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journal homepage: www.elsevier.com/locate/jespGiving-by-proxy triggers subsequent charitable behavior[☆]Samantha Kassirer^{a,*}, Jillian J. Jordan^b, Maryam Kouchaki^a^a Kellogg School of Management, Northwestern University, USA^b Harvard Business School, Harvard University, USA

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ABSTRACT

How can we foster habits of charitable giving? Here, we investigate the potential power of *giving-by-proxy* experiences, drawing inspiration from a growing trend in marketing and corporate social responsibility contexts in which organizations make charitable donations on behalf of employees or consumers. We create laboratory models of giving-by-proxy in workplace (Studies 1a-3) and consumer (Study 4) contexts. We then investigate how giving-by-proxy experiences (with varying amounts of autonomy) influence subsequent charitable behavior. Across five preregistered studies ($N = 3255$), we provide evidence that (i) giving-by-proxy experiences (that mirror those that typically occur in both workplace and consumer contexts) trigger increases in subsequent charitable behavior, (ii) this process is mediated by participants taking “charitable credit” for their behavior, and (iii) manipulating the amount of autonomy involved in the giving-by-proxy experience does not moderate these effects. Results highlight potential societal impacts of giving-by-proxy policies and campaigns.

How can we foster habits of charitable giving at scale? In modern society, the technologies available to help us achieve this aim have become increasingly diverse. For example, one can now contribute to charity simply by purchasing products through AmazonSmile instead of [Amazon.com](https://www.amazon.com), or as a side-effect of purchasing products from charitable brands (e.g., Toms Shoes), where a percentage of one’s purchase automatically goes to charity. Moreover, some employers are now shifting away from solely incentivizing employees through traditional bonus structures and are incorporating *prosocial* bonuses (i.e., employee bonuses spent on others, often in the form of charitable donations; Anik, Akin, Norton, Dunn, & Quoidbach, 2013). In these examples, organizations are utilizing what we term a *giving-by-proxy* program: the organization acts as the proxy who makes charitable donations on behalf of employees or consumers, and the employees’ or consumers’ donations are a side-effect of their non-charitable behaviors and purchases.

Although this giving-by-proxy trend may have started as simply a clever strategy for organizations to increase consumer purchasing or employee satisfaction, performance, and motivation (Anik et al., 2013; Imas, 2014; Mukherjee & Sahay, 2016), it could have the important benefit of normalizing higher rates of charitable giving by creating opportunities for individuals to give back regularly or even habitually. Ethics scholars have recently made a call for treating moral decision-

making as a design problem, suggesting that policymakers should work to create contexts that encourage ethical action (Epley & Tannenbaum, 2017). We expect that giving-by-proxy programs may be one such strategy. In fact, research has documented a positive correlation between exposure to workplace giving campaigns and household donation behaviors (Rimes, Nesbit, & Christensen, 2019). Moreover, a body of evidence suggests that an initial act of prosociality can increase the likelihood of subsequent prosociality (i.e., “moral consistency”; Freedman & Fraser, 1966; Sherman, 1980; Strenta & Dejong, 1981; Young, Chakroff, & Tom, 2012; Gallier, Reif, & Römer, 2017; Jones & Koenig, 2018; Heger & Slonim, 2019). This evidence suggests that an initial prosocial act can motivate future prosociality by making the actor feel like a “do-gooder”, and thus can encourage them to act in accordance with and maintain this “do-gooder” self-concept (Young et al., 2012). Might giving-by-proxy opportunities trigger such consistency effects, such that an initial gift-by-proxy elicits increases in future charitable behavior? And if so, under what circumstances?

Here, we explore these questions and, in particular, investigate one potentially important psychological feature of giving-by-proxy programs: the extent to which givers-by-proxy experience autonomy. Since giving-by-proxy literally takes the act of giving away from the individual giver, it inherently reduces the charitable behavior’s objective internal

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locus of causality (i.e., the behavior is less autonomous or “self-determined”) and increases the external locus of causality (i.e., the behavior is more externally “controlled”). Yet some organizations have taken measures to add some autonomy back in; for example, AmazonSmile asks all consumers to select which charity they would like their gifts-by-proxy to go towards. In contrast, other organizations provide little to no autonomy to consumers; for example, Toms Shoes simply sends a pair of shoes to someone in need for every pair purchased—there is no autonomy given to the consumer. And, similarly, an employer offering prosocial bonuses to their employees might either allow each employee to choose where their bonus money is directed (creating some autonomy), or select a charitable cause on behalf of all employees (removing autonomy). Should we expect giving-by-proxy programs that provide some autonomy to employees or consumers to be more effective at encouraging downstream charitable behavior? Or can giving-by-proxy effectively motivate subsequent charitable behavior even if the experience offers givers little to no autonomy?

Previous research leaves open the question of whether feeling more or less autonomy when giving to charity in general—or specifically when giving-by-proxy—impacts givers’ willingness to engage in subsequent charitable behaviors. Thus, we investigate whether feeling more autonomous when giving-by-proxy influences whether individuals subsequently choose to behave charitably—both as compared to (i) less autonomous giving-by-proxy and (ii) a baseline condition that does not involve giving-by-proxy. Similar to the above examples of AmazonSmile and Toms Shoes, we manipulate the amount of autonomy when giving-by-proxy by either offering participants a choice over the charity their gift-by-proxy will go to (some autonomy) or choosing the charity on their behalf (no autonomy). Based on prior literature, there are two competing predictions as to whether the degree of autonomy experienced when giving-by-proxy will impact the likelihood that givers-by-proxy will subsequently behave charitably.

On the one hand, there are reasons to anticipate that giving-by-proxy experiences might be more likely to inspire subsequent prosociality when they involve some autonomy. Consistent with this proposal, a recent meta-analysis on the consequences of autonomous (i.e., self-determined) and controlled (i.e., externally influenced) behavior found associations between autonomy and prosociality as well as between control and antisociality (Donald et al., 2021). In other words, they found overall support from the literature that feeling a greater sense of autonomy over one’s behavior (i.e., feeling like one’s behavior is self-determined and not externally influenced) correlates significantly with prosociality (i.e., behaviors aimed to intentionally help others). They also found overall support from the literature that feeling a greater sense of having one’s behavior controlled (i.e., feeling like one’s behavior is not self-determined but rather externally influenced) correlates significantly with antisociality (i.e., behaviors aimed to intentionally harm others). The literature highlights a few potential mechanisms through which diminished autonomy might reduce subsequent prosociality.

First, self-determination theory would suggest that prosocial behaviors that are controlled (vs. autonomous) do not allow givers to feel like they “owned” the helping act (DeCharms, 1968; Deci & Ryan, 1985; Weinstein & Ryan, 2010). Similarly, reactance theory suggests that when an individual’s sense of freedom and autonomy feels restricted, they strive to regain that lost need, often by doing the opposite of what they were previously required to do (Brehm, 1966; Brehm & Brehm, 1981). Together, this work suggests that a controlled (i.e., autonomy-restricted) giving-by-proxy experience might both decrease the likelihood that givers will attribute their gift-by-proxy to their own character (i.e., take ‘charitable credit’ for their giving), and decrease the likelihood that they will give again.

Furthermore, controlled giving-by-proxy experiences might be less effective at motivating downstream prosociality if they are more ego-depleting (i.e., more likely to put people into a state where self-control has become limited; Ahtziger, Alós-Ferrer, & Wagner, 2015).

Supporting this proposal, self-determination theory scholars have provided evidence that controlled choices can be more ego-depleting than autonomous choices (Deci & Ryan, 2008; Moller, Deci, & Ryan, 2006). Moreover, it has been proposed that ego-depletion can trigger diminished prosociality (Ahtziger et al., 2015; Fennis, 2011; Xu, Bèguea, & Bushman, 2012). For example, a large-scale meta-analysis on dictator games reveals that prosociality decreases significantly over multiple rounds of the game (vs. in a single-round game; Engel, 2011). One interpretation of this pattern is that prosociality in dictator games is short-lived because of ego-depletion (Ahtziger et al., 2015). Additionally, in a different study, participants who underwent an ego-depletion manipulation reported a lower guilt response to a charitable appeal, and were less likely to donate to charity when shown the appeal (Xu, Bèguea and Bushman, 2012). Thus, if controlled (vs. autonomous) giving-by-proxy experiences are more likely to induce ego-depletion, such depletion might consequently hinder downstream prosociality. That being said, we also note that recent evidence has cast doubt on the replicability of ego-depletion effects (for example: Hagger et al., 2016; Inzlicht & Friese, 2019; Vadillo, 2020), calling into question this particular mechanism through which more controlled (vs. autonomous) giving-by-proxy experiences might reduce subsequent prosociality.

Alternatively, it is possible that the autonomy experienced while giving-by-proxy has little or no impact on future charitable behavior. Consistent with this proposal, recent research on charitable nudges suggests that, even when explicitly informing participants about the presence of the nudge, nudges successfully increased charitable donations as compared to a no-nudge control (Gråd, Erlandsson, & Tinghög, 2021). Since nudges are a form of “libertarian paternalism” (Thaler & Sunstein, 2009)—as they provide some degree of pressure to behave a certain way—this research suggests that restricting autonomy might not decrease charitable giving. Furthermore, self-perception theory also suggests that people infer their own values and attitudes from observing their past behaviors, and that these inferences can shape subsequent behaviors (Bem, 1972; Bénabou & Tirole, 2011). Thus, individuals might observe their past charitable behaviors—regardless of whether they meaningfully opted into the behavior—and infer that they value charitable giving, which could motivate subsequent charitable behavior.

Moreover, research on self-presentation and causal attribution suggests that individuals tend to show self-serving biases (Bradley, 1978; Heider, 1958); for example, by taking more personal credit for their positive (vs. negative) actions (Arkin, Appelman, & Burger, 1980). Given that people are inclined to attribute positive actions to their own character, we might expect givers to take equal amounts of “charitable credit” when giving-by-proxy, regardless of how autonomous (vs. controlled) their actions were. For these reasons, both autonomous and controlled gifts-by-proxy might have a comparable impact on subsequent charitable behavior.

