Ranking the stars in employee giving programs.
When does donation engagement spill-over to subsequent ethics?

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ABSTRACT

Using an experiment, we examine whether ranking employees on a social dimension can facilitate employees to learn something about their self-concept and make better decisions in subsequent ethical decisions. We examine this question in the context of popular employee giving programs, where proponents argue that such employee engagement can spill-over into better ethical decision making afterwards. We predict and find disclosing relative performance information (RPI) about employees' charitable contributions activates such an ethics spillover, but only when employees' donations involve money but not time. We attribute our findings to the fact that money compared to time is less easily adjusted for other competing motives, which makes RPI more relevant for learning where one stands in terms of ethics. Our results suggest that ranking employees on a social dimension can lead to positive spill-overs for subsequent ethical decisions. Yet, how companies organize their donation programs seems crucial for activating such a spill-over.

Keywords: Employee giving, ethics, time/money donation, relative performance information

I. Introduction

Nowadays, many companies engage their employees into employee giving programs (Gorman 2019; O'Neill 2018; Ryan 2016; Weinger 2020). For example, Microsoft uses matched donations of money or time to increase its employees' engagement within the giving programs (Benevity 2017; Microsoft 2019). Practitioners assert that employee engagement in socially responsible activities can promote ethics inside the firm (Costas and Kärreman 2013; Deloitte 2017). For example, FrontStream (2013) notes, "As employees engage in altruistic endeavors, they develop a personal identity that leads to more ethical decision making." Yet, we have limited understanding into whether this engagement fosters learning about ethics, let alone its translation into subsequent ethics (Rupp, Ganapathi, Aguilera, Williams 2006).[1] Also, debate exists on whether performing good deeds for society eventually produces ethical benefit at work as sometimes employees act unethically after performing good deeds (List and Momeni 2020). We enrich this debate by examining the conditions as to when firms can expect such spill-over effect between employee's engagement into a giving program and their ethical decision making. We argue that design features of the giving program that foster learning about where one stands in terms of one's ethical self-concept can nourish this spill-over effect.

We capitalize on the recent trend that companies start to measure and make endeavors of employees' workplace giving visible across the company (Grawehr 2019). Companies like Bank of America, Merrill Lynch, and Fujitsu Global use digital employee giving platforms that makes employees' contributions visible to their colleagues (Miranto 2018; Lynch 2019; Virgin Money Giving 2019). Other companies, such as 3M, rely on peer employee nominations to recognize the best performing volunteers (3M 2019). This transparency allows employees to

[1] We focus on whether employee giving programs can create an ethical environment because promoting workplace ethics is a priority for many companies to reduce business risks and achieve organizational success (Ethics Resource Center 2010). Other reasons for employee giving programs include demonstrating social responsibility and attracting talents (Frazer 2017), as well as promoting brands (Carlson 2019).

receive relative performance information (RPI) on contributions and to compare their own contribution with those of their peers. We argue that such ranking of employees on contribution provides a social benchmark for employees to learn something about their ethical self-concept, such that people who engage more in the donation program (and thus update their self-concept positively), will make better decisions in subsequent decisions involving ethical dilemmas.

We develop theory to argue that the informativeness of RPI regarding employee's self-concept plays a central role to ensure the ethical spillover to materialize. If RPI is applied into a context where competing motives (e.g., impression management) are salient, then RPI will be less informative about the self-concept and RPI will less likely trigger a positive ethical spillover between engagement and subsequent ethical behavior. We argue that the donation type of a giving program can affect this informativeness of RPI. While some companies encourage their employees to make monetary donations by registering for automatic payroll donations (KPMG 2019), other companies encourage employees to volunteer their time to a charity (Microsoft 2019). We argue that compared to providing RPI in time donation, providing RPI in money donation can be informative of the attribute of the donor and thus facilitates such learning. When people decide about monetary donations, they find it difficult to adjust their spending for other motives and are more conscious about the sacrifice they make to help others. Because the monetary donation engagement is less likely to be driven by other motives than one's self-concept, RPI will provide a better signal of individuals' self-concept. This better signal can foster learning about the self-concept and drive their future behavior (Gneezy et al. 2012) when companies offer RPI about the donations. In contrast, research in other disciplines suggest that time is more malleable (Leclerc et al. 1995; Okada and Hoch 2004; Abdellaoui and Kemel 2014) and that time can be easily adjusted for other motives such as impression management. As a result, ranking employees on their time contributions may offer employees less learning opportunities for their self-concept. Hence, we predict a positive spillover from

donation engagement to subsequent ethics as a result of providing RPI when people donate money (H1), but not when they donate time (H2).

We test our predictions in a two-stage experiment where participants act as employees in a three-person team that constitutes the firm. All participants complete a real donation task before completing a reporting task that involves an ethical decision. We manipulate RPI (present or absent) and the type of donation (money or time) between subjects. The donation task involves a charity for foster children (Foster Kids Charity). All participants decide how many children to help (between 0 to 5). The number of children helped (the donation amount) is our measure of engagement level. In the RPI Present condition, participants learn they will be publicly ranked within their cohort based on the number of children they decide to help after their donation decision has been made. In the RPI Absent condition, their decision remains private and is not publicly ranked. In the Money Donation condition, participants receive a monetary endowment of five euro and can donate one euro per child they decide to help. In the Time Donation condition, participants receive the same initial endowment, but they can donate two minutes of time to write an encouragement letter for each child they decide to help. Next, all participants complete a reporting task that is suited to study ethical decision making (Conrads, Irlenbusch, Rilke, and Walkowitz 2013; Fischbacher and Föllmi-Heusi 2013; Shalvi, Eldar, and Bereby-Meyer 2012; Rosenbaum, Billinger, and Stieglitz 2014). In this task, people face an ethical dilemma whereby they are instructed to report what they have seen for the first of three dice rolls. Yet, reporting a higher number of the first dice roll is incentivized with more money (Shalvi et al. 2012; Shalvi, Dana, Handgraaf, and De Dreu 2011; Bassarak et al. 2017).

Results support our predictions. Only when participants donate money, we find an interaction effect between donation engagement level and the presence of RPI on reducing misreporting. Specifically, RPI triggers a positive spill-over effect between engagement level and honest reporting in subsequent reporting decisions. When employees donate time, we do

not find RPI to activate such a spillover effect between engagement and subsequent ethical decision-making. Our results are robust to controlling for a series of individual participant characteristics. Consistent with the idea of learning, our additional analyses shows that RPI produces more pronounced effects for people who engage strongly in the Money Donation condition as they are more likely to update their self-concept positively and reduce their misreporting afterwards. Results again confirm that this learning about the self-concept does not arise when people donate their time. Results further suggest that RPI is more likely to trigger this ethical spillover in the Money Donation condition for individuals who care more about their own ethical standards. Process evidence in the Money Donation condition further confirms that our results can be attributed to the fact that RPI facilitates learning about the self-concept.

Our paper makes several contributions to the accounting literature. We offer new insights to the literature on relative performance information, by arguing that ranking people on a social dimension can instigate positive forms of learning about their self-concept. Such learning can render benefits in subsequent ethical decision making. Prior RPI literature has mainly studied the cost and benefits of RPI in a performance context examining how anticipating RPI triggers employees' social comparison and shapes task motivation (e.g., Arnold, Hannan, and Tafkov 2020; Hannan, Krishnan, and Newman 2008; Hannan, McPhee, Newman, and Tafkov 2013, 2019; Tafkov 2013). Ranking your stars within donation programs, however, can trigger learning about where one stands in terms of a social aspect; which can benefit the firm in subsequent decisions involving ethical trade-offs (spill-over effects). We show that such spill-over effects from donation engagement to other ethical decisions can arise when people donate money but not when they donate time. This finding is important for practice, as workplace ethics relate to the long-term success of an organization (Indeed Editorial Team 2021). To stimulate ethics, engaging employees in giving programs can be

helpful, but organization should be cautious about the set-up of such programs. If other motives (rather than the self-concept) are induced by ranking information, firms may not reap the benefits of ranking their employees in employee giving programs.

We also offer new insights to the literature on donations. While economic literature focusses on how to increase donations of individuals (e.g., Rondeau and List 2008), management accounting literature starts to focus on the disciplinary role of donations (e.g., Balakrishnan, Sprinkle, and Williamson 2011; Johnson, Kelly, and Tian 2019; Douthit, Martin, and McAllister 2021). For example, Balakrishnan et al. (2011) and Douthit et al. (2021) find that at corporate level, employer's giving or donations matching can motivate employees to work harder. While this literature focuses on how company's investment into donation (i.e., direct donation, donation matching) motivates employees to work harder, our research focuses on whether and how companies set up these donation programs to enable employees to learn something about themselves. Specifically, we show RPI plays a critical role for employees to learn something about themselves from their donation engagement, which can render positive effects for companies on subsequent decisions that these employees have to make. Yet, such learning of RPI does not arise when people have competing motives in donation programs (e.g., being ranked in time donation).

