online questionnaire/survey. The study will take approximately no more than 90 minutes to complete. You must be at least 18 years old in order to participate in this study.
BENEFITS: Although you may not directly benefit from your participation, others may ultimately benefit from the knowledge obtained from this research. It is our hope that this research will provide useful and important information about social judgment and decision-making.
RISKS: We do not anticipate any risks in your participation. Your participation in the study is confidential, and all data will be kept anonymous; the answers you provide will not be associated with your name or with any other personal identifiers.
PARTICIPATION: Your participation in this study is voluntary. You may withdraw from the study at any time. Even after you agree to participate in this study, you may decide to leave the study at any time without penalty or loss of benefits to which you may otherwise have been entitled. You may also refrain from answering any questions that you feel uncomfortable answering.
REMUNERATION: Participants will receive a payment ($10.00/hr.) that represents a standard rate of pay for participation in an online study.
CONFIDENTIALITY: We will not store any identifying information along with your responses. The data and survey files will be stored securely for a minimum of 5 years, at which point they may be destroyed. Study results will be reported for the group only, and will not refer to individuals. Results will be reported in the context of scientific journals, professional presentations, and other reputable venues. All information obtained in this study is strictly confidential, unless disclosure is required by law. In addition, the Institutional Review Board and University or government officials responsible for monitoring this study may inspect the records. If you would like to receive any additional information about this study, you may contact the researcher, Dr. Brendan Gaesser (bgaesser@albany.edu).
IRB contact about your rights in the study or to report a complaint: Research at the University at Albany involving human participants is carried out under the oversight of the Institutional Review Board (IRB). This research has been reviewed and approved by the IRB. If you have any questions concerning your rights as a research subject or if you wish to report any concerns about the study, you may contact University at Albany Office for Pre-Award and Compliance Services at 1-866-857-5459 or hsconcerns@albany.edu.
I have read the above information about this study and am at least 18 years old. I consent to participate in this study.

- ○ Yes
- ○ No

Captcha

Due to a high level of fraudulent responding, we have numerous methods in place to detect responding from survey bots. Any responses identified as

originating from survey bots rather than real humans will not be compensated.



Please enter your prolific ID.

Have you donated an organ or other body tissue to a stranger?
If you select "yes" please indicate which organ (kidney, liver) or tissue (bone marrow) you have donated.
Please only respond yes if you have already donated an organ while you are living.

- Yes
- No

Are you familiar with the effective altruism philosophical and social movement?

- Yes
- No

You answered "yes" to the previous question. Do you personally identify as an effective altruist yourself?

- Yes
- No

Attention 1

Please select "strongly agree" to show you are paying attention to this question.

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

Attention 2

Please select "strongly disagree" to show you are paying attention to this question.

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

Attention 3

Please select "Neither agree nor disagree" to show you are paying attention to this question.

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

Toronto Alexithymia Scale

Choose one response that best describes how each item applies to you.

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I often don't know why I am angry.	○	○	○	○	○	○	○
I have physical sensations that even doctors don't understand.	○	○	○	○	○	○	○
I can feel close to someone, even in moments of silence.	○	○	○	○	○	○	○
It is difficult for me to reveal my innermost feelings, even to close friends.	○	○	○	○	○	○	○
It is difficult for me to find the right words for my feelings.	○	○	○	○	○	○	○
When I am upset, I don't know if I am sad, frightened, or angry.	○	○	○	○	○	○	○
I prefer to analyze problems rather than just describe them.	○	○	○	○	○	○	○
I am often confused about what emotion I am feeling.	○	○	○	○	○	○	○
I find it hard to describe how I feel about people.	○	○	○	○	○	○	○
I find examination of my feelings useful in solving personal problems.	○	○	○	○	○	○	○
People tell me to describe my feelings more.	○	○	○	○	○	○	○
Being in touch with emotions is essential.	○	○	○	○	○	○	○
I am able to describe my feelings easily.	○	○	○	○	○	○	○
I prefer to watch "light" entertainment shows rather than psychological dramas.	○	○	○	○	○	○	○

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I don't know what's going on inside me.	○	○	○	○	○	○	○
I have feelings I can't quite identify.	○	○	○	○	○	○	○
I prefer to just let things happen rather than to understand why they turned out that way.	○	○	○	○	○	○	○
I prefer talking to people about their daily activities rather than their feelings.	○	○	○	○	○	○	○
I am often puzzled by sensations in my body.	○	○	○	○	○	○	○
I look for hidden messages in movies or plays.	○	○	○	○	○	○	○

TOE

Please read each statement below and indicate your agreement with each statement on the scale provided.

Indicate your agreement with each statement on the scale provided.

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
Anybody can change how empathic a person they are.	○	○	○	○	○	○	○
People can’t really change how much empathy they tend to feel for others. Some people are very empathic, and some aren’t, and they can’t change that much.	○	○	○	○	○	○	○
A person’s level of empathy is something very basic about them, and it can’t be changed much.	○	○	○	○	○	○	○
People can always change how much empathy they generally feel for others.	○	○	○	○	○	○	○
No matter who somebody is, they can always change how empathic a person they are.	○	○	○	○	○	○	○

EEST

For each of the statements below, please indicate which emotion the statement is most likely to elicit if said to another person.

Please indicate which emotion each statement is most likely to elicit if said to another person.

I just blew my nose on my sleeve.	Anger	Happiness	Sadness	Fear	Disgust
I got you tickets to the concert you wanted to go to.	Anger	Happiness	Sadness	Fear	Disgust
I used to think you were special.	Anger	Happiness	Sadness	Fear	Disgust
You are a waste of my time.	Anger	Happiness	Sadness	Fear	Disgust
I love your new shirt.	Anger	Happiness	Sadness	Fear	Disgust
You are really smart.	Anger	Happiness	Sadness	Fear	Disgust
I found that thing you lost.	Anger	Happiness	Sadness	Fear	Disgust
I'm going to push you down the stairs.	Anger	Happiness	Sadness	Fear	Disgust
I don't trust you.	Anger	Happiness	Sadness	Fear	Disgust
You're not invited to my party.	Anger	Happiness	Sadness	Fear	Disgust
I broke your phone on purpose.	Anger	Happiness	Sadness	Fear	Disgust
I told someone your secret.	Anger	Happiness	Sadness	Fear	Disgust
You aren't very smart.	Anger	Happiness	Sadness	Fear	Disgust
You are a huge idiot.	Anger	Happiness	Sadness	Fear	Disgust
You can't protect yourself from me.	Anger	Happiness	Sadness	Fear	Disgust
You are so ignorant sometimes.	Anger	Happiness	Sadness	Fear	Disgust
It smelled like someone pooped in here.	Anger	Happiness	Sadness	Fear	Disgust
Everything you say is stupid.	Anger	Happiness	Sadness	Fear	Disgust
I'm going to spit into my soda.	Anger	Happiness	Sadness	Fear	Disgust
Our friendship is over.	Anger	Happiness	Sadness	Fear	Disgust
I wear dirty underwear.	Anger	Happiness	Sadness	Fear	Disgust
Your desk looks like a bird pooped on it.	Anger	Happiness	Sadness	Fear	Disgust
You better watch your back.	Anger	Happiness	Sadness	Fear	Disgust
There is a fly in your food.	Anger	Happiness	Sadness	Fear	Disgust
I always love spending time with you.	Anger	Happiness	Sadness	Fear	Disgust
I bought you a present.	Anger	Happiness	Sadness	Fear	Disgust
I'll kill your family.	Anger	Happiness	Sadness	Fear	Disgust
I forgot your birthday.	Anger	Happiness	Sadness	Fear	Disgust
I am going to make you bleed.	Anger	Happiness	Sadness	Fear	Disgust
Don't you have any real friends?	Anger	Happiness	Sadness	Fear	Disgust
I found hair in my food.	Anger	Happiness	Sadness	Fear	Disgust
I'm so glad to see you.	Anger	Happiness	Sadness	Fear	Disgust
I stole 20$ from your wallet.	Anger	Happiness	Sadness	Fear	Disgust
I haven't showered in days.	Anger	Happiness	Sadness	Fear	Disgust
You're always wrong.	Anger	Happiness	Sadness	Fear	Disgust
None of your friends really like you.	Anger	Happiness	Sadness	Fear	Disgust
I love your new idea.	Anger	Happiness	Sadness	Fear	Disgust
I could kill you if I wanted to.	Anger	Happiness	Sadness	Fear	Disgust
I baked you cookies.	Anger	Happiness	Sadness	Fear	Disgust
I hope something bad will happen to you.	Anger	Happiness	Sadness	Fear	Disgust
You are completely useless.	Anger	Happiness	Sadness	Fear	Disgust
I reuse my dirty Kleenex.	Anger	Happiness	Sadness	Fear	Disgust
You are in great shape.	Anger	Happiness	Sadness	Fear	Disgust
I hope I never see your face again.	Anger	Happiness	Sadness	Fear	Disgust
I always feel better when I am with you.	Anger	Happiness	Sadness	Fear	Disgust
I could easily hurt you.	Anger	Happiness	Sadness	Fear	Disgust
I'm not attracted to you.	Anger	Happiness	Sadness	Fear	Disgust
You are the nicest person I know.	Anger	Happiness	Sadness	Fear	Disgust
I'm going to beat you up.	Anger	Happiness	Sadness	Fear	Disgust
I never wear deodorant.	Anger	Happiness	Sadness	Fear	Disgust

I'll be watching everything you do.	Anger	Happiness	Sadness	Fear	Disgust
You're so stupid it's unbelievable.	Anger	Happiness	Sadness	Fear	Disgust
Leave me alone.	Anger	Happiness	Sadness	Fear	Disgust
You are really attractive.	Anger	Happiness	Sadness	Fear	Disgust
You're amazing.	Anger	Happiness	Sadness	Fear	Disgust
I heard your best friend is moving away.	Anger	Happiness	Sadness	Fear	Disgust
I'm disappointed in you.	Anger	Happiness	Sadness	Fear	Disgust
You abandoned me when I needed you most.	Anger	Happiness	Sadness	Fear	Disgust
You really let me down.	Anger	Happiness	Sadness	Fear	Disgust
I have an extra ticket to the movie–you should come.	Anger	Happiness	Sadness	Fear	Disgust
Your lunch smells rotten.	Anger	Happiness	Sadness	Fear	Disgust
I love you.	Anger	Happiness	Sadness	Fear	Disgust
It smells like you stepped in dog poop.	Anger	Happiness	Sadness	Fear	Disgust
I'm chewing gum I found on the ground.	Anger	Happiness	Sadness	Fear	Disgust
You always make me smile.	Anger	Happiness	Sadness	Fear	Disgust
I like you.	Anger	Happiness	Sadness	Fear	Disgust
I feel really distant from you.	Anger	Happiness	Sadness	Fear	Disgust
You look really good.	Anger	Happiness	Sadness	Fear	Disgust
It smells like vomit in the bathroom.	Anger	Happiness	Sadness	Fear	Disgust
I think you cheated on the test.	Anger	Happiness	Sadness	Fear	Disgust
I'm going to hurt your friend.	Anger	Happiness	Sadness	Fear	Disgust
I want to make you suffer.	Anger	Happiness	Sadness	Fear	Disgust
You really suck.	Anger	Happiness	Sadness	Fear	Disgust
I'll be stalking you.	Anger	Happiness	Sadness	Fear	Disgust
I'm about ready to hit you.	Anger	Happiness	Sadness	Fear	Disgust
I haven't washed my hair in weeks.	Anger	Happiness	Sadness	Fear	Disgust
You always ruin everything.	Anger	Happiness	Sadness	Fear	Disgust
If you don't leave now you'll be sorry.	Anger	Happiness	Sadness	Fear	Disgust
I don't like you anymore.	Anger	Happiness	Sadness	Fear	Disgust
I never wash my hands.	Anger	Happiness	Sadness	Fear	Disgust
I want to hurt you.	Anger	Happiness	Sadness	Fear	Disgust
It smells like vomit.	Anger	Happiness	Sadness	Fear	Disgust
I heard someone talking trash about you behind your back.	Anger	Happiness	Sadness	Fear	Disgust
I just picked off my scab.	Anger	Happiness	Sadness	Fear	Disgust
I want to punch you.	Anger	Happiness	Sadness	Fear	Disgust
I think you are being followed.	Anger	Happiness	Sadness	Fear	Disgust
I am better than you in so many ways.	Anger	Happiness	Sadness	Fear	Disgust
I think something moved behind you.	Anger	Happiness	Sadness	Fear	Disgust
I saw someone spit into their hands.	Anger	Happiness	Sadness	Fear	Disgust
I don't want to be friends anymore.	Anger	Happiness	Sadness	Fear	Disgust
I saw our waiter sneeze on our food.	Anger	Happiness	Sadness	Fear	Disgust
You're a great friend.	Anger	Happiness	Sadness	Fear	Disgust
Everything you own is gone.	Anger	Happiness	Sadness	Fear	Disgust
I don't think you are safe here.	Anger	Happiness	Sadness	Fear	Disgust
I can't stand you.	Anger	Happiness	Sadness	Fear	Disgust
I will hurt you if you tell anyone my secret.	Anger	Happiness	Sadness	Fear	Disgust
I told you to shut up.	Anger	Happiness	Sadness	Fear	Disgust
You are a disgrace.	Anger	Happiness	Sadness	Fear	Disgust
I saw your friend get hit by a car.	Anger	Happiness	Sadness	Fear	Disgust
I have no respect for you.	Anger	Happiness	Sadness	Fear	Disgust

IRI_EC

The following statements inquire about your thoughts and feelings in a variety of situations. For each item, indicate how well it describes you by choosing the appropriate number on the scale at the top of the page: 1, 2, 3, 4, 5, 6, or 7. READ EACH ITEM CAREFULLY BEFORE RESPONDING. Answer as honestly as you can. Thank you.

