Lay theories of moral progress

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Author Note

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Abstract

Many consider the world to be morally better today than it was in the past and expect moral improvement to continue. How do people explain what drives this change? In this paper, we identify two ways people might think about how moral progress occurs: that it is driven by human action (i.e., if people did not actively work to make the world better, moral progress would not occur) or that it is driven by an unspecified mechanism (i.e., that our world is destined to morally improve, but without specifying a role for human action). In Study 1 (N=147), we find that those who more strongly believe that the mechanism of moral progress is human action are more likely to believe their own intervention is warranted to correct a moral setback. In Study 2 (N=145), we find that this translates to intended action: those who more strongly believe moral progress is driven by human action report that they would donate more money to correct a moral setback. In Study 3 (N=297), participants generate their own explanations for why moral progress occurs. We find that participants' donation intentions are predicted by whether their explanations state that human action drives moral progress. Together these studies suggest that beliefs about the mechanisms of moral progress have important implications for engaging in social action.

Keywords: moral progress; social change; donation intention; explanation

Lay theories of moral progress

The end of slavery and the adoption of the Civil Rights Act have been among the most influential social changes in United States history. Some consider them not merely social changes, but evidence for *moral progress* (e.g., Sturgeon, 1988; Leiter, 2001; Luco, 2019): the idea that the world has morally improved and will continue to improve in the future.

Reflecting on moral progress, Martin Luther King, Jr. proclaimed that "the arc of the moral universe is long, but it bends towards justice" (paraphrasing abolitionist Theodore Parker; Parker, 1852; as cited in Washington, 1986). However, some have found this message incomplete, adding that "what we can miss in this cold-eyed understanding of history is that the arc won't even bend without millions of Americans pressing for the swerve" (Meacham, 2020; p. 8). The tension between these two views of moral progress rests on the following question: If moral progress occurs, by what mechanism does it do so?

One view is that moral progress requires human action: it occurs only if people actively work to make the world better. Another possibility is that people think moral progress indeed occurs, but where the mechanism by which it occurs is left unspecified. This is reflected in a sentiment such as, "our world is destined to morally improve," which doesn't specify how this improvement will occur. In this paper, we investigate how people think about the mechanism(s) of moral progress and how this affects their beliefs and intentions after a moral setback.

Across three studies, we address the following: Do people perceive moral progress as driven by human action or an unspecified mechanism (Studies 1-3)? Are those who believe that moral progress is driven by human action more likely to believe that intervention is warranted after a moral setback (Study 1), and more likely to intend *action* after a moral setback (Studies 2-

3)? And is human action a dominant theory of moral progress that people generate when invited to generate their own explanations for how moral progress occurs (Study 3)?

Answering these questions addresses important gaps in our understanding of moral action. Prior research has explored several factors that drive participation in social movements (Lewry & Lombrozo, 2024), from emotions (e.g., Solak et al., 2017) to social media (e.g., Kende et al., 2016) and perceived efficacy (e.g., Gulliver et al., 2020). If lay theories of moral progress—causal-explanatory beliefs used to understand the world (Gottlieb & Lombrozo, 2018; Shtulman, 2015)—exert an additional or moderating influence, characterizing their content, variation, and relationship to moral action will be crucial to a complete understanding of when and why people are driven to participate in social change.

The psychology of progress

Prior work finds variation in beliefs about whether moral progress occurs. Some studies suggest that people make pessimistically inaccurate judgments about moral progress (Mitchell & Tetlock, 2023; Mastroianni & Gilbert, 2023). For example, Mitchell and Tetlock (2023) found that people underestimate the amount by which teen pregnancies have declined over time. However, this is issue-specific; perhaps people are inaccurate about specific topics but remain generally optimistic about moral progress. This is in line with other work, which suggests a general tendency towards optimism about moral progress (Lewry et al., 2024; Hillman et al., 2023) and quality of life (Lou & Haas, 2024). These perceptions may be influenced by identity factors such as gender (Eibach & Ehrlinger, 2006), race (Kraus et al., 2017), or political views (Eibach & Libby, 2009). Related work focuses on beliefs about whether racial progress occurs, revealing a gap between perceived and actual progress (for a review, see Kraus et al., 2019). This

work also identifies causes and correlates of racial progress beliefs (e.g., Kraus et al., 2017) and how they might be corrected (e.g., Onyeador et al., 2021).

Rutjens and colleagues investigated why people might believe moral progress occurs, suggesting that this belief offers a sense of control and existential security (Rutjens et al., 2009, 2010, 2016). But little is known about how people think moral progress occurs. If people hold lay theories of moral progress, by what mechanisms do people think moral progress occurs?