Finally, we also complement the literature on ethics. The ethics literature often argues that that one's self-concept is "malleable" and cannot always deter people from doing evil (Gino 2015). Our study shows, however, that management accounting information can help people to act more ethically, provided that such information allows for sufficient learning about one's ethical self-concept. Again, the way programs are set up are crucial. Given that money is more concrete and people for that reason carefully think about what it takes to do well for others (Gneezy et al, 2012), providing RPI information on money donations can help people to

learn more about their self-concept and change their future behavior. Yet for time donations, RPI does not trigger such learning, as people adjust their time more easily for other motives.

II. Theory and Hypothesis Development

Featured by "R", RPI is highlighted by its *relative* attribute. Focusing on this attribute, extant literature leverages on social comparison theory to predict that RPI can generate motivational effects that can have either positive or negative consequences (e.g., Tafkov 2013). On the positive side, Tafkov (2013), as an example, shows that PRI motivates employees to spend more time to work on a task and achieve better performance. On the negative side, Hannan et al. (2019), as an example, shows that RPI can cause employees to distort efforts allocation in a multi-task environment. This literature enriches our understanding of the benefits and costs of RPI. While this literature answers how people adjust their efforts when they anticipate receiving RPI, we have limited understanding of whether upon receiving RPI people update their beliefs and change how they behave subsequently. In this research, we explore the effect of RPI from this new angle: namely, whether ranking on social dimension can help people learn something about themselves. We argue that RPI can be viewed as an information that provides social benchmark and thus may provide employees a novel opportunity to learn about herself/himself, and finally, the learning will change how employees behave subsequently.

To examine the learning aspect of RPI, we focus on employee giving, a social setting where learning about the self-concept is relevant. This setting makes ethical self-concept important, because it requires people to choose between serving own interests and helping others. Yet, the perception of ethical self-concept is often vague and ambiguous (Mazar, Amir, and Ariely 2008; Gino 2015; Jordan, Leliveld, and Tenbrunsel 2015), which creates room for learning to help people establish a clear understanding of self. In other words, if learning can be facilitated, it may help to improve employee's ethical decision-making, which is important

for subsequent ethical behavior and the long-term success of organizations (Merino 2021). We first develop theory that RPI has the potential to facilitate learning about the self-concept and affect subsequent behavior. We then argue that the way how companies organize their employee donation programs can impact the extent to which RPI facilitates such learning, whereby we expect such learning (and impact on subsequent ethical behavior) to be stronger when employees donate money relative to when they donate their time.

RPI and Subsequent Ethical Behavior

We argue that information revealed by RPI can facilitate self-concept learning in this employee giving context. Information facilitates self-concept learning when it is: 1) relevant for leaning — the information should be relevant to one's self-concept, and 2) feasible for learning — the information should provide a clear benchmark for one's self-concept. RPI in the employee giving carry these attributes. First, making donation is doing good to the society, and the extent to which an employee wants to help the society can reflect the hidden attributes of a donor (e.g., generosity, altruism) (Bénabou and Tirole 2006, Ellingsen and Johannesson 2011). This makes RPI an information that is relevant to reveal self-concept. Second, the *relative* feature of RPI provides a social benchmark for an individual's self-concept. That is, an individual can infer his/her social standing from the relative position of the donation, which then helps employees understand how they stand in terms of the hidden attributes. Due to the relevance and the feasibility of RPI in facilitating learning, we argue that RPI has the potential to allow employees learn something about their self-concept.

We then argue that this learning will affect employees' subsequent ethical behavior. Learning from the PRI feedback, employees who engage more in donation will be likely to update their self-concept upwards. The reason is that people tend to update beliefs upon favorable feedback (Eil and Rao 2011), and those who receive the feedback that they engage in donation more will start to update their self-concept to be positive. In contrast, those who

receive the feedback that they do not engage in donation much will simply tend to avoid this signal and thus are less likely to update their self-concept.[2] Self-concept is relevant for ethical decision-making (Jones 1991). Therefore employees who update their self-concept to be positive will behave ethically subsequently and employees who do not update their self-concept are unlikely to change their behavior to be ethical, thereby creating a positive link between donation engagement and subsequent ethical behavior. Without RPI, we argue that employees are less likely to learn about their self-concept. Those wXho donate a lot will not learn their relative position and thus may still behave similar in subsequent decision making as those employees who engage less in the donation, given that their self-concept is not sufficiently updated. As such our baseline assumption is that engagements in donations is likely to lead to more subsequent ethical decision making when RPI is present but not when it is absent. Next, we develop our main predictions that such a positive spill-over effect of RPI is likely to arise when people donate money, but not when they donate time.

RPI and Subsequent Ethical Behavior when Donating Money

A necessary condition for the learning to materialize is that the RPI should reflect the attribute of the donor, i.e., their self-concept. In other words, if the donation engagement is driven by other motives rather than this self-concept, RPI will not be able to provide a clear signal of individuals' self-concept, thus violating the first condition for learning (relevance for self-concept). We argue that donating money is relatively less likely to be affected by other motives. Individuals have a concrete valuation of money and therefore they know how much they have to sacrifice to help others. The more people realize what is needed to help others, the more informative that action is to one's self-concept (Gneezy et al. 2012) and to future

[2] Due to asymmetric updating towards positive behavior, we don't expect individuals who score low in the ranking to update their believes towards negative behavior. Thus learning that you do less well simply does not lead to positive updating. If RPI instigates updating of positive believes, we expect that larger donations lead to more subsequent ethical decision making, a link that is less likely to arise when RPI is absent.

behavior. For example, when prompted to donate money in the presence of RPI, people will ask themselves what kind of persons they are and how much money they are willing to sacrifice to help others. Because of the concrete valuation of money, people may find it difficult to justify spending extra money on helping others just to obtain a good ranking. In this way, the donation reflects who they are and therefore the ranking of donation (RPI) enables them to learn something about themselves relative to others. That is for those that learn they score well on the ranking a positive updating is likely to arise because they link this back to their self-concept. Because RPI facilitates this learning about the self-concept when employees donate money, we expect that higher engagement in the donation leads to more ethical behavior afterwards. H1 summarizes this prediction.

H1: *When employees donate money, the presence of RPI relative to absence of RPI will activate a positive spillover from the donation engagement to subsequent ethical behavior.*

RPI and Subsequent Ethical Behavior when Donating Time

We further argue that learning might be compromised when RPI is present in time donation. The reason is that the engagement in donating time might be affected by other motives when employees will be ranked on donation. For example, the theoretical model by Bénabou and Tirole (2006) suggests that when conducting prosocial behavior, people may have the impression management motive. When the impressing motives are perceived salient, people may interpret RPI as capturing the impressing motives instead of the individual attribute, hindering the ethical learning/spillover. The reason that other motives may come into play when employees donate their time is that the perception of time is malleable (Leclerc et al. 1995; Okada and Hoch 2004; Abdellaoui and Kemel 2014). That is, the perception of sacrificing time can vary, depending on the characteristics of the decision scenario, the reason being that people are less experienced at valuing time than at valuing money. Moreover, the budget for time expenditure is more elastic than the budget for money expenditure. Outside of

the 8-hours work time and 8-hours sleep time (assumed), individuals have 8 hours per day at their discretion. As a result, individuals can more easily justify spending additional time.[3] For example, when donating time to help others, people may find it easy to spend more time. Because of this, people can more easily engage into impressing others when donating time. Given these competing motives that are at stake, learning about the self-concept when one receives RPI is likely to be compromised.[4] If you did well on the ranking, the RPI feedback is less likely to be informative of one's self-concept, because both an individual (and also other individuals) may find it easy to rationalize more donations to do well on the ranking. Therefore, we argue that learning about the self-concept from the RPI may not arise sufficiently when employees donate their time. If such learning is sufficiently blurred (Gneezy et al. 2012), we don't expect the positive link from donation engagement to subsequent ethics to materialize when employees donate time. H2 summarizes our prediction.

H2: *When employees donate time, the presence of RPI relative to the absence of RPI will not activate the positive spillover from the donation engagement to subsequent ethical behavior.*

III. Experiment Design

To assess whether RPI facilitates learning about self-concept and improves subsequent ethical actions, we conduct an experiment comprising two tasks. We first have a donation task in which participants need to decide how much to give, and then we conduct a reporting task in which participants face an ethical trade-off. We measure the level of donation engagement

[3] A series of studies demonstrate the malleability of time. For example, Leclerc et al. (1995) find that individuals' decisions to donate extra time can easily be influenced by contextual factors like the total amount of time required and the price of the product they wish to purchase. Okada and Hoch (2004) find that individuals can more easily justify participating in risky gambles when they use time to pay for them than when they use money. Similarly, Abdellaoui and Kemel (2014) find that people's loss aversion is systematically lower for time than for money.

[4] Another reason that learning via RPI is compromised when donating time is that time donation is easier to be manipulated in practice. For example, compared to money donation where companies centrally record donation amount, the actual time employees spent for voluntary work "is impossible to verify", and "most companies choose the honor system." This leads to some concern that others can lie about the hours (Parker 2020), making the ranking on time donation a less reliable source of learning about self for the focal employee.

during the donation task. We manipulate the *Presence* versus *Absence of RPI* on the donation engagement. We also manipulate whether the donation is *Money Donation* or *Time Donation*. Our key focus is whether RPI facilitates ethics learning and thus whether it can establish a spillover from the donation engagement to subsequent ethical behavior. Second we examine whether this spillover effect of RPI is present in Money Donation; an effect we do not expect to materialize in the Time Donation.