The present research evaluates these competing predictions across a series of five preregistered, behavioral experiments ($N = 3255$), where we create laboratory models for giving-by-proxy in both workplace (Studies 1a-3) and consumer (Study 4) contexts. Specifically, in Studies 1a-3, participants completed a series of tasks either (i) in exchange for a monetary bonus² that would be donated to charity on their behalf (giving-by-proxy conditions), or (ii) simply as a part of the experiment (i.e., no bonus was earned or mentioned; baseline condition), and then were given a choice to behave prosocially or selfishly after the study. We always donated to charities on behalf of participants at the end of each study. In Study 4, we created a consumer behavior paradigm, where

² The prosocial bonus amount varied between 15c and 50c, and all prosocial bonuses were donated to the charities participants selected. These amounts were arbitrarily determined by what was practical for the research team within our research budget. However, since our results are consistent across studies, we believe that the data suggests that the specific amounts didn’t matter much for the psychology elicited from our experiments.

participants were given a \$3.50 gift card to purchase one of six products on Amazon (no gift-by-proxy) or AmazonSmile (giving-by-proxy), and shared with us which product they plan to purchase. Then, at the end of the study, participants were given a choice to either keep all of a monetary bonus or donate half of a monetary bonus to charity.

In these studies, we investigate how giving-by-proxy influences subsequent charitable behavior, and whether the answer depends on the extent to which the gift-by-proxy is autonomous. These questions have important implications, both for our understanding of the potential for giving-by-proxy to foster charitable habits, and more generally for our understanding of the psychological and behavioral consequences of autonomy on charitable behavior.

For all studies in this paper, we report all measures, manipulations, and exclusions. For each of the studies, the sample size was determined before any data collection and was pre-registered; they range in size from 150 to 300 participants per condition. We followed Fritz and MacKinnon (2007) sample size recommendations to achieve 80% power for indirect effects. For small-to-medium *a* and *b* paths, $N = 148$ is needed to find significant bootstrapped, bias-corrected indirect effects (power = 0.80, $\alpha = 0.05$; Faul, Erdfelder, Lang, & Buchner, 2007). We thus recruited at least 150 participants for each study. All data, materials, preregistration files can be found at <https://osf.io/uxcke/>. Additionally, a discussion of all preregistration deviations, and detailed descriptions of our supplemental measures and results, are included in the Online Supplement in Sections A and B, respectively.

1. Study 1

1.1. Study 1a: Method

1.1.1. Participants

Sample size was predetermined with the goal of attaining 250 participants per condition. We recruited 756 participants from Amazon's Mechanical Turk (MTurk) to complete the experiment for a set payment of \$1.50 (plus a \$0.50 charitable donation in our two giving-by-proxy conditions) in exchange for 10 min of their time (translating to a \$9 hourly wage). The participants averaged 37.5 years in age and were 49.1% female, 50.3% male, and 0.5% non-binary. Furthermore, 72.3% of participants were Caucasian American/White, 13.0% were African American/Black, 6.8% were Asian American/Asian, 5.2% were mixed race, and 2.8% reported having "other" for race. The median participant income bracket was \$50,001–\$75,000.

1.1.2. Procedure

Study 1a explores (i) whether giving-by-proxy experiences can influence a person's likelihood of behaving charitably in the future, and (ii) whether the answer depends on the degree of autonomy involved in the giving-by-proxy experience. To these ends, we randomly assigned participants to one of three conditions: (1) autonomous giving-by-proxy, (2) controlled giving-by-proxy, or (3) baseline. Then, we measured their subsequent charitable behavior.

Participants began by playing ten rounds of a word-search game, which was adapted from O'Brien and Kassirer (2019). In the game, participants completed a series of ten simple word-searches, with the goal of finding three words within a matrix of letters. The game was set up so that participants could only proceed to the next round when they completed the word-search (i.e., found all three words within the matrix). Participants saw an example of the puzzle beforehand.

In our autonomous and controlled giving-by-proxy conditions, participants earned \$0.05 for each word-search completed that would be donated to charity on their behalf (\$0.50 in total for completing ten word-searches). We note that, while these donation amounts are relatively small, many real-world giving-by-proxy experiences also offer only very small donations to charity per person. Furthermore, evidence suggests that online studies (such as those conducted on Amazon's Mechanical Turk) that use relatively lower stakes produce qualitatively

similar results to lab studies that use higher stakes (e.g., in the context of economic games: Amir, Rand, & Gal, 2012; Arechar, Gächter, & Molleman, 2018; Horton, Rand, & Zeckhauser, 2011; Suri & Watts, 2011). Indeed, given that MTurk workers participate in many short studies for small absolute payments that add up to meaningful income, it is likely that MTurk workers generally treat small amounts of money as meaningful while working on the platform.

In contrast to our giving-by-proxy conditions, in our baseline condition, participants earned no bonus for completing the ten word-searches. Thus, as was the case across all of our studies, participants in our giving-by-proxy conditions were assigned to give-by-proxy (i.e., to earn a bonus for charity by completing the word-searches) whereas participants in our baseline condition did not receive or learn about any charitable opportunity.

We also varied whether participants in our two giving-by-proxy conditions were assigned to (i) decide for themselves which charity their gift-by-proxy would be donated to (in our "autonomous giving-by-proxy" condition) or (ii) have their gift-by-proxy donated to a charity that we pre-selected for them (in our "controlled giving-by-proxy" condition). Specifically, in the autonomous giving-by-proxy condition, participants were presented with a series of five charities³ at the onset of the study (prior to the puzzle task), along with a description of each charity, and chose which charity they wanted their bonus to go to. We also gave these participants the option to write in a different charity, to allow them further autonomy over the charity choice. Thus, although participants in the autonomous giving-by-proxy condition were assigned to earn a bonus for charity, they were given relatively more autonomy over the nature of their charitable behavior.

In the controlled giving-by-proxy condition, prior to the puzzle task we presented participants with the same list of five charities and descriptions that we presented in the autonomous giving-by-proxy condition. In contrast to the autonomous giving-by-proxy condition, however, we told participants that, after considering the different charities, we selected one of the five charities for them to play for; the specific charity selection was randomly determined. Thus, participants in this condition were assigned to earn a bonus for charity and were given no autonomy over the particular charity their bonus went to.

1.1.2.1. Key dependent measure: Charitable choice. After the puzzle game ended, we introduced our key dependent measure. Participants were first told: "If you are interested in taking more studies with us, please enter your TurkID below so that we can ensure you are invited to these studies in the future." Then, participants who indicated that they were interested in taking more studies with us were presented with the following information: "We run different types of studies, where you could earn bonuses for yourself or for charity. If we could only assign you to one of our studies, which would you prefer to be contacted about? We will contact you about this survey shortly, so please select the one that you'd actually prefer to engage in. You may select only one option below." Participants then were asked to make a binary choice between signing up to take "a study where I can donate bonuses to *charity*" or "a study where I can earn bonuses for *myself*". We presented this key dependent variable before participants responded to our autonomy measures, immediately after the completion of the ten puzzles (and, in the giving-by-proxy conditions, a notification that they successfully earned \$0.50 for charity). Throughout the rest of the paper, we will refer to this key dependent measure (i.e., the decision to earn bonuses for

³ Since we adapted our experimental paradigm for Studies 1a-3 from O'Brien & Kassirer, 2019, we use the same list of charities: Brain & Behavior Research Foundation, Breast Cancer Research Foundation, CARE USA, Scholarship America, and Semper Fi Fund. Furthermore, in the autonomous giving-by-proxy condition, participants had the option to write in a charity of their choice if they didn't want to donate to one of these five charities. Studies 1a-3 each used this same set of charities.

charity versus for oneself in future studies) as a participant's "charitable choice".

Importantly, in Studies 1a-b, participants who indicated that they were *not* interested in taking more studies with us were *not* presented with our charitable choice DV, and were treated as missing data on this DV. However, almost all participants opted to take more studies with us (98.4% and 97.7% in Studies 1a-b, respectively), and we found no significant differences across conditions in the proportion of subjects opting to take more studies with us (using chi square tests of independence, Study 1a: $p = .786$ and Study 1b: $p = .314$). We also note that in Studies 2–3, all participants were presented with our charitable choice DV regardless of their reported interest in future studies (and thus no data was missing).

Because participants in our baseline condition did not earn a bonus for charity in the first part of the experiment, they were not initially exposed to the list of five charities (and accompanying descriptions) that we presented in our giving-by-proxy conditions. Thus, immediately before measuring charitable choices, we (i) informed participants in the baseline condition that we sometimes allow participants to earn bonuses for charity and (ii) presented them with the same list (and descriptions) of five charities that we presented to participants in our two giving-by-proxy conditions. Participants in our two giving-by-proxy conditions did not see the list of five charities a second time.

1.1.2.2. Manipulation checks: Degree of felt autonomy. At the end of the study, participants in all three conditions reported how much general autonomy they felt during the study ("I feel like what I did during this study were truly my actions, and represented what I wanted to do" and "I feel like I had no freedom over my actions during this study", where the second question was reverse scored; 1 = strongly disagree, 7 = strongly agree; $\alpha = 0.616$). Additionally, among only participants in our two giving-by-proxy conditions, we also measured the autonomy participants felt while helping charity by completing the puzzle (i.e., prosocial autonomy: "I feel like completing the puzzle to help charity reflected who I truly am and what I truly value" and "I felt in control over my behavior and choices when I completed the puzzle to help charity"; 1 = strongly disagree, 7 = strongly agree; $\alpha = 0.719$). Participants in the baseline condition did not see nor respond to our prosocial autonomy measure, because their puzzle participation did not serve to help charity. We designed these items as manipulation checks and used them to verify that our autonomy manipulation was successful (i.e., that participants in our autonomous giving-by-proxy condition felt more general and prosocial autonomy than participants in our controlled giving-by-proxy condition). We do not report analyses of general autonomy in the baseline condition but interested readers can see Section B-III of the Online Supplement for these results.

