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When Robots Come to Our Rescue: Why Professional Service Robots Aren'T Inspiring and Can Demotivate Consumers' Pro-Social Behaviors

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Six studies demonstrate that consumers feel less inspired when reading about a robot carrying out a disaster relief act than reading about a human carrying out the same act because robots are perceived to lack autonomy. The low feeling of inspiration can affect consumers' subsequent contribution in unrelated prosocial domains.

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Prosocial Consumption and Contribution: The Impact of Firm's Actions, Donor's Actions, the Nature, and the Machines

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Paper #1: Risky Business: The Risk-Reward Trade-off is Different for Nonprofit and For-Profit Firms

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Paper #2: Increasing Donor Retention with Feedback on Donation Use

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Paper #3: The Transcendent Self: The Influence of Exposure to Nature on Self-Serving Versus Prosocial Consumption

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Paper #4: When Robots Come to Our Rescue: Why Professional Service Robots Aren't Inspiring and Can Demotivate Consumers' Prosocial Behaviors

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SESSION OVERVIEW

Prosocial behaviors are behaviors that involve self-sacrifice for the good of others or of society (Small and Cryder 2016). Consumers often engage in prosocial behaviors such as donating to nonprofits organizations, purchasing environmentally-friendly products, and supporting cause-related marketing. Decades of work has studied what motivates consumers to behave pro-socially (Batson et al. 2007). Critical antecedents for encouraging prosocial consumption and contribution include firm's actions, donor's perceptions, and situational influences (e.g., Cryder, Botti, and Simonyan 2017; Darley and Latane 1968; Gneezy, Keenan, and Gneezy 2014). This session brings together papers that explore novel influencers of consumers' prosocial behaviors from four distinct angles: (1) firm's risky action, (2) donor's past action, (3) the environment/nature, and (4) the machine/robot.

First, how does *risk-taking by nonprofit organizations* influence consumers' willingness to support the organization? The paper by Gershon, Cryder, and Croston demonstrates that consumers are less tolerant of risk-taking by nonprofits: when a nonprofit organization chose a high risk and high expected value (vs. a safe but low expected value) fundraising option, consumers were less likely to support the nonprofit organization, because risk-taking activates paternalistic attitudes toward the firm. Interestingly, consumers do not penalize for-profit firms to the same degree for choosing the same risk, underscoring the uniqueness of prosocial industries. What can nonprofit organizations do to increase redonation? The second paper by Shehu, Clement, Winterich, and Veseli demonstrates in two field experiments and two controlled studies that giving donors feedback on their *past donation use* helps to convey service value, and significantly increases the number of redonation (i.e., donor retention).

Going beyond firm's and donor's action, how does our environment—the *exposure to nature*—affect prosocial consumption? The

third paper by Castelo, Goode, and White shows that immersed in nature leads to self-transcendence (i.e., a sense of being connected to something greater than oneself), which decreases self-prioritization and increases prosocial consumption, e.g., choices of environmentally-friendly products. Contrasting the impact of nature on prosocial behavior, the last paper explores what happens when *new technology*—*professional service robots*—are used in prosocial missions. Huang and Chen show that consumers in general feel less inspired when they read about a robot (vs. a fellow human) carrying out a prosocial/disaster-relief act, because of the perceived lack of autonomy in robots. They document how this feeling of lower inspiration spills over to reduce consumers' prosocial contribution for unrelated causes through two field experiments, and identify multiple ways to circumvent this negative effect (e.g., altering the description of robots' relationship with human volunteers).

Taken together, this special session examines four critical influencers of consumers' prosocial consumption and contribution. We study a diverse set of behaviors (donor retention, support, donation amount, and donation quantity) in the lab and the field, as well as novel mechanisms from firm perception, service value, to subjective experience such as inspiration and self-transcendence, ensuring a broad appeal for scholars and practitioners across disciplines (marketing strategy, feedback, information processing, risk, affect, self-view, motivation, decision making) and a lively discussion to encourage future research in these areas.

Risky Business: The Risk-Reward Trade-off is different for Nonprofit and For-Profit Firms

EXTENDED ABSTRACT

Consumers hold different attitudes toward nonprofit and for-profit firms. For example, consumers perceive nonprofits as warmer than for-profits, but also as less competent (Aaker, Vohs, and Mogilner 2010). Similarly, consumers believe that nonprofit hospitals are more trustworthy and humane, but also lower in quality than for-profit hospitals (Schlesinger, Mitchell, and Gray 2003). This paper investigates a novel and important difference in how consumers judge nonprofit versus for-profit firms: consumers feel paternalism toward non-profit organizations, making them judge risk-taking by nonprofits less favorably than identical risk-taking by for-profit organizations.