Select the number you feel best characterizes the extent to which each item describes you on the scale provided.

	1 (DOES NOT DESCRIBE ME WELL)	2	3	4	5	6	7 (DESCRIBES ME VERY WELL)
When I see someone being taken advantage of, I feel kind of protective towards them.	○	○	○	○	○	○	○
I would describe myself as a pretty soft-hearted person.	○	○	○	○	○	○	○
I am often quite touched by things that I see happen.	○	○	○	○	○	○	○
When I see someone being treated unfairly, I sometimes don't feel very much pity for them.	○	○	○	○	○	○	○
Other people's misfortunes do not usually disturb me a great deal.	○	○	○	○	○	○	○
I often have tender, concerned feelings for people less fortunate than me.	○	○	○	○	○	○	○
Sometimes I don't feel very sorry for other people when they are having problems.	○	○	○	○	○	○	○

IRI_PD

The following statements inquire about your thoughts and feelings in a variety of situations. For each item, indicate how well it describes you by choosing the appropriate number on the scale at the top of the page: 1, 2, 3, 4, 5, 6, or 7. READ EACH ITEM CAREFULLY BEFORE RESPONDING. Answer as honestly as you can. Thank you.

Select the number you feel best characterizes the extent to which each item describes you on the scale provided.

	1 (DOES NOT DESCRIBE ME WELL)	2	3	4	5	6	7 (DESCRIBES ME VERY WELL)
Being in a tense emotional situation scares me.	○	○	○	○	○	○	○
I sometimes feel helpless when I am in the middle of a very emotional situation.	○	○	○	○	○	○	○
I tend to lose control during emergencies.	○	○	○	○	○	○	○
In emergency situations, I feel	○	○	○	○	○	○	○

	1 (DOES NOT DESCRIBE ME WELL)	2	3	4	5	6	7 (DESCRIBES ME VERY WELL)
apprehensive and ill-at-ease.							
When I see someone who badly needs help in an emergency, I go to pieces.	○	○	○	○	○	○	○
I am usually pretty effective in dealing with emergencies.	○	○	○	○	○	○	○
When I see someone get hurt, I tend to remain calm.	○	○	○	○	○	○	○

PES_In

Please indicate how much empathy you feel towards people from your home country in the following situations:

	1 (None at All)	2	3	4	5	6	7 (Very Much)
Grandparents who want and do not have any grandchildren	○	○	○	○	○	○	○
Children who are bullied at school	○	○	○	○	○	○	○
Adults who become addicted to drugs	○	○	○	○	○	○	○
Adults who work for many hours but still their salary is very low	○	○	○	○	○	○	○

PES_Out

Please indicate how much empathy you feel towards people from distant countries in the following situations:

	1 (None at All)	2	3	4	5	6	7 (Very Much)
Adults who are not able to find a job despite their qualifications	○	○	○	○	○	○	○
Parents who cannot buy their children the gift they want for their birthday	○	○	○	○	○	○	○
Teenagers who get pregnant accidentally	○	○	○	○	○	○	○
Parents whose children don't do well in school	○	○	○	○	○	○	○

LSRP

The test consists of twenty six statements that could possibly apply to you. Please indicate your agreement with each statement on the scale provided.

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I don't plan anything very far in advance.	○	○	○	○	○	○	○
People who are stupid enough to get ripped off usually deserve it.	○	○	○	○	○	○	○
Cheating is not justified because it is unfair to others.	○	○	○	○	○	○	○
I tell other people what they want to hear so that they will do what I want them to do.	○	○	○	○	○	○	○
Most of my problems are due to the fact that other people just don't understand me.	○	○	○	○	○	○	○
I have been in a lot of shouting matches with other people.	○	○	○	○	○	○	○
I find that I am able to pursue one goal for a long time.	○	○	○	○	○	○	○
I let others worry about higher values; my main concern is with the bottom line.	○	○	○	○	○	○	○
When I get frustrated, I often "let off steam" by blowing my top.	○	○	○	○	○	○	○
I am often bored.	○	○	○	○	○	○	○
I often admire a really clever scam.	○	○	○	○	○	○	○
Before I do anything, I carefully consider the possible consequences.	○	○	○	○	○	○	○
Love is overrated.	○	○	○	○	○	○	○
I quickly lose interest in tasks I start.	○	○	○	○	○	○	○
Even if I were trying very hard to sell something, I wouldn't lie about it.	○	○	○	○	○	○	○
I find myself in the same kinds of trouble, time after time.	○	○	○	○	○	○	○
Success is based on survival of the fittest; I am not concerned about the losers.	○	○	○	○	○	○	○
Making a lot of money is my most important goal.	○	○	○	○	○	○	○
In today's world, I feel justified in doing anything I can get away with to succeed.	○	○	○	○	○	○	○
Looking out for myself is my top priority.	○	○	○	○	○	○	○
For me, what's right is whatever I can get away with.	○	○	○	○	○	○	○
I make a point of trying not to hurt others in pursuit of my goals.	○	○	○	○	○	○	○

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I feel bad if my words or actions cause someone else to feel emotional pain.	○	○	○	○	○	○	○
My main purpose in life is getting as many goodies as I can.	○	○	○	○	○	○	○
I enjoy manipulating other people's feelings.	○	○	○	○	○	○	○
I would be upset if my success came at someone else's expense.	○	○	○	○	○	○	○

CRT

Please answer each of the following questions to the best of your ability.

A racquet and a ball cost $110 in total. The racquet costs $100 more dollars than the ball. How much does the ball cost?

If it takes 5 machines 5 minutes to make 5 components, how long would it take 100 machines to make 100 components?

In a lake, there is a patch of lily pads. Everyday, the patch doubles in size. If it takes 48 days for the patch to cover the entire lake, how many days would it take for the patch to cover half of the lake?

If you're running a race and you pass the person in second place, what place are you in?

A farmer had 15 sheep and all but 8 died. How many are left?

Maria's father has 5 daughters but no sons - Nana, Nena, Nina, and Nona. What is the fifth daughter's name probably?

How many cubic meters of dirt are there in a hole that is 3m deep x 3m wide x 3m long?

NFC

For each of the statements below, please indicate to what extent the statement is characteristic of you. If the statement is extremely uncharacteristic of you (not at all like you) please select "1"; if the statement is extremely characteristic of you (very much like you) please select "7". Of course, a statement may be neither extremely uncharacteristic nor extremely characteristic of you; if so, please use a number in the middle of the scale that describes the best fit.

Please indicate how characteristic each statement is of you using the scale provided.

	1 (Extremely Uncharacteristic)	2 (Uncharacteristic)	3 (Somewhat Uncharacteristic)	4 (Uncertain)	5 (Somewhat Characteristic)	(Char
I only think as hard as I have to.	○	○	○	○	○	
The notion of thinking abstractly is appealing to me.	○	○	○	○	○	
The idea of relying on thought to make my way to the top appeals to me.	○	○	○	○	○	
I really enjoy a task that involves coming up with new solutions to problems.	○	○	○	○	○	
I would rather do something that requires little thought than something that is sure to challenge my thinking abilities.	○	○	○	○	○	
I usually end up deliberating about issues even when they do not affect me personally.	○	○	○	○	○	
I try to anticipate and avoid situations where there is a likely chance I will have to think in depth about something.	○	○	○	○	○	
I prefer my life to be filled with puzzles that I must solve.	○	○	○	○	○	
I feel relief rather than satisfaction after completing a task that	○	○	○	○	○	

	1 (Extremely Uncharacteristic)	2 (Uncharacteristic)	3 (Somewhat Uncharacteristic)	4 (Uncertain)	5 (Somewhat Characteristic)	(Char
required a lot of mental effort.						
I like to have the responsibility of handling a situation that requires a lot of thinking.	○	○	○	○	○	
I like tasks that require little thought once I've learned them.	○	○	○	○	○	
Thinking is not my idea of fun.	○	○	○	○	○	
It's enough for me that something gets the job done; I don't care how or why it works.	○	○	○	○	○	
I would prefer complex to simple problems.	○	○	○	○	○	
I prefer to think about small, daily projects to long-term ones.	○	○	○	○	○	
I find satisfaction in deliberating hard and for long hours.	○	○	○	○	○	
I would prefer a task that is intellectual, difficult, and important to one that is somewhat important but does not require much thought.	○	○	○	○	○	
Learning new ways to think doesn't excite me very much.	○	○	○	○	○	

REI

Instructions: Using the following scale, please rate the extent that these items refer to you.

	1 (Not Very True of Myself)	2	3	4	5	6	7 (Very True of Myself)
I don't reason well under pressure	○	○	○	○	○	○	○
I am not a very analytical thinker	○	○	○	○	○	○	○
I'm not that good at figuring out complicated problems	○	○	○	○	○	○	○
I am not very good at solving problems that require careful logical analysis	○	○	○	○	○	○	○
Reasoning things out carefully is not one of my strong points	○	○	○	○	○	○	○
I have no problem thinking things through carefully	○	○	○	○	○	○	○
I am much better at figuring things out logically than most people	○	○	○	○	○	○	○
I usually have clear, explainable reasons for my decisions	○	○	○	○	○	○	○
I have a logical mind	○	○	○	○	○	○	○
Using logic usually works well for me in figuring out problems in my life	○	○	○	○	○	○	○

AOT

Indicate your agreement with each item on the scale provided.

	1 (strongly disagree)	2	3	4 (neither agree nor disagree)	5	6	7 (strongly agree)
True experts are willing to admit to themselves and others that they are uncertain or that they don't know the answer.	○	○	○	○	○	○	○
People should take into consideration evidence that goes against conclusions they favor.	○	○	○	○	○	○	○
Being undecided or unsure is the result of muddled thinking.	○	○	○	○	○	○	○
People should revise their conclusions in response to relevant new information.	○	○	○	○	○	○	○
Changing your mind is a sign of weakness.	○	○	○	○	○	○	○
People should search actively for reasons why they might be wrong.	○	○	○	○	○	○	○
It is OK to ignore evidence against your established beliefs.	○	○	○	○	○	○	○
It is important to be loyal to your beliefs even when evidence is	○	○	○	○	○	○	○

	1 (strongly disagree)	2	3	4 (neither agree nor disagree)	5	6	7 (strongly agree)
brought to bear against them.							
There is nothing wrong with being undecided about many issues.	○	○	○	○	○	○	○
When faced with a puzzling question, we should try to consider more than one possible answer before reaching a conclusion.	○	○	○	○	○	○	○
It is best to be confident in a conclusion even when we have good reason to question it.	○	○	○	○	○	○	○

Heuristics and Bias Tasks

After the first 2 weeks of the major league baseball season, newspapers begin to print the top 10 batting averages. Typically, after 2 weeks, the leading batter often has an average of about .450. However, no batter in major league history has ever averaged .450 at the end of the season. Why do you think this is?

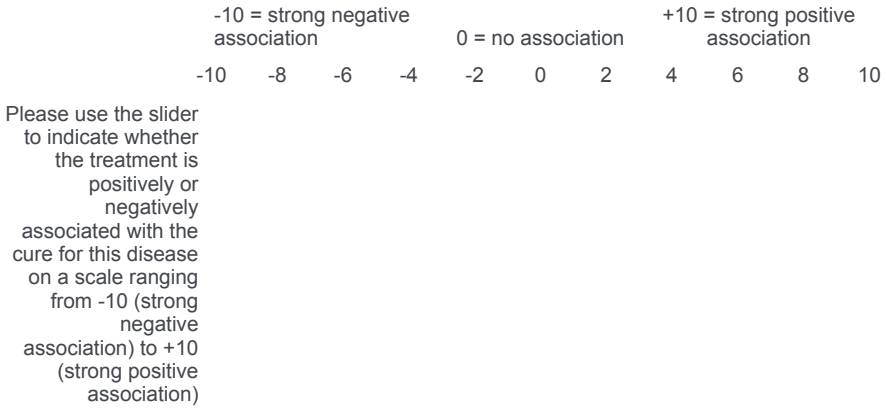
- ○ When a batter is known to be hitting for a high average, pitchers bear down more when they pitch to him
- ○ Pitchers tend to get better over the course of a season, as they get more in shape. As pitchers improve, they are more likely to strike out batters, so batters' averages go down.
- ○ A player's high average at the beginning of the season may just be luck. The longer season provides a more realistic test of a batter's skill
- ○ A batter who has a hot streak at the beginning of the season is under a lot of stress to maintain his performance record. Such stress adversely affects his playing.
- ○ When a batter is known to be hitting for high average, he stops getting good pitches to hit. Instead, pitchers "play the corners" of the plate because they don't mind walking him.

Imagine that we are tossing a fair coin (a coin that has a 50/50 chance of coming up heads or tails) and it has just come up heads 5 times in a row. For the 6th toss do you think that:

- ○ It is more likely that tails will come up than heads.
- ○ It is more likely that heads will come up than tails.
- ○ Heads and tails are equally probable on the sixth toss.

A doctor had been working on a cure for a mysterious disease. Finally, he created a drug that he thinks will cure people of the disease. Before he can begin to use it regularly, he has to test the drug. He selected 300 people who had the disease and gave them the drug to see what happened. He selected 100 people who had the disease and did not give them the drug in order to see what happened. The table below indicates what the outcome of the experiment was:

	Cure	
	Yes	No
Treatment present	200	100
Treatment absent	75	25



Assume that you are presented with two trays of black and white marbles: a large tray that contains 100 marbles and a small tray that contains 10 marbles. The marbles are spread in a single layer on each tray. You must draw out one marble (without peeking, of course) from either tray. If you draw a black marble, you win $2. Consider a condition in which the small tray contains 1 black marble and 9 white marbles, and the large tray contains 8 black marbles and 92 white marbles. From which tray would you prefer to select a marble in a real situation?