1.2. Study 1a: Results

1.2.1. Manipulation checks: Degree of felt autonomy

To verify that our manipulation of autonomous versus controlled giving-by-proxy did in fact impact participants' feelings of autonomy, we ran a set of one-way ANOVAs testing the effect of condition (autonomous vs. controlled giving-by-proxy) on reported general autonomy and prosocial autonomy. Participants in our autonomous giving-by-proxy condition reported feeling more autonomy (General: $M = 5.37$, $SD = 1.30$; Prosocial: $M = 5.26$, $SD = 1.22$) than participants in our controlled giving-by-proxy condition (General: $M = 5.02$, $SD = 1.50$; $F(1,502) = 7.58$, $p = .006$; Prosocial: $M = 4.99$, $SD = 1.35$; $F(1,502) = 5.71$, $p = .017$).

1.2.2. Key analyses: Charitable choice

Next, we ran a series of chi square tests of independence to test the effect of condition (autonomous giving-by-proxy vs. baseline, controlled giving-by-proxy vs. baseline, and autonomous vs. controlled giving-by-

proxy) on the proportion of participants who chose to sign up for future studies where they could earn bonuses for charity, rather than for themselves. Fig. 1 displays the results. First, we found that our autonomous giving-by-proxy condition led to significantly more charitable choices, relative to baseline (Autonomous Giving-by-Proxy: 29.8% vs. Baseline: 17.4%; $X^2(1492) = 10.47$, $p = .001$). Interestingly, participants in our controlled giving-by-proxy condition were also significantly more likely to behave charitably relative to baseline (Controlled Giving-by-Proxy: 27.0%, $X^2(1499) = 6.61$, $p = .010$), and our two giving-by-proxy conditions did not significantly differ on rates of charitable choices ($X^2(1497) = 0.48$, $p = .487$). These results suggest that giving-by-proxy experiences can increase subsequent charitable choices, and that the degree of autonomy experienced while giving-by-proxy does not seem to influence this effect.

1.3. Study 1b: Method

1.3.1. Participants

Sample size was predetermined with the goal of attaining 200 participants per condition. We recruited 603 participants from MTurk to complete the experiment for a set payment of \$0.45 (plus a \$0.15 charitable donation in the two giving-by-proxy conditions) in exchange for 3-min of their time (translating to a \$9 hourly wage). The samples averaged 35.9 years in age and were 55.5% female, 44.3% male, and 0.2% non-binary. Furthermore, 76.0% of participants were Caucasian American/White, 11.7% were African American/Black, 8.2% were Asian American/Asian, 2.8% were mixed race, and 1.3% selected "other" for race. The median participant income bracket was \$50,001–\$75,000.

1.3.2. Procedure

Study 1b sought to test the robustness of our Study 1a results, in the context of a more minimal giving-by-proxy experience. Specifically, in Study 1b, we modified the giving-by-proxy experience to be both less effortful (by shortening the puzzle task) and less impactful (by reducing the size of the gift-by-proxy). Study 1b was thus almost identical to Study 1a, except that participants in Study 1b played a single word unscrambling game (as opposed to ten word-search games in Study 1a) and participants in the giving-by-proxy conditions of Study 1b earned \$0.15 for charity (as opposed to a \$0.50 in Study 1a). As in Study 1a, participants in Study 1b were randomly assigned to one of three conditions: (1) autonomous giving-by-proxy, (2) controlled giving-by-proxy, or (3) baseline.

Studies 1b followed a similar procedure as Study 1a. First, all participants were informed that they would complete a single word unscrambling puzzle that they would earn \$0.15 for completing. All participants had one minute to come up with as many unscrambled words as they could. The dependent measures were identical to those in Study 1a, with the exception that we measured our two manipulation check items (general and prosocial autonomy; $\alpha = 0.614$ and $\alpha = 0.727$, respectively) before (rather than after) our key dependent variable of charitable choice. With this order of measures, we may have made the (lack of) autonomy that participants experienced more salient to them before they made their charitable choice.

1.4. Study 1b: Results

1.4.1. Manipulation checks: Degree of felt autonomy

As in Study 1a, participants in our autonomous giving-by-proxy condition reported feeling significantly more autonomy (General: $M = 5.40$, $SD = 1.36$; Prosocial: $M = 5.28$, $SD = 1.32$) than participants in our controlled giving-by-proxy condition (General: $M = 4.73$, $SD = 1.49$; $F(1,398) = 21.77$, $p < .001$; Prosocial: $M = 4.68$, $SD = 1.45$; $F(1,400) = 18.73$, $p < .001$).

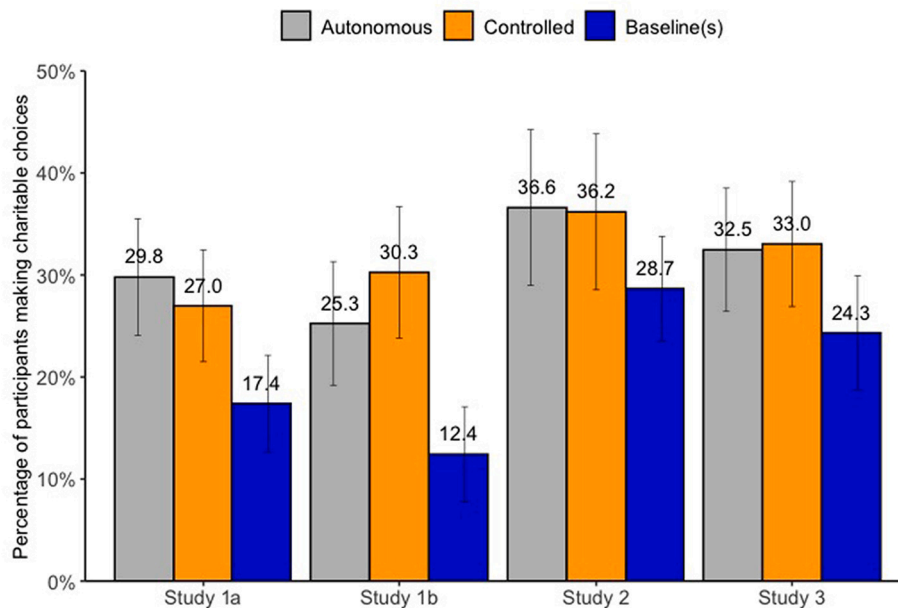


Fig. 1. Frequency of Charitable Choices in Studies 1a-3.

1.4.2. Key analyses: Charitable choice

Furthermore, we again found that our autonomous giving-by-proxy condition led to significantly more charitable choices, relative to baseline (Autonomous Giving-by-Proxy: 25.3% vs. Baseline: 12.4%; $p = .001$). Participants in our controlled giving-by-proxy condition were also significantly more likely to behave charitably relative to baseline (Controlled Giving-by-Proxy: 30.3%, $p < .001$), and our two giving-by-proxy conditions did not significantly differ from each other ($p = .268$).

1.5. Discussion

Across Studies 1a-b, we found that participants in our two giving-by-proxy conditions (vs. baseline) were more likely to choose to earn bonuses for charity (vs. themselves) in future studies. These results suggest that giving-by-proxy increases subsequent charitable behavior. Additionally, even though participants in our autonomous (vs. controlled) giving-by-proxy conditions *did* report feeling more autonomy, they were equally likely to make subsequent charitable choices.

2. Study 2

2.1. Method

2.1.1. Participants

For Study 2, sample size was predetermined with the goal of attaining around 150 participants per condition. We recruited 608 participants from MTurk to complete the experiment for a set payment of \$0.75 (plus a \$0.25 charitable donation in the two giving-by-proxy conditions) in exchange for 5-min of their time (translating to a \$9 hourly wage). The samples averaged 36.8 years in age and were 47.9% female, 51.7% male, and 0.3% non-binary. Furthermore, 72.5% of participants were Caucasian American/White, 12.3% were African American/Black, 8.6% were Asian American/Asian, 4.1% were mixed race, and 2.5% reported being “other” for race. The median participant income bracket was \$50,001–\$75,000.

2.1.2. Procedure

In Study 2, we turn to investigating *why* our giving-by-proxy conditions triggered increases in subsequent charitable behavior. As described in the introduction, one reason that giving-by-proxy experiences might

serve to increase subsequent charitable behavior is that participants might attribute their gifts-by-proxy to their moral character and values (i.e., take “charitable credit” for their actions), and then subsequently behave more charitably in order to maintain their “do-gooder” self-concept. In Study 2, we investigate the hypothesis that this psychological process can account for the observed effects of giving-by-proxy experiences on charitable behavior. Furthermore, we investigate the hypothesis that this psychological process is not moderated by experienced autonomy, explaining why our autonomous and controlled giving-by-proxy conditions triggered comparable levels of charitable behavior in Studies 1a-b.

Study 2 also seeks to provide evidence that the positive effects of our giving-by-proxy conditions on charitable choices do not simply reflect an experimenter demand effect. In Studies 1a-b, we gave participants in our giving-by-proxy conditions the chance to earn a bonus for charity during the initial word-search phase of our experiments. Consequently, participants in these conditions may have inferred, towards the beginning of our studies, that we (i.e., the experimenters) valued charitable giving—potentially creating more experimenter demand to subsequently behave charitably at the end of the study. In contrast, participants in the baseline condition of Studies 1a-b did not learn anything about charity during the word-search phase of the study. These participants *did* ultimately learn that the experimenter sometimes conducts studies involving charity (as this information was conveyed to them immediately prior to their charitable choice), potentially also creating some experimenter demand. However, since participants in our two giving-by-proxy conditions received evidence that the experimenters value charitable giving earlier than participants in our baseline conditions, it is possible that our baseline conditions created *less* experimenter demand to behave charitably than our giving-by-proxy conditions.