Five experiments find that consumers penalize a nonprofit that chooses a risky (but high expected value) option over a certain (but low expected value) option, however, they do not penalize a for-profit company to the same degree for choosing the same risk. This effect is due to the perception that nonprofits are low in agency, therefore, when nonprofits take an agentic action such as risk-taking, it evokes paternalistic attitudes and decreases consumer support.

Experiment 1 was an initial test of reactions to nonprofit risk-taking using a 2 (nonprofit/for-profit) × 2 (safe/risky) between-subjects design. In the nonprofit condition, participants read, "You regularly donate to a nonprofit called CleanWater, which provides clean, safe water to people all over the world." Those in the for-profit condition read, "You regularly buy bottled water from a company called CleanWater." Participants then read, "Recently, the [nonprofit/company] was deciding between two [fundraising/business]

ventures, Choice 1: [Raise/Earn] \$200,000 for sure and Choice 2: 50% chance the [nonprofit/company] will [raise/earn] \$1 Million and 50% chance the [nonprofit/company] will [raise/earn] \$0". Participants were informed that the [nonprofit/company] chose either the safe (but low expected value) or the risky (but high expected value) option. We measured participants' likelihood of supporting the organization in the future. Results showed a significant interaction between firm type and risk-taking ($F(1, 301) = 12.93, p < .001$).

Despite the much higher expected value for the risky choice (\$500,000 vs. \$200,000), consumers showed a general decreased willingness to support firms that take risks; most importantly, this decrease was significantly and substantially greater for the nonprofit organization. (Note: A follow-up study replicated this result while using purchase intentions as the DV for both the for-profit and nonprofit).

In Experiment 2, participants imagined that they were the head of a large [nonprofit/company] and that they must decide which venture to pursue. Participants then selected either a 1) safe, but low expected value choice (raise \$200,000 for sure) or 2) risky, but high expected value choice (50% chance at \$1 million, 50% chance at \$0). When asked to imagine that they were the head of a nonprofit (vs. for-profit), participants' choice of the risky, but higher payoff venture decreased from 43.5% to 24.1% ($\chi(1) = 8.43, p = .004$). In other words, participants were significantly more risk-averse when acting as if they were responsible for a nonprofit compared to a for-profit firm.

Experiments 3A and 3B use the same design as Experiment 1 (though with a binary yes/no choice to support as the DV) and rule out possible alternative explanations for consumer risk-intolerance for nonprofit organizations. It is possible that consumers choose not to support nonprofits that take risks because they take particular issue with their own donation going towards a risky investment rather than towards the nonprofit's programming (see Gneezy, Keenan, and Gneezy 2014). We therefore tested two scenarios examining the nonprofit risk-choice. In Experiment 3A, we used a 2 (nonprofit choice: safe/risky) \times 2 (control/no-overhead) between-subjects design and explained to participants in the no-overhead condition that their donation would go directly to programming and not to the (risky or safe) fundraiser. In Experiment 3B, we used a 2 (nonprofit choice: safe/risky) \times 2 (self-donation/other-donation) between-subjects design in which participants either made the choice to donate themselves (self-donation) or advised an anonymous individual on whether to donate to the nonprofit (other-donation; see Cryder, Botti, and Simonyan 2017). In both experiments, we found a main effect of nonprofit risk, such that participants were less likely to donate (or advise others to donate) to the risk-taking nonprofit. However, we found non-significant interactions of risk-taking and the donation treatment for both studies ($ps. > .20$). These patterns indicate that the intolerance for risk-taking is not due to donor preferences that their own donation will not go towards a risky venture; the phenomenon persists even when participants are informed that their donation will go directly towards programming.

