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Blekher, Maria; Danziger, Shai; Grinstein, Amir

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Salient Volunteering Behavior Increases Monetary Risk-taking

Maria Blekher
Yeshiva University

Shai Danziger
Tel-Aviv University and University of Sydney Business School

Amir Grinstein
Northeastern University and Vrije Universiteit Amsterdam

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Research finds that engaging in prosocial behavior has many positive psychological outcomes (e.g., enhanced well-being, optimism, perceived control, and a boost in self-concept), and research on monetary risk-taking reveals these psychological outcomes are associated with increased risk-taking. Merging these findings, we propose that when people's volunteering behavior is made salient in their minds, they take more monetary risks. Making research participants' volunteering behavior salient by having them recall an act of prior volunteering (studies 1 and 3), choosing whether to volunteer (study 2), or choosing one of two volunteering activities (study 4), four experiments (and a fifth reported in the Appendix S2) reveal increased risk-taking across several monetary-risk outcomes (incentive-compatible gambles, allocation of a windfall gain, and a behavioral risk-taking measure involving escalating risk). Lastly, when the decision maker attributes a decision to volunteer to an external source, the effect of salient volunteering on monetary risk-taking attenuates.

Keywords Prosocial behavior; Risk-taking; Salience; Volunteering

Approximately 62.6 million Americans volunteered through or for an organization at least once between September 2014 and September 2015, spending a median of 52 hr on volunteering activities (U.S. Bureau of Labor Statistics, 2016). A rich literature explains why people volunteer (e.g., Boezeman & Ellemers, 2007; Erez, Mikulincer, Ijzendoorn, & Kroonenberg, 2008) or engage in other prosocial behaviors such as helping others (e.g., Aknin, Van de Vondervoort, & Hamlin, 2018), and donating (e.g., Kogut & Ritov, 2011). Other literature shows positive psychological outcomes of acting prosocially, including optimism and perceived control (e.g., in the case of volunteering; Mellor et al., 2008), subjective well-being and happiness (e.g., Aknin et al., 2013; Dunn, Aknin, & Norton, 2008, 2014), and influences on decision making (e.g., Gneezy, Imas, Brown, Nelson, & Norton, 2012; Khan & Dhar, 2006; Kristofferson, White, & Peloza, 2013). We add to this last research stream by exploring another potentially important outcome of salient volunteering behavior: risk-taking. Risk-taking tendencies matter because probabilistic outcomes characterize many everyday decisions (Figner & Weber, 2011). Still, despite the prevalence of volunteering behaviors and risky decision making in daily life, which leads to temporal adjacencies that make decisions and behaviors in one domain salient for the other, the relation between the two has not been examined. We fill this gap by examining the causal effect of one's salient volunteering behavior on one's monetary risk-taking.

This work makes several contributions. First, it demonstrates that one's salient volunteering behavior, a relatively demanding prosocial behavior (Erez et al., 2008; Wilson, 2000), increases one's monetary risk-taking. Our finding that support of others increases risk-taking adds to research showing perceived support from others increases risk-taking (e.g., Hsee & Weber, 1999; Levav & Argo, 2010; Mandel, 2003). Further, by demonstrating an effect

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Correspondence concerning this article should be addressed to Shai Danziger, Coller School of Management, Tel-Aviv University, Tel Aviv 69978, Israel and University of Sydney Business School, Abercrombie Building (H70), Sydney, NSW 2006, Australia. Electronic mail may be sent to shaid@tau.ac.il; shai.danziger@sydney.edu.au.

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on risky choice, we extend research showing salient prosocial decisions affect nonrisky choice (e.g., Khan & Dhar, 2006; Mazar & Zhong, 2010). Second, our work links research streams examining how prosocial behavior influences the actor (e.g., Aknin et al., 2013; Lyubomirsky, Sheldon, & Schkade, 2005) and drivers of risk-taking (Anderson & Galinsky, 2006; Lerner & Keltner, 2000). Third, consistent with research showing people infer more about themselves from internally than externally driven behaviors (Bem, 1972; Deci & Ryan, 1991), we demonstrate our effect attenuates for externally imposed decisions. Finally, we find the effect also in professional decision makers (see Appendix S2), demonstrating its pervasiveness.