Participants

We recruited participants from an accounting course in a business education program at a Western European university. We conducted twelve computerized experiment sessions using z-Tree (Fischbacher 2007), with three sessions for each condition. Each session lasted about 45 minutes. Participants were randomly assigned to one experimental condition.[5] In total, 243 participants participated in the experiment.[6] On average, participants earned 9.70 euros. Most participants (91.35%) reported having some work experience. The average age is 20.54 years and 65.80 percent are male. Around 85.47% percent have a past donation experience.

Experiment Tasks and Manipulations

The donation task is presented as an employee giving program. Participants assume the role of an employee, and three employees work together for a company. The company organizes a donation program to a charity that helps foster children. They are then free to decide how many children to help, ranging from 0 children to 5 children. This number of children to help proxies for the level of donation engagement. We are interested in whether the more engaged participants are, the less likely they will misreport in the next task.

[5] Randomization is successful, as participant demographics (gender, age, work experience, altruism, and employment status) do not differ across conditions (smallest p value > 0.10).
[6] We paid a few participants to leave with a show-up fee of 5 euros in some sessions where we did not have a multiple of three participants.

We manipulate the presence or absence of RPI. In the RPI Present condition, participants are ex ante aware that they will later be ranked on their decision (i.e., the number of children they help) and that this ranking will be disclosed within the three-employee team. In the RPI Absent condition, participants do not learn about the ranking. This factor reflects the reality where some firms disclose or recognize the donation engagement (i.e., either time or money) of their employees (RPI Present), while other firms do not disclose this information (RPI Absent). Following Tafkov (2013) and Hannan et al. (2012, 2019), we always informed participants about whom they were paired with, regardless of RPI being absent or present.[7]

We manipulate the type of donation by varying the way a participant can help the children.[8] All participants are endowed with 5 euros. In the Money Donation condition, participants donate 1 euro per child they decide to help. In the Time Donation condition, they write an encouraging message for each child they decide to help and they must spend two minutes writing each message. Note that in both conditions, participants always decide about the number of children they want to help (see Screenshot 1 and 2 in Appendix).

To measure participants' subsequent ethical behavior, we use the common die roll–reporting task of experimental economics (Fischbacher and Föllmi-Heusi 2013; Shalvi et al. 2012; Conrads et al. 2013; Rosenbaum, Billinger and Stieglitz 2014). This reporting task offers incentives for misreporting the number on a rolled die. Participants watch three videos of a die being rolled, and they have to remember the number from the first roll (see Screenshot 3). They earn more by reporting a higher number, but the instructions clearly state that they should report what they observed for the first die and that the second and third rolls are simply to demonstrate

[7] Participants of the same group stand up to learn with whom they are paired in all conditions. We thus offer a conservative test, such that effects can only be attributed to whether RPI is disclosed or not disclosed. Specifically, increased team identification is not an issue, given that in the RPI Absent condition, participants also get to learn their team members. If participants donate the same amount, we assign them the same rank (e.g., with two people donating 5 and one donating 3, the ranking would be 1, 1, 3) in the RPI Present condition.
[8] The time and money conditions were run in separate sessions ensuring that employees are uninformed of the existence of the other type of donation.

that the procedure is random. The earnings are equal to 0, 2, 4, 6, 8, and 10 euros for a die roll of 1, 2, 3, 4, 5, and 6, respectively (see Screenshot 4 in Appendix).[9] We chose this reporting task for two reasons. First, the task involves a clear ethical trade-off where participants need to decide whether or not they want to deviate from what they have seen and report a higher number (Kocher, Schudy, and Spantig 2017). This clarity provides a clean test of our theory on ethical decision-making. Second, the task has desirable external validity: research shows that ethics measured in this task can predict real-world fraud in various contexts.[10]

We modify the classical die-under-a-cup design in two ways (Fischbacher and Föllmi-Heusi 2013). First, we conduct the die rolling on a computer by presenting die-rolling videos to participants, allowing us to directly measure misreporting at an individual level (Gneezy, Kajackaite, and Sobel 2018; Kocher et al. 2017).[11] Second, participants watch three videos showing a die being rolled, and they report the first one. By seeing two additional rolls, they can rationalize misreporting by reasoning that they have seen similar counterfactuals in one of them (Bassarak et al. 2017; Shalvi et al. 2011). The room for rationalization allows for a powerful test of the theory, to examine if RPI and donation type change the rationalization process and thus participants' ethical decision on the reporting task.

Some aspects of our design are worth further discussions. First, in the Time Donation condition, participants also receive an endowment of 5 euros. This design choice captures how firms in practice organize their volunteering programs. For example, many firms provide "paid

[9] The number is random, as each participant is randomly allocated a die roll of 1, 2, 3, 4, 5, or 6.
[10] For example, Dai, Galeotti, and Villeval (2017) finds that dishonesty in the die rolling task is associated with actual fare evasion in public transport. Hanna and Wang (2015) shows that misreporting in a die rolling task is predictive of fraudulent absenteeism by nurses. We therefore presume that our findings generalize to a broad range of contexts, including misreporting in accounting settings (e.g., Evans, Hannan, and Krishnan 2001; Hobson, Sommerfeldt, and Wang 2020).
[11] This feature creates unique advantages for the task: misreporting is "clearly dishonest" and "liars cannot disguise", which are desirable to test our theory on ethics. See Kocher et al. (2017) for more discussions.

time off to volunteer" for employees, with employees still receiving the monetary payment when volunteering for a charity (Goff-Dupont 2018).

Second, this design choice further makes it clear that, in both conditions, people sacrifice something. In the Money Donation condition, the donation is costly through the amount given to charity. In the Time Donation condition, participants decide about a costly effort (i.e., volunteering longer). To capture this time cost, the experiment is programmed to ensure participants who donate less time can finish the experiment and leave the lab earlier.[12] We use real time cost instead of monetary time bonus to clearly differentiate the two types of donation. Importantly, we do not require full economic equivalence between the amount of money and time donated to test our hypotheses, because our key focus is on whether RPI triggers learning about self-concept in the Money condition, an effect we do not expect to materialize in the Time condition. That is, we will, separately, compare RPI versus No RPI in the two donation type conditions, rather than discussing differences of program type.

Finally, in both the Money and Time conditions all people learn their ranking after they finished the donation when RPI is present, ensuring that the donation ranking always appears just before people start their reporting task. Consistent with prior RPI literature (e.g., Tafkov 2013), we only disclose the rank information (1, 2, 3).

Experimental Procedures

Participants first entered a waiting room to give their consent for participation. Next, they were randomly assigned to one of the cubicles. They entered a unique participant code into a computer and claimed their payoff using this code after the experiment. At the start of

[12] This is made clear by the experimenter at the beginning of each Time Donation session. In this way, the opportunity cost of donation in the Time Donation is clear to the participants: people who donate more must forgo alternate options for using their time. This design feature also captures how companies organize the employee giving program in practice. That is, the time donation does involve certain opportunity cost: employees could spend the time doing something else, and employees must forgo certain alternate options to donate their time.

the experiment, each participant randomly received a label X, Y, or Z and was randomly matched with two other participants. After matching, participants got to know other members of their group by standing up and introducing themselves in front of their group members (Hannan et al. 2012). Then they worked on the donation task with an endowment of 5 euros. Participants first read background information about the charity. They learned that they would spend either money or time to help the children in the charity, and they then made a choice about the number of kids to help. Participants in the Money Donation condition then saw the donation they made. Likewise, participants in the Time Donation condition saw how many children they chose to help and then spent time writing an encouraging message for each child.

In the RPI Present condition, participants knew that they would receive a report ranking participants based on the number of children helped within the three-employee group after they finished the donation task. In contrast, participants in the RPI Absent condition were not told that they would be ranked. After finishing the donation task (and receiving the rank information in case of RPI Present condition), they proceeded directly to the reporting task.

The reporting task started with participants viewing three dice being rolled one by one. They then reported the number of the first rolled die. The reported number determined the participants' payoff for this task. As previously described, a higher number generates a higher payoff. Finally, participants completed a post-experiment questionnaire for the collection of additional process variables and some demographic information.

Main Test Variables

Misreport

We focus on the level of misreporting behavior in the reporting task. We construct a dummy variable that equals 1 if participants misreport the first die and 0 otherwise. Note that

none of the participants underreported the first die. Furthermore, the majority of participants (91.11%) who misreported reported the highest number (i.e., 6).[13]

Donation

We proxy engagement in the donation program with the number of children that participants choose to help. The more children participants choose to help, the higher their engagement level is.[14] Participants have to spend 1 euro (or 2 minutes to write an encouraging letter) to help each child in the Money (Time) Donation condition. We use the mean centered value of the donation (labeled as *Donation*) to facilitate our interpretation of the interaction (Aiken, West, and Reno 1991).

In the results section, we analyze whether and under which condition RPI facilitates learning and improve ethical decision-making. That is, we examine whether the likelihood of misreporting decreases with higher levels of donation engagement in the presence of RPI and whether this spill-over effect materializes in Money Donation condition but does not materialize in the Time Donation condition: *M* represents the type of donation, which is set to 1 in the Money Donation condition and 0 in the Time Donation condition. *RPI* represents the presence or absence of ranking information and is set to 1 in the RPI Present condition and 0 otherwise. In addition, we control for the actual number that the participant sees on the first die, since this number may also affect misreporting.