Experiment 4 explored process using the same design as Experiment 1 with an even higher expected value for the risky choice (safe=raise \$200,000 for sure vs. risky=50% chance at \$5 million, 50% chance at \$0). To measure paternalistic attitudes, we collected responses to the following items: "CleanWater deserves to spend their money as they choose", "CleanWater has the right to make their own spending choices," and "How CleanWater spends their money is up to them," 1=Definitely Disagree, 7=Definitely Agree

(adapted from Olson, McFerran, Morales, and Dahl 2016). We also measured perceptions of warmth, competence, and

morality. Results replicated the interaction from Experiments 1-3B of firm type and risk-taking on consumers choice to support the organization ($Wald\chi^2(1) = 9.05, p = .003$). In addition, judgments of paternalism mediated this interaction, such that participants rated a greater increase in paternalistic attitudes for the nonprofit (vs. for-profit) when they chose the risky option and this led to a greater decrease in support for the nonprofit. Further, in a test of parallel mediation, paternalistic attitudes, but not the other process items (warmth, competence, and morality) still significantly mediated the interaction.

Consumers are less tolerant of risk-taking by nonprofits than for-profits. Specifically, when nonprofits make highly agentic choices (such as taking risks), this evokes paternalistic attitudes that decrease resource allocation to the firm. Such penalties have the potential to compromise the level of innovation that nonprofits can pursue while pursuing successful fundraising campaigns.

Increasing Donor Retention with Feedback on Donation Use

EXTENDED ABSTRACT

Non-profit organizations (NPOs) face an increasing level of competition and struggle to retain donors (Kessler and Milkman 2018; Khodakarami, Petersen, and Venkatesan 2015; Ryzhov, Han, and Bradic 2016). For example, nearly a quarter of blood donors are not retained as 24.9 percent of registered blood donors in the Netherlands do not provide a second donation and statistics from the United Kingdom and United States are similar (van Dongen 2015).

Despite the high managerial relevance, many NPOs struggle to identify effective donor retention strategies. Commercial companies often rely on monetary incentives to drive repeat purchase (Datta, Foubert, and Van Heerde 2015; del Rio Olivares et al. 2018). However, NPOs do not tend to benefit from using monetary incentives because they can crowd out intrinsic motives (Benabou and Tirole 2006; Heyman and Ariely 2004). In addition, monetary incentives may dampen attitudes toward the NPO due to perceptions regarding ineffective use of funds (Gordon, Knock, and Neely 2009; Winterich and Barone 2011).

In this research, we propose and test a donor retention strategy that utilizes existing donation use information rather than relying on monetary or other extrinsic incentives.

Building on value co-creation research, we argue that giving donors feedback on their past donation use increases the perceived warm glow and value donors receive from the NPO (Vargo and Lusch 2016, 2008; McGrath 1997).

We test this retention strategy in the context of blood donation by informing donors in two field studies ($N=28,222$ active donors in Study 1 and $N=11,166$ inactive donors in Study 2) that their blood donation was used in a hospital on a certain date. These field studies compare the effectiveness of our proposed retention strategy to a best-practice appeal that merely acknowledges past donations. The results show that incorporating past donation use increases the probability to reactivate inactive donors by 11.98%, and the number of donations of active donors by 9.8% yearly. Using conservative estimates of one annual donation on average, this translates into an additional 14 donations per 1000 contacted inactive donors, and 98 donations per 1000 contacted active donors. For large organizations with a donor base of several hundreds of thousands, the effect is substantial as each blood donation may serve up to three persons.

Two subsequent controlled experiments replicate this retention effect and offer insight for the effectiveness of this appeal. Study 3 uses a one-factor, two-level between-subjects design, where re-

spondents are randomly assigned to either a past donation use or a control acknowledgment condition. Donation intentions (measured on a 7-point scale) are higher for the past donation use condition ($M = 4.41$, $SD = 2.25$) compared to the control group ($M = 3.79$, $SD = 2.34$; $t(224) = 2.05$, $p = .04$). The past donation use effect is transmitted through warm glow ($M = 5.02$, $SD = 1.58$ in the past donation use versus $M = 4.67$, $SD = 1.67$; $t(224)$

$= 2.45$, $p = .02$), and we rule out a potential mediation through victim identification. In Study 4, we show that the past donation use effect on donation intentions is transmitted through a serial mediation via warm glow and service value.

Our findings are relevant for managers and researchers alike. Our proposed strategy, which informs donors of their past donation use, can generally be easily implemented by NPOs. In fact, blood donation services in Sweden, Australia, and other countries adopted related strategies informing current donors how their latest donation is used (Stone 2015). However, the effect of this retention strategy relative to traditional donation acknowledgment strategies has not been quantified to date.