Only two papers to our knowledge have investigated people's beliefs about how moral progress occurs. First, Hur and Ruttan (2024) found that people tend to perceive social progress as occurring linearly, and the extent to which they do so for a given issue relates to how urgent they perceive the issue to be. Separately, Uttich et al. (2014) found that people are sensitive to at least two dimensions of moral progress: concreteness-abstractness (i.e., moral progress on a particular issue versus in general) and tendency-inevitable (i.e., moral progress as a trend versus unavoidable). However, no prior studies to our knowledge have investigated what people view as the mechanisms that drive progress forward.

The present work

In the present work, we investigate *how* participants think moral progress occurs: through human action, or through a mechanism that remains unspecified? We also investigate the link between lay theories of moral progress and prosocial action: Does viewing human action as necessary for moral progress predict beliefs about the need for human action in response to a moral setback and the intention to donate to relevant causes?

Study 1

In Study 1, we hypothesized that people who more strongly believe human action is necessary for moral progress are more likely to believe their own intervention is necessary to address a setback to moral progress. If our hypothesis is supported, participants who strongly agree that moral progress occurs because of human action, but not those who strongly agree with statements in which the mechanism of moral progress is unspecified, should be more likely to indicate that their own intervention is necessary after a moral setback.

Method

All studies were approved by the IRB at Princeton University (#10662). Preregistrations, data, R scripts, and research materials are available at https://osf.io/wgkvr. Data were analyzed using R, version 4.4.1 (R Core Team, 2024). Study 3 was not preregistered.

Participants

Participants in Study 1 were 147 adults (71 men, 4 non-binary people, 72 women, mean age 41 years, age range 18-76 years) recruited via Prolific. Three additional respondents were excluded for failing an attention check (described below). Post-hoc sensitivity analyses using bootstrapping with 1,000 resamples provided robust estimates of the main effect, b=0.88, 95% CI [0.55, 1.27]. Participants in all studies were paid at a rate of $12.50 per hour, pro-rated to the 8-minute task (Study 2: 8 minutes, Study 3: 10 minutes). Participation was restricted to adults in the U.S. who had completed at least 100 prior tasks with a 95% approval rating and had not completed a prior task from this set of studies.

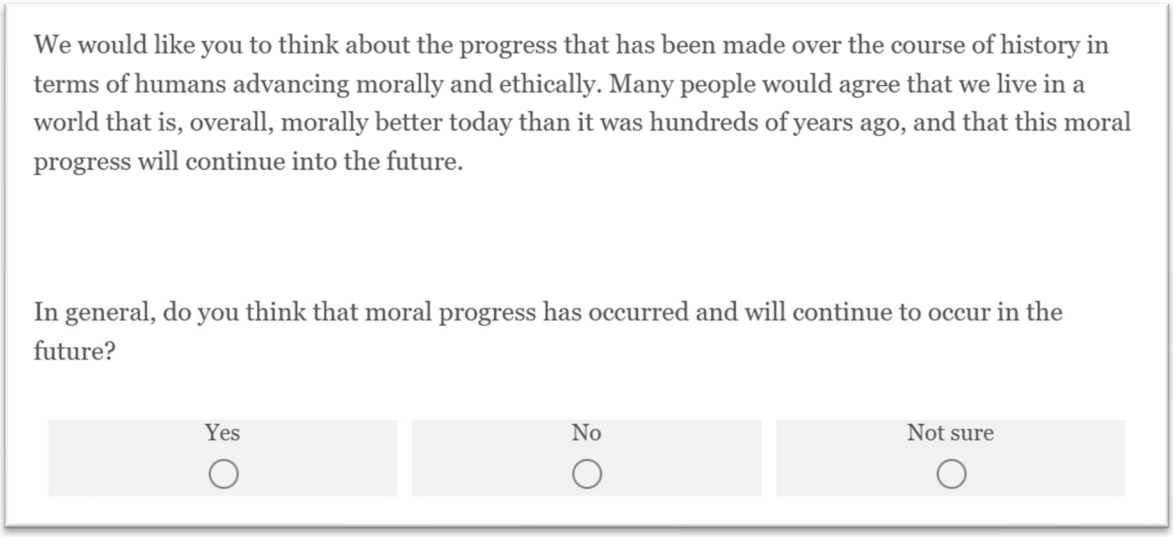
Materials and Procedure

The first item in the survey (after consent and CAPTCHA verification) was an attention check. This was a filler paragraph about fruit that asked participants to write the word “instructions” in a text box.

After proceeding, participants read a description of moral progress and indicated their agreement (see Figure 1). Since our primary aim was to characterize the way that people think about how moral progress occurs, our target sample was those participants who do believe moral progress occurs. Nonetheless, the results were similar and in the predicted direction when we included all participants. For all studies, these results are reported in the Supplementary Materials on OSF (https://osf.io/wgkvr).