IV. Results

Summary Statistics

Table 1 shows the descriptive statistics for our test variables (*Donation; Misreport*) and control variable (*Die1*). Participants in the Money Donation condition, on average, help 3.14

[13] Our results are similar if we use the misreporting amount (i.e., the reported number minus the actual number).
[14] An alternative could be a dummy variable indicating donation or not. Yet, this dummy has little variation to be explained, since very few participants did not donate anything (6%). We therefore do not use this dummy.

children (donating 63% of their endowment) when they receive RPI on donation and 3.08 children (donating 62% of their endowment) when they do not receive RPI. The difference in donation between RPI Present and RPI Absent conditions becomes non-negligible in the Time Donation condition, where participants, on average, help 4.07 children when RPI is present and 3.60 children when RPI is absent. This result—that people make more donations when RPI is present only in Time Donation and not in the Money Donation condition—is consistent with our theory that RPI might trigger competing motives (i.e., impression management motives) in Time Donation as time is perceived more malleable and easier to be justified in spending (Abdellaoui and Kemel 2014; Okada and Hoch 2004).

We then look at our dependent variable, *Misreport*. After donating money, about 17% of participants overstate the number on the first die when they do not receive RPI in prior donation task. This ratio is slightly reduced to 13% when people receive RPI on the donation. This trend, however, is not observed when people donate time: 23% (22%) of participants overstate when they receive (do not receive) RPI on their donation in the Time Donation condition. The pattern of *Misreport* hints that RPI might trigger ethics-related learning in the Money Donation condition, but not in the Time Donation condition. Yet, our key focus in hypothesis testing is how the link between donation engagement (donation) and misreporting changes when RPI is present relative to absent.

[Insert Table 1 here]

Hypothesis Testing

We are mainly interested in whether RPI on donation levels can facilitate learning about self-concept. If so, a higher level of donation engagement (i.e., a larger donation amount) in the first task should reduce the likelihood of misreporting in the second task. In the Money Donation condition, we expect that RPI will facilitate the learning about self-concept, and thus

establish an ethical spillover from the donation engagement to subsequent ethical decisions. For the Time Donation condition, we expect that such learning may not sufficiently arise whereby RPI does not produce such a spillover effect. We conduct logistic regression in the Money Donation condition to test H1 and in the Time Donation condition to test H2. We use *Misreport* as the dependent variable. Independent variables include *Donation*, RPI, and the interaction between *Donation* and *RPI.* We control for the actual number rolled on the first die. Given that the treatment is assigned at the session level, we cluster the standard error at the session level to provide robust results (Abadie, Athey, Imbens and Wooldridge 2017).[15]

Our variable of interest is the interaction term *Donation* * *RPI*. Given that *Misreport* is our dependent variable, the positive spillover effect from donation engagement to subsequent ethics should be captured by a negative interaction coefficient, indicating that higher levels of donation engagement will lead to less subsequent misreporting when RPI is present than when RPI is absent. We expect the effect to be present in the Money Donation condition (H1), but not to be present in the Time Donation condition (H2). Table 2 displays the results.

[Insert Table 2 here]

Panel A in Table 2 shows our analysis for the Money Donation condition. In the Money Donation condition (Column 1, Panel A), the interaction term *Donation * RPI* is significantly negative (coeff. –0.61, $z = -3.75$, $p < 0.01$), suggesting that a higher donation engagement level is more likely to reduce the likelihood of subsequent misreporting when RPI is present than when RPI is absent. [16] The results in Columns 2 and 3 further show the source of the interaction: the simple effect of donation engagement is insignificant when RPI is absent (coeff. –0.06, $z = -0.67$, $p > 0.10$) but negative and significant when RPI is present (coeff. –0.65, $z = -4.04$, $p < 0.01$). In sum, when participants donate money, their engagement promotes subsequent ethical

[15] Our inferences do not change if we cluster standard errors on the three-employees-group level.
[16] We report *p* values based on two tails in all the analyses.

behavior, but only when RPI is present. These results support the prediction that RPI in the Money Donation condition can establish a positive link between donation engagement level and subsequent ethical action (H1), which is consistent with the theory that RPI facilitates learning about self-concept. It is also worth mentioning that, as shown in the column 1, the simple effect of RPI on subsequent misreport is also significantly negative (coeff. –0.93, z = –5.14, $p < 0.01$), indicating that RPI in the Money Donation condition generates ethical benefits for an average level of donation.[17]

Panel B shows our analysis for the Time Donation condition. The interaction between *Donation* and *RPI* is not significant (Column 1, coeff. 0.30, $z = 1.12$, $p > 0.10$), suggesting that RPI does not generate the ethical spillover. The follow-up simple effects analyses show that the effect of *Donation* is insignificant when RPI is absent (Column 2, coeff. 0.05, $z = 0.19$, $p > 0.10$). Column 3 shows that when RPI is present, donation engagement even slightly increases misreporting (coeff. 0.34, $z = 1.84$, $p < 0.10$). This effect of donation engagement is consistent with our theoretical argument that RPI triggers competing motives in the Time Donation condition and may not be informative of self-concept. Because of the competing motives, participants might slightly increase misreporting. Taken together, these results suggest that when participants donate their time, the presence of RPI does not activate the positive link between engagement level and subsequent ethical action (H2).[18]

Because participants determine the donation amount during the experiment, we check whether the results hold after controlling for individual-level factors (Loftus and Tanlu 2018). We first control for altruism as a psychological trait that may affect the donation engagement.

[17] While this average beneficial effect is not explicitly predicted, it is consistent with our theoretical argument that upon receiving RPI, people who donate more update self-concept upwards and behave ethical afterwards, and people who do not engage much in donations simply avoid the signals and would not change their behavior.
[18] We analyzed the data for money and time separately as we are mainly interested in the different spillover effect of RPI on donation rankings. An alternative approach is to collapse the conditions and test the three-way interaction, where *RPI* x *Donation* x *Money* should be significantly negative, indicating that the negative interaction of *RPI* x *Donation* is stronger in the Money Donation condition than in the Time Donation condition. We find evidence of this negative three-way interaction (coeff. –0.90, $z = –2.93$, $p < 0.01$, untabulated).

More specifically, research shows that altruistic people naturally enjoy helping others (Kolm and Ythier 2006) and may have higher levels of donation engagement. We measure altruism using the scale in Rushton, Chrisjohn, and Fekken (1981), asking participants to rate their agreement, on a 7-point Likert scale, with 20 statements in the post-experimental questionnaire. An example of these statements is "I have delayed an elevator and held the door open for a stranger." A high Cronbach alpha of 0.81 indicates good internal reliability. For the Money Donation condition (Panel A), as shown in the fourth column, the interaction term *Donation* * *RPI* stays significantly negative (coeff. –1.00, $z = –3.99$, $p < 0.01$) after controlling for an individual's altruism. The simple effect of *Donation* on *Misreport* stays significantly negative when RPI is present (Column 6, coeff. –0.53, $z = –2.95$, $p < 0.01$) and stays insignificant when RPI is absent (Column 5, coeff. –0.07, $z = –0.63$, $p > 0.10$) after controlling for an individual's altruism. For the Time Donation condition (Column 4-6, Panel B), controlling for an individual's altruism does not change any statistical inferences as well. In addition to the altruism trait, we also control for differences in the participants' demographics (gender, age, work experience, employment status). As shown in Columns 7-9, our results stay similar for both the Money Donation and the Time Donation conditions.[19]

Overall, the results support our hypotheses. Providing RPI on employees' donations triggers ethical learning, that is a positive spillover from donation engagement to subsequent ethical behavior when participants donate money but not when participants donate time.

Analyses to Validate Theory

We conducted multiple analyses to validate our theory (Asay, Guggenmos, Kadous, Koonce, and Libby 2021). Our results and theory suggest that RPI facilitates learning about

[19] Results reported in Table 2 are based on the donation amount mean-centered for the full sample. We rerun the regression with the donation amount mean-centered for Money Donation condition and Time Donation condition separately, and we find equivalent results in terms of statistical inference.

self-concept, and this learning materializes in the Money Donation condition but not in the Time Donation condition. As our theory mentioned, we expect this learning to materialize more strongly for people that engage more in the donation program. Second, if it is self-concept updating that drives our results, we should expect to find stronger results for individuals who care more about ethics. Finally, we will examine process evidence for self-concept learning.

Who Update More? The Impact of RPI on Misreporting across Engagement levels

We compare the effect of RPI on misreporting across different levels of donation engagement to validate the learning process. Our theory suggests that RPI facilitates employees to learn about self-concept from their donation engagement. We expect that people who engage in the donation more will be more likely to update their self-concept after they receive the RPI feedback, while people who do not engage much would tend to discount the signal and tend not to update their self-concept (Eil and Rao 2011). This difference in the strength of updating is important to ensure the RPI on average can produce ethical benefits. We expect such updating to arise only when RPI is introduced in the Money Donation condition, and not when we introduce RPI in the Time Donation condition, as RPI may introduce competing motives in Time Donation.