Referring to academic areas, we have three core contributions. First, our work contributes to the literature on donor retention, adding to both the nonprofit and relationship management literature. In the relationship management literature, retention can often be increased via monetary incentives (e.g., del Rio Olivares et al. 2018), which may backfire in the prosocial context (Heyman and Ariely 2004). By proposing a retention strategy that does not rely on incentives, we demonstrate a managerially relevant and cost-efficient approach to managing relationships in the nonprofit sector. In doing so, we add to recent research which shows how personalizing donation appeals by incorporating information on past donation amount or date affects redonation (e.g., Kessler and Milkman 2018; Ryzhov, Han, and Bradic 2016). We move beyond past donation amount and date and show how information on past donation use, a key piece of information relevant to existing donors' perceptions of the NPOs service value (Sargeant 2001), increases retention.

Second, this study also adds to the literature on service value, which has not received much consideration for nonprofits (Vargo and Lusch 2008). According to McGrath (1997), nonprofit service value is what a NPO specifically does for its donors, such as appreciation and feedback. To date, research has considered the central role of service value for nonprofits from a theoretical perspective (McGrath 1997), but empirical insights are lacking. The current research addresses this gap, showing that service value plays a key role when it comes to donor retention. Nonprofits can increase the number of donors they retain by sharing past donation use information and increasing the salience of their NPOs value creation (Vargo and Lusch 2016).

Third, we show that it is not sufficient to merely acknowledge past donations; NPOs need to incorporate past donation use information in their redonation appeals to enhance their value to donors and thereby retain more donors. Thus, our findings also contribute to the literature on recognition in prosocial behavior (Winterich, Mittal, and Aquino 2013) by demonstrating that, in the redonation context, appeals pertaining to donation use are more effective than donation acknowledgement alone.

Moreover, the societal impact of successfully improving retention of blood donors is high, as the GRC notes that one blood donation can save the lives of up to three people. Thus, improving donor retention may save lives – especially for those blood types that are rare and especially in need during times of supply shortages.

The Transcendent Self: The Influence of Exposure to Nature on Self-Serving Versus Prosocial Consumption

EXTENDED ABSTRACT

We propose that exposure to nature can decrease interest in self-centered, material things and, instead, make people more other-focused and prosocial in their consumption behaviors. Past research has shown that exposure to nature has many beneficial consequences such as stress reduction (Ulrich et al. 1991), improved mood (Abraham et al. 2010), enhanced concentration (Hartig et al. 2003), and heightened attention (Berman, Jonides, and Kaplan 2008). We build on this work to propose that exposure to nature can also enhance feelings of self-transcendence—a sense of being connected to something greater than oneself. We further propose that this sense of self-transcendence subsequently decreases self-prioritization and increases prosocial behaviors.

Qualitative consumer research has explored the role of cultural narratives portraying nature as a powerful, sacred, and even divine entity, in reducing perceived barriers between oneself and the environment (Arnould and Price 1993; Canniford and Shankar 2013). In our context, we propose that exposure to nature (vs. a control) will lead to the broader sense that all of life, including but not limited to other human beings, share a common bond, are interconnected, and are part of a greater whole. This, in turn, is predicted to increase prosocial behaviors such as choosing products with ethical attributes, donating to charity rather than gaining benefits for the self, and making decisions that favor the social good over individual profit.

Study 1 asked 90 undergraduates to walk either through a natural landscape or through a more urban landscape, before measuring their state materialism (3 items; e.g., “material things are important to me”). Compared to walking in an urban area, participants who walked in nature reported lower materialism ($M_{\text{nature}} = 4.88$ vs. $M_{\text{urban}} = 5.41$, $t(88) = 2.26$, $p = .026$).

Studies 2A and 2B used a recall-based manipulation in which participants wrote about a prior experience of being in nature, or about a neutral topic. In 2A, 200 MTurk participants completed an ad evaluation task in which they saw two ads for a granola bar. One ad emphasized the product's prosocial benefits (“good for you and the environment”) and the other ad emphasized self-serving benefits (“a healthy, tasty snack”). Participants in the nature condition were more likely to prefer the option that emphasized prosocial benefits (66%) than those in the control condition (45%; $\chi^2(1) = 8.10$, $p = .0004$).

In Study 2B, 316 MTurk participants completed the same manipulation and a measure of selftranscendence (3 items, e.g., “I feel that on a higher level all of us share a common bond,” “All life is interconnected,” Levenson et al. 2005). Participants then read a short scenario asking them to play the role of the CEO of a fishing company, whom the government had asked to reduce his fish harvest (and profits) to benefit future generations.