Thus, in Study 2, we investigate whether differences in experimenter demand between our giving-by-proxy conditions and our original baseline condition may have accounted for the observed effects of giving-by-proxy on charitable behavior in Studies 1a-b. To this end, in Study 2 we introduced a second, modified baseline condition in which participants were still not assigned to a giving-by-proxy experience, but we did nonetheless convey to participants—at the beginning of the study—that the experimenters value charitable giving. Participants in Study 2 were thus randomly assigned to one of 4 conditions: (1) autonomous giving-by-proxy, (2) controlled giving-by-proxy, (3)

original baseline (without an initial reference to charity), or (4) modified baseline (with an initial reference to charity).

Insofar as the positive effects of giving-by-proxy that we observed in Studies 1a-b were driven by heightened experimenter demand in the giving-by-proxy conditions relative to the original baseline condition, Study 2 should reveal that our giving-by-proxy conditions (i) *do* increase charitable behavior relative to our original baseline, but (ii) *do not* increase charitable behavior relative to our modified baseline. However, if the effects of giving-by-proxy are unrelated to experimenter demand, our giving-by-proxy conditions should increase charitable behavior relative to *both* baseline conditions.

As in Study 1b, participants all engaged in a single, one minute word unscrambling puzzle and were randomly assigned to either earn a \$0.25 bonus for charity after completing that puzzle (in our two giving-by-proxy conditions) or to simply complete the puzzle without any mention of a bonus (in our two baseline conditions). The autonomous giving-by-proxy, controlled giving-by-proxy, and original baseline conditions were identical to those from Study 1b.

The ‘modified baseline’ condition was very similar to our original baseline condition. However, in our modified baseline condition, we began the study by telling participants that we (i.e., the experimenters) often conduct studies involving charitable giving. Specifically, immediately following the consent form, participants in our modified baseline condition read: “Before we begin the main study, we wanted to tell you a little bit about ourselves as a HIT requestor. We often run studies where we give participants the chance to earn money for charities, and we want to tell you a little bit about those charities.” We then showed participants a list of charities (with descriptions) that some of our previous participants had the chance to earn money for; these charities were identical to those described to participants in both giving-by-proxy conditions. After receiving this information, we thanked participants for reading this background information and informed them that they would be moving on to the main task in the study. Participants in the modified baseline condition did not receive this information again. Participants in our original baseline condition, on the other hand, were only presented with this information immediately before the charitable choice measure.

After participants completed the word-search task, they then responded to three measures that we collected as potential mediators, described in detail below. Next, we measured our key dependent variable of charitable choice (as in Studies 1a-b). Afterwards, we measured perceived experimenter demand (as described below), and then finally measured general ($\alpha = 0.506$) and prosocial ($\alpha = 0.699$) autonomy (as in Studies 1a-b).

2.1.2.1. Potential mediators: Charitable credit, moral credit, and self-image. To investigate the psychological process through which giving-by-proxy experiences increase charitable choices, we measured three potential mediators (in counterbalanced order). First, to test our hypothesis that the effect of giving-by-proxy on subsequent charitable behavior is explained by participants taking credit for their behavior, we measured moral and charitable credit. We asked participants two questions about moral credit ($\alpha = 0.825$) and two questions about charitable credit ($\alpha = 0.856$): “Take a moment to reflect on your behavior during this study. Now, how do you feel about yourself, as a person?” and “If others had watched you participate in this study, how do you think they would evaluate you, as a person?” (1 = not at all [moral/charitable], 10 = extremely [moral/charitable]). In our pre-registration, we planned to combine these four moral and charitable credit items into one composite credit measure. However, we found that our manipulations had different effects on the two types of credit. Thus, in Studies 2 and 3, we analyze moral and charitable credit separately. We also include analyses of combined credit in Section B-IV of the Online Supplement.

As another potential mediator, we measured prosocial self-image. Specifically, we asked participants to compare their current

prosociality to their ideal or aspirational prosociality. Participants responded to the following question: “Compared to the helpful/giving/charitable/selfless person I want to be, I am: 1=much less helpful/giving/charitable/selfless than the person I want to be, 5=exactly as helpful/giving/charitable/selfless as the person I want to be, 10=much more than the helpful/giving/charitable/selfless person that I want to be” (adapted from Jordan, Leliveld, & Tenbrunsel, 2015).

2.1.2.2. Measurement of experimenter demand. Additionally, to evaluate the demand hypothesis, we measured the degree of perceived experimenter demand to give to charity. We created a two-item measure: (1) How much do you think we, as the HIT requestors in this study, personally value charitable giving? and (2) How much do you think we, as the HIT requestors in this study, wanted you to give to charity? (1 = not at all, 7 = a great deal; $\alpha = 0.710$).

2.2. Results

2.2.1. Manipulation checks: Degree of felt autonomy

As in Studies 1a-b, we ran a set of one-way ANOVAs testing the effect of condition (autonomous vs. controlled giving-by-proxy) on reported general and prosocial autonomy. First, we found that participants in our autonomous giving-by-proxy condition ($M = 5.09$, $SD = 1.29$) reported feeling significantly more prosocial autonomy than participants in our controlled giving-by-proxy condition ($M = 4.70$, $SD = 1.25$; $F(1,302) = 6.91$, $p = .009$). However, participants in our autonomous giving-by-proxy condition did not report feeling significantly more general autonomy ($M = 4.86$, $SD = 1.42$) than participants in our controlled giving-by-proxy condition ($M = 4.62$, $SD = 1.32$; $F(1,302) = 2.20$, $p = .139$).

2.2.2. Experimenter demand

Next, we ran a set of one-way ANOVAs with pairwise comparisons, testing the effect of condition on perceived experimenter demand. We found that ratings of perceived experimenter demand in our original baseline condition ($M = 5.44$, $SD = 1.13$) did not differ significantly from ratings in our autonomous ($M = 5.66$, $SD = 1.19$; $F(1,301) = 2.73$, $p = .100$) or controlled ($M = 5.19$, $SD = 1.30$; $F(1,299) = 3.04$, $p = .083$) giving-by-proxy conditions. These results cast doubt on the hypothesis that the observed effects of our giving-by-proxy conditions reflect an experimenter demand effect. We also found no significant differences in ratings of experimenter demand between our original ($M = 5.44$, $SD = 1.13$) and modified ($M = 5.58$, $SD = 1.10$) baseline conditions, $F(1,298) = 1.19$, $p = .276$.

2.2.3. Key analyses: Charitable choice

In our preregistration, we planned to collapse across the two giving-by-proxy conditions if they did not significantly differ in the frequency of charitable choices. Similarly, we planned to collapse across the two baseline conditions if they too did not significantly differ in the frequency of charitable choices. Indeed, we once again found no significant difference between our two giving-by-proxy conditions on the rate of charitable choices (Autonomous: 36.6%, Controlled: 36.2%, $X^2(1305) = 0.01$, $p = .940$). Similarly, our two baseline conditions did not significantly differ from one another on the rate of charitable choices (Original baseline: 32.5%, Modified baseline: 24.7%, $X^2(1301) = 2.23$, $p = .135$). In fact, the modified baseline condition actually elicited directionally fewer charitable choices than the original baseline condition (despite being designed to introduce experimenter demand earlier on), casting further doubt on the hypothesis that demand effects accounted for our results in Studies 1a-b.

Consequently, per our preregistered analysis plan, in our subsequent analyses we collapsed across our two giving by proxy conditions and our two baseline conditions, and compared our pooled giving-by-proxy conditions to our pooled baseline conditions. A chi square test of

independence revealed that rates of charitable choices were significantly higher in our pooled giving-by-proxy conditions (36.4%) than our pooled baseline conditions (28.6%), ($X^2(1606) = 4.23, p = .040$). Thus, we again found evidence that giving-by-proxy experiences increase subsequent charitable behavior.

To provide further evidence against the experimenter demand hypothesis, we compared both our individual and pooled giving-by-proxy conditions to just our modified baseline (which was designed to mirror our giving-by-proxy conditions by introducing experimenter demand at the beginning of the study). We found that rates of charitable choices were significantly higher in our pooled giving-by-proxy conditions (36.4%) than our modified baseline condition (24.7%), ($X^2(1455) = 6.30, p = .012$). This was also true when looking individually both at our autonomous giving-by-proxy condition (36.6%) ($X^2(1303) = 5.07, p = .024$) and our controlled giving-by-proxy condition (36.2%) ($X^2(1302) = 4.73, p = .030$). Thus, our results suggest that giving-by-proxy experiences increased charitable behavior, even relative to a baseline condition that was designed to create comparable experimenter demand.

Finally, for transparency, we report the remaining condition comparisons (i.e., we compare the two giving-by-proxy conditions to the original baseline), even though these analyses were not part of our preregistered analysis plan. Here, we found no significant difference between our original baseline condition (32.5%) and (i) our autonomous giving-by-proxy condition (36.6%) ($X^2(1304) = 0.58, p = .447$), (ii) our controlled giving-by-proxy condition (36.2%) ($X^2(1303) = 0.47, p = .494$), nor (iii) the combined giving-by-proxy conditions (36.4%) ($X^2(1456) = 0.69, p = .406$).

2.2.4. Potential mediators: Charitable credit, Moral credit, and Self-image

Next, we conducted a set of one-way ANOVAs testing the effect of condition (pooled giving-by-proxy vs. pooled baselines) on our three exploratory mediators: charitable credit, moral credit, and self-image. Fig. 2 displays the results on the two credit items, comparing each of the four conditions.

Participants in our pooled giving-by-proxy conditions ($M = 7.24, SD = 1.90$) took significantly more charitable credit than participants in our pooled baseline conditions ($M = 6.47, SD = 1.93; F(1,602) = 24.35, p < .001$). In contrast, we found no significant differences between the pooled giving-by-proxy and pooled baseline conditions on moral credit ($F(1,602) = 0.94, p = .332$) or self-image ($F(1,602) = 0.04, p = .848$).