- ○ Small Tray
- ○ Large Tray

The city of Middleopolis has had an unpopular police chief for a year and a half. He is a political appointee who is a crony of the mayor, and he had little previous experience in police administration when he was appointed. The mayor has recently defended the chief in public, announcing that in the time since he took office, crime rates decreased by 12%. Which of the following pieces of evidence would most deflate the mayor's claim that his chief is competent?

- ○ The crime rates of the two cities closest to Middleopolis in location and size have decreased by 18% in the same period.
- ○ An independent survey of the citizens of Middleopolis shows that 40% more crime is reported by respondents in the survey than is reported in police records.
- ○ Common sense indicates that there is little a police chief can do to lower crime rates. These are for the most part due to social and economic conditions beyond the control of officials.
- ○ The police chief has been discovered to have business contacts with people who are known to be involved in organized crime.

Distal Simulation Task

The next set of tasks will involve you responding to a series of four prompts which instruct you to imagine an experience and describe the experience in as much detail as possible. You will have two minutes to imagine and describe each experience.

Imagine what the world will be like in 500 years. Describe what you imagine below in as much detail as possible. You have two minutes.

0159

Using the slider, respond to each question below with regard to what you just imagined from 0 "Not at All" to 100 "Extremely".

	0	10	20	30	40	50	60	70	80	90	100
How vividly did you imagine the experience?											
To what extent did you see what you imagined in your mind's eye?											
To what extent did you feel immersed in what you imagined?											
How difficult was it for you to imagine the experience?											

Imagine being on the bottom of the ocean. Describe what you imagine below in as much detail as possible. You have two minutes.

0159

Using the slider, respond to each question below with regard to what you just imagined from 0 "Not at All" to 100 "Extremely".

	0	10	20	30	40	50	60	70	80	90	100
How vividly did you imagine the experience?											
To what extent did you see what you imagined in your mind's eye?											
To what extent did you feel immersed in what you imagined?											
How difficult was it for you to imagine the experience?											

Imagine the continents never divided. Describe what you imagine below in as much detail as possible. You have two minutes.

0159

Using the slider, respond to each question below with regard to what you just imagined from 0 "Not at All" to 100 "Extremely".

	0	10	20	30	40	50	60	70	80	90	100
How vividly did you imagine the experience?											
To what extent did you see what you imagined in your mind's eye?											
To what extent did you feel immersed in what you imagined?											
How difficult was it for you to imagine the experience?											

Imagine being an angry dictator. Describe what you imagine below in as much detail as possible. You have two minutes.

0159

Using the slider, respond to each question below with regard to what you just imagined from 0 "Not at All" to 100 "Extremely".

	0	10	20	30	40	50	60	70	80	90	100
How vividly did you imagine the experience?											
To what extent did you see what you imagined in your mind's eye?											
To what extent did you feel immersed in what you imagined?											
How difficult was it for you to imagine the experience?											

Divergent Thinking Task

The next task will require you to respond to a prompt. You will have 2 minutes beginning when you advance to the next page.

Using the space below, generate as many uses as possible for a pen.

0 1 5 9

The next task will require you to respond to a prompt. You will have 2 minutes beginning when you advance to the next page.

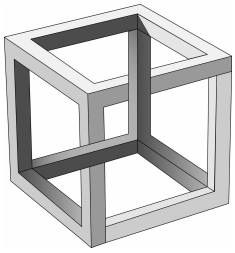
Using the space below, generate as many ways as possible to improve a megaphone.

0 1 5 9

Distal Simulation Control

The next task will will instruct you to view an image and describe the image in as much detail as possible. You will have two minutes to view the image and describe it.

View the image below. Use the space provided to describe it in as much detail as possible. You have two minutes.



0 1 5 9

Using the slider, respond to each question below with regard to the task you just performed from 0 "Not at All" to 100 "Extremely".

	0	10	20	30	40	50	60	70	80	90	100
How immersed did you feel in the writing task you just performed?											
How focused were you on the writing task you just performed?											

MFQ

You will now be asked a few questions about yourself and your beliefs. Please respond to the following items truthfully.

When you decide whether something is right or wrong, to what extent are the following considerations relevant to your thinking? Please rate each statement using this scale:

	0- not at all relevant (This consideration has nothing to do with my judgments of right and wrong)	1- not very relevant	2- slightly relevant	3- somewhat relevant	4- very relevant	5- extremely relevant (This is one of the most important factors when I judge right and wrong)
Whether or not someone suffered emotionally	○	○	○	○	○	○
Whether or not some people were treated differently than others	○	○	○	○	○	○
Whether or not someone's action showed love for his or her country	○	○	○	○	○	○
Whether or not someone showed a lack of respect for authority	○	○	○	○	○	○
Whether or not someone violated standards of purity and decency	○	○	○	○	○	○
Whether or not someone was good at math	○	○	○	○	○	○
Whether or not someone cared for someone weak or vulnerable	○	○	○	○	○	○
Whether or not someone acted unfairly	○	○	○	○	○	○
Whether or not someone did something to betray his or her group	○	○	○	○	○	○

	0- not at all relevant (This consideration has nothing to do with my judgments of right and wrong)	1- not very relevant	2- slightly relevant	3- somewhat relevant	4- very relevant	5- extremely relevant (This is one of the most important factors when I judge right and wrong)
Whether or not someone conformed to the traditions of society	○	○	○	○	○	○
Whether or not someone did something disgusting	○	○	○	○	○	○
Whether or not someone was cruel	○	○	○	○	○	○
Whether or not someone was denied his or her rights	○	○	○	○	○	○
Whether or not someone showed a lack of loyalty	○	○	○	○	○	○
Whether or not an action caused chaos or disorder	○	○	○	○	○	○
Whether or not someone acted in a way that God would approve of	○	○	○	○	○	○

Please read the following sentences and indicate your agreement or disagreement:

	0- Strongly Disagree	1- Moderately disagree	2- Slightly disagree	3- Slightly agree	4- Moderately agree	5- Strongly agree
Compassion for those who are suffering is the most crucial virtue.	○	○	○	○	○	○
When the government makes laws, the number one principle should be ensuring that everyone is treated fairly.	○	○	○	○	○	○
I am proud of my country's history.	○	○	○	○	○	○
Respect for authority is something all children need to learn.	○	○	○	○	○	○
People should not do things that are disgusting, even if no one is harmed.	○	○	○	○	○	○
It is better to do good than to do bad.	○	○	○	○	○	○
One of the worst things a person could do is hurt a defenseless animal.	○	○	○	○	○	○
Justice is the most important requirement for society.	○	○	○	○	○	○
People should be loyal to their family members, even when they have done something wrong.	○	○	○	○	○	○
Men and women each have different roles to	○	○	○	○	○	○

	0- Strongly Disagree	1- Moderately disagree	2- Slightly disagree	3- Slightly agree	4- Moderately agree	5- Strongly agree
play in society.						
I would call some acts wrong on the grounds that they are unnatural.	○	○	○	○	○	○
It can never be right to kill a human being.	○	○	○	○	○	○
I think it's morally wrong that rich children inherit a lot of money while poor children inherit nothing.	○	○	○	○	○	○
It is more important to be a team player than to express oneself.	○	○	○	○	○	○
If I were a soldier and disagreed with my commanding officer's orders, I would obey anyway because that is my duty.	○	○	○	○	○	○
Chastity is an important and valuable virtue.	○	○	○	○	○	○

MES

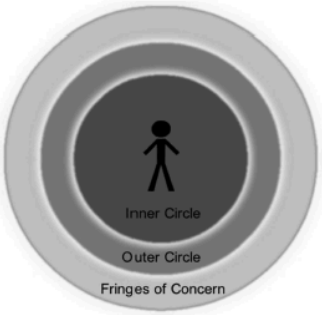
This next portion of the survey will ask you to sort a series of entities into different categories. Please carefully read the description for each of the following categories:

Inner Circle of Moral Concern: These entities deserve the **highest level of moral concern and standing.** You have a moral obligation to ensure their welfare and feel a sense of personal responsibility for their treatment.

Outer Circle of Moral Concern: These entities deserve **moderate moral concern and standing.** You are concerned about their moral treatment; however, your sense of obligation and personal responsibility is greatly reduced.

Fringes of Moral Concern: These entities deserve **minimal moral concern and standing**, but you are not morally obligated or personally responsible for their moral treatment.

Outside the Moral Boundary: These entities deserve **no moral concern or standing.** Feeling concern or personal responsibility for their moral treatment is extreme or nonsensical.



Please assign each entity to a category of moral concern based on the graphic and descriptions above. Assign each entity to only 1 category.

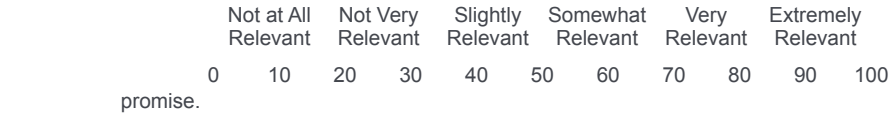
	Outside the Moral Boundary	Fringes of Moral Concern	Outer Circle of Moral Concern	Inner Circle of Moral Concern
Somebody from your neighborhood	○	○	○	○
Homosexual	○	○	○	○
Bee	○	○	○	○
Close friend	○	○	○	○
Partner/spouse	○	○	○	○
Foreign citizen	○	○	○	○
Head of State for Your Country (Position Not Specific Person)	○	○	○	○
Grand Canyon National Park	○	○	○	○
Chimpanzee	○	○	○	○

	Outside the Moral Boundary	Fringes of Moral Concern	Outer Circle of Moral Concern	Inner Circle of Moral Concern
Co-worker	○	○	○	○
Murderer	○	○	○	○
Member of opposing political party	○	○	○	○
Coral reef	○	○	○	○
Family member	○	○	○	○
Old-growth forest	○	○	○	○
Apple tree	○	○	○	○
Terrorist	○	○	○	○
Dolphin	○	○	○	○
Somebody with different religious beliefs	○	○	○	○
Charity worker	○	○	○	○
Chicken	○	○	○	○
Soldier from Your Country	○	○	○	○
Redwood tree	○	○	○	○
Refugee	○	○	○	○
Rose bush	○	○	○	○
Fish	○	○	○	○
Mentally challenged individual	○	○	○	○
Child molester	○	○	○	○
Citizen of Your Country	○	○	○	○
Cow	○	○	○	○

MACQ

When you decide whether something is right or wrong, to what extent are the following considerations relevant to your thinking?

	Not at All Relevant		Not Very Relevant		Slightly Relevant		Somewhat Relevant		Very Relevant		Extremely Relevant
	0	10	20	30	40	50	60	70	80	90	100
Whether or not someone's property was damaged.											
Whether or not someone showed favoritism.											
Whether or not someone deferred to those in authority.											
Whether or not someone showed courage in the face of adversity.											
Whether or not someone's action showed love for their family.											
Whether or not someone helped a member of their community.											
Whether or not someone kept their											



promise.

Whether or not someone worked to unite a community.

Whether or not someone acted to protect their family.

Whether or not someone did what they agreed to do.

Whether or not someone kept something that didn't belong to them.

Whether or not someone disobeyed orders.

Whether or not someone acted in a way that helped their community.

Whether or not someone proved that they can be trusted.

Whether or not someone acted heroically.

Whether or not someone took more than others.

Whether or not someone helped a member of their family.

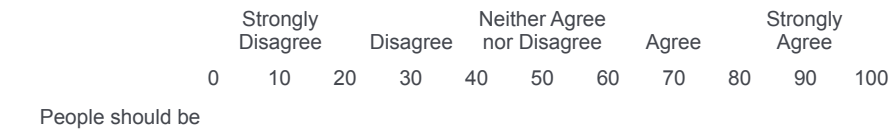
Whether or not someone vandalized another person's property.

Whether or not someone kept the best part for themselves.