Participants indicated how much fish they would harvest, a measure of willingness to forego immediate selfbenefits to benefit the social good (WadeBenzoni et al. 2008). Those in the nature condition reported increased feelings of selftranscendence ($M_{\text{nature}} = 8.95$) compared to the control condition ($M_{\text{neutral}} = 8.63$, $t(306) = 3.01$, $p = .002$). Furthermore, they also reported a greater willingness to harvest less fish now in order to benefit future generations ($M_{\text{nature}} = 582.9$ vs. $M_{\text{neutral}} = 623.6$, $t(306) = 2.47$, $p = .042$).

Study 3 was a field study in which 72 participants were asked to complete a short study either before (prenatureexposure) or after (postnatureexposure) they left a hiking trail. As our primary dependent variable, we offered participants the choice between entering a draw for a selfbenefit (i.e., winning an iPad as a prize) or forgoing

the draw entry to donate to the United Way. We also measured self-transcendence as in Study 1B. Participants were significantly more likely to choose the prosocial option over the self-focused option if they made their decision after (68%) versus before nature exposure (32%, $\chi^2(1) = 8.16, p = .009$). Transcendence mediated the effect of the hiking manipulation on the prosocial choice ($\beta = .33, 95\% \text{ CI} = .02\text{--}1.1$).

Study 4 demonstrates a boundary condition of the effects of nature on prosocial behavior. Specifically, because we theorize that the effects are driven by self-transcendence, the effect should be less likely to occur in contexts that make consumers feel separate and distinct from others. A research assistant approached 142 participants either before or after they completed a hike, as in Study 2. Participants were assigned to one of two additional conditions, in which they either wrote about “a time when [they] felt distinct and separate from others and the world around [them],” or did not complete any writing task. The design was therefore a 2 (nature exposure: pre vs. post-nature exposure) \times 2 (self-focus: high vs. neutral). The DV was the choice of donation vs. iPad draw, as in Study 2. A logistic regression revealed a main effect of nature exposure (pre = 0, post = 1; $\beta = 1.25, p = .021$) and a significant interaction between the two independent variables ($\beta = 1.50, p = .041$).

Participants who did not engage in the self-focus task were more likely to choose the donation after (83.3%) than before nature exposure (58.8%; $\chi^2(1) = 4.48, p = .034$). When participants wrote about a time they felt separate from others, they were equally likely to donate regardless of nature exposure (after = 54.5%; before = 60.6%, $\chi^2(1) = .06, p = .803$).

A sense of feeling connected to something bigger than oneself while being immersed in nature is an intuitively appealing phenomenon. These results lend empirical support to this notion, showing that this sense of self-transcendence can occur as a result of directly experiencing or even just remembering exposure to nature. Furthermore, self-transcendence in turn increases consumers' focus on others relative to themselves, thereby increasing prosocial behavior. These findings contribute to the literatures on self-concept, prosocial behavior, the effects of spending time in nature. They also suggest a potentially useful marketing tool for charities and nonprofits, who may benefit from nature-based imagery and messaging in their advertising campaigns.

When Robots Come to Our Rescue: Why Professional Service Robots Aren't Inspiring and Can Demotivate Consumers' Prosocial Behaviors

EXTENDED ABSTRACT

Service robots refer to robots that perform services useful to the well-being of humans or equipment (ISO 8373:2012). With rapid advances in technology, the use of professional service robots in prosocial missions, such as disaster search, rescue and recovery, is becoming prevalent around the world, along with the growing news coverage of these prosocial missions (Bartneck and Forlizzi 2004; Liu and Nejat 2013; Murphy 2004). This research examines how consumers feel and react when they read about a robot carrying out a disaster relief mission that is usually performed by humans.

We propose that observing a robot conduct a disaster relief act is less inspiring to consumers than observing the same act carried out by a fellow human (H1). This lowered feeling of inspiration results from the perceived lack of autonomy in robots' participation in the prosocial mission (i.e., the lack of ability to control over their own behaviors and act independently; Bartneck and Forlizzi 2004; Ryan and Deci 2000; Hoffman and Novak 2017). Consequently, when a

robots' autonomy is externally enhanced, the negative effect on inspiration can be mitigated (H2). More importantly, a lower feeling of inspiration will lead to a lower likelihood for consumers to support prosocial causes in subsequent, unrelated domains (H3).