To examine the difference in the strength of updating, we divide the full sample into three categorical donation engagement levels (Low, Medium and High).[20] We first depict the conditional misreport probability across different donation engagement levels and then compare the misreport probability between RPI condition versus No RPI condition. Results are reported in Table 3 for the Money Donation condition and Table 4 for the Time Donation condition.

[20] Low, Medium, and High levels of engagement correspond to 0–2, 3–4, and 5 children helped. This categorization helps to visualize the results. In later discussion, we show that our analyses are robust to the raw level of donation engagement.

[Insert Table 3 here]

[Insert Table 4 here]

For the Money Donation condition (Table 3), as depicted in Panel A, and shown in Panel B, the difference in the misreporting probability for employees with low levels of engagement between the No RPI condition and the RPI condition is not significant ($\chi_1^2 = 0.79$, $p = 0.37$), while the difference is approaching statistical significance at conventional levels for employees with medium levels of engagement ($\chi_1^2 = 2.25$, $p = 0.13$) and is significant for employees with high levels of engagement ($\chi_1^2 = 3.23$, $p = 0.07$). These findings suggest that the provision of RPI in the Money Donation condition triggers more intensive ethical learning among employees with medium and high levels of donation engagement but not among employees with low level of donation engagement.

To better understand the above pattern, we follow the procedure of Aiken and West (1991), by estimating the effect of RPI on misreport probability for various levels of the donation engagement using the main regression of Table 2 (i.e., 2 children or less, 3 children or more, 4 children or more, and 5 children). Unlike the above comparison, this approach uses the full sample results to determine at which level of donations, the effect of RPI becomes significant. Untabulated results show that the effect of RPI on misreport probability is not significantly at engagement levels below 3 (e.g., at level of 2 or less, $z = –0.16$, $p > 0.10$), and the effect starts to become significantly negative at the levels of 3 or more ($z = –4.57$, $p < 0.01$). It continues to be significant at the level of 4 or more ($z = –5.06$, $p < 0.01$) and at the highest donation 5 ($z = –4.72$, $p < 0.01$). This finding confirms that the beneficial effect of RPI in the Money Donation condition is mainly driven by more ethical learning from employees with sufficiently high donation engagement levels.

As we expected according to our theory, the above process is not found in the Time Donation condition (Table 4): the difference in the misreporting probability between the No RPI condition and the RPI condition is not significant for any level of donation engagement (all $p \geq 0.70$), consistent with the notion that RPI does not trigger learning about self-concept in the Time Donation condition regardless of the donation engagement levels. Consistent with the non-significant interaction in Table 2, the Aiken and West procedure (1991) confirms that there are no differential effects of RPI in any donation engagement level (all p values > 0.30, untabulated). Taken together, these results support that RPI can facilitate learning about self-concept. But this learning only materializes in the Money Donation condition, and does not materialize in the Time Donation condition.[21]

Is It Learning about Self-concept?

The Moderating Role of Care for Own Standard

If it is the learning about self-concept that drives our results, then the effect we observe should be stronger for individuals who care more about their own standard. Prior research shows individuals differ in the extent to which they care about own (ethical) standard. While some people naturally care more about own standard, others care less and can easily deviate from their own standard (Bandura, Barbaranelli, Caprara, and Pastorelli 1996; Egan, Hughes, and Palmer 2015). Based on the above reasoning, we speculate that the spillover of ethics (*Donation * RPI* on *Misreport*) should be qualified by an individual's care for own standard.

[21] To further understand why RPI facilitates learning in the Money Donation condition, but not in the Time Donation condition, we examine whether donation engagement is driven by motives other than self-concept. Specifically, we regress the donation amount on the self-reported perceived pressure during donation process. Untabulated results show that in the Money Donation condition, the perceived pressure does not influence the donation amount regardless of the presence of RPI (all p values > 0.70), while in the Time Donation condition, the perceived pressure increases donation amount when RPI is present (p value < 0.05) but not when RPI is absent (p value > 0.20). This result suggests RPI introduces pressure into the Time donation condition, but it does introduce pressure into the Money donation condition. This result is thus consistent with the notion that RPI introduces competing motives in the Time Donation condition and therefore RPI information may not be informative of self-concept learning.

Because those with high scores on Machiavellianism care less about own standard (Egan, Hughes, and Palmer 2015), we use the additive inverse of a participant's Machiavellianism score to proxy for a participant's care for own standard (*Care for Own Standard)*.[22] We use the mean centered value of the *Care for Own Standard* to facilitate our interpretation of the interaction (Aiken, West, and Reno 1991).

[Insert Table 5 Here]

Table 5 presents the results. In the Money Donation condition (Column 1), the interaction effect of *Donation* * *RPI* * *Care for Own Standard* is negative and significant (coeff. –1.33, $z = 2.30$, $p < 0.05$), suggesting that RPI triggers stronger ethical spillover for individuals who care more about their own standard. In other words, at a given level of donation engagement, the presence of RPI in the Money Donation condition helps to facilitate those who care more about own standard to behave more honestly in the subsequent reporting task. Consistent with this finding, subsample analyses in the Money Donation condition show that the interaction effect of *Donation* * *Care for Own Standard* is only significant when RPI is present (coeff. –1.01, $z = 5.82$, $p < 0.01$, Column 2), indicating that when RPI is present, at a given level of donation engagement, the more an individual cares own standard, the more honestly the individual behaves in the subsequent reporting task. This interaction is not significant when RPI is absent (coeff. 0.21, $z = 0.53$, $p > 0.10$, Column 3). These results are consistent with our theory that RPI triggers learning about self-concept in the Money Donation condition and further suggests that such learning happens more for individuals who care more about their own standard.

[22] We do not directly measure care for own standard, since it is shown to be affected by situational factors (Tsang 2002, Baron, Zhao, and Miao 2014). We focus on Machiavellianism, because it is a stable trait that can predict an individual's care for own ethical standard (Egan, Hughes, and Palmer 2015; Thomaes, Brummelman, Miller and Lilienfeld 2017) and is not affected by the manipulations in moderation (Baron and Kenny 1986). Results are similar if we use an alternative proxy, the psychopathy trait (Egan, Hughs and Palmer 2015), which also links to care for own standard (people with lower levels of this trait generally care more about own standard).

In the Time Donation condition, we expect that the *Care for Own Standard* will matter less, given that RPI is less capable of triggering learning about self-concept. Consistent with this expectation, the interaction between *Donation* * *Care for Own Standard* in the Time Donation conditions (Columns 4-6, Table 4) is not significant, regardless of whether RPI is present or absent.

Process Evidence on Self-Concept Learning

We also test whether RPI triggers learning about self-concept using a post-experimental questionnaire item. On a response scale with endpoints of 1 = "strongly disagree" and 7 = "strongly agree," participants rate their agreement with the statement "The activity I did in the program (i.e., donating money/time) allowed me to learn something about myself that I might otherwise would not have discovered." We estimate a generalized path model from donation engagement, RPI and the interaction item *Donation* * *RPI* to the reported self-concept learning.[23] Results are shown in Figure 1. In the Money Donation condition, we observe a significantly positive effect of *Donation* * *RPI* on the self-concept learning (coeff. 0.17, $z = 1.67$, $p < 0.10$), suggesting that RPI facilitates people who engage more into donation to update their self-concept. In the Time Donation condition, the effect of the interaction term is insignificant (coeff. –0.05, $z = –0.22$, $p > 0.10$). These results are consistent with the notion that RPI triggers learning about self-concept, but only in the Money Donation condition.

[Insert Figure 1 Here]

V. Conclusion

In this paper we examine whether ranking employees in employee giving programs can help employees to learn something about their self-concept. We also examine whether

[23] Consistent with our main analyses, we also cluster the standard error on the session level, and we control the individual altruism in the estimation.

such learning helps employees to make better decisions in a subsequent ethical dilemma. We predict and find that providing RPI can facilitate employees to learn something about their self-concept, such that greater donation engagement leads to more honesty in a subsequent reporting task when employees donate money. In contrast, when employees volunteer for time, we do not find that providing RPI leads to learning and the ethics spillover. We attribute our findings to the fact that in the Money Donation condition, people have a more concrete idea about what it means to sacrifice to help others (and donate less for other competing motives), such that RPI becomes informative for where they stand in terms of their self-concept. Supplementary analyses also confirm that it is the learning about self-concept that drives the ethical spillover in the Money Donation condition, by showing the spillover of ethics in the Money Donation condition materializes more strongly for participants who care more about own standard. Further process evidence also confirms that RPI facilitates learning from donation engagement in the Money Donation condition, but not in the Time Donation condition.

Our results show that RPI on social dimension can be powerful in helping employees update self-concept such that they make more desirable choices in other contexts that involve ethical decision making. When companies hope to facilitate ethical learning among employees, it is important to consider whether the context facilitates the generation of informative feedback. Our results highlight that the learning benefit is indeed conditional—it only materializes when the information conveyed by RPI is informative, that is, when competing motives (e.g., impression management motive) are not activated when employees work under RPI.