Figure 1

Categorical agreement with moral progress item



All participants next completed a Mechanisms of Moral Progress task. This consisted of a scale containing eight items presented in a random order, four of which measured belief that moral progress is driven by human action (Human Mechanism subscale) and four of which measured belief that moral progress is driven by an unspecified mechanism (Unspecified Mechanism subscale; see Table 1). Pilot testing confirmed that each subscale had high

Cronbach's alpha (Human Mechanism: α=.81 [.72, .87]; Unspecified Mechanism: α=.78 [.68, .85]), but the two scales were not significantly correlated with each other (r=-0.02, p=.87; see Supplementary Materials for factor loadings). Participants were asked to rate their agreement with each statement on a scale from "1-Strongly disagree" to "7-Strongly agree" with a midpoint at "4-Neither agree nor disagree."

Note that these dimensions are not mutually exclusive: one can believe that God ensures moral improvement (consistent with an unspecified mechanism), while also believing that humans assist this process (consistent with a human mechanism). The Unspecified Mechanism scale serves largely as a control to ensure that endorsing *any* mechanism of moral progress does not similarly predict our dependent variables.

Table 1

Items in the Mechanisms of Moral Progress task.

Subscale	Item
Human Mechanism	Moral progress is driven by the choices that people make.
	If people did not actively work to make the world better, moral progress would not occur.
	The hard work and activism of individuals and groups is the reason moral progress occurs.
	My actions and the actions of others have an impact on whether the world gets morally better or worse.
Unspecified Mechanism	Moral progress is inevitable.
	Moral change can have stops and starts, but tends towards progress.
	Whether because of natural forces or a higher power, our world is destined to morally improve.
	Although there is still injustice in the world, justice will always prevail.

Next, participants completed a Moral Setback task, in which they were asked to bring to mind something that they consider to be a recent setback to moral progress and write their example in a text box.

Participants then completed a Personal Intervention task, in which they rated their agreement with eight items, presented in a random order. These items were designed to measure what type of personal intervention, if any, participants thought was required to correct the moral setback. Four items related to Personal Intervention (see Table 2). The other four items, included for exploratory purposes, related to Divine Intervention (see Supplementary Materials for analysis).

Table 2

Items in the Intervention task.

Subscale	Item
Personal intervention	It is necessary for me to take action to improve this issue.
	It is important for me to let our representatives in government know that this is an issue I care about.
	If I do not educate the public about the importance of this issue, it will not improve in the future.
	If I do not keep talking about this issue, the public will move on and things will not get better.
Divine intervention	When something like this happens, prayer is the best response.
	In the end, God/gods make(s) sure that everything morally improves.
	It helps for me to call on divine power for this issue to improve in the future.
	I am able to turn to religion to ensure that this issue gets better in the future.

Participants also completed the 5-item Centrality of Religiosity scale (Huber & Huber, 2012) at the end of the survey, before answering demographic questions, being debriefed, and exiting the survey.

Results

A majority of participants reported belief in moral progress (see Figure 2). The most commonly reported setback across studies was abortion (see Table 3).

Figure 2

Percentage of each response to the question asking participants whether they believe in moral progress.

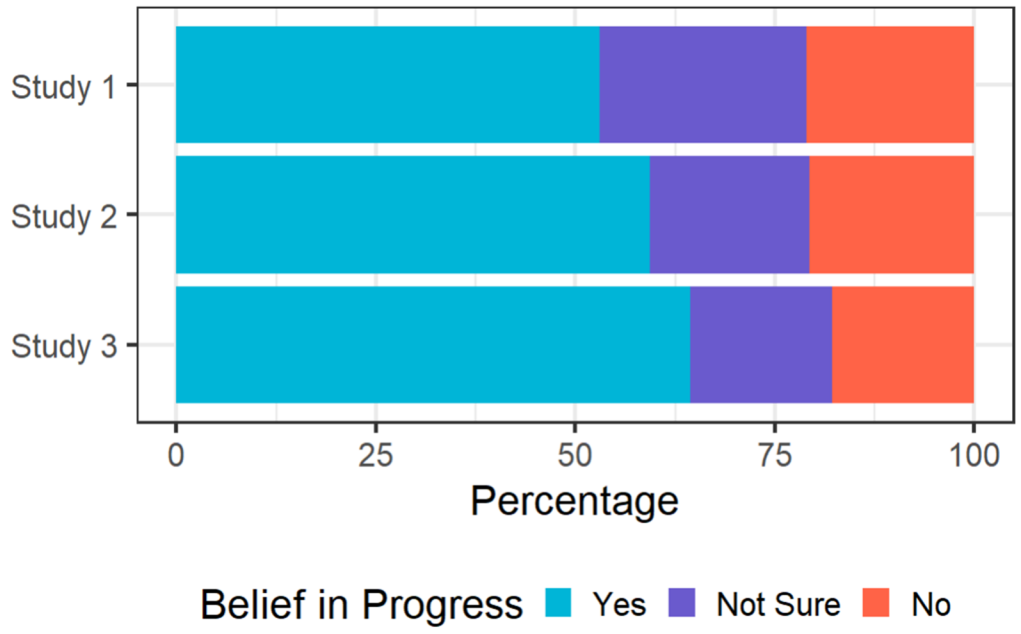


Table 3

Types of moral setbacks generated by participants in Studies 1 and 2.