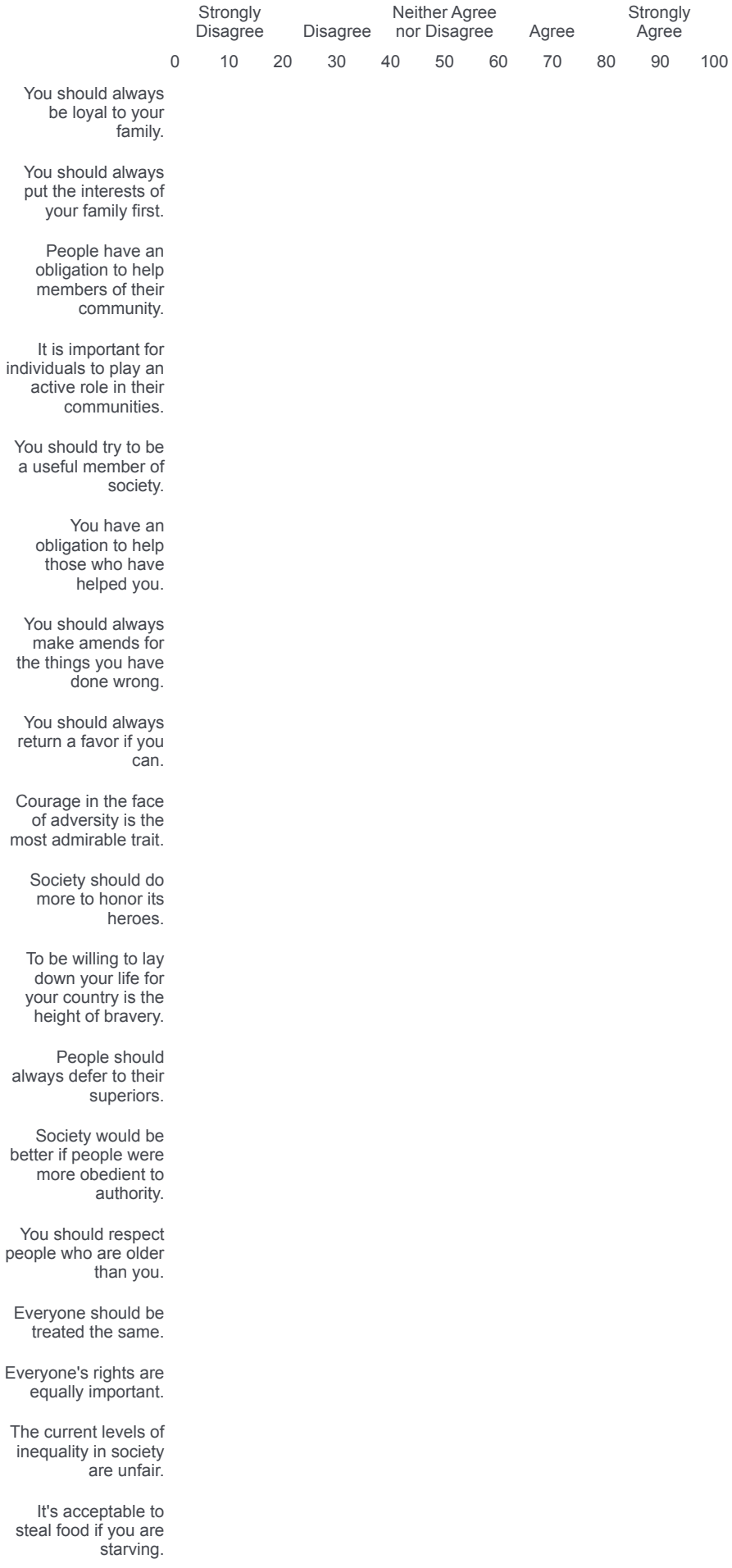
Whether or not someone showed respect for authority.

Whether or not someone was brave.

To what extent do you agree with the following statements?



People should be willing to do anything to help a family member.


Strongly Disagree
Disagree
Neither Agree nor Disagree
Agree
Strongly Agree
0 10 20 30 40 50 60 70 80 90 100
You should always be loyal to your family.
You should always put the interests of your family first.
People have an obligation to help members of their community.
It is important for individuals to play an active role in their communities.
You should try to be a useful member of society.
You have an obligation to help those who have helped you.
You should always make amends for the things you have done wrong.
You should always return a favor if you can.
Courage in the face of adversity is the most admirable trait.
Society should do more to honor its heroes.
To be willing to lay down your life for your country is the height of bravery.
People should always defer to their superiors.
Society would be better if people were more obedient to authority.
You should respect people who are older than you.
Everyone should be treated the same.
Everyone's rights are equally important.
The current levels of inequality in society are unfair.
It's acceptable to steal food if you are starving.

It's ok to kepp valuable items that you find, rather than try to locate their rightful owner.

Sometimes you are entitled to take things you need from other people.

OUS

Rate how much you agree or disagree with each statement on the scale provided.

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
It is morally right to harm an innocent person if harming them is a necessary means to helping several other innocent people.	○	○	○	○	○	○	○
It is permissible to torture an innocent person if this would be necessary to provide information to prevent a bomb going off that would kill hundreds of people.	○	○	○	○	○	○	○
It is morally wrong to keep money that one doesn't really need if one can donate it to causes that provide effective help to those who will benefit a great deal.	○	○	○	○	○	○	○
From a moral point of view, we should feel obliged to give one of our kidneys to a person with kidney failure since we don't need two kidneys to survive, but really only one to be healthy.	○	○	○	○	○	○	○
If the only way to save another person's life during an emergency is to sacrifice one's own leg, then one is morally required to make the sacrifice.	○	○	○	○	○	○	○
From a moral perspective, people should care about the well-being of all human beings on the planet equally; they should not favor the well-being of people who are especially close to them either physically or emotionally.	○	○	○	○	○	○	○

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
If the only way to ensure the overall well-being and happiness of the people is through the use of political oppression for a short, limited period, then political oppression should be used.	○	○	○	○	○	○	○
It is just as wrong to fail to help someone as it is to actively harm them yourself.	○	○	○	○	○	○	○
Sometimes it is morally necessary for innocent people to die as collateral damage - if more people are saved overall.	○	○	○	○	○	○	○

IWAH

You will now be asked a few more questions about yourself and your beliefs. Please respond to the following items truthfully.

How close do you feel to each of the following groups? Please mark the letter that best represents your feelings on the following scale:

	A = not at all close	B = not very close	C = just a little or somewhat close	D = pretty close	E = very close
People in my community	○	○	○	○	○
People in my country	○	○	○	○	○
People all over the world	○	○	○	○	○

How often do you use the word “we” to refer to the following groups of people?

	A = almost never	B = rarely	C = occasionally	D = often	E = very often
People in my community	○	○	○	○	○
People in my country	○	○	○	○	○
People all over the world	○	○	○	○	○

How much would you say you have in common with the following groups?

	A = almost nothing in common	B = little in common	C = some in common	D = quite a bit in common	E = very much in common
People in my community	○	○	○	○	○
People in my country	○	○	○	○	○
People all over the world	○	○	○	○	○

Please answer the following question using the following choices:

Sometimes people think of those who are not a part of their immediate family as "family." To what degree do you think of the following groups of people as "family?"

	A = not at all	B = just a little	C = somewhat	D = quite a bit	E = very much
People in my community	○	○	○	○	○
People in my country	○	○	○	○	○
All humans everywhere	○	○	○	○	○

Please answer the following question using the following choices:

How much do you identify with (that is, feel a part of, feel love toward, have concern for) each of the following?

	A = not at all	B = just a little	C = somewhat	D = quite a bit	E = very much
People in my community	○	○	○	○	○
People in my country	○	○	○	○	○
All humans everywhere	○	○	○	○	○

Please answer the following question using the following choices:

How much would you say you care (feel upset, want to help) when bad things happen to

	A = not at all	B = just a little	C = somewhat	D = quite a bit	E = very much
People in my community.	○	○	○	○	○
People in my country.	○	○	○	○	○
People anywhere in the world.	○	○	○	○	○

Please answer the following question using the following choices:

How much do you want to be:

	A = not at all	B = just a little	C = somewhat	D = quite a bit	E = very much
a responsible citizen of your community.	○	○	○	○	○
a responsible citizen of your country.	○	○	○	○	○
a responsible citizen of the world.	○	○	○	○	○

Please answer the following question using the following choices:

How much do you believe in:

	A = not at all	B = just a little	C = somewhat	D = quite a bit	E = very much
being loyal to my community.	○	○	○	○	○
being loyal to your country.	○	○	○	○	○

	A = not at all	B = just a little	C = somewhat	D = quite a bit	E = very much
being loyal to all mankind.	○	○	○	○	○

Please answer the following question using the following choices:

When they are in need, how much do you want to help:

	A = not at all	B = just a little	C = somewhat	D = quite a bit	E = very much
people in my community.	○	○	○	○	○
people in my country.	○	○	○	○	○
people all over the world.	○	○	○	○	○

LFHS

Indicate the extent to which each statement is true of you on the scale provided.

	1: Not at All True of Me	2	3	4	5	6	7: Very True of Me
If given the opportunity, I am willing to sacrifice in order to let the people from other places who are less fortunate achieve their goals.	○	○	○	○	○	○	○
When I hear about someone (a stranger) going through a difficult time, I feel a great deal of compassion for him or her.	○	○	○	○	○	○	○
I feel happy when I see others (strangers) that are happy.	○	○	○	○	○	○	○
Those whom I encounter through work and public life can assume that I will be there for them if they need me.	○	○	○	○	○	○	○
I feel considerable compassionate love for people from everywhere.	○	○	○	○	○	○	○
If I encounter a stranger who needs help, I would do almost anything I could to help him or her.	○	○	○	○	○	○	○
I try to understand rather than judge people who are strangers to me.	○	○	○	○	○	○	○
I spend a lot of time concerned about the well-being of humankind.	○	○	○	○	○	○	○
I tend to feel compassion for people even though I do not know them.	○	○	○	○	○	○	○
It is easy for me to feel the pain (and joy) experienced by others,	○	○	○	○	○	○	○

	1: Not at All True of Me	2	3	4	5	6	7: Very True of Me
even though I do not know them.							
One of the activities that provides me with the most meaning to my life is helping others in the world who need help.	○	○	○	○	○	○	○
I very much wish to be kind and good to fellow human beings.	○	○	○	○	○	○	○
I want to spend time with people I don't know well so that I can help enrich their lives.	○	○	○	○	○	○	○
I try to put myself in a stranger's shoes when he or she is in trouble.	○	○	○	○	○	○	○
When I see people I do not know feeling sad, I feel a need to reach out to them.	○	○	○	○	○	○	○
I feel a selfless caring for most of mankind.	○	○	○	○	○	○	○
I would rather engage in actions that help others, even thought they are strangers, than engage in actions that would help me.	○	○	○	○	○	○	○
I often have tender feelings toward people (strangers) when they seem to be in need.	○	○	○	○	○	○	○
I would rather suffer myself than see someone else (a stranger) suffer.	○	○	○	○	○	○	○
If a person (a stranger) is troubled, I usually feel extreme tenderness and caring.	○	○	○	○	○	○	○
I accept others whom I do not know even when they do things I think are wrong.	○	○	○	○	○	○	○

NSCS

This is a questionnaire that measures a variety of feelings and behaviors in various situations. Listed below are a number of statements. Read each one as if it referred to you. Select the response that best matches

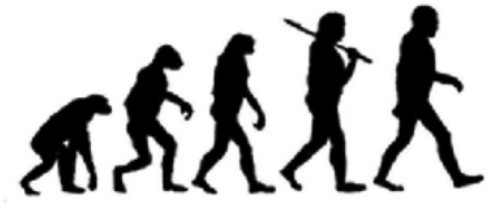
	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
You like being different from other people.	○	○	○	○	○
You see yourself as unique and different from others.	○	○	○	○	○
You like it when people notice you in a group.	○	○	○	○	○
Being different from others makes you feel uncomfortable.	○	○	○	○	○
You try to avoid being noticeably different from	○	○	○	○	○

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
others.					
Being praised in front of others makes you feel uncomfortable.	○	○	○	○	○
Your happiness is unrelated to the happiness of your family.	○	○	○	○	○
When you talk about yourself, you don't say very much about your family.	○	○	○	○	○
If someone insults a friend, you rarely feel insulted yourself.	○	○	○	○	○
If someone in your family is sad, you feel the sadness as if it were your own.	○	○	○	○	○
When someone in your family achieves something, you feel proud as if you had achieved something yourself.	○	○	○	○	○
Your happiness depends on the happiness of your friends.	○	○	○	○	○
You prefer to do what you want without letting your family influence you.	○	○	○	○	○
You make decisions about your life on your own.	○	○	○	○	○
You always ask your family for advice before making a decision.	○	○	○	○	○
Other people have great influence over the choices you make.	○	○	○	○	○
You prefer to rely completely on yourself rather than depend on others.	○	○	○	○	○
You try to avoid being reliant on others.	○	○	○	○	○
You prefer to ask other people for help rather than rely only on yourself.	○	○	○	○	○
You feel uncomfortable in situations where you have to rely only on yourself.	○	○	○	○	○
You behave in the same way even when you are with different groups of people.	○	○	○	○	○
You always see yourself in the same way even when you are with different people.	○	○	○	○	○
You behave the same way at home and in public.	○	○	○	○	○
You act very differently at home compared to how you act in public.	○	○	○	○	○

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
You see yourself differently in different social environments.	○	○	○	○	○
You behave differently when you are with different groups of people.	○	○	○	○	○
You prefer to say what you are thinking, even if it is inappropriate for the situation.	○	○	○	○	○
You show your inner feelings even if it disturbs the harmony in your family.	○	○	○	○	○
You are comfortable expressing disagreement with friends.	○	○	○	○	○
You try to adapt to people around you, even if it means hiding your inner feelings.	○	○	○	○	○
You feel uncomfortable when you express disagreement with members of your family.	○	○	○	○	○
You try to maintain harmony among the people around you.	○	○	○	○	○
You value personal achievements more than good relations with the people close to you.	○	○	○	○	○
Your own success is very important to you, even if it disrupts your friendships.	○	○	○	○	○
You follow your personal goals even if they are very different from the goals of your family.	○	○	○	○	○
You value good relations with the people close to you more than your personal achievements.	○	○	○	○	○
You always put your family first, even if it means giving up your personal goals.	○	○	○	○	○
You are more concerned with your friends happiness than your own success.	○	○	○	○	○

BDS

Pictured below is the popular ‘Ascent of Man’ diagram depicting evolutionary progress. Using the diagram as a reference and the slider provided, please indicate where you think each of the following groups belong on the scale, from ape-like human ancestors (0) to ‘advanced’ modern humans (100).