For the ethics literature that often shows the self-concept as vague and ambiguous, we provide insights that a key construct in management accounting—performance feedback, can facilitate a more concrete understanding of self-concepts. Companies can capitalize on this

finding when they want to improve subsequent ethical decision making, provided that their rankings offer opportunities for individuals to learn (e.g. money donation). Our results also complement prior donation literature by highlighting that an employee's own voluntary engagement may foster some ethical learning and shape their ethical actions afterwards.

Our research provides opportunities for future research. First, we examine individual ethical behavior. In some organizations, individuals interact with others in ethical dilemmas. For example, in deciding whether to underreport sales budget, the sales manager may have to collude with other colleagues (Maas and Yin 2022). The dynamics of group ethical behavior tend to be more complex, and employee giving programs may affect these dynamics. For example, providing performance information on a social dimension may also affect the individual tendency to collaborate. Knowing that another team member has contributed more or less to a charity may influence an individual's tendency to collaborate with that individual. We also suggest that firms need to be cautious when rankings trigger competing motives (like when employees volunteer time). Future research can tap into the effects of suppressing competing motives through better communication on how the donation program contributes to corporate strategy or by strengthening an employee's attachment and identity to the social cause. Finally, while we focus on the set-up of the donation program and its effect on subsequent ethical behavior, some companies offer their employees discretion as to how to be involved in charity (e.g., choosing between volunteering or donating money). This self-selection into the type of program and how it affects subsequent sorting can enrich our understanding of the use of engagement programs.

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Table 1. *Summary Statistics*

The Money Donation Condition		
	RPI Absent (N=60)	RPI Present (N=63)
Die1	3.60	3.63
	[1.69]	[1.69]
Donation	3.08	3.14
	[1.80]	[1.67]
Misreport	0.17	0.13
	[0.38]	[0.34]
The Time Donation Condition		
	RPI Absent (N=63)	RPI Present (N=57)
Die1	3.22	3.40
	[1.73]	[1.70]
Donation	3.60	4.07
	[1.49]	[1.31]
Misreport	0.22	0.23
	[0.42]	[0.42]

Variable definitions:
Die1 = the number on the first die that the participant observed (1 to 6);
Donation = the number of children that the participant chose to help;
Misreport = 1 if participant misreported the die, and 0 otherwise;

Table 2. *Hypothesis Testing*

Dependent Variable Misreport

Panel A: The Money Donation Condition

	(1) Full	(2) RPI Absent	(3) RPI Present	(4) Full	(5) RPI Absent	(6) RPI Present	(7) Full	(8) RPI Absent	(9) RPI Present
Die1	-0.70***	-0.89*	-0.49***	-0.70***	-0.89*	-0.44**	-0.73***	-1.13**	-0.58
	(0.23)	(0.52)	(0.13)	(0.24)	(0.53)	(0.19)	(0.19)	(0.57)	(0.46)
Donation	-0.09	**-0.06**	**-0.65*****	-0.05	**-0.07**	**-0.53*****	-0.19	**-0.40**	**-0.80****
	(0.09)	**(0.09)**	**(0.16)**	(0.08)	**(0.11)**	**(0.18)**	(0.16)	**(0.27)**	**(0.36)**
RPI	-0.93***			-1.00***			-1.24**		
	(0.18)			(0.25)			(0.52)		
Donation*RPI	**-0.61*****			**-0.63*****			**-0.46*****		
	(0.16)			**(0.16)**			**(0.15)**		
Constant	0.41	0.89	-1.00	1.57	0.71	2.85	-12.6***	-25.41***	-8.28***
	(0.57)	(1.17)	(0.44)	(1.19)	(2.02)	(2.39)	(4.09)	(6.54)	(3.13)
No. Observations	123	60	63	123	60	63	123	60	63
Altruism	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Demographics	No	No	No	No	No	No	Yes	Yes	Yes

Panel B: The Time Donation Condition

	(1) Full	(2) RPI Absent	(3) RPI Present	(4) Full	(5) RPI Absent	(6) RPI Present	(7) Full	(8) RPI Absent	(9) RPI Present
Die1	-0.63***	-0.67*	-0.59***	-0.63***	-0.67**	-0.60***	-0.67***	-0.78**	-0.60***
	(0.13)	(0.27)	(0.13)	(0.12)	(0.27)	(0.12)	(0.16)	(0.33)	(0.10)
Donation	0.04	**0.05**	**0.34***	0.07	**0.08**	**0.33***	0.04	**0.00**	**0.20***
	(0.21)	**(0.24)**	**(0.18)**	(0.20)	**(0.21)**	**(0.17)**	(0.18)	**(0.24)**	**(0.10)**
RPI	-0.08			-0.09			-0.08		
	(0.71)			(0.71)			(0.60)		
Donation*RPI	**0.30**			**0.26**			**0.25**		
	(0.27)			**(0.25)**			**(0.31)**		
Constant	0.48	0.57	0.31	1.11	1.27	0.85	3.82	6.20	1.89
	(0.39)	(0.47)	(0.66)	(1.10)	(1.82)	(1.18)	(3.59)	(7.95)	(2.90)
No. Observations	120	63	57	120	63	57	120	63	57
Altruism	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Demographics	No	No	No	No	No	No	Yes	Yes	Yes

*,**,*** indicate significance at the 0.10, 0.05, and 0.01 levels, based on two-tailed statistics.
Standard errors are in parentheses are clustered at session level.

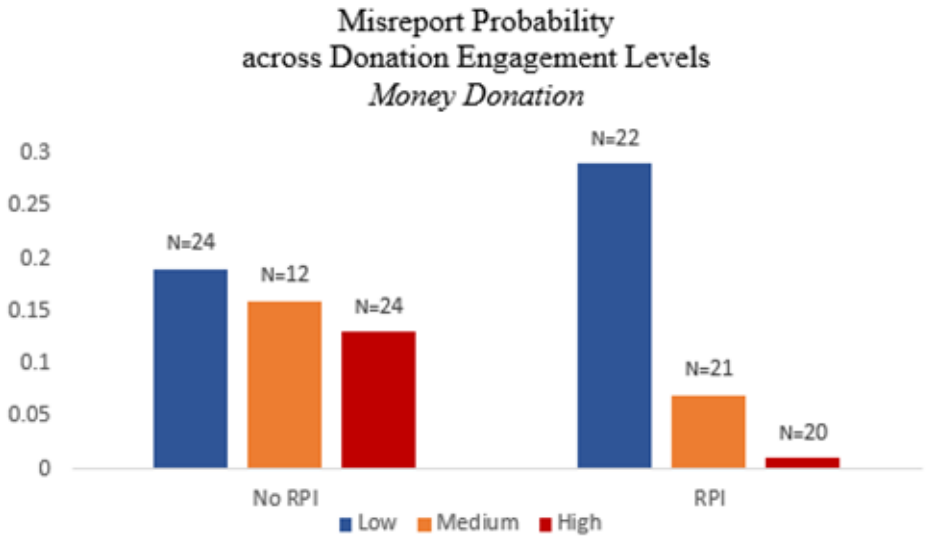
Variable definitions:

Misreport = 1 if the participant misreported the die, and 0 otherwise;

Die1 = the number on the first die that the participant observed;
Donation = the number of children the participant chose to help, mean-centered;
RPI = 1 if the participant is in the RPI presence condition, and 0 otherwise;
M = 1 if the participant is in the Money Donation condition, and 0 otherwise.
Altruism = average scores on the self-reported altruism scale (Rushton, Chrisjohn, and Fekken, 1981). Cronbach alpha of the *Altruism* items is 0.81, indicating good internal consistency. A factor analysis reveals that there is only one eigenvalue greater than 1 (eigenvalue: 3.64); thus, it is consistent with the notion that this scale measures only the underlying construct. This factor explains the majority of the variance in these items (explained variance: 70%).
Demographics includes gender, age, work experience and employment status.

Table 3. *Ethical Learning Analysis: Misreport Probability in the Money Donation condition*

Panel A: Display of Misreport Probability across Donation Engagement Levels



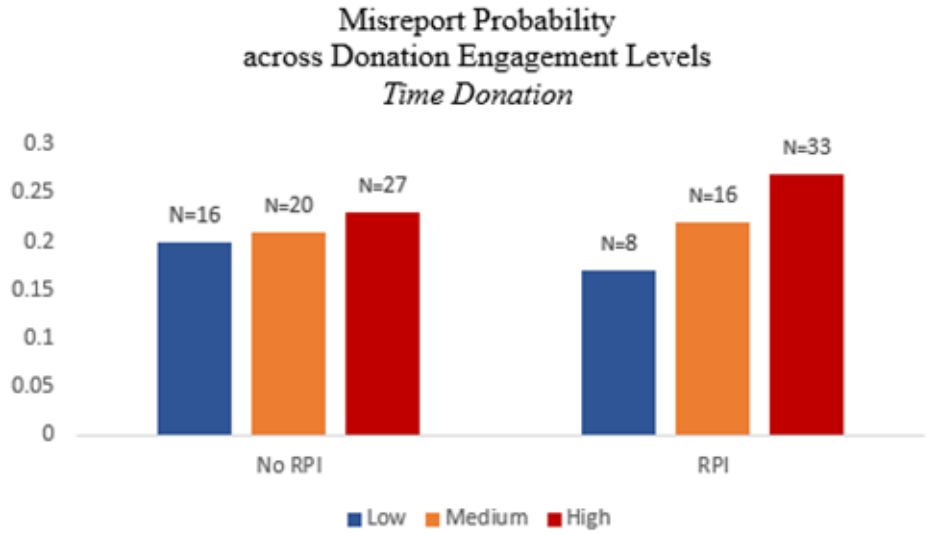
Panel B: Comparison of Misreport Probability across Donation Engagement Levels

	The Money Donation Condition		
	Low	Medium	High
No-RPI (a)	0.19	0.16	0.13
RPI (b)	0.29	0.07	0.01
Difference (b−a)	0.10	-0.09	-0.12
Chi-square	0.79	2.25	3.23
Two-tailed p-value	0.37	0.13	0.07

This table presents the display and the statistical comparison of the conditional misreport probability between RPI and No-RPI conditions at different donation engagement levels in the Money Donation condition: low, middle, or high indicates 0–2, 3–4, or 5 children to help.