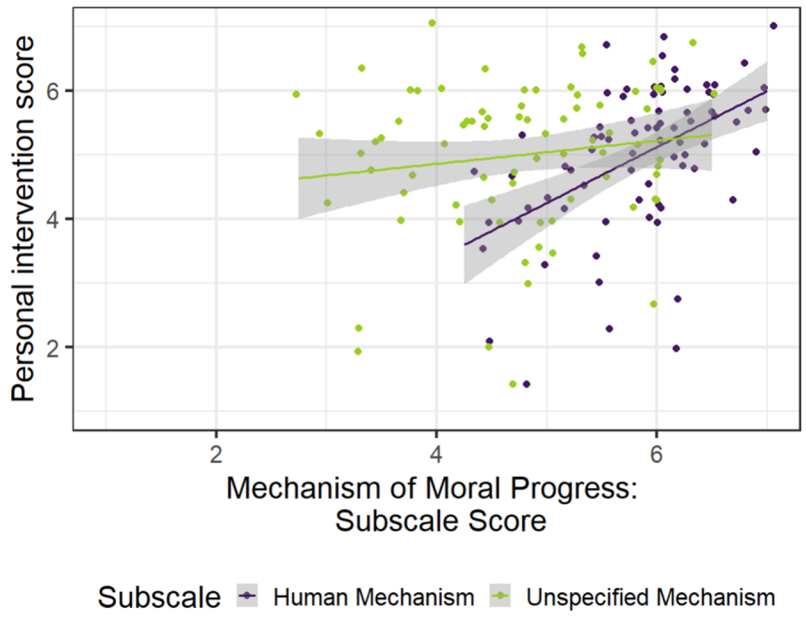
Study	Setback type (Percent of responses)	Example
Study 1	Abortion (pro-life or pro-choice; 29%)	"Roe vs Wade being overturned by the US Supreme Court"
	LGBTQ+ rights (for or against; 16%)	"Kids being put on hormone blockers"
	Racism (13%)	"Police brutality, racial inequality. I can't breathe"
	Ukraine war (9%)	"The Russian invasion of Ukraine"
	Other (33%)	"Covid-19 has slowed down moral improvement or prevented it from happening."
Study 2	Abortion (pro-life or pro-choice; 29%)	"The killing of the unborn in abortion"
	Racism (12%)	"The rise in Asian American hate after COVID-19-related racism."
	Ukraine war (11%)	"The current conflict in Ukraine"
	Human rights (6%)	"The treatment of garment workers by fast fashion companies, most notably Shein"
	Guns (6%)	"Lack of gun control in America"
	Other (36%)	"Increased aggression of people in public places"

To test our main prediction, we calculated mean scores for each participant for their ratings on the Human Mechanism subscale (M=5.86, SD=0.65) and Unspecified Mechanism subscale (M=4.77, SD=0.92) of the Mechanisms of Moral Progress task, as well as the Personal Intervention items (M=5.00, SD=1.15) in the Moral Setback task. We then fit a regression treating Personal Intervention score as the dependent variable and Human Mechanism score and Unspecified Mechanism score as predictors. We found that Human Mechanism score (b=0.88, SE=0.17, p<.001, 95% CI = [0.53, 1.23]), but not Unspecified Mechanism score (b=0.19, SE=0.19, p=.13, 95% CI = [-0.06, 0.44]), was a significant, positive predictor of Personal Intervention score (see Figure 3). This suggests that participants judge their own intervention as more important for correcting moral setbacks when they view moral progress as a result of

human action, but not when they more strongly endorse claims about moral progress involving an unspecified mechanism.

Figure 3

Relationship between subscale scores on the Mechanisms of Moral Progress task and score on the Personal Intervention subscale of the Intervention task



Note. Each jittered point corresponds to one participant, lines indicate best fit from regression analysis, and error bars indicate standard error.

Discussion

In Study 1, we found that a majority of our sample agreed that moral progress occurs, and that many of these participants believed that moral progress requires human action. A potential limitation of the Human Mechanism subscale is that there was very high agreement and less variation than in the Unspecified Mechanism subscale. Yet, this variation still predicted the extent to which participants thought their own intervention was warranted to correct a moral setback. Importantly, this does not seem to be a general effect such that those who think or care

more about moral progress are more likely to believe intervention is warranted. If this were the case, then Unspecified Mechanism ratings would likely have predicted Personal Intervention scores, as well. In Study 2, we investigate whether these beliefs about personal intervention translate to intended action.