To test whether charitable credit, moral credit, or self-image mediate

the relationship between our pooled giving-by-proxy conditions and our pooled baseline conditions, we ran a mediation analysis using Hayes' PROCESS (Model 4, Hayes, 2017), testing the effect of Pooled Giving-by-Proxy Conditions vs. Pooled Baseline Conditions (X) on Charitable Choice (Y), with Charitable Credit, Moral Credit, or Self-Image as mediator (M). We used Model 4 as our causal model because we expected moral credit, charitable credit, and self-image, if significant, would each produce independent indirect effects (i.e., we did not expect mediators would produce serial indirect effects). Each mediation analysis was run with only one mediator in the model. We found a significant indirect effect of condition on charitable choice via charitable credit (95% CI [0.055, 0.230]); Fig. 3 display these results. In contrast, we found no significant indirect effects via moral credit or self-image (see Section B-VI of the Online Supplement for details). We also note that the results including all mediators in one multiple mediation model produced qualitatively equivalent results. Thus, our results reveal that giving-by-proxy is associated with taking more charitable credit, and in turn, taking charitable credit is associated with more charitable behavior.

Does autonomy influence this process? To address this question, we examined whether individuals in our autonomous and controlled giving-by-proxy conditions took equal amounts of charitable credit for their gifts-by-proxy. We found no significant difference on charitable credit taken across our autonomous ($M = 7.42, SD = 1.89$) versus controlled ($M = 7.05, SD = 1.90; F(1,302) = 2.88, p = .091$) giving-by-proxy

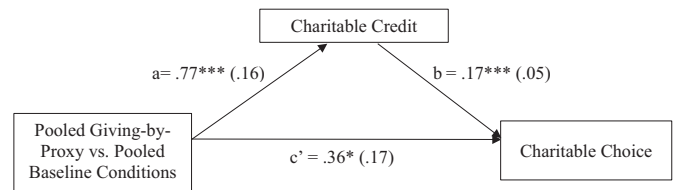


Fig. 3. Results from Mediation Analysis (Model 4) on Charitable Choice in Experiment 2.

Note: Fig. 3 displays the results from a mediation analysis using Hayes' PROCESS (Model 4), where a = the effect of condition on the mediator, b = the effect of the mediator on the outcome variable, and c' = the direct effect of condition on the outcome variable.

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

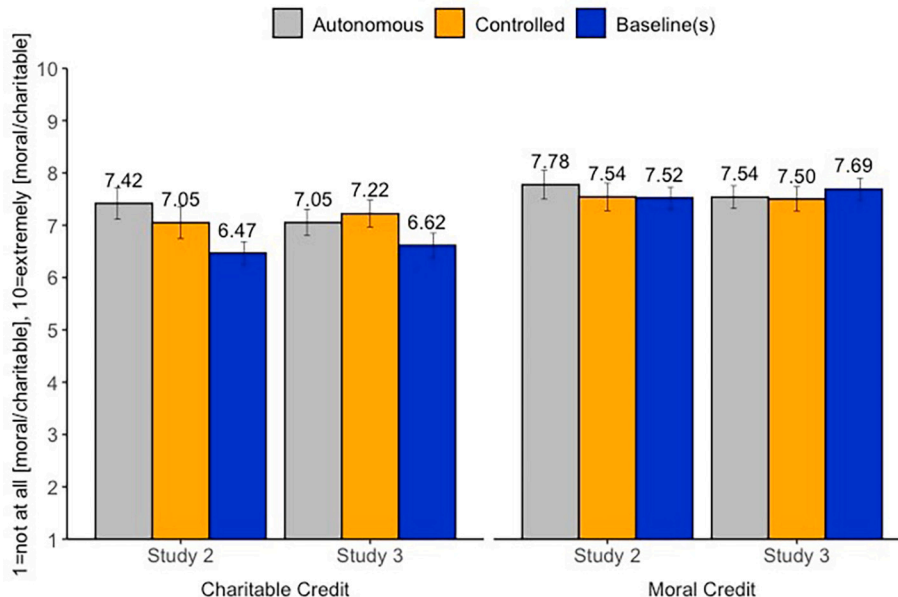


Fig. 2. Results on Moral and Charitable Credit from Studies 2 and 3.

conditions. We also investigated whether there was an indirect effect of Autonomous vs. Controlled Giving-by-Proxy (X) on Charitable Choice (Y) through Charitable Credit (M). We found no significant indirect effect (95% CI [-0.011, 0.187]).

2.3. Discussion

Study 2 provides further evidence that giving-by-proxy increases subsequent charitable behavior, and that this effect is unlikely to be driven by experimenter demand. Furthermore, the results from Study 2 are consistent with the hypothesis that individuals take charitable credit for their gifts-by-proxy, and this increased charitable credit mediates the effect of giving-by-proxy on subsequent charitable behavior.

Study 2 also allowed us to investigate whether charitable credit-taking differed significantly between our autonomous and controlled giving-by-proxy conditions. While we did not observe a significant difference in reported credit-taking across these conditions, we also did not find strong evidence for *no* difference: credit was directionally higher in the autonomous (vs. controlled) condition, with a *p*-value of 0.091. Thus, we follow up on this somewhat inconclusive result in Study 3.

3. Study 3

3.1. Method

3.1.1. Participants

For Study 3, sample size was predetermined with the goal of attaining at least 200 participants per condition. We recruited about 900 participants from MTurk for Part 1 of Study 3, with the goal of including at least 600 of these participants in Part 2. In the end, 685 participants completed both Parts 1 and 2, and we were thus 80% powered to detect an effect size of $F = 0.119$. Participants earned a set payment of \$0.25 for 2-min of their time for Part 1 of the study (translating to a \$7.50 hourly wage) and \$0.75 for 5-min of their time for Part 2 of the study (translating to \$9 hourly wage, plus a \$0.25 charitable donation in the two giving-by-proxy conditions). The final sample averaged 38.7 years in age and were 57.0% female and 43.0% male. Furthermore, 79.3% of participants were Caucasian American/White, 7.8% were African American/Black, 7.6% were Asian American/Asian, 4.1% were mixed race, and 1.2% selected “other” for race. The median participant income bracket was \$50,001–\$75,000.

3.1.2. Procedure

Study 3 extends our findings in three ways. Specifically, with Study 3 we aimed to (i) replicate the mediation by charitable credit observed in Study 2, (ii) further investigate whether participants in our autonomous and controlled giving-by-proxy conditions take different or equal amounts of charitable credit, and (iii) explore whether a series of individual difference measures moderate the effect of our giving-by-proxy conditions (vs. baseline) on charitable behavior. In particular, we measured individual differences in reactance (i.e., the extent to which individuals are uncomfortable when told what to do; adapted from Hong & Faedda, 1996), charitable conviction (i.e., the extent to which individuals see charitable giving as a moral conviction; adapted from Skitka, Bauman, & Sargis, 2005), and intrinsic and prosocial motivation when giving to charity (i.e., feeling motivated to give to charity either because it's enjoyable or because of care for others, respectively; adapted from Grant, 2008).

Study 3 was a two-part study. We collected the aforementioned individual difference measures in a separate survey (Part 1), a week prior to the main study (Part 2), to avoid priming participants with thoughts of their own reactance and prosociality during the main study. In Part 2, we followed the same general procedure as Studies 1a-2. Given that we found no significant difference between our two baseline conditions in Study 2, we did not include our modified baseline condition. Thus, in Study 3, we returned to the original three condition design that we used

in Studies 1a-b (featuring our autonomous giving-by-proxy, controlled giving-by-proxy, and original baseline conditions).

In Part 1, all participants completed a short 2-min survey where they responded to the same three individual difference measures, in counterbalanced order:

3.1.2.1. Individual difference measures. We measured *charitable conviction* with a three-item scale, adapted from Skitka et al., 2005 ((1) “Do you think that charitable giving is a moral issue, such that we ought to give to those less fortunate than ourselves?” 1 = no, not at all, 7 = yes, absolutely, (2) “To what extent is your position on charitable giving a reflection of your core moral beliefs and convictions?” 1 = not at all, 7 = completely, and (3) “To what extent is your position on charitable giving connected to your beliefs about fundamental ‘right’ and ‘wrong’?” 1 = not at all, 7 = completely; $\alpha = 0.819$). Moreover, participants reported their agreement with eight statements about their *intrinsic and prosocial motivations* for giving to charity, adapted from Grant, 2008 (e.g., “Because I care about benefiting others” for prosocial motivation and “Because it's fun” for intrinsic motivation; $\alpha = 0.902$ and $\alpha = 0.878$, respectively). Finally, *trait-level reactance* was measured using an eleven-item scale from Hong & Faedda, 1996: (e.g., “I become frustrated when I am unable to make free and independent decisions” and “I become angry when my freedom of choice is restricted” 1 = strongly disagree, 7 = strongly agree; $\alpha = 0.814$).

Participants were not told in Part 1 that we would contact them for a follow-up study; we waited one week to invite this pool of participants to participate in Part 2. As in Studies 1b and 2, all participants in Part 2 of Study 3 completed a single, one minute word unscrambling puzzle for either a \$0.25 bonus that was donated to charity (in our two giving-by-proxy conditions) or no bonus (in our baseline condition). Upon completing the one-minute puzzle, participants first completed our moral credit ($\alpha = 0.838$) and charitable credit ($\alpha = 0.865$) measures, followed by our key variable of charitable choice, and finally, our autonomy manipulation checks (General Autonomy: $\alpha = 0.602$; Prosocial Autonomy: $\alpha = 0.611$). These measures were the same as those used in Studies 1a-2.

3.2. Results

3.2.1. Manipulation checks: The degree of felt autonomy

Mirroring our analyses from Studies 1a-2, we ran a set of one-way ANOVAs testing the effect of condition (autonomous vs. controlled giving-by-proxy) on reported general and prosocial autonomy. Participants in our autonomous giving-by-proxy condition (General: $M = 5.31$, $SD = 1.29$; Prosocial: $M = 5.08$, $SD = 1.17$) reported feeling more autonomy than participants in our controlled giving-by-proxy condition (General: $M = 5.05$, $SD = 1.37$; $F(1,454) = 4.49$, $p = .035$; Prosocial: $M = 4.82$, $SD = 1.23$; $F(1,454) = 5.62$, $p = .018$).