	Ape-like human ancestors						"Advanced" modern humans				
	0	10	20	30	40	50	60	70	80	90	100
ISIS Members											
Muslims											
Japanese											
Australians											
Europeans											
Mexican Immigrants											

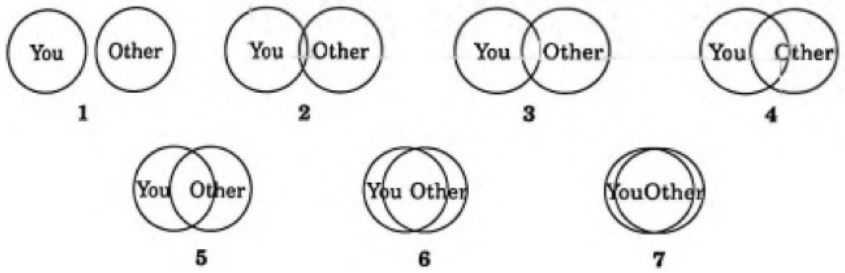
SOFI

This scale consists of a number of words that describe different thoughts, feelings, and behaviors. Read each item and then select the appropriate answer next to that word. **Indicate to what extent you have thought, felt, or acted this way toward your self and others *during the past WEEK*.**

	Very slightly or not at all	A little	Moderately	Quite a bit	Extremely
Joyful-for myself	○	○	○	○	○
Compassionate-toward others	○	○	○	○	○
Angry-with myself	○	○	○	○	○
Joyful-for others	○	○	○	○	○
Mean-toward myself	○	○	○	○	○
Friendly-toward others	○	○	○	○	○
Friendly-toward myself	○	○	○	○	○
Accepting-toward others	○	○	○	○	○
Accepting-toward myself	○	○	○	○	○
Angry-with others	○	○	○	○	○
Mean-toward others	○	○	○	○	○
Hateful-toward others	○	○	○	○	○
Compassionate-toward myself	○	○	○	○	○
Cruel-toward others	○	○	○	○	○
Cruel-toward myself	○	○	○	○	○
Hateful-toward myself	○	○	○	○	○

AIIS

Below are seven diagrams that express varying degress of relatedness or connection with some other person or thing. For each of the people or things listed below, indicate which diagram best expresses your relationship with that person or thing. For example, Diagram 1 indicates no relationship or connectedness, Diagram 4 indicates a moderate degree of connectedness, and diagram 7 indicates complete connectedness.



	1	2	3	4	5	6	7
The connection between you and the person with whom you feel closest.	○	○	○	○	○	○	○
The connection between you and your best friend of your own sex.	○	○	○	○	○	○	○
The connection between you and a wild animal (such as a squirrel, dear, or wolf).	○	○	○	○	○	○	○
The connection between you and the average citizen of your country.	○	○	○	○	○	○	○
The connection between you and the moon.	○	○	○	○	○	○	○
The connection between you and a homeless person on the street.	○	○	○	○	○	○	○
The connection between you and your best friend of the other sex.	○	○	○	○	○	○	○
The connection between you and a dog.	○	○	○	○	○	○	○
The connection between you and a tree.	○	○	○	○	○	○	○
The connection between you and a stranger on a bus.	○	○	○	○	○	○	○
The connection between you and all living creatures.	○	○	○	○	○	○	○
The connection between you and your family.	○	○	○	○	○	○	○
The connection between you and the Earth.	○	○	○	○	○	○	○
The connection between you and an eagle soaring in the sky.	○	○	○	○	○	○	○
The connection between you and the universe.	○	○	○	○	○	○	○
The connection between you and a	○	○	○	○	○	○	○

	1	2	3	4	5	6	7
person of another race.							

IDAQ

We will now ask you to rate the extent to which you believe various stimuli (e.g. technological or mechanical items, wild and domestic animals, and natural things) possess certain capacities. On a 0-10 scale (where 0 = “Not at All” and 10 = “Very much”), please rate the extent to which the stimulus possesses the capacity given.

We will ask you about the extent to which the stimulus has a mind of its own, has free will, has intentions, has consciousness, can experience emotions, is good-looking, is durable, is lethargic, is active, and is useful.

By “has a mind of its own” we mean able to do what it wants.
By “has free will” we mean able to choose and control its own actions.
By “has intentions” we mean has preferences and plans.
By “can experience emotion” we mean it has feelings.
By “has consciousness” we mean able to be aware of itself and its thoughts and feelings.
By “good-looking” we mean attractive.
By “lethargic” we mean moving slowly.
By “active” we mean moving frequently and quickly.
By “useful” we mean able to be used for something.
By “durable” we mean able to withstand wear and damage.

	0 (Not at all)	1	2	3	4	5	6	7	8	9	10 (Very much)
To what extent does the average reptile have consciousness?	○	○	○	○	○	○	○	○	○	○	○
To what extent is the desert lethargic?	○	○	○	○	○	○	○	○	○	○	○
To what extent is the average amphibian lethargic?	○	○	○	○	○	○	○	○	○	○	○
To what extent is the average computer active?	○	○	○	○	○	○	○	○	○	○	○
To what extent is the average cat active?	○	○	○	○	○	○	○	○	○	○	○
To what extent does a car have free will?	○	○	○	○	○	○	○	○	○	○	○
To what extent does the environment experience emotions?	○	○	○	○	○	○	○	○	○	○	○
To what extent does a television set experience emotions?	○	○	○	○	○	○	○	○	○	○	○
To what extent is the average cloud good-looking?	○	○	○	○	○	○	○	○	○	○	○
To what extent is a tortoise durable?	○	○	○	○	○	○	○	○	○	○	○
To what extent does the average computer have a mind of its own?	○	○	○	○	○	○	○	○	○	○	○
To what extent is the average camera lethargic?	○	○	○	○	○	○	○	○	○	○	○
To what extent does a cheetah experience	○	○	○	○	○	○	○	○	○	○	○

	0 (Not at all)	1	2	3	4	5	6	7	8	9	10 (Very much)
emotions?											
To what extent is the forest durable?	○	○	○	○	○	○	○	○	○	○	○
To what extent does the average robot have consciousness?	○	○	○	○	○	○	○	○	○	○	○
To what extent does the average fish have free will?	○	○	○	○	○	○	○	○	○	○	○
To what extent are pets useful?	○	○	○	○	○	○	○	○	○	○	○
To what extent does the average insect have a mind of its own?	○	○	○	○	○	○	○	○	○	○	○
To what extent does the ocean have consciousness?	○	○	○	○	○	○	○	○	○	○	○
To what extent does the wind have intentions?	○	○	○	○	○	○	○	○	○	○	○
To what extent do cows have intentions?	○	○	○	○	○	○	○	○	○	○	○
To what extent is a river useful?	○	○	○	○	○	○	○	○	○	○	○
To what extent is technology - devices and machines for manufacturing, entertainment, and productive processes (e.g., cars, computers, television sets) - durable?	○	○	○	○	○	○	○	○	○	○	○
To what extent does technology - devices and machines for manufacturing, entertainment, and productive processes (e.g., cars, computers, television sets) - have intentions?	○	○	○	○	○	○	○	○	○	○	○
To what extent does the average mountain have free will?	○	○	○	○	○	○	○	○	○	○	○
To what extent is a tree active?	○	○	○	○	○	○	○	○	○	○	○
To what extent is the average robot good-looking?	○	○	○	○	○	○	○	○	○	○	○
To what extent does a tree have a mind of its own?	○	○	○	○	○	○	○	○	○	○	○
To what extent is the average kitchen appliance useful?	○	○	○	○	○	○	○	○	○	○	○
To what extent is the average dog good looking?	○	○	○	○	○	○	○	○	○	○	○

RSS

Please respond to each question with respect to the relationship you have with your romantic partner using the scale provided. If you do not have a romantic partner, please select "not applicable".

	1 (Low)	2	3	4	5 (High)	Not Applicable
How many problems are there in your relationship?	○	○	○	○	○	○
How much do you love your partner?	○	○	○	○	○	○
How good is your relationship compared to most?	○	○	○	○	○	○
How often do you wish you hadn't gotten into this relationship?	○	○	○	○	○	○
How well does your partner meet your needs?	○	○	○	○	○	○
To what extent has your relationship met your original expectations?	○	○	○	○	○	○
In general, how satisfied are you with your relationship?	○	○	○	○	○	○

How long have you been with your current romantic partner? If you do not have a romantic partner, please enter "N/A".

IMS

To what extent does each of the following statements describe your feelings regarding your relationship with your romantic partner? Please use the following scale to record an answer for each statement listed below. If you do not have a romantic partner, please select "not applicable".

	0 (Do not agree at all)	1	2	3	4 (Agree somewhat)	5	6	7	8 (Completely agree)	Not Applicable
I feel really terrible when things are not going well for my partner.	○	○	○	○	○	○	○	○	○	○
I spend a lot of time thinking about the future of our relationship.	○	○	○	○	○	○	○	○	○	○
If our relationship were ever to end, I would feel that my life was destroyed.	○	○	○	○	○	○	○	○	○	○
I want our relationship to last forever,	○	○	○	○	○	○	○	○	○	○
I will do everything I can to make our relationship last for the rest of our lives.	○	○	○	○	○	○	○	○	○	○
I often talk to my partner about what things will be like when we are very old.	○	○	○	○	○	○	○	○	○	○
There is not chance at all that I would ever become romantically	○	○	○	○	○	○	○	○	○	○

	0 (Do not agree at all)	1	2	3	4 (Agree somewhat)	5	6	7	8 (Completely agree)	Not Applicable
involved with another person.										
I feel completely attached to my partner and our relationship.	○	○	○	○	○	○	○	○	○	○
My partner is more important to me than anyone else in life - more important than my parents, friends, etc.	○	○	○	○	○	○	○	○	○	○
I am completely committed to maintaining our relationship.	○	○	○	○	○	○	○	○	○	○
I intend to do everything humanly possible to make our relationship persist.	○	○	○	○	○	○	○	○	○	○
I am oriented toward the long-term future of our relationship (for example, I imagine my life with my partner decades from now).	○	○	○	○	○	○	○	○	○	○
When I make plans about future events in life, I carefully consider the impact of my decisions on our relationship.	○	○	○	○	○	○	○	○	○	○
I frequently imagine life with my partner in the distant future.	○	○	○	○	○	○	○	○	○	○
I feel really awful when things are not going well in our relationship.	○	○	○	○	○	○	○	○	○	○

OSSS-3

Please answer each question using the choices provided.

How many people are so close to you that you can count on them if you have great personal problems?

- ○ none
- ○ 1-2
- ○ 3-5
- ○ 5+

How much interest and concern do people show in what you do?

- ○ none
- ○ little
- ○ uncertain
- ○ some

- a lot

How easy is it to get practical help from neighbors if you should need it?

- very difficult
- difficult
- possible
- easy
- very easy

UCLALS

Indicate how often each of the statements below is descriptive of you.

	C (I often feel this way)	S (I sometimes feel this way)	R (I rarely feel this way)	N (I never feel this way)
I am no longer close to anyone.				
I feel isolated from others.				
I feel starved for company.				
My interests and ideas are not shared by those around me.				
I am unable to reach out and communicate with those around me.				
I feel as if nobody really understands me.				
I lack companionship.				
I am unhappy being so withdrawn.				
I cannot tolerate being so alone.				
There is no one I can turn to.				
I am unhappy doing so many things alone.				
I feel left out.				
No one really knows me well.				
I feel completely alone.				
My social relationships are superficial.				
I have nobody to talk to.				
I find myself waiting for people to call or write.				
People are around me but not with me.				
I feel shut out and excluded by others.				
It is difficult for me to make friends.				

PRQCS

Please read each of the following items carefully and, using the rating scale, rate your current partner and relationship (ranging from 1 = not at all to 7 = extremely). If you do not have a romantic partner, please select "not applicable".

	1 (not at all)	2	3	4	5	6	7 (extremely)	Not Applicable
How close is your relationship?	○	○	○	○	○	○	○	○
How much do you trust your partner?	○	○	○	○	○	○	○	○
How sexually intense is your relationship?	○	○	○	○	○	○	○	○
How much do you love your partner?	○	○	○	○	○	○	○	○
How satisfied are you with your relationship?	○	○	○	○	○	○	○	○
How committed are you to your relationship?	○	○	○	○	○	○	○	○
How happy are you with your relationship?	○	○	○	○	○	○	○	○
How dedicated are you to your relationship?	○	○	○	○	○	○	○	○
How passionate is your relationship?	○	○	○	○	○	○	○	○
How content are you with your relationship?	○	○	○	○	○	○	○	○
How lustful is your relationship?	○	○	○	○	○	○	○	○
How intimate is your relationship?	○	○	○	○	○	○	○	○
How much do you cherish your partner?	○	○	○	○	○	○	○	○
How connected are you to your partner?	○	○	○	○	○	○	○	○
How dependable is your partner?	○	○	○	○	○	○	○	○
How much can you count on your partner?	○	○	○	○	○	○	○	○
How much do you adore your partner?	○	○	○	○	○	○	○	○
How devoted are you to your relationship?	○	○	○	○	○	○	○	○

ECR-R

The statements below concern how you feel in emotionally intimate relationships. We are interested in how you *generally* experience relationships, not just in what is happening in a current relationship. Respond to each statement using the scale provided.