Study 2

In Study 2, we hypothesized that people who more strongly believe human action is necessary for moral progress will be more willing to donate money to a charity they see as correcting a setback to moral progress. To test this, we followed the procedure in Study 1 but measured intended donations to charity rather than participants' beliefs about necessary interventions. If our hypothesis is supported, agreement that moral progress occurs because of human action, but not agreement with the unspecified mechanism, should predict donation amounts.

Participants

Participants in Study 2 were 145 adults (73 men, 3 non-binary people, 69 women, mean age 35 years, age range 18-76 years) recruited via Prolific. Five additional respondents were excluded for failing an attention check. Post-hoc sensitivity analyses using bootstrapping with 1,000 resamples provided robust estimates of the main effect, b=2.48, 95% CI [0.64, 4.43].

Materials and procedure

The procedure for Study 2 mirrored Study 1, with the following exceptions. After the Moral Setback task, participants completed a Donation task instead of the Intervention task. In the Donation task, we presented participants with eight charity options and asked, "Which of the following charities supports efforts that most closely combat the issue you

described earlier?". Each was a real charity with an excellent score from Charity Navigator, a website that evaluates the impact and effectiveness of charities, and we informed participants of this. The eight charities reflected the eight most-cited moral setbacks that participants identified in Study 1. Participants could also enter a charity that wasn't listed if they felt that none of the options fit their moral setback or if they preferred another charity.

Next, we asked participants what amount they would be willing to donate to the charity they selected, if they had the opportunity to do so (language taken from Young & Durwin, 2013). Participants could select any amount on a sliding scale from $0 to $20. Due to IRB restrictions, we were unable to actually donate the amount that participants selected, and as such the donation was hypothetical.

Study 2 did not include the CRS-5 collected in Study 1. After the Donation task, participants answered demographic questions, were debriefed, and exited the survey.

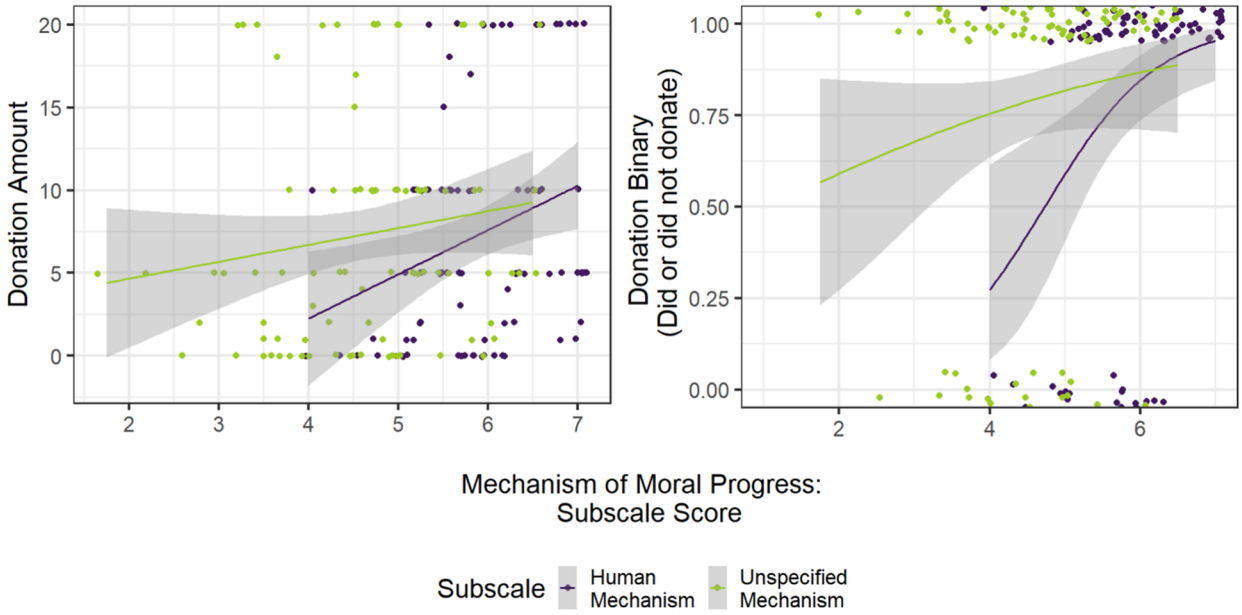
Results

To test our main prediction, we fit a regression treating donation amount (M=7.33, SD=7.00) as the dependent variable and Human Mechanism score (M=5.90, SD=0.73) and Unspecified Mechanism score (M=4.60, SD=1.03) as predictors. We found that Human Mechanism score (b=2.48, SE=1.03, p=.02, 95% CI = [0.42, 4.53]), but not Unspecified Mechanism score (b=0.58, SE=0.75, p=.44, 95% CI = [-0.90, 2.07]), was a significant positive predictor of donation amount (see Figure 4). Every point increase on the Human Mechanism subscale was associated with a donation approximately $2.48 higher, while Unspecified Mechanism subscale score did not significantly predict donations. As an exploratory analysis, we also tested binary donation score (whether the participant donated any non-zero amount or not)