Why Should A Salient Volunteering Behavior Increase Risk-Taking?

We propose a salient volunteering behavior increases risk-taking, because many of the psychological outcomes of volunteering influence risk-taking. Indeed, volunteering is linked with optimism and increased perceived control (Mellor et al., 2008), and more broadly, prosocial behavior can lead to favorable self-evaluations, higher self-esteem, increased life satisfaction, happiness and good mood, and a boost in self-confidence (Aknin et al., 2018; Harlow & Cantor, 1996). Prosocial behavior may also signal a safe environment and feelings of acceptance (Mikulincer & Shaver, 2005) and prompt an optimistic outlook, consistent with a belief that good things happen to good people (Kogut & Ritov, 2011; Tykocinski, 2008).

Research shows these psychological outcomes influence risk-taking. For example, feeling secure increases monetary risk-taking (Levav & Argo, 2010), and optimism increases the evaluation of positive outcomes and belief they will occur and, by doing so, increases monetary risk-taking (Lerner & Keltner, 2000). Findings are mixed regarding the link between mood/happiness and risk-taking. Some studies find a positive relation (e.g., Arkes, Terren, & Isen, 1988), whereas others find happier people are more risk-averse in the financial domain and in general (e.g., Guven & Hoxha, 2015). Isen and Patrick (1983) reveal that positive mood leads to risk aversion in high-stake situations and risk-seeking in low-stake situations. Last, some research speculates perceived control should increase risk-taking (Horswill & McKenna, 1999; Renn, 1998), yet empirical support is scarce (Beisswingert, Zhang, Goetz, Fang, & Fischbacher, 2015), and in some conditions, perceived control reduces risk-taking (e.g., Nordgren, Van Der Pligt, & Van Harreveld, 2007).

Formally, we hypothesize:

1: Salient volunteering behavior increases monetary risk-taking.

2: The effect of salient volunteering behavior on monetary risk-taking is mediated by one or more of (a) sense of security, (b) optimism, (c) mood, or (d) perceived control.

Though "volunteering" may imply intrinsically driven behavior, people could volunteer, for example, because of employer expectations (Boštjančič, Antolović, & Erčulj, 2018), or because a public institution (the court) orders they do so. Research shows the sense of agency associated with choice leads to perceptions of personal causality, while the imposition of a choice does not (Deci & Ryan, 1991). A stronger sense of personal causality increases the strength of emotional responses to an event (Langer, 1975) and is more likely to evoke self-inferences (Bem, 1972; Cornelissen, Dewitte, Warlop, & Yzerbyt, 2007). Consistently, Khan and Dhar (2006) find commitment to a virtuous act increased preference for an indulgent option only when decision makers attributed the act to intrinsic motivation.

Formally, we hypothesize:

3: Attributing volunteering behavior to an external source will attenuate the effect of salient volunteering behavior on increased monetary risk-taking.

Study 1

We tested whether salient volunteering behavior increases monetary risk-taking (Hypothesis 1) using a 2 × 2 between-subjects design, making volunteering salient using a recall paradigm (Kogut & Ritov, 2011). We asked participants whether they had volunteered in the past 6 months (yes vs. no; measured factor) either before (high salience) or after (low salience; manipulated factor) they did a purportedly unrelated incentive-compatible risk-taking task. We isolated the effect of a salient volunteering behavior from a general tendency of volunteers to take more risk by comparing the risky decisions of participants who reported having volunteered in the high- and low-salience conditions. We tested for a general effect of volunteering behavior on risk-taking by comparing in the low-salience condition

the decisions of participants who reported they had versus had not volunteered.