Table 4. *Ethical Learning Analysis: Misreport Probability in the Time Donation condition*

Panel A: Display of Misreport Probability across Donation Engagement Levels



Panel B: Comparison of Misreport Probability across Donation Engagement Levels

	The Time Donation Condition		
	Low	Medium	High
No-RPI (a)	0.17	0.21	0.23
RPI (b)	0.20	0.22	0.27
Difference (b−a)	0.03	0.01	0.04
Chi-square	0.04	0.00	0.15
Two-tailed p-value	0.84	0.97	0.70

This table presents the display and the statistical comparison of the conditional misreport probability between RPI and No-RPI conditions at different donation engagement levels in the Time Donation condition: low, middle, or high indicates 0–2, 3–4, or 5 children to help.

Table 5. *The Moderating Effect of Care for Own Standard*

Dependent Variable Misreport

	Money Donation Condition			**Time Donation Condition**		
	(1) Full	(2) RPI Present	(3) RPI Absent	(4) Full	(5) RPI Present	(6) RPI Absent
Die1	-0.80***	-0.66***	-0.91	-0.66***	-0.63***	-0.70***
	(0.28)	(0.13)	(0.59)	(0.12)	(0.08)	(0.27)
Donation	-0.07	-0.90***	-0.05	-0.01	0.54***	-0.01
	(0.09)	(0.20)	(0.12)	(0.20)	(0.15)	(0.23)
RPI	-1.32***			-0.50		
	(0.36)			(0.61)		
Donation*RPI	-0.89***			0.57**		
	(0.22)			(0.24)		
Care for Own Standard	-0.06	-2.00***	-0.02	0.27	1.99**	0.28
	(0.34)	(0.59)	(0.42)	(0.65)	(0.99)	(0.70)
Donation*Care for Own Standard	0.19	**-1.01*** **	**0.21**	-0.13	**-1.03**	**-0.14**
	(0.29)	**(0.17)**	**(0.39)**	(0.31)	**(0.79)**	**(0.36)**
Donation*RPI*Care for Own Standard	**-1.33****			**-0.93**		
	(0.58)			**(0.78)**		
RPI*Care for Own Standard	-2.20**			1.76		
	(0.99)			(1.20)		
Constant	0.66	-0.93*	0.93	0.60	0.03	0.68
	(0.67)	(0.48)	(1.33)	(0.42)	(0.39)	(0.3)
No. Observations	123	63	60	120	57	63

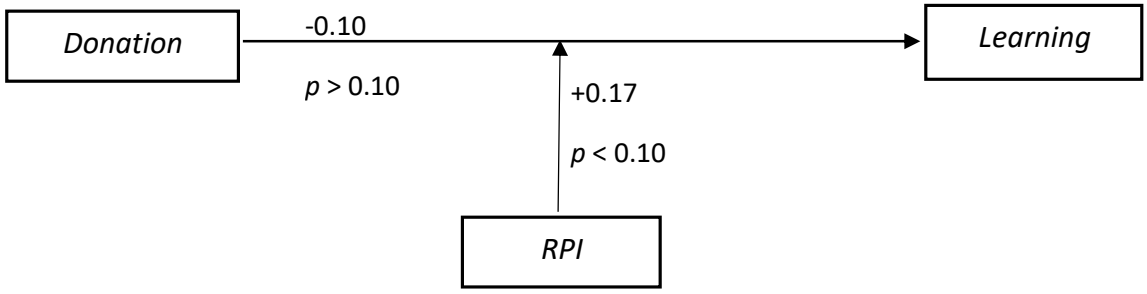
*,**,*** indicate significance at the 0.10, 0.05, and 0.01 levels, based on two-tailed statistics.
Standard errors are in parentheses are clustered at session level.

Variable definitions:

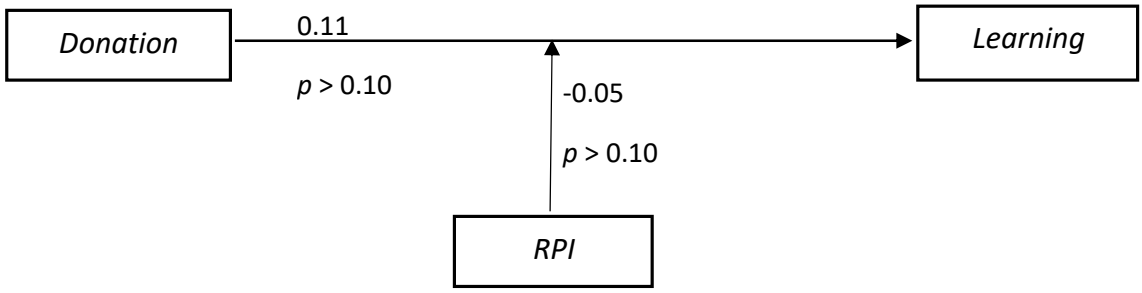
Misreport = 1 if the participant misreported the die, and 0 otherwise;
Die1 = the number on the first die that the participant observed;
Donation = the number of children the participant chose to help, mean-centered;
RPI = 1 if the participant is in the RPI presence condition, and 0 otherwise;
Care for Own Standard = additive inverse of the participant's Machiavellianism score (Egan, Hughes, and Palmer 2015), mean-centered.

Figure 1. Process Evidence on Learning.