3.2.2. Key analyses: Charitable choice

Next, we ran a series of chi square tests of independence to test the effect of condition on charitable behavior. Fig. 1 displays these results. We again found no difference between our autonomous (32.5%) and controlled (33.0%) giving-by-proxy conditions on charitable choices ($\chi^2(1458) = 0.02$, $p = .896$). Relative to baseline (24.3%), rates of charitable choices were directionally, but non-significantly higher in the autonomous giving-by-proxy condition ($\chi^2(1457) = 3.71$, $p = .054$) and significantly higher in the controlled giving-by-proxy condition ($\chi^2(1453) = 4.19$, $p = .041$). Moreover, when combining the two giving-by-proxy conditions—across which 32.8% of participants behaved charitably—we found a significant difference relative to baseline ($\chi^2(1684) = 5.11$, $p = .024$). Given that we found no significant difference between the two giving-by-proxy conditions—and consistent with both Study 2 and our pre-registration for Study 3—most of our subsequent analyses compare our pooled giving-by-proxy conditions

(autonomous and controlled giving-by-proxy conditions) to our baseline condition. Full condition comparisons—which compare the baseline condition to each of our two giving-by-proxy conditions—were also preregistered, are presented in the Section B–V of the Online Supplement.

3.2.3. Predicted mediator: Charitable and moral credit

Compared to our baseline condition ($M = 6.62$, $SD = 1.78$), charitable credit-taking was once again significantly higher among participants in both our autonomous ($M = 7.05$, $SD = 1.93$; $F(1,456) = 6.27$, $p = .013$) and controlled ($M = 7.22$, $SD = 1.95$; $F(1,452) = 11.81$, $p = .001$) giving-by-proxy conditions. Similar to the results from Study 2, we saw no significant differences between any of our condition comparisons on moral credit (all $ps \geq 0.240$). Fig. 2 displays the results from these one-way ANOVAs.

To test whether charitable credit or moral credit mediate the difference between our pooled giving-by-proxy conditions and our baseline condition on charitable choice, we ran a mediation analysis using Hayes' PROCESS (Model 4), testing the effect of Pooled Giving Conditions vs. Baseline (X) on Charitable Choice (Y), with Charitable Credit or Moral Credit as the mediator (M). Similar to in Study 2, we used Model 4 because we expected moral credit and charitable credit, if significant, would each produce independent indirect effects (i.e., we did not expect moral and charitable credit would produce serial indirect effects). Each mediation analysis was run with only one mediator in the model. Mirroring Study 2, we found a significant indirect effect of condition on charitable choice via charitable credit (95% CI [0.042, 0.206]); Fig. 4 displays these results. Further, we again found no significant indirect effect via moral credit (see Section B–VI of the Online Supplement for details). We also note that the results were again qualitatively equivalent when including both mediators in one multiple mediation model.

In our prior study (Study 2), participants in the autonomous giving-by-proxy condition took directionally more charitable credit than participants in the controlled giving-by-proxy condition. In Study 3, however, we found no evidence for this pattern. Here, participants in the autonomous ($M = 7.05$, $SD = 1.93$) and controlled ($M = 7.22$, $SD = 1.95$) giving-by-proxy conditions did not significantly differ on reported charitable credit ($F(1,456) = 0.86$, $p = .355$).

3.2.4. Exploratory moderators: Individual difference measures

Lastly, we investigated whether the effect of giving-by-proxy on charitable behavior was moderated by our individual difference variables (measured in Part 1). For each individual difference variable (i.e., reactance, moral conviction, prosocial motivation, and intrinsic motivation) we ran a regression predicting charitable choices as a function of condition (pooled giving-by-proxy conditions vs. baseline), the individual difference variable, and their interactions. These results are displayed in Table 1 and reveal that none of the four individual differences significantly interacted with condition ($ps \geq 0.181$).

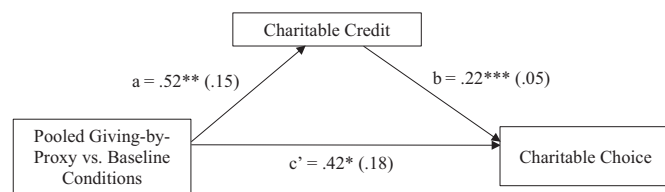


Fig. 4. Results from Mediation Analysis (Model 4) on Charitable Choice in Experiment 3.

Note: Fig. 4 displays the results from a mediation analysis using Hayes' PROCESS (Model 4), where a = the effect of condition on the mediator, b = the effect of the mediator on the outcome variable, and c' = the direct effect of condition on the outcome variable. * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 1

The Effect of Condition and Individual Difference Variables on Charitable Choice in Study 3.

	Main Effect of Condition	Main Effect of the Individual Difference Variable	Interaction Between Condition & Individual Difference
Reactance	$b = 0.43$, $SE = 0.19$, $p = .021$	$b = -0.21$, $SE = 0.10$, $p = .045$	$b = 0.11$, $SE = 0.24$, $p = .659$
Moral Conviction	$b = 0.41$, $SE = 0.19$, $p = .027$	$b = 0.17$, $SE = 0.07$, $p = .018$	$b = 0.12$, $SE = 0.15$, $p = .450$
Prosocial Motivation	$b = 0.44$, $SE = 0.19$, $p = .020$	$b = 0.19$, $SE = 0.10$, $p = .042$	$b = -0.04$, $SE = 0.21$, $p = .857$
Intrinsic Motivation	$b = 0.48$, $SE = 0.20$, $p = .014$	$b = 0.31$, $SE = 0.07$, $p < .001$	$b = -0.21$, $SE = 0.16$, $p = .181$

Notes. The results come from four different regressions using Hayes' PROCESS Model 1 (with mean centering and 10,000 bootstrap samples). All models test the effect of Condition (Pooled Giving-by-proxy vs. Baseline; X) on Charitable Choice (Y), with one of our four individual difference variables (reactance, moral conviction, prosocial motivation, and intrinsic motivation) as moderator (W).

3.3. Discussion

Study 3 provides additional support for our prediction that charitable credit mediates the relationship between giving-by-proxy and subsequent charitable behavior. Participants in both giving-by-proxy conditions (vs. baseline) took significantly more charitable credit, which in turn mediated the effect of giving-by-proxy on charitable choice. Additionally, our results suggest that individuals took comparable amounts of credit for their gift-by-proxy, regardless of autonomy. Findings from Studies 2–3 suggest that the impact of giving-by-proxy on subsequent charitable behavior specifically increased the amount of charitable (but not moral) credit taking. This finding aligns with evidence that credit taking is domain specific (Kouchaki & Jami, 2018). Study 3 also found no evidence that individual differences in reactance, moral conviction, prosocial motivation, and intrinsic motivation moderate the effect of giving-by-proxy experiences on charitable behavior. This suggests that the effect of giving-by-proxy on subsequent charitable behavior may be relatively general across different types of individuals.

Finally, we note that Supplemental Study S1 (see Section C of the Online Supplement) provides further support for the generalizability of our findings. In this study, we recruited a sample of individuals with a high baseline proclivity towards charitable behaviors, as measured by their behavior in a charitable giving task. While one might expect it to be difficult to further elevate the charitable behavior of individuals who are already highly charitable, we found suggestive evidence that giving-by-proxy can increase subsequent charitable behavior even among these highly charitable participants. Moreover, Supplemental Study S1 included a third condition that differed conceptually from our autonomous and controlled giving-by-proxy conditions (the "choice to give-by-proxy" condition). In this "choice to give-by-proxy" condition, participants could actually choose whether to opt into the giving-by-proxy experience (vs. earn a bonus for oneself). We observed a higher rate of charitable choices (vs. the autonomous giving-by-proxy and baseline conditions) for those who opted into the giving-by-proxy experience, but not when looking at all participants randomly assigned to the chosen giving-by-proxy condition (i.e., those who opted into the giving-by-proxy experience and those who opted to earn a bonus for themselves instead). This supplemental analysis suggests that individuals who opt into giving-by-proxy experiences may behave especially charitably in the future—either because especially charitable people choose to opt in (i.e., a self-selection effect) or because participating in a "fully autonomous" giving-by-proxy experience is especially likely to trigger downstream charitable behavior (i.e., a causal effect of chosen giving-by-proxy experiences). These results also suggest that opting everyone into a giving-by-proxy experience (i.e., the autonomous giving-by-proxy condition), versus allowing everyone to choose for themselves to give-

by-proxy or receive a bonus for themselves (i.e., the chosen giving by proxy condition), elicit similar rates of subsequent charitable giving on net.

Taken together, Studies 3 and S1 suggest that the effect of giving-by-proxy on subsequent charitable behavior is generalizable across individuals with diverse proclivities towards prosociality.

Thus far, we have solely used a paradigm in which participants worked for us by completing a series of puzzles, and for some workers, we gave them a prosocial bonus for that work. That paradigm served as a laboratory model for workplace giving-by-proxy situations (“prosocial incentives”). However, it leaves open the question of whether giving-by-proxy experiences would have similar consequences in consumer behavior contexts, where a company might donate a portion of the revenue from their consumers’ purchases to charity. To investigate, in Study 4, we sought to design a laboratory model of giving-by-proxy consumer experiences. To do so, we leveraged AmazonSmile, a real-world giving-by-proxy consumer behavior context. AmazonSmile is nearly identical to [Amazon.com](https://www.amazon.com); it contains the same products, prices, and shopping features. Importantly, though, when consumers shop on AmazonSmile, the AmazonSmile Foundation donates a portion of the revenue from every purchase (0.5% of the purchase price) to a charity of the consumer’s choice. In Study 4, we explore whether such consumer giving-by-proxy experiences trigger increases in downstream charitable behavior.