as the dependent variable. These results were also significant and in the predicted direction and are reported in Supplementary Materials.

Figure 4

Relationship between subscale scores on the Mechanism of Moral Progress task and donation amount (left) and donation binary (right).



Note. Each jittered point corresponds to one participant, lines indicate best fit from regression analysis, and error bars indicate standard error.

Discussion

Study 2 built on Study 1 by showing that not only are participants more likely to believe action is warranted if they believe moral progress is driven by human action, but they are also more likely to act. Measuring donation intentions, we find the same patterns as in Study 1, suggesting that people's beliefs about what actions are necessary translate to their behavioral intentions.

However, both Studies 1 and 2 used the Mechanisms of Moral Progress scale we developed. When unprompted by this scale, do participants spontaneously generate explanations that cite human action as a driver of moral progress? If so, do their natural explanations also predict donation intentions? We address these questions in Study 3.

Study 3

One limitation of Studies 1 and 2 is that all participants were guided to consider the role of human action by completing the Mechanisms of Moral Progress task. Studies 1 and 2 also leave open the possibility that participants would spontaneously generate different explanations for why moral progress occurs. In Study 3, we investigate whether participants whose *own* explanations for moral progress contain direct references to human action will also be more willing to donate. This open-ended explanation task also allows us to investigate whether participants systematically generate alternative mechanisms for moral progress.

Method

Participants

Participants in Study 3 were 297 adults (151 men, 4 non-binary people, 141 women, 1 no response, mean age 40 years, age range 18-76 years) recruited via Prolific. Three additional respondents were excluded for failing an attention check. Post-hoc sensitivity analyses using bootstrapping with 1,000 resamples provided robust estimates of the main effect, b=2.48, 95% CI [0.05, 5.05].

Materials and procedure

The procedure for Study 3 mirrored Study 2, with the following exception.

Immediately after reading our description of moral progress and indicating whether they think that it is occurring ("yes," "no," or "not sure"), participants were asked to "Please take a moment to consider how moral progress can occur. It might be helpful to think about concrete examples of moral progress that you believe have occurred. In a few sentences, please explain how moral progress can occur." They were then presented with a text box to type their response.

Participants then completed the Donation task,[1] Mechanisms of Moral Progress task, answered demographic questions, were debriefed, and exited the survey.

Results

Two independent coders coded the open-ended explanations for five dimensions, and each dimension had high interrater reliability: human mechanism ($\kappa = 0.66$; agreement = 85%), unspecified mechanism ($\kappa = 0.65$; agreement = 91%), action-as-cause ($\kappa = 0.65$; agreement = 83%), belief-change-as-cause ($\kappa = 0.65$; agreement = 84%), and self-reference (κ = N/A; agreement = 100%; see Table 4 for descriptions and examples). No other mechanisms besides human action and unspecified clearly emerged from responses. Action-as-cause and belief-change-as-cause were included as exploratory dimensions based on prior work finding that belief change is often judged to explain social change (e.g., women obtained the right to vote because people came to believe that denying that right was morally wrong; Lewry, Tsai, & Lombrozo, 2024). However, these categories did not consistently predict any dependent variables, so we do not report those results here. Self-reference was also included as an exploratory dimension, but surprisingly, no participants explicitly mentioned actions that they had taken or planned to take.

Table 4

[1] Since Study 3 was run approximately one year later than Studies 1 and 2, we ran a pilot to reassess which moral setbacks were at the forefront of participants' minds. Based on this, we updated our list to include nine relevant charities.

Open-Ended Mechanism coding dimensions.

Dimension (percent of responses)	Description	Example response
Human mechanism (68%)	Refers to specific actions that individuals/groups/institutions take to create moral progress	"Moral progress occurs when people openly identify an issue, communicate about it, and agree to make a positive change or social progress."
Unspecified mechanism (15%)	Describes a process by which the world will get morally better without specifying human action	"I think moral progress can occur with the improvement of the general standard of living of people which in turns improves moral progress."
Action-as-cause[2] (56%)	Describes specific actions that people take as a cause of progress	"Developing a universal basic income, creating greater deadly weapon control, ensuring land for all and food"
Belief-change-as-cause (42%)	Describes changes in people's beliefs/attitudes as a cause of progress	"By accepting same sex marriage, accepting all races into society, accepting all genders in society."
Self-reference (0%)	References their own actions/beliefs as a cause of change	N/A

Note. Responses could belong to more than one dimension.