Six studies provided supportive evidence for our hypotheses. Study 1 tested H1 through a 2-condition (rescue agent: robot vs. human) between-subjects design. Participants first read about a fictitious news report about a sudden earthquake in a small US town. Then, those in the robot (human) condition read that a robot (human) disaster response team had been sent to rescue survivors from the earthquake. We measured the extent to which participants felt inspired using scales adapted from Thrash and Elliot (2004). As predicted, participants reported a lower level of inspiration when they read about robots assist in the earthquake rescue compared to reading about fellow humans conducting the same act.

Studies 2-4 tested whether the effect was driven by the perceived lack of autonomy underlying robots' prosocial actions (H2). We used three different ways to manipulate robot autonomy across studies. Study 2 used a 4-condition (robot-neutral, human-neutral, robot-autonomy-yes, robot-autonomy-no) between-subjects design. Participants first read a news report on a fictitious earthquake disaster. Those in the robot-neutral (human-neutral) conditions then read that a robot (human) team came to help with post-quake recovery. In addition, participants in the robot-autonomy-yes condition read a seemingly unrelated article that described how, with the development of artificial intelligence technology, robots have the intelligence and learning capacities to act independently, whereas participants in the robot-autonomy-no condition conversely read about how robots are not capable of acting independently. Results from the robot-neutral and human-neutral conditions replicated Study 1 – people were less inspired by robot rescuers than by human rescuers ($M_{\text{robot}} = 4.03$ vs. $M_{\text{human}} = 5.30$; $F(1, 266) = 23.13, p < .001$). Reading about how robots have autonomy made the robots' prosocial action more inspiring than not reading this information ($M_{\text{robot-autonomy-yes}} = 4.75$ vs. $M_{\text{robot-neutral}} = 4.03, F(1, 266) = 7.04, p = .008$), whereas reading about how robots indeed lacked autonomy made no difference in the feeling of inspiration compared to the robot neutral condition ($M_{\text{robot-autonomy-no}} = 3.83$ vs. $M_{\text{robot-neutral}} = 4.03, F < 1$). Study 3 manipulated robot autonomy through varying the reason for the rescue. Following past research (Botti et al. 2009; Chen and Sengupta 2014), we showed that highlighting that the robots made their own decisions (vs. being instructed by humans) to conduct the disaster relief acts enhanced the perception of the robot's autonomy, which consequently made their disaster relief acts more inspiring.

Study 4 manipulated robot autonomy through varying the description of the relationship between robots and humans (Aggarwal 2004; Yanco and Drury 2004). Participants were randomly assigned to one of the three (robot-human relationship: partner vs. subordinate vs. baseline) between-subjects design. Participants first watched a PowerPoint presentation on a recent mudslide in a US city. The PowerPoint presentation described the background of the mudslide, the damage information, and reported that teams of robots had been providing help with the rescue and recovery work. After the PowerPoint presentation, participants read further that the disaster rescue robots work *with* humans as teammates (partner condition), or that the robots work *for* humans (subordinate condition), or did not read anything about the robot-human relationship (baseline condition). As predicted, participants in the partner condition perceived greater autonomy in these robots ($M = 2.76$) than those in the subordinate condition ($M = 1.99$) or the baseline ($M = 1.90$), $F(1, 152) > 7.80, ps < .006$. As a result, participants felt more inspired in the partner condition ($M = 5.26$) than in the subordinate condition ($M = 4.43$) or

the baseline ($M = 4.62$), $F(1, 152) > 3.86$, $ps < .05$. A path analysis verified that perceived autonomy mediated the effect of relationship manipulation on inspiration.

Studies 5 and 6 were built on previous studies to explore the impact of reading about robots' prosocial actions on consumers' own prosocial contributions in unrelated causes (H3). For these studies we collaborated with two local nonprofit organizations to conduct donation drives for books and used clothing, respectively, lasting around three weeks and consisting of two parts: reading about a disaster and donating to the drive. Participants first come to the lab and read a PowerPoint presentation on a recent natural disaster as in previous studies.

Participants also read about the disaster relief efforts conducted by robots (versus humans, Study 5; or different types of robot-human relationships tested above, Study 6). After completing several filler questions, participants saw on the exit page an advertisement on the donation drive. A donation site was set up to collect donations. As predicted, reading about robots (vs. humans) or robots that lacked autonomy (vs. high in autonomy as in taking a partner role with humans) led to significantly lower contributions in the book and clothing donation drives. These findings suggest that featuring how machines/robots assist in prosocial missions should be carefully managed to sustain high inspiration and ensure consumers' own contributions.

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