4. Study 4

4.1. Method

4.1.1. Participants

For Study 4, sample size was predetermined with the goal of attaining at least 300 participants per condition. In the end, 603 participants completed the experiment. Participants earned a set payment of \$0.90 for 6-min of their time (translating to \$9 hourly wage, plus a \$3.50 Amazon gift card which was emailed to them after the study was completed, and the chance to win a \$50 bonus). The final sample averaged 40.8 years in age and were 51.6% female and 48.4% male. Furthermore, 79.0% of participants were Caucasian American/White, 8.2% were African American/Black, 6.3% were Asian American/Asian, 0.7% were American Indian/Native American or Alaska Native, 3.8% were mixed race, 1.3% selected “other” for race, and 0.7% preferred not to say. We also asked and 10.8% were of Spanish, Hispanic, or Latino origin and 89.2% were not of Spanish, Hispanic, or Latino origin.

4.1.2. Procedure

Study 4 followed a simple, two-condition design. Participants were randomly assigned to engage in a giving-by-proxy consumer experience (i.e., purchasing an item on AmazonSmile⁴) or an ordinary consumer experience (i.e., purchasing an item on Amazon). Specifically, participants were invited to participate in a ‘consumer behavior choice’ study, in which they choose a product to purchase on either Amazon (our baseline condition) or AmazonSmile (our giving-by-proxy condition)—depending on condition—and were given a \$3.50 gift card to make their purchase. In particular, participants were asked to review six products that were available on both Amazon and AmazonSmile (two ChapSticks, two keychains, and two bottle openers, all of which were worth approximately \$3.50 after taxes and shipping). We recruited only participants who already had AmazonPrime (to verify low shipping costs). In the study, participants were asked to select one item to purchase with their gift card. Participants were directed to actual Amazon pages for each product, and were asked to add their chosen product to their online

⁴ We provided all participants with a list of three recommended charities, if they wanted help selecting where to donate to: GiveDirectly, Helen Keller International, and Oxfam.

“cart”.

In the *giving-by-proxy condition*, participants were told upfront that they would be making a purchase from AmazonSmile. They then read a paragraph (pulled from AmazonSmile’s “program details” page) about how a portion of each purchase on AmazonSmile goes to a charity of their choice. We then asked them to share with us which charity they planned to donate to through AmazonSmile, since AmazonSmile requires consumers to select charities before purchase. And then, critically, we provided AmazonSmile links to the six possible products (such that the participant would automatically be set up to buy the product via AmazonSmile after they clicked the link). In the *baseline condition*, participants followed a similar procedure. However, participants in the baseline condition did not learn any information about AmazonSmile, were told that they would be making a purchase from *Amazon* (rather than AmazonSmile), and were provided standard Amazon links to the six possible products.

After making their product selection, all participants answered a series of filler questions about their shopping satisfaction (see Section B-VII of the Online Supplement), completed our measure of charitable credit—which was the same as the credit measure used in prior studies—and, finally, completed our charitable choice measure.

Study 4 featured a different charitable choice measure than Studies 1a-3. In Studies 1a-3, participants decided whether they would rather participate in future studies involving a bonus for themselves or a bonus for charity. Thus, in these studies, it is possible (i) that participants in our giving-by-proxy conditions believed that studies involving bonuses for charity were relatively more available, such that they would be more likely to receive a subsequent survey invitation if they expressed a preference for such studies, and (ii) that this belief contributed to their charitable choices. We see this interpretation of Studies 1a-3 as relatively unlikely, because our experimental instructions in Studies 1a-3 suggested to all participants that we definitely would be inviting them to a future study, and that we were simply interested in which type of study they would prefer to take. However, Studies 1a-3 cannot rule out the possibility that differential beliefs about the relative frequency of charitable studies contributed to our results. Therefore, to rule out this concern, Study 4 used a different charitable choice measure.

In particular, in Study 4, participants were informed that, as a token of our gratitude, we would enter all participants into a raffle, and randomly select one participant as our winner to receive a \$50 bonus. We then gave them the option to keep the \$50 for themselves or donate half of the bonus to a charity of their choice (and provided three recommended charities, if they need help deciding). Participants were asked: “If you win our raffle, would you like to keep or donate the \$50?” They were given a choice between (i) keeping all \$50 and (ii) donating \$25 and keeping \$25. Participants who chose the prosocial option were asked to specify the charity they would like us to donate to, if they were selected as our winner. We implemented all aspects of Study 4 as described to participants (i.e., all participants received an Amazon gift card to make their purchase, and we selected one participant as our lottery winner and implemented their selected bonus decision). This charitable choice measure has the additional benefit of involving higher financial stakes.

4.2. Results

4.2.1. Key analyses: Charitable choice

First, we ran a chi square test of independence to test the effect of condition on charitable behavior. We found that participants were significantly more likely to behave charitably when in the giving-by-proxy condition (39.5%) than the baseline condition (29.2%; $\chi^2(1603) = 7.11, p = .008$).

4.2.2. Predicted mediator: Charitable and moral credit

Moreover, compared to our baseline condition ($M = 5.54, SD = 1.92$), charitable credit-taking was significantly higher among

participants in our giving-by-proxy condition ($M = 6.90$, $SD = 1.94$; $F(1,601) = 74.31$, $p < .001$). To test whether charitable credit significantly mediated the difference between our giving-by-proxy condition and baseline conditions on charitable choice, we ran a mediation analysis using Hayes' PROCESS (Model 4), testing the effect of giving-by-proxy condition versus baseline (X) on charitable choice (Y), with charitable credit as the mediator (M). Mirroring Studies 2 and 3, we found a significant indirect effect of condition on charitable choice via charitable credit (95% CI [0.048, 0.299]); Fig. 5 displays these results.

Note: Fig. 5 displays the results from a mediation analysis using Hayes' PROCESS (Model 4), where a = the effect of condition on the mediator, b = the effect of the mediator on the outcome variable, and c' = the direct effect of condition on the outcome variable. $*p < .05$, $**p < .01$, $***p < .001$.

4.3. Discussion

Results from Study 4 provide further evidence that giving-by-proxy experiences can increase subsequent charitable behavior. Here, we document the effect in a relatively more naturalistic consumer behavior paradigm, using AmazonSmile. The results from Study 4 again reveal that individuals take charitable credit for their gifts-by-proxy, and that taking charitable credit is associated with more charitable behavior. These results suggest that our effects can hold not just in a laboratory model of workplace giving-by-proxy experiences, but also in a laboratory model of consumer behavior giving-by-proxy experiences.

Furthermore, in Study 4 we used a different outcome measure, in which participants decided, if they were selected as a lottery winner, whether they would rather keep \$50 for themselves or keep \$25 and donate \$25 to charity. This outcome measure involved a decision that was higher stakes for participants, in the event that they were selected as the lottery winner. Thus, Study 4 provides evidence that our effects can extend to contexts where (i) beliefs about the relative availability of charitable studies are irrelevant to charitable decisions, and (ii) higher financial stakes are involved.

5. Internal meta-analyses

We conducted two internal meta-analyses to assess the overall strength of evidence for the effect of giving-by-proxy experiences on subsequent charitable behavior. First, we conducted an internal meta-analysis on Studies 1a-4 and Supplemental Study S1 (i.e., all studies) to examine the overall effect size of our giving-by-proxy (vs. baseline) conditions on charitable choice. Next, we conducted an internal meta-analysis on Studies 1a-3 (i.e., all studies that include both the autonomous and giving-by-proxy conditions) to contrast the overall effect size of autonomous vs. controlled giving-by-proxy experiences on charitable choice.

5.1. Internal meta-analysis #1: Effect of giving-by-proxy (vs. Baseline) on charitable choice

For this first internal meta-analysis, we examined the overall effect of condition (baseline vs. giving-by-proxy) on charitable choice (cumulative $N = 3457$). We pooled the autonomous and controlled giving-by-

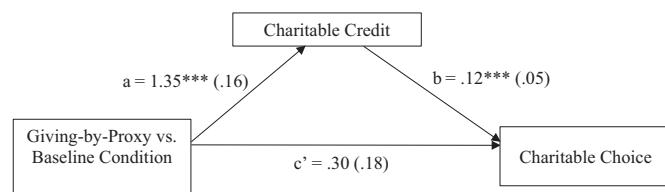


Fig. 5. Results from Mediation Analysis (Model 4) on Charitable Choice in Experiment 4.

proxy conditions in Studies 1a-3, and the original and modified baselines in Study 2. Results from Supplemental Study S1 compared the autonomous giving-by-proxy and baseline conditions, excluding participants assigned to the chosen giving-by-proxy condition. Fig. 6 displays the results.

The test of heterogeneity on charitable choice ($Q(5) = 5.36$, $p = .373$) revealed good homogeneity, suggesting that the six studies were consistent. The estimation of the common effect size revealed a significant condition effect on charitable choice (*Odds Ratio* = 1.70, 95% CI [1.45, 1.99], $p < .001$), such that participants were significantly more likely to behave charitably when in the giving-by-proxy condition(s) compared to the baseline condition(s). Thus, our set of studies provide strong evidence that giving-by-proxy experiences can give rise to increases in subsequent prosocial behavior.

Finally, we note that we also conducted a supplemental meta-analysis, in which we compared the pooled giving-by-proxy conditions to just the original baseline (i.e., excluding the modified baseline from Study 2). The results of this supplemental meta-analysis were qualitatively identical to the version that includes the modified baseline from Study 2; for details, see Section D of the Online Supplement.

5.2. Internal meta-analysis #2: Effect of autonomous (vs. Controlled) giving-by-proxy on charitable choice

Additionally, since Studies 1a-3 each included both autonomous and controlled giving-by-proxy conditions, we pooled data across these studies and conducted an internal meta-analysis comparing the autonomous vs. controlled giving-by-proxy conditions on charitable choice (cumulative $N = 1653$). Fig. 7 displays the results.

The test of heterogeneity on charitable choice ($Q(3) = 1.70$, $p = .638$) revealed good homogeneity, suggesting that the four studies were consistent. The estimation of the common effect size found no significant condition effect on charitable choice (*Odds Ratio* = 0.98, 95% CI [0.80, 1.21], $p = .851$), suggesting that the autonomous and controlled giving-by-proxy condition elicited similar rates of subsequent charitable behavior across Studies 1a-3.