Method

Participants

Two hundred and seven students (78 males; M_{age} = 25.98, SD = 4.04) entered a raffle for their participation.

Procedure

Participants performed three purportedly unrelated tasks in two different task orders, signing different consent forms for each task and being thanked at the end of each task.

We randomly allocated participants to the high- versus low-salience conditions. In the high-salience condition, participants reported whether they had volunteered in the past 6 months and then completed the risk-taking task. To equate cognitive effort prior to the risk-taking task, in the low-salience condition, participants reported details of university courses they had taken in the past 6 months, then completed the risk-taking task, and finally indicated whether they had volunteered in the past 6 months. In both conditions, participants who indicated having volunteered were asked to describe their volunteering activity.

We adopted the incentive-compatible monetary risk-taking task from Hsee and Weber (1999). Participants made 14 choices between a certain cash payoff and a risky choice (gamble) that offered an equal chance of winning a cash prize or winning nothing (see the Appendix S1). Our measure of risky behavior was the number of risky choices a participant made. We informed participants we would hold a lottery to select four winners whose payment would be based on a randomly selected choice out of their 14 choices in the risk-taking task.

Results

A similar percentage of participants in the high-salience (43%; 45/105) and low-salience conditions (48%; 49/102) reported having volunteered (χ^2 = 0.56, p = .45), suggesting the risk-taking task did not influence participants' propensity to report having volunteered.

As Table 1 shows, the choice share of risky gambles was elevated only for those in the high-salience condition who reported having volunteered.

Table 1
The Effect of Salient Volunteering on Risky Gambles Chosen in Study 1

	Volunteered	Did not volunteer
High salience	6.56[a] (3.05)	5.45[b] (2.39)
Low salience	5.00[b] (2.42)	5.35[b] (2.21)

Note. SDs are indicated in parentheses. For the contrast comparisons, cells with no overlapping alphabet in the superscripts differ at $p < .05$.

Consistently, a main effect of salience (high vs. low), $F(1,203) = 5.47$, $p = .026$, $\eta_p^2 = 0.03$, was qualified by a significant salience condition (high vs. low) × volunteering (yes vs. no) interaction, $F(1,203) = 4.32$, $p = .04$, $\eta_p^2 = 0.020$. The main effect of volunteering was not significant, $F(1,203) = 1.12$, $p = .28$). Supporting Hypothesis 1, those who reported having volunteered in the high-salience condition (M = 6.56) chose more gambles than those who reported having volunteered in the low-salience condition (M = 5.0), $F(1,203) = 8.95$, $p = .003$. There was no general effect of volunteering on risk-taking, as those in the low-salience condition who reported having volunteered (M = 5.02) did not choose more gambles than those who reported having not volunteered (M = 5.35), $F < 1$.

In sum, we find a salient recalled volunteering behavior increases incentive-compatible monetary risk-taking.

Study 2

Study 2 tested Hypothesis 1 using a different volunteering manipulation of (choosing to volunteer) and a new dependent variable (investment decision). We asked students if they would volunteer in a (real) upcoming university event either before or after they engaged in a purportedly unrelated monetary risk-taking task.

Method

Participants

One hundred and sixteen students (32 males; M_{age} = 24.42, SD = 1.77) participated for class credit.

Procedure

Participants were randomly assigned to the high- and low-salience conditions that differed only in task order. In the high-salience condition, participants

were first asked whether they would help in a real university "book week" event that was about to take place. We asked those who agreed to volunteer for contact information so event organizers could contact them to provide additional details. Next, we asked participants to imagine receiving a $2,500 university scholarship and to allocate a percentage of this money between a solid (low-risk bonds) and risky investment (high-risk stocks). Participants in the low-salience condition completed the investment-allocation task and only then were asked whether they would volunteer for the university event.

Results

A relatively lower percent of participants in the high-salience condition agreed to volunteer (42%