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I often worry that my partner will not want to stay with me.	○	○	○	○	○	○	○
I don't feel comfortable opening up to romantic partners.	○	○	○	○	○	○	○
I talk things over with my partner.	○	○	○	○	○	○	○
It helps to turn to my romantic partner in	○	○	○	○	○	○	○

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
times of need.							
I feel comfortable sharing my private thoughts and feelings with my partner.	○	○	○	○	○	○	○
It's not difficult for me to get close to my partner.	○	○	○	○	○	○	○
I often worry that my partner doesn't really love me.	○	○	○	○	○	○	○
I prefer not to be too close to romantic partners.	○	○	○	○	○	○	○
I find that my partner(s) don't want to get as close as I would like.	○	○	○	○	○	○	○
My partner really understands me and my needs.	○	○	○	○	○	○	○
I often wish that my partner's feelings for me were as strong as my feelings for him or her.	○	○	○	○	○	○	○
I tell my partner just about everything.	○	○	○	○	○	○	○
My partner only seems to notice me when I'm angry.	○	○	○	○	○	○	○
I get uncomfortable when a romantic partner wants to be very close.	○	○	○	○	○	○	○
My desire to be very close sometimes scares people away.	○	○	○	○	○	○	○
When I show my feelings for romantic partners, I'm afraid they will not feel the same about me.	○	○	○	○	○	○	○
I do not often worry about being abandoned.	○	○	○	○	○	○	○
It makes me mad that I don't get the affection and support I need from my partner.	○	○	○	○	○	○	○
I rarely worry about my partner leaving me.	○	○	○	○	○	○	○
I find it relatively easy to get close to my partner.	○	○	○	○	○	○	○
I worry that I won't measure up to other people.	○	○	○	○	○	○	○
It's easy for me to be affectionate with my partner.	○	○	○	○	○	○	○
I usually discuss my problems and concerns with my partner.	○	○	○	○	○	○	○

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I feel comfortable depending on romantic partners.	○	○	○	○	○	○	○
I worry a lot about my relationships.	○	○	○	○	○	○	○
I find it difficult to allow myself to depend on romantic partners.	○	○	○	○	○	○	○
I worry that romantic partners won't care about me as much as I care about them.	○	○	○	○	○	○	○
I prefer not to show a partner how I feel deep down.	○	○	○	○	○	○	○
I am very comfortable being close to romantic partners.	○	○	○	○	○	○	○
My romantic partner makes me doubt myself.	○	○	○	○	○	○	○
I'm afraid that once a romantic partner gets to know me, he or she won't like who I really am.	○	○	○	○	○	○	○
When my partner is out of sight, I worry that he or she might become interested in someone else.	○	○	○	○	○	○	○
I am nervous when partners get too close to me.	○	○	○	○	○	○	○
I'm afraid that I will lose my partner's love.	○	○	○	○	○	○	○
Sometimes romantic partners change their feelings about me for no apparent reason.	○	○	○	○	○	○	○
I find it easy to depend on romantic partners.	○	○	○	○	○	○	○

Talking to Strangers

Please answer the following question using the scale provided.

How normal is it for you to talk to strangers?

- ○ 0 (not at all normal)
- ○ 1
- ○ 2
- ○ 3 (very normal)

Please answer the following question using the scale provided.

How many strangers have you spoken to in the past week?

- ○ 0 (No conversations)
- ○ 1 (1-2 Conversations)

- 2 (3-5 Conversations)
- 3 (More than 5 conversations)

RP Financial Support

Do you financially support your romantic partner in any way (e.g., paying for their housing, food, or other living expenses)?

1 (not at all)	2	3	4	5	6	7 (I support all of their expenses)	N/A (I don't have a romantic partner)
○	○	○	○	○	○	○	○

Does your romantic partner financially support you in any way (e.g., paying for your housing, food, or other living expenses)?

1 (not at all)	2	3	4	5	6	7 (They support all of my expenses)	N/A (I don't have a romantic partner)
○	○	○	○	○	○	○	○

Please rate how much you agree with this statement: Your romantic partner and you are very alike in how you choose to spend your money and resources.

1 (Very much disagree)	2	3	4	5	6	7 (Very much agree)	N/A (I don't have a romantic partner)
○	○	○	○	○	○	○	○

EAIS

Imagine a situation where you intend to do good (e.g., to improve others' lives or the world) with a certain limited amount of resources available (e.g., your time or money). You can decide how to allocate your resources by choosing from different options that all do good. The stakes are high.

In such a situation, when you can choose between different options of doing good...

	1 (strongly disagree)	2	3	4 (neither agree nor disagree)	5	6	7 (strongly agree)
It would be wrong to do something that only does some amount of good if there is an alternative course of action that would do much more good.	○	○	○	○	○	○	○
It would be the right choice to refrain from helping one person if that makes it possible to help a larger number of people.	○	○	○	○	○	○	○
Helping one person is less valuable than helping two people to the same extent.	○	○	○	○	○	○	○

	1 (strongly disagree)	2	3	4 (neither agree nor disagree)	5	6	7 (strongly agree)
You should follow evidence and reason to do what is most effective, even if you emotionally prefer another option.	○	○	○	○	○	○	○
The most important consideration is effectiveness - choosing the option that does the most good per resource invested.	○	○	○	○	○	○	○
You should usually help a large group of people over a smaller group, even if it seems unfair.	○	○	○	○	○	○	○

To what extent do you agree or disagree with the following statements?

	1 (strongly disagree)	2	3	4 (neither agree nor disagree)	5	6	7 (strongly agree)
As long as my and my family's basic material needs are covered, I want to use a significant amount of my resources (e.g., money or time) to improve the world.	○	○	○	○	○	○	○
I am willing to make significant sacrifices for people in need that I don't know and will never meet.	○	○	○	○	○	○	○
People in wealthy countries should donate a substantial proportion of their income to make the world a better place.	○	○	○	○	○	○	○
I would make a career change if it meant that I could improve the lives of people in need.	○	○	○	○	○	○	○
We should put a lot of emphasis on the well-being of people who live today.	○	○	○	○	○	○	○
From a moral perspective, the suffering of all beings matters roughly the same, no matter what species they belong to.	○	○	○	○	○	○	○

Legacy Motives Scale

When thinking about the future...

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I don't want my life to be forgotten.	○	○	○	○	○	○	○
It is important for me to leave a legacy of benefiting others.	○	○	○	○	○	○	○

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I want people to remember me.	○	○	○	○	○	○	○
I don't want my name to be forgotten after my death	○	○	○	○	○	○	○
I want my life to impact others in a positive way.	○	○	○	○	○	○	○
I want to have an enduring positive effect on society.	○	○	○	○	○	○	○
It is important to me that my actions help future people.	○	○	○	○	○	○	○
I want people to be thinking of me after I die.	○	○	○	○	○	○	○

RFG

Please indicate your agreement with each statement on the scale provided.

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I feel personally responsible for protecting future generations.	○	○	○	○	○	○	○
We need to reform to benefit future generations even if that means making some sacrifices now.	○	○	○	○	○	○	○
When deciding how to live, I have a duty to consider the impact of my actions on future generations.	○	○	○	○	○	○	○

Comprehension Note

To ensure our tasks are clear, occasionally we will ask you comprehension questions about our instructions.

Social Discounting List

Imagine generating a list of the 100 people closest to you in the world.

Number 1 would be your **closest friend** or **relative** and **number 100** would be a **distant acquaintance**.

Based on the text you read before, who would 'Number 1' on your list be?

- ○ My closest friend or relative.
- ○ My colleague or schoolmate.

Number 1 would be your **closest friend** or **relative** and **number 100** would be a **distant acquaintance.**

Please provide the first name and last initial of the person occupying **spot 1**.

This person will likely be your **closest friend** or **relative**.

Please **abstain** from listing **financial benefactors** (e.g., parents, grandparents, spouse).

Please provide the first name and last initial of the person occupying **spot 2**.

This person will likely be your **close friend** or **relative.**

Please **abstain** from listing **financial benefactors** (e.g., parents, grandparents, spouse).

Please provide the first name and last initial of the person occupying **spot 4**.

This person will likely be your **friend** or **relative**.

Please **abstain** from listing **financial benefactors** (e.g., parents, grandparents, spouse).

Please provide the first name and last initial of the person occupying **spot 10**.

This person will likely be your **colleague** or **schoolmate.**

Please **abstain** from listing **financial benefactors** (e.g., parents, grandparents, spouse).

Please provide the first name and last initial of the person occupying **spot 15**.

This person will likely be a **mutual friend** or **acquaintance.**

Please **abstain** from listing **financial benefactors** (e.g., parents, grandparents, spouse).

SD Instructions Part 1

In the next task, you will be presented with two amounts of money to choose between. You will be asked if you would prefer to receive an amount of money **for yourself** versus an amount of money **for a person you listed earlier**. Your job is to indicate which option you would prefer.

SD Instructions Part 2

While you (or the other person) will not actually receive the rewards, please indicate your preference as if you (or the other person) were actually going to be receiving the amount you choose.

Please try your best to respond to as many questions as possible. Please **keep your attention focused** on the task at all times.

Click the proceed button to begin.

Attention Reminder

As a reminder, we appreciate you focusing on the task at all times. Thanks!

SD1

Would you prefer

$20 for yourself	$55 for ${q://QID1213008022/ChoiceTextEntryValue}
○	○

SD2

Would you prefer

$31 for yourself	$85 for ${q://QID1213008022/ChoiceTextEntryValue}
○	○

SD3

Would you prefer

$11 for yourself	$30 for ${q://QID1213008023/ChoiceTextEntryValue}
○	○

SD4

Would you prefer

$15 for yourself	$35 for ${q://QID1213008023/ChoiceTextEntryValue}
○	○

SD5

Would you prefer

$33 for yourself	$80 for ${q://QID1213008023/ChoiceTextEntryValue}
○	

SD6

Would you prefer

$25 for yourself	$60 for ${q://QID1213008024/ChoiceTextEntryValue}

SD7

Would you prefer

$14 for yourself	$25 for ${q://QID1213008024/ChoiceTextEntryValue}

SD8

Would you prefer

$41 for yourself	$75 for ${q://QID1213008024/ChoiceTextEntryValue}

SD9

Would you prefer

$27 for yourself	$50 for ${q://QID1213008024/ChoiceTextEntryValue}

SD10

Would you prefer

$24 for yourself	$35 for ${q://QID1213008024/ChoiceTextEntryValue}

SD11

Would you prefer

$54 for yourself	$80 for ${q://QID1213008024/ChoiceTextEntryValue}

SD12

Would you prefer

$34 for yourself	$50 for ${q://QID1213008025/ChoiceTextEntryValue}
○	○

SD13

Would you prefer

$19 for yourself	$25 for ${q://QID1213008025/ChoiceTextEntryValue}
○	○

SD14

Would you prefer

$55 for yourself	$75 for ${q://QID1213008025/ChoiceTextEntryValue}
○	○

SD15

Would you prefer

$40 for yourself	$55 for ${q://QID1213008025/ChoiceTextEntryValue}
○	○

SD16

Would you prefer

$25 for yourself	$30 for ${q://QID1213008025/ChoiceTextEntryValue}
○	○

SD17

Would you prefer

$49 for yourself	$60 for ${q://QID1213008025/ChoiceTextEntryValue}
○	○

SD18

Would you prefer

$69 for yourself	$85 for ${q://QID1213008025/ChoiceTextEntryValue}
○	○

SD19

Would you prefer

$54 for yourself	$60 for ${q://QID1213008026/ChoiceTextEntryValue}
○	○

SD20

Would you prefer

$54 for yourself	$55 for ${q://QID1213008026/ChoiceTextEntryValue}
○	○

SD21

Would you prefer

$67 for yourself	$75 for ${q://QID1213008026/ChoiceTextEntryValue}
○	○

SD22

Would you prefer

$22 for yourself	$25 for ${q://QID1213008026/ChoiceTextEntryValue}
○	○

SD23

Would you prefer

$80 for yourself	$85 for ${q://QID1213008026/ChoiceTextEntryValue}
○	○

SD24

Would you prefer

$47 for yourself	$50 for ${q://QID1213008026/ChoiceTextEntryValue}
○	○

SD25

Would you prefer

$78 for yourself	$80 for ${q://QID1213008026/ChoiceTextEntryValue}
○	○

SD26

Would you prefer

$28 for yourself	$30 for ${q://QID1213008026/ChoiceTextEntryValue}
○	○

SD27

Would you prefer

$34 for yourself	$35 for ${q://QID1213008026/ChoiceTextEntryValue}
○	○

End of SD

You have completed this task. Click the proceed button to move on.

DD Instructions Part 1

In the next task, you will be presented with two amounts of money to choose between. You will be asked if you would prefer to receive an amount of money available **now** versus an amount of money available in the **future**. Your job is to indicate which option you would prefer.

Comprehension 1

Based on the text you read before, in this task, what will you be asked?

- ○ If I prefer an amount of money available now versus an amount available in the future.
- ○ If I prefer an amount of money for myself versus an amount for another person.

In the next, task you will be asked if you would prefer to receive an amount of money available **now** versus an amount of money available in the **future.**

DD Instructions Part 2

While you will not actually receive the rewards, please indicate your preference as if you were actually going to be receiving the amount you choose.

Please try your best to respond to as many questions as possible. Please **keep your attention focused** on the task at all times.

Click the proceed button to begin.

Attention Reminder

As a reminder, we appreciate you focusing on the task at all times. Thanks!