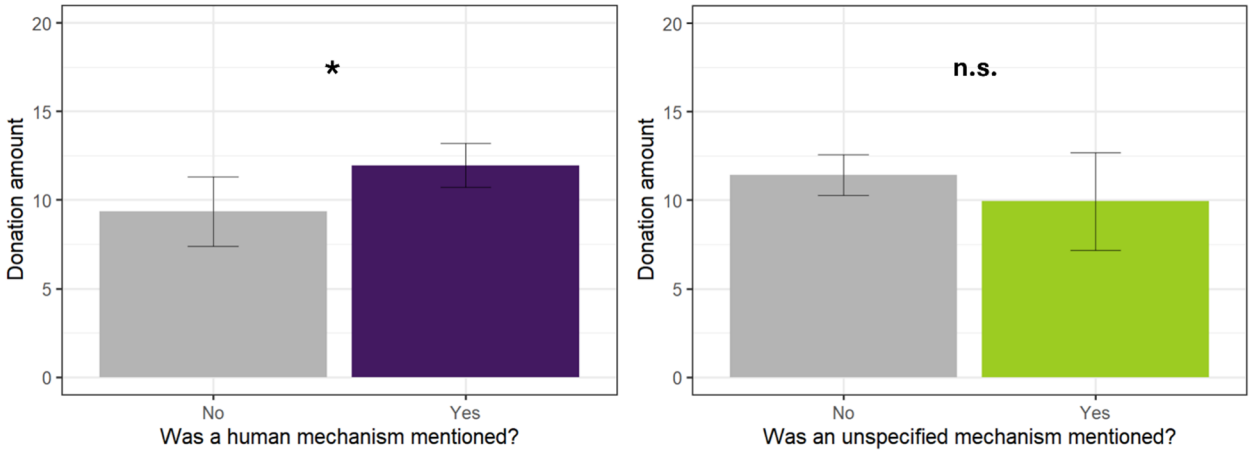
We first fit a regression treating donation amount (M=11.21, SD=7.39) as the dependent variable and Open-Ended Human Mechanism score (coded as 0 if not mentioned and 1 if mentioned) and Open-Ended Unspecified Mechanism score as predictors. As our hypothesis

[2] Action-as-cause typically represents a subset of Human action explanations. One might express that humans play a role in driving moral progress, but may or may not also mention any specific actions that humans take.

predicts, we found that Open-Ended Human Mechanism score (b=2.49, SE=1.23, p=.04, 95% CI = [0.01, 4.96]), but not Open-Ended Unspecified Mechanism score (b=-0.38, SE=1.62, p=.81, 95% CI = [-3.58, 2.82]), was a significant positive predictor of donation amount (see Figure 5). In other words, mentioning a Human Mechanism in the open-ended explanation was associated with a donation of approximately $2.49 more, while mentioning an Unspecified Mechanism did not significantly predict donations.

Figure 5

Relationship between mentioning Human Mechanism (left) or Unspecified Mechanism (right) in the Open-Ended Mechanism task and donation amount.



Note. Error bars indicate 95% confidence interval.

Additionally, we reran the analyses from Study 2 and replicated those results, finding that Human Mechanism subscale score (M=5.88, SD=0.77), but not Unspecified Mechanism subscale score (M=4.78, SD=1.01), was a significant positive predictor of donations (Human Mechanism: β=3.26, p<.001; Unspecified Mechanism: β=0.06, p=.90).

Discussion

These results add ecological validity to our studies, suggesting that people do not merely agree that human action or unspecified mechanisms are drivers of moral progress when these factors are explicitly presented. Rather, participants spontaneously report that these are mechanisms of moral progress. Additionally, no alternative mechanisms of moral progress were consistently mentioned by participants, suggesting that our scale captures two important dimensions without missing others. For these reasons, we believe our scale is a useful tool for assessing beliefs about the mechanisms of moral progress.

Additionally, Study 3 directly and conceptually replicates the results of Study 2, showing that believing human action drives moral progress predicts donations, regardless of whether the measure is the scale we developed or participants' open-ended explanations.

General Discussion

In the United States, there have been numerous events in recent history that many consider exemplars of moral progress: the end of slavery, women gaining the right to vote, the illegalization of segregation, and the legalization of gay marriage, among others. For those who believe moral progress is occurring, how do they think this change actually happens? Is it something that will inevitably occur (via some mechanisms), or is it something that requires us to act?