6. General discussion

The present research demonstrates that giving-by-proxy experiences can inspire subsequent charitable behavior, both when they are modeled after workplace contexts and when they are modeled after consumer contexts. Our work thus builds on evidence that initial acts of prosociality can trigger “moral consistency” effects, and extends this phenomenon to giving-by-proxy experiences. Furthermore, we find that the influence of giving-by-proxy on subsequent charitable behavior is mediated by charitable credit-taking. Our results are consistent with the proposal that giving-by-proxy leads people to take credit for their behavior, motivating them to continue behaving charitably in the future.

We find no evidence that this process depends on the amount of autonomy gives-by-proxy experience. Giving-by-proxy with more and less autonomy fosters comparable increases in charitable credit-taking and subsequent charitable behavior. This observation is potentially surprising, given that one might expect people to take more credit for charitable experiences over which they had more autonomy. In fact, a recent meta-analysis on the consequences of autonomous (i.e., self-determined) and controlled (i.e., externally influenced) behavior found that feeling a greater sense of autonomy is associated with more prosociality, whereas feeling a greater sense of being controlled is associated with more antisociality (Donald et al., 2021). However, our results are consistent with theories and evidence suggesting that people are biased in favor of attributing their positive actions to their own moral character.

It is worth noting, however, that our manipulations of autonomy in Studies 1a-3 were rather minimal: participants in our giving-by-proxy

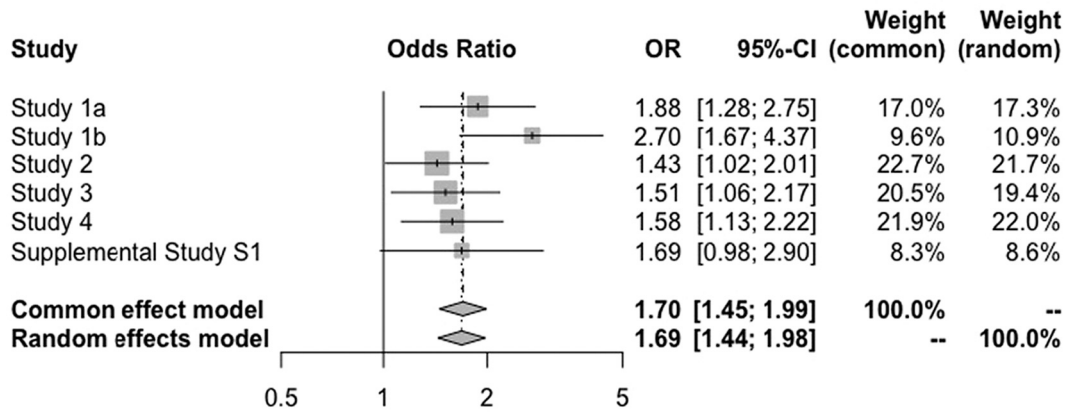


Fig. 6. Forest plot of the Effect of Giving-by-Proxy (vs. Baseline) on Charitable Choice from an Internal Meta-analysis of Studies 1a-4 and Supplementary Study S1. *Notes.* This figure displays a forest plot documenting the effect size (Odds Ratio) with 95% CIs of condition (giving-by-proxy vs. baseline) on charitable choice for each individual study and the overall effect across studies. The dots represent the effect size for each individual study and the diamond represent the overall effect size for charitable choice.

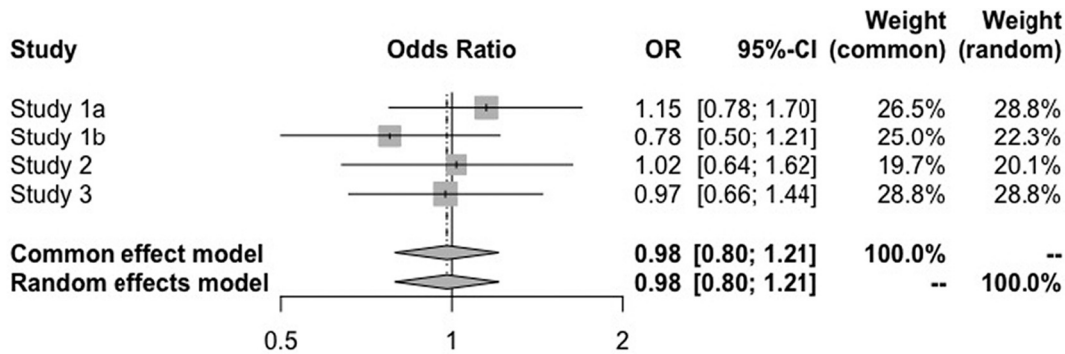


Fig. 7. Forest plot of the Effect of Autonomous vs. Controlled Giving-by-Proxy on Charitable Choice from an Internal Meta-analysis of Studies 1a-3. *Notes.* This figure displays a forest plot documenting the effect size (Odds Ratio) with 95% CIs of condition (autonomous vs. controlled giving-by-proxy) on charitable choice for each individual study and the overall effect across studies. The dots represent the effect size for each individual study and the diamond represent the overall effect size for charitable choice.

conditions automatically earned money for charity by completing the experimental task. Therefore, even in the “autonomous” condition, none of our participants opted into their giving-by-proxy experience—they were simply given a choice over the charity associated with their required gift-by-proxy. We do find consistent evidence that our minimal manipulation of autonomy was psychologically impactful to participants, as reflected by measures of general and prosocial autonomy. Yet it is possible that a stronger autonomy manipulation could amplify the effect of giving-by-proxy on subsequent charitable behavior. That said, we believe that our studies are representative of many real-world giving-by-proxy marketing campaigns and workplace policies. As outlined in the introduction, marketing campaigns, for example, automatically opt consumers into giving-by-proxy experiences following their choice to make a purchase, but vary in terms of whether *any* autonomy is involved (e.g., AmazonSmile vs. Toms Shoes).

6.1. Limitations and future directions

The present research investigates the role of autonomy in a context where the initial charitable behavior serves to *increase* the likelihood of subsequent charitable behavior (i.e., in a context where we observe “consistency” effects). However, prior research has also demonstrated that initial acts of prosociality have the potential to “license” individuals to subsequently act *less* prosocially (for a review, see Blanken, van de Ven, & Zeelenberg, 2015). The question of when initial acts of prosociality trigger licensing versus consistency is not fully understood and is

beyond the scope of this paper. However, future research should investigate whether giving-by-proxy campaigns have the potential to trigger moral licensing effects (and what role, if any, autonomy might play in this process).

Our results also suggest that the effect of giving-by-proxy on charitable behavior may be quite generalizable across different types of individuals. Supporting this suggestion, individual differences in reactance, moral convictions to give to charity, and prosocial and intrinsic motivations did not moderate the observed effects. Future research should investigate the generalizability of our effects across different giving-by-proxy contexts. Our experiments investigated the isolated impact of giving-by-proxy experiences on downstream prosociality. In the real world, however, a giving-by-proxy experience might plausibly succeed at increasing prosocial *motives*, but fail to actually increase total downstream prosocial *behavior*. For example, a giver-by-proxy might experience a short-term increase in prosocial motives, but not immediately face an opportunity for subsequent prosociality—and, by the time that such an opportunity arises, the impact of the giving-by-proxy experience might have worn off. Or, alternatively, a giving-by-proxy experience might successfully inspire a subsequent prosocial act, but the giver might then feel justified in declining some *later* prosocial opportunity—such that the overall effect of the giving-by-proxy experience is neutral or even negative. Therefore, while our experiments provide a clean demonstration of the potential for giving-by-proxy experiences to inspire future prosociality, they leave open the question of the net effects in real-world contexts of interest. Future

researchers could collaborate with organizations to explore the long-term effects of giving-by-proxy experiences on subsequent charitable behavior, and whether or not the effects we observe push through the noise of the field.

Finally, our research explores giving-by-proxy in a context where the initial prosocial act was similar to the downstream prosocial behavior (i. e., we donated to charity on the participants behalf and participants were subsequently given a choice to donate to charity or keep a bonus for oneself later on). Future research should also investigate the potential for giving-by-proxy experiences to inspire other types of prosocial behavior, besides monetary donations to charity (e.g., volunteering one's time, engaging in peaceful social movement activism, providing an in-kind donation, etc.). If giving-by-proxy experiences can inspire these other types of prosocial behavior, scholars could further investigate whether our observed effect of giving-by-proxy on subsequent prosociality is influenced by whether there is a (mis)match between the giving-by-proxy prosocial experience and the subsequent prosocial behavior.

7. Conclusion

Taken together, our work suggests that giving-by-proxy workplace policies (such as the use of "prosocial incentives"; Anik et al., 2013; Imas, 2014; Mukherjee & Sahay, 2016; Rimes et al., 2019; Schwartz, Keenan, Imas, & Gneezy, 2021) and giving-by-proxy marketing campaigns (such as AmazonSmile) have the potential to increase charitable behaviors at scale. Furthermore, our work suggests that organizations may not need to add autonomy back into their giving-by-proxy programs for those experiences to positively impact downstream charitable behavior. Since recent work on the psychology of charitable giving has shown that donations to the most effective charities produce about 100× more of an impact than the average charity (Caviola et al., 2020), selecting the most effective charities for giving-by-proxy campaigns—rather than giving consumers and employees a choice over charity—might allow organizations to create a larger impact with their giving-by-proxy campaigns and policies. We hope that our research encourages both organizations and social scientists to continue investigating the potential societal impacts of large-scale charitable ventures like giving-by-proxy policies and campaigns.

Author contributions

All authors contributed to the study idea and methodological designs. S.K. performed testing and data collection. S.K. drafted the manuscript. Authors J.J.J. and M.K. provided critical revisions. All authors approved the final version of the manuscript for submission.

Data availability

All data, materials, and preregistration files can be found on the Open Science Framework at <https://osf.io/uxcke/>.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.jesp.2022.104438>.

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