DD1

Would you prefer

$20 now	$55 in 1 week
○	○

DD2

Would you prefer

$31 now	$85 in 1 week
○	○

DD3

Would you prefer

$11 now	$30 in 2 weeks
○	○

DD4

Would you prefer

$15 now	$35 in 2 weeks
○	○

DD5

Would you prefer

$33 now	$80 in 2 weeks
○	○

DD6

Would you prefer

$25 now	$60 in 3 weeks
○	○

DD7

Would you prefer

$14 now	$25 in 3 weeks
○	○

DD8

Would you prefer

$41 now	$75 in 3 weeks
○	○

DD9

Would you prefer

$27 now	$50 in 3 weeks
○	○

DD10

Would you prefer

$24 now	$35 in 3 weeks
○	○

DD11

Would you prefer

$54 now	$80 in 3 weeks
○	○

DD12

Would you prefer

$34 now	$50 in 6 weeks
○	○

DD13

Would you prefer

$19 now	$25 in 6 weeks
○	○

DD14

Would you prefer

$55 now	$75 in 6 weeks
○	○

DD15

Would you prefer

$40 now	$55 in 6 weeks
○	○

DD16

Would you prefer

$25 now	$30 in 6 weeks
○	○

DD17

Would you prefer

$49 now	$60 in 6 weeks
○	○

DD18

Would you prefer

$69 now	$85 in 6 weeks
○	○

DD19

Would you prefer

$54 now ○ $60 in 12 weeks ○

DD20

Would you prefer

$54 now ○ $55 in 12 weeks ○

DD21

Would you prefer

$67 now ○ $75 in 12 weeks ○

DD22

Would you prefer

$22 now ○ $25 in 12 weeks ○

DD23

Would you prefer

$80 now ○ $85 in 12 weeks ○

DD24

Would you prefer

$47 now ○ $50 in 12 weeks ○

DD25

Would you prefer

$78 now ○ $80 in 12 weeks ○

DD26

Would you prefer

$28 now	$30 in 12 weeks
○	○

DD27

Would you prefer

$34 now	$35 in 12 weeks
○	○

End of DD

You have completed this task. Click the proceed button to move on.

Instr_Vign

This portion of the study looks at peoples' reactions to different stories about decision-making. You will read stories of situations where someone needs to decide between multiple options and winds up choosing one. After reading each story, you will be asked to report how morally acceptable or unacceptable you find the decision made by the actor in the passage and explain your reasoning for this judgment.

Please Note: It's extremely important that you engage with each task as instructed on each trial, because you will need to answer questions about each scenario you read. Focus on engaging with each task as you are instructed and you'll be fine. Also, please note that experimenters will monitor your responses at the conclusion of the study to ensure you complied with task instructions.

Please read the following stories carefully and answer the questions truthfully.

We will now go on to the first story. Click >> to proceed.

1_EA_DOM

Please read the following story carefully and answer the questions afterward truthfully:

This person wishes to donate some money to a cause. One option is to donate money to a charitable organization which is able to provide a fellow American who is experiencing conditions of famine with food for a month with a $300 donation. Another option is a charitable organization which is able to provide 3 African people living under conditions of famine with food for a month with a $300 donation. The potential donor is unsure of what to do with their money. Eventually, they decide to donate $300 to the charity that can feed 3 African people for $300.

Please indicate the extent to which you find the action in the story morally acceptable.

	1 (completely unacceptable)	2	3	4	5	6	7	8	9 (completely acceptable)
To what extent was it morally acceptable for the person in the story to donate money to 3 African people instead of 1 person from their own country?	○	○	○	○	○	○	○	○	○

Which of the following entities did the person in the story donate to?:

- ○ Chimpanzee(s)
- ○ Person(s) from the potential donor's country
- ○ Person(s) from the potential donor's town
- ○ Person(s) from a foreign country
- ○ Friend(s)
- ○ Family member(s)

1_EA_ST

Please read the following story carefully and answer the questions afterward truthfully:

This person wishes to donate some money to a cause. One option is to donate money to charitable organization which is able to provide a person from the potential donor's town who is experiencing conditions of famine with food for a month with a $300 donation. Another option is a charitable organization which is able to provide 3 African people living under conditions of famine with food for a month with a $300 donation. The potential donor is unsure of what to do with their money. Eventually, they decide to donate $300 to the charity that can feed 3 African people for $300.

Please indicate the extent to which you find the action in the story morally acceptable.

	1 (completely unacceptable)	2	3	4	5	6	7	8	9 (completely acceptable)
To what extent was it morally acceptable for the person in the story to donate money to 3 African people instead of 1 person from their own town?	○	○	○	○	○	○	○	○	○

Which of the following entities did the person in the story donate to?:

- ○ Chimpanzee(s)
- ○ Person(s) from the potential donor's country
- ○ Person(s) from the potential donor's town
- ○ Person(s) from a foreign country
- ○ Friend(s)
- ○ Family member(s)

1_EA_FR

Please read the following story carefully and answer the questions afterward truthfully:

This person wishes to donate money to a cause. One option is to donate money to a charitable organization which is able to provide a friend of the donor who is experiencing conditions of famine with food for a month with a $300 donation. Another option is a charitable organization which is able to provide 3 African people living under conditions of famine with food for a month with a $300 donation. The potential donor is unsure of what to do with their money. Eventually, they decide to donate $300 to the charity that can feed 3 African people for $300.

Please indicate the extent to which you find the action in the story morally acceptable.

	1 (completely unacceptable)	2	3	4	5	6	7	8	9 (completely acceptable)
To what extent was it morally acceptable for the person in the story to donate money to 3 African people instead of 1 friend?	○	○	○	○	○	○	○	○	○

Which of the following entities did the person in the story donate to?:

- ○ Chimpanzee(s)
- ○ Person(s) from the potential donor's country
- ○ Person(s) from the potential donor's town
- ○ Person(s) from a foreign country
- ○ Friend(s)
- ○ Family member(s)

1_EA_FA

Please read the following story carefully and answer the questions afterward truthfully:

This person wishes to donate money to a cause. One option is to donate money to a charitable organization which is able to provide a family member of the donor who is experiencing conditions of famine with food for a month with a $300 donation. Another option is a charitable organization which is able to provide 3 African people living under conditions of famine with food for a month with a $300 donation. The potential donor is unsure of what to do with their money. Eventually, they decide to donate $300 to the charity that can feed 3 African people for $300.

Please indicate the extent to which you find the action in the story morally acceptable.

	1 (completely unacceptable)	2	3	4	5	6	7	8	9 (completely acceptable)
To what extent was it morally acceptable for the person in the story to donate money to 3 African	○	○	○	○	○	○	○	○	○

	1 (completely unacceptable)	2	3	4	5	6	7	8	9 (completely acceptable)
people instead of 1 family member?									

Which of the following entities did the person in the story donate to?:

- Chimpanzee(s)
- Person(s) from the potential donor's country
- Person(s) from the potential donor's town
- Person(s) from a foreign country
- Friend(s)
- Family member(s)

2_EA_DOM

Please read the following story carefully and answer the questions afterward truthfully:

This person recently won a $1,000,000 jackpot from the lottery and wants to donate $100,000 to a cause. One option is to give this money to a hospital, allowing a person from the same country as the donor to have a special surgery. While one of these surgeries costs $100,000 to perform, it would save the life of the donor's compatriot from a deadly disease. The other option is to give the money to the United Nations to help fight measles and rubella, diseases which plague much of the developing world. It costs $80 to save one life from measles or rubella, so a $100,000 donation would provide enough vaccines to save the lives of 1,250 people from the deadly diseases. The person contemplates where they should donate. Eventually, they decide to donate the $100,000 to the UN charity that can help many people in developing nations.

Please indicate the extent to which you find the action in the story morally acceptable.

	1 (completely unacceptable)	2	3	4	5	6	7	8	9 (completely acceptable)
To what extent was it morally acceptable for the person in the story to donate money to the UN charity for people in another country instead of 1 person from their own country?									

Which of the following entities did the person in the story donate to?:

- Chimpanzee(s)
- Person(s) from the potential donor's country
- Person(s) from the potential donor's town
- Person(s) from a foreign country
- Friend(s)
- Family member(s)

2_EA_ST

Please read the following story carefully and answer the questions afterward truthfully:

This person recently won a $1,000,000 jackpot from the lottery and wants to donate $100,000 to a cause. One option is to give this money to a hospital, allowing a person from the same town as the donor to have a special surgery. While one of these surgeries costs $100,000 to perform, it would save the life of the donor's community member from a deadly disease. The other option is to give the money to the United Nations to help fight measles and rubella, diseases which plague much of the developing world. It costs $80 to save one life from measles or rubella, so a $100,000 donation would provide enough vaccines to save the lives of 1,250 people from the deadly diseases. The person contemplates where they should donate. Eventually, they decide to donate the $100,000 to the UN charity that can help many people in developing nations.

Please indicate the extent to which you find the action in the story morally acceptable.

	1 (completely unacceptable)	2	3	4	5	6	7	8	9 (completely acceptable)
To what extent was it morally acceptable for the person in the story to donate money to the UN charity for people in another country instead of 1 person from their own town?	○	○	○	○	○	○	○	○	○

Which of the following entities did the person in the story donate to?:

- ○ Chimpanzee(s)
- ○ Person(s) from the potential donor's country
- ○ Person(s) from the potential donor's town
- ○ Person(s) from a foreign country
- ○ Friend(s)
- ○ Family member(s)

2_EA_FR

Please read the following story carefully and answer the questions afterward truthfully:

This person recently won a $1,000,000 jackpot from the lottery and wants to donate $100,000 to a cause. One option is to give this money to a hospital, allowing a friend of the donor's to have a special surgery. While one of these surgeries costs $100,000 to perform, it would save the life of the donor's friend from a deadly disease. The other option is to give the money to the United Nations to help fight measles and rubella, diseases which plague much of the developing world. It costs $80 to save one life from measles or rubella, so a $100,000 donation would provide enough vaccines to save the lives of 1,250 people from the deadly diseases. The person contemplates where they should donate. Eventually, they decide to donate the $100,000 to the UN charity that can help many people in developing nations.

Please indicate the extent to which you find the action in the story morally acceptable.

	1 (completely unacceptable)	2	3	4	5	6	7	8	9 (completely acceptable)
To what extent was it morally acceptable for the person in the story to donate money to the UN charity for people in another country instead of 1 friend?	○	○	○	○	○	○	○	○	○

Which of the following entities did the person in the story donate to?:

- ○ Chimpanzee(s)
- ○ Person(s) from the potential donor's country
- ○ Person(s) from the potential donor's town
- ○ Person(s) from a foreign country
- ○ Friend(s)
- ○ Family member(s)

2_EA_FA

Please read the following story carefully and answer the questions afterward truthfully:

This person recently won a $1,000,000 jackpot from the lottery and wants to donate $100,000 to a cause. One option is to give this money to a hospital, allowing a family member of the donor's to have a special surgery. While one of these surgeries costs $100,000 to perform, it would save the life of the donor's family member from a deadly disease. The other option is to give the money to the United Nations to help fight measles and rubella, diseases which plague much of the developing world. It costs $80 to save one life from measles or rubella, so a $100,000 donation would provide enough vaccines to save the lives of 1,250 people from the deadly diseases. The person contemplates where they should donate. Eventually, they decide to donate the $100,000 to the UN charity that can help many people in developing nations.

Please indicate the extent to which you find the action in the story morally acceptable.

	1 (completely unacceptable)	2	3	4	5	6	7	8	9 (completely acceptable)
To what extent was it morally acceptable for the person in the story to donate money to the UN charity for people in another country instead of 1 family member?	○	○	○	○	○	○	○	○	○

Which of the following entities did the person in the story donate to?:

- ○ Chimpanzee(s)
- ○ Person(s) from the potential donor's country
- ○ Person(s) from the potential donor's town
- ○ Person(s) from a foreign country
- ○ Friend(s)
- ○ Family member(s)

BT INST

You have been selected to help choose which charity to allocate a $1 donation towards. You will now be shown a series of choices where you will be asked to decide which of two different charities you would like the dollar to be donated to. We will donate the dollar to a charity you select on one of the following trials.

BT A1

Which charity would you prefer to donate to?

- **Malaria Consortium: Providing Medicine to Prevent Malaria in sub-Saharan Africa**
  Malaria is a deadly disease rampant in sub-Saharan Africa. Seasonal malaria chemoprevention is preventive medicine that saves children's lives. It is given during the four months of the year when malaria infection rates are especially high. Malaria Consortium saves lives in sub-Saharan Africa by funding the administration of this medication.

- **Make-A-Wish America: Granting Wishes to Sick Children in America**
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BT A2

Which charity would you prefer to donate to?

- **Childhood Leukemia Foundation: Educating and Empowering American Childhood Cancer Patients**
  Childhood Leukemia Foundation's programs educate and empower childhood cancer patients in America. The organization primarily provides educational binders to parents of children with cancer, wigs to children suffering from cancer-treatment-related hair loss, and educational wish baskets containing toys, games, and iPads to American childhood cancer patients.

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BT A3

Which charity would you prefer to donate to?

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BT A4

Which charity would you prefer to donate to?

- **National Caregiving Foundation: Using Mailings to Educate the American Pubic About Alzheimer's Disease**
  The National Caregiving Foundation uses direct mail to communicate to the American caregiving community. They use their mailings to educate the American public about Alzheimer disease, including warning signs and symptoms and offer suggestions to caregivers, including care for wounded soldiers.

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BT B1

Which charity would you prefer to donate to?

- **Against Malaria Foundation: Providing Nets to Prevent Malaria in sub-Saharan Africa**
  Malaria is a deadly disease rampant in sub-Saharan Africa. Bed nets save lives. Participants hang the nets and sleep under them so they are not bitten by malaria-carrying mosquitoes. The Against Malaria Foundation saves lives in sub-Saharan Africa by funding the provision of bed nets.

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BT C1

Which charity would you prefer to donate to?

○ **Hellen Keller International: Providing Supplements to Prevent Vitamin A Deficiency Internationally**
Vitamin A deficiency leaves children vulnerable to infections and often leads to death. Vitamin A supplements can restore vitamin A to healthy levels. Hellen Keller International saves lives internationally by providing vitamin A supplements to children under 5 years old.