In this paper, we asked how people think about the mechanisms of moral progress, how these beliefs shape their judgments about whether their own action is necessary after a moral setback, and how this affects their willingness to act. We found that those who more strongly believe progress is driven by human action are more likely to believe their own intervention is

warranted after a moral setback (Study 1), and this translates to willingness to donate (Studies 2-3).[3]

These studies take an important first step in investigating the contents of people's moral progress beliefs and theories of how it occurs. Though extensive work has pointed to emotional factors (e.g., Solak et al., 2017; Banks et al., 2019) and sociocultural factors (e.g., Gonzalez et al., 2022; Kende et al., 2016) as drivers of political action, this paper is among the first to identify lay theories as a predictor of political intention and action. A crucial direction for future work is to identify how lay theories of moral progress develop, how they can be changed, and whether this change has implications for action.

It is also important to note that our sample is limited to online participants within the United States. We expect beliefs about the mechanisms of moral progress to vary across cultural contexts, including variation in their role in predicting action. For example, the extent to which people believe they have efficacy and control over outcomes varies cross-culturally (Schaubroeck et al., 2000; Oettingen, 1995; Smith et al., 1995), which may lead to lower intended action scores, even if people endorse human action as a mechanism of moral change. And even if our primary finding holds, external factors could have greater influence on whether or not an individual takes action, such as the risk individuals assume by engaging in political action. That said, we hope our studies offer a useful framework for understanding and shaping political action within the United States, and that they introduce more general questions that can fruitfully be asked in other cultural contexts.

[3] As a real-world example, consider those who perceived the 2022 Supreme Court ruling overturning Roe v. Wade to be a setback to moral progress (as 79 participants in Study 1 did). Our results suggest that within this group, those who believe that human action is necessary for moral progress are more likely to believe that *their own* actions are necessary to correct this setback, and perhaps more likely to donate to a reproductive rights organization or vote in the midterm elections.

This research may also be useful to understand political tension in online discourse following perceived setbacks. For example, after a mass shooting at an elementary school in Uvalde, one writer tweeted: "[…] Thoughts and prayers are killing a lot of innocent people. We need gun control." (Posnanski, 2022). The next day, a Congresswoman tweeted, "You cannot legislate away evil." (Boebert, 2022). These are just two examples representing a broader pattern in which some individuals express frustration with the lack of action, while others respond that these events are inevitable. The framework presented in this paper could help explain why this discourse is so common.

There are several interesting directions for future work. For instance, how are participants thinking about their own role in social change versus the roles of many individuals, influential individuals (such as Martin Luther King, Jr.), or institutions? For example, when gay marriage was legalized, was the Supreme Court the agent of change (e.g., Iacopino et al., 2020)? How can collective agents organize and contribute to change (e.g., Syropoulos et al., 2024; Tankard & Paluck, 2016; Constantino et al., 2022)? People may vary in the extent to which they view their own role as significant, and these beliefs may vary depending on the social change in question.

Future work can also consider how these results would be predicted by (or conflict with) other constructs in psychology and philosophy. For one, Perry et al. (2013) and others explored the belief that the world is dangerous and competitive. Relatedly, people who believe in an "unjust world" may be more likely to have a pessimistic view of progress (Lench & Chang, 2007). The prevalence of these beliefs may explain why participants do not universally endorse the existence of moral progress: if the nature of the world is harsh and immoral, it is unlikely to improve over time.

Another concept related to moral progress is the idea that our circle of empathy is expanding—that over time, more people and non-human animals are accepted as worthy of moral consideration (Singer, 2011; Laham, 2009). People who believe this idea will very likely also believe in moral progress. However, the mechanism by which people think the moral circle is expanded (i.e., caused by human action or not) is unspecified, so the present results may be informative for this line of work.

An additional limitation is that the measure we used to assess belief in moral progress conflates past and future progress. But participants may hold differing views of what drives progress at different timepoints or timescales, and this may influence what actions they take. Finally, while our studies measured hypothetical donation behavior (due to IRB restrictions), we expect that these effects would generalize to other forms of political action, such as voting behavior and protest participation.

In future work we hope to address these questions to form a more complete, complex picture of when and why individuals take action towards moral progress. While there are multiple avenues to expand on this work, these studies take crucial first steps toward demonstrating that those who are more likely to believe their action is necessary to correct a moral setback, and to actually act, are those who view human action as the mechanism of moral progress.

CRediT Statement

Casey Lewry – Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Project administration, Validation, Visualization, Writing—original draft, Writing—review and editing

Sana Asifriyaz – Conceptualization, Formal analysis, Investigation, Methodology, Writing—review and editing

Tania Lombrozo – Conceptualization, Formal analysis, Funding acquisition, Methodology, Resources, Supervision, Writing—original draft, Writing—review and editing

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