Panel A: The Money Donation Condition



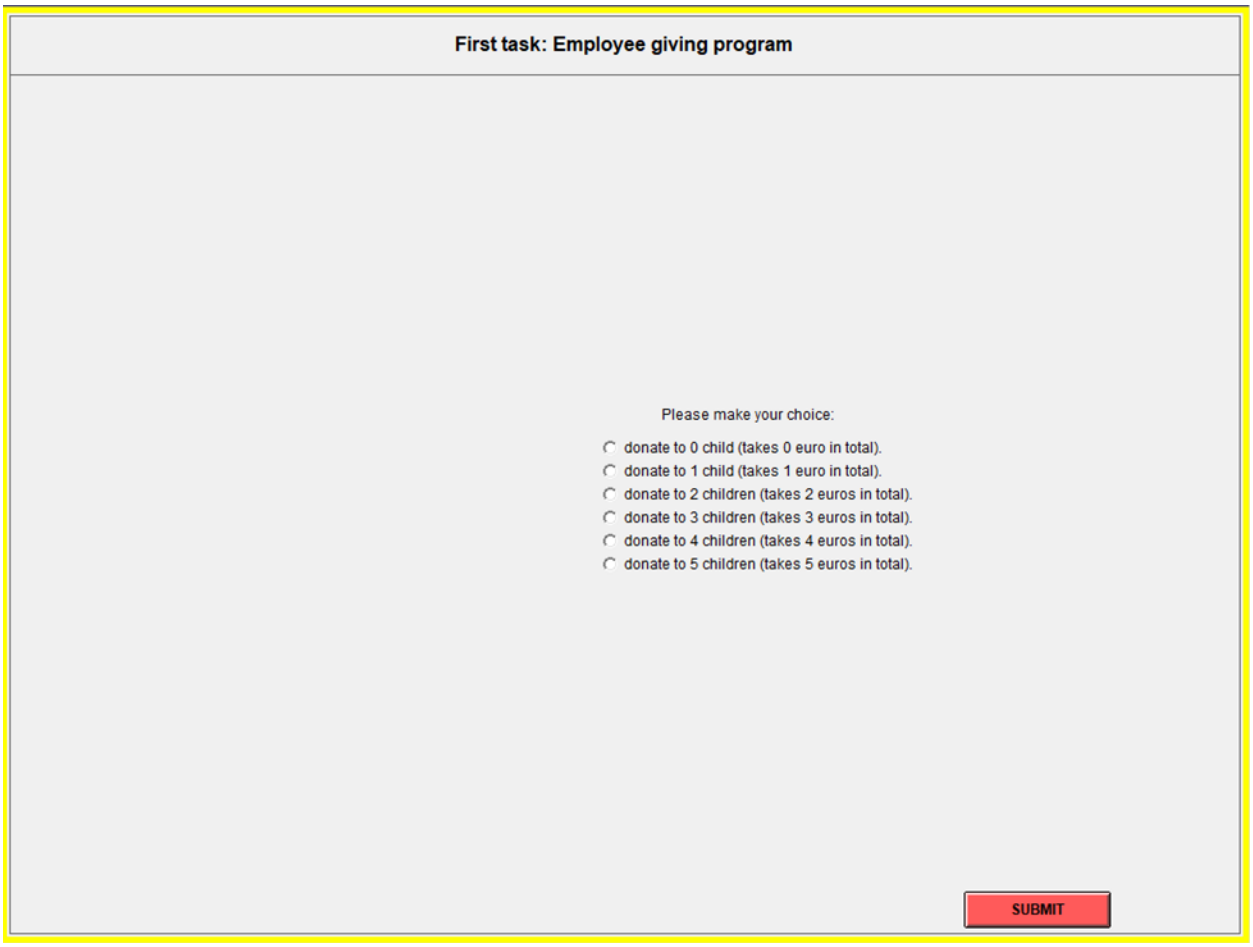
Panel B: The Time Donation Condition



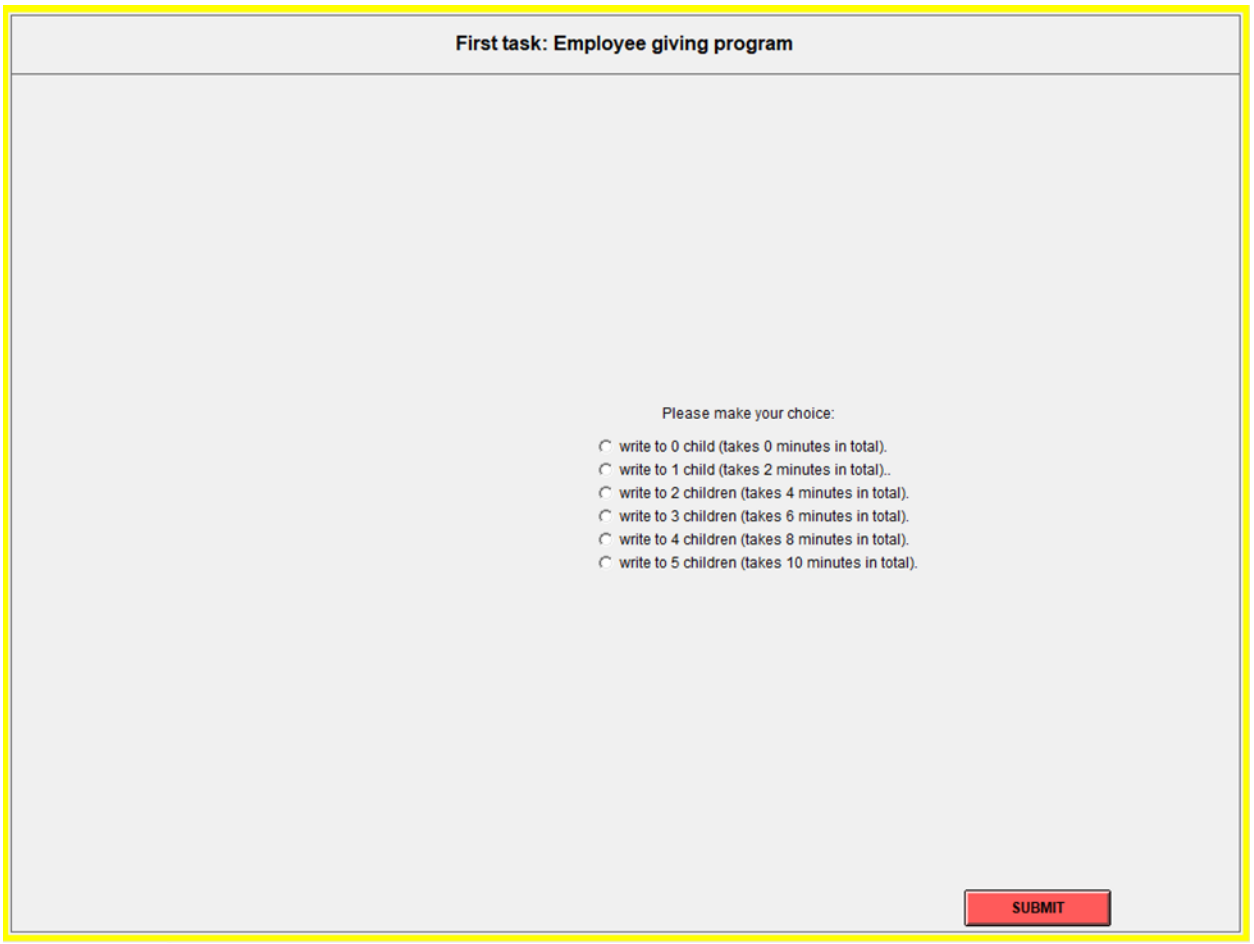
We estimated a generalized path model from Donation, RPI and the interaction item Donation x RPI to the reported self-concept learning. We controlled individual altruism in the estimation.
Donation = the number of children that the participant chose to help, mean-centered;
RPI = 1 if the participant is in the RPI presence condition, and 0 otherwise;
Learning = participants' responses to a post-questionnaire item "The activity I did in the program (i.e., donating money/time) allowed me to learn something about myself that I might otherwise would not have discovered" on a 7-point Likert scale (1 = "strongly disagree" and 7 = "strongly agree,").

Appendix

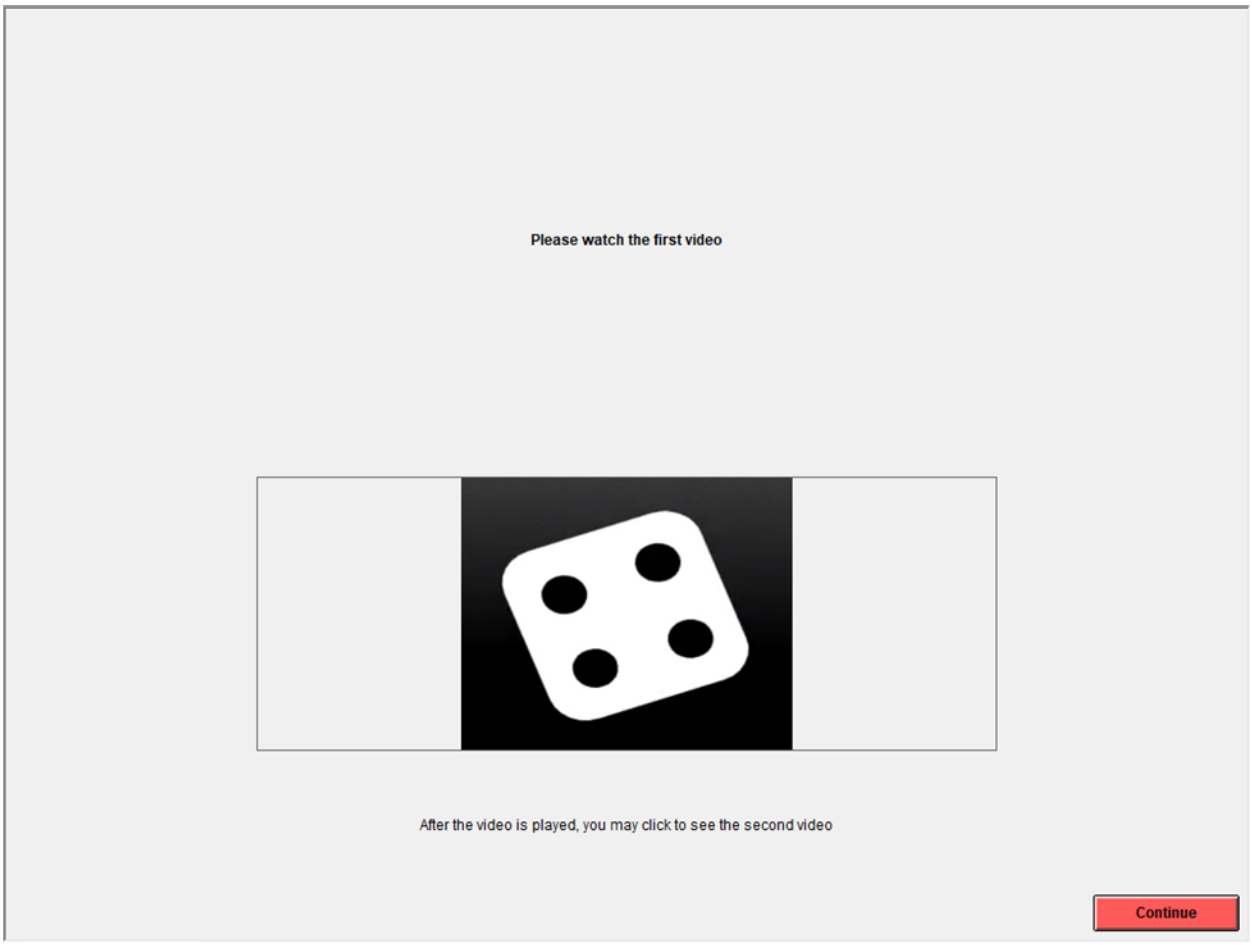
Screenshot 1: The money donation screen



Screenshot 2: The time donation screen



Screenshot 3: The die rolling video screen



Screenshot 4: The die reporting screen