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BT C2

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- **New Incentives: Providing Cash Incentives for Routine Childhood Vaccines in Nigeria**
  In Nigeria, many infants do not receive all of their recommended vaccines. Vaccines reduce the transmission of deadly, preventable illnesses. New Incentives saves lives in Nigeria by providing cash transfers to incentivize caregivers to bring babies to clinics for routine childhood vaccinations.

BT D2

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Longtermism Instructions

For this part of the survey we will present you with questions focusing on your thoughts about **future generations** and the **far future.** Specifically we will ask you to answer the same set of questions **with a different timeframe in mind for what the far future and the future generations living in it would be**.

These timeframes could range from **1,000 years** in the future to **1,000,000 years** in the future.

The following statements focus on your beliefs about the **long-term future and future generations**. When answering them, please think about society and humans living in each of the specified timeframes.

For each statement, a specific word will be **bolded and underlined.** This highlights that this particular aspect of the statement should be answered for different potential timeframes.

For instance, in the statement: "I care about **future generations**" When answering the questions below, the four timeframes you should have in mind when responding to the statement (for which separate responses are available) are:

a) 1,000 years in the future
b) 10,000 years in the future
c) 100,000 years in the future
d) 1,000,000 years in the future

Finally, to show us that you are following our instructions, please drag all four sliders to the middle of the scale (i.e., to 50).

	Strongly disagree				Neither agree nor disagree				Strongly agree		
	0	10	20	30	40	50	60	70	80	90	100
1,000 years in the future											
10,000 years in the future											
100,000 years in the future											
1,000,000 years in the future											

LT1

We should act wisely because what we do today will influence an untold number of people **in the future**.

	Strongly disagree				Neither agree nor disagree				Strongly agree		
	0	10	20	30	40	50	60	70	80	90	100
1,000 years in the future											
10,000 years in the future											
100,000 years in the future											
1,000,000 years in the future											

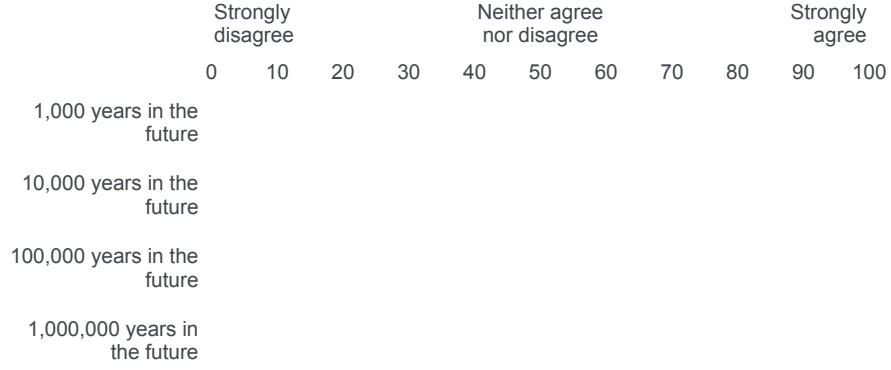
LT2

It is important to consider the **long-term consequences** of our actions and decisions.

	Strongly disagree				Neither agree nor disagree				Strongly agree		
	0	10	20	30	40	50	60	70	80	90	100
1,000 years in the future											
10,000 years in the future											
100,000 years in the future											
1,000,000 years in the future											

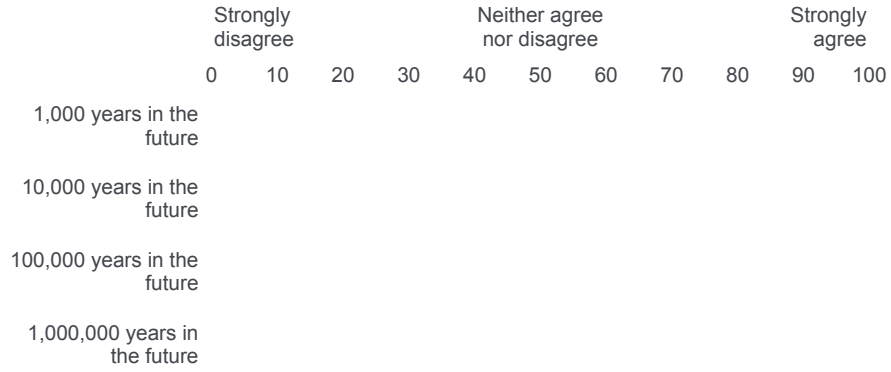
LT3

Intergenerational cooperation is important for addressing **long-term challenges.**



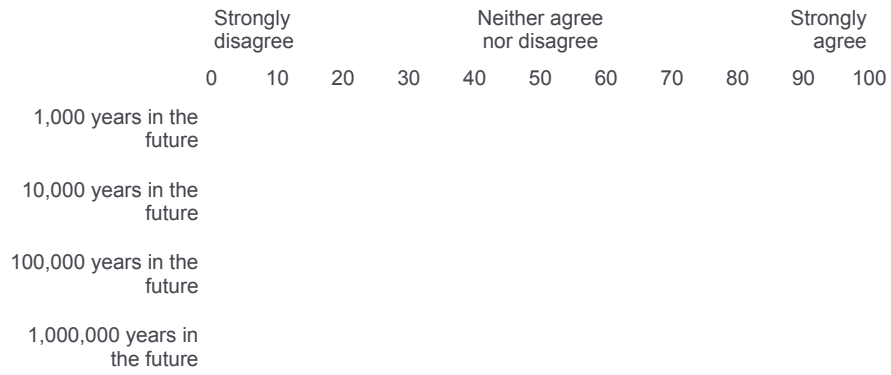
LT4

It is important that we reduce existential and extinction risks to humanity and promote sustainable development goals to ensure the **long-term survival of future generations.**



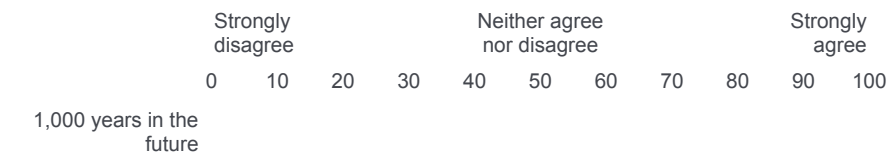
LT5

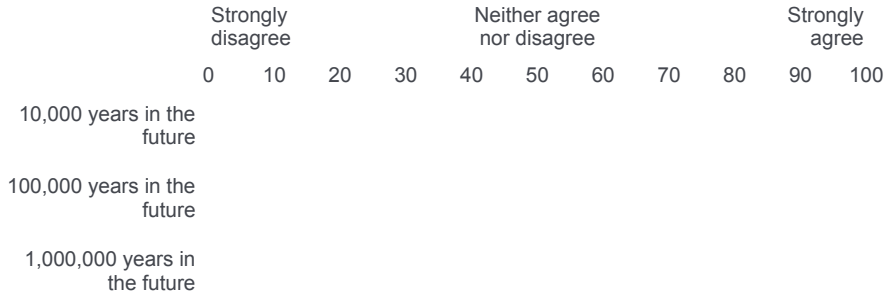
We should always have in view not only the present but also **future generations.**



LT6

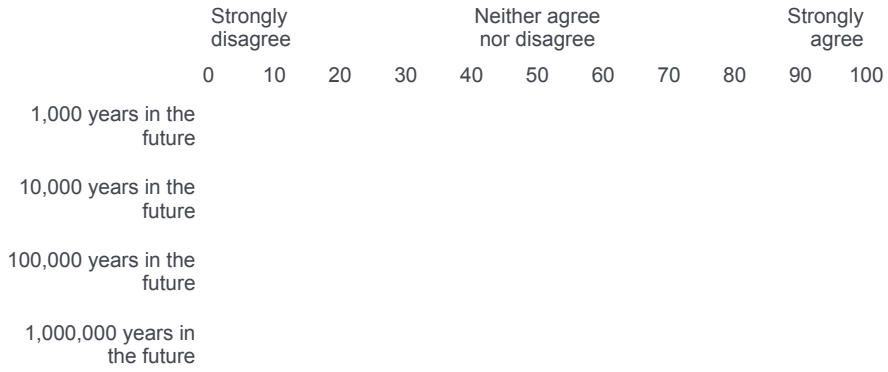
There are things we can do to steer the **long-term future** to a better course.





LT7

Positively influencing the **long-term future** is a key moral priority of our time.



Demographics

Thank you. Before concluding the study, we ask that you please provide us with the following information about yourself. We use this information to report the characteristics of people who helped with this research.

What is your age in years?

What is your nationality (for example, United States)?

What is your native/first language (for example, English)?

What is your gender?

- ○ female
- ○ male
- ○ other

How would you describe your race/ethnicity? Please select all that apply:

- ☐ Caucasian/White

- [ ] African American/Black
- [ ] Hispanic/Latino/Latina
- [ ] Asian/Asian American
- [ ] Native American
- [ ] Pacific Islander
- [ ] Middle Eastern
- [ ] Multiracial
- [ ] Other (please specify): _____

What is your political orientation?

- ○ very liberal (left-wing)
- ○ liberal
- ○ somewhat liberal
- ○ moderate/middle of the road
- ○ somewhat conservative
- ○ conservative
- ○ very conservative (right wing)

What is the highest degree or level of school you have completed? If currently enrolled, highest degree received.

- ○ No schooling completed
- ○ Nursery school to 8th grade
- ○ Some high school, no diploma
- ○ High school graduate, diploma or the equivalent (for example: GED)
- ○ Some college credit, no degree
- ○ Trade/technical/vocational training
- ○ Associate degree
- ○ Bachelor's degree
- ○ Master's degree
- ○ Professional degree
- ○ Doctorate degree

In a given year, what percentage (out of 100) of your yearly income do you donate to charity?

0 10 20 30 40 50 60 70 80 90 100

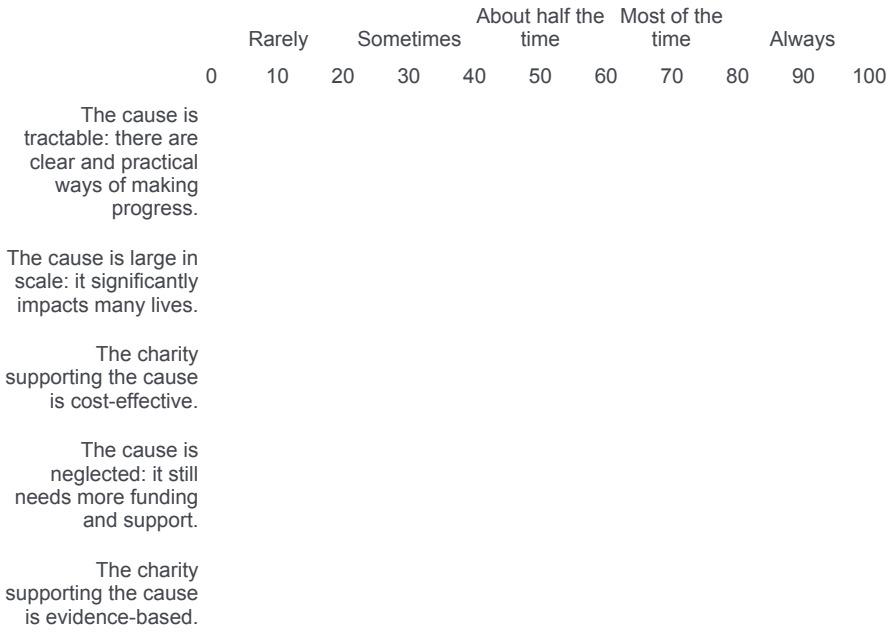
Percentage of your yearly income that you donate to charity.

In a given year, what percentage (out of 100) of your time do you devote towards volunteering to help others?

0 10 20 30 40 50 60 70 80 90 100

Percentage of your time you devote towards volunteering to help others.

When deciding to donate to a charitable cause, how often does the following weigh into your decision?



Please list the charities that you donate to and list how much you donate to each charity in a typical year. (If you do not donate to charity, please write "N/A" in the field below)

Not including donating blood, have you ever donated an organ (e.g., a kidney) or another body tissue (e.g., bone marrow) to a stranger?

- ○ No
- ○ Yes

What organ or body tissue have you donated to a stranger?

Are you familiar with the longtermism philosophy?

- ○ No
- ○ Yes

Please indicate your level of familiarity with the longtermism philosophy.

1 (not very familiar)	2	3	4	5	6	7 (very familiar)
○	○	○	○	○	○	○

Do you identify as a longtermist?

- No
- Yes

What was your total household income before taxes during the past 12 months?

- Less than $25,000
- $25,000-$49,999
- $50,000-$74,999
- $75,000-$99,999
- $100,000-$149,999
- $150,000 or more
- Prefer not to say

How many children under 18 live with you?

What best describes your employment status over the last three months?

- Working full-time
- Working part-time
- Unemployed and looking for work
- A homemaker or stay-at-home parent
- Student
- Retired
- Other

What is your current marital status?

- Married
- Living with a partner
- Widowed
- Divorced/Separated
- Never been married

How many people live or stay in this household at least half the time?

What is your religion?

- No Religion/Athiest
- Unsure/Agnostic
- Christian (all denominations)
- Buddhist
- Hindu
- Jewish
- Muslim
- Sikh

- ○ [ ] Any other religion

How devout would you describe your religiosity?

- ○ Far below average
- ○ Somewhat below average
- ○ Average
- ○ Somewhat above average
- ○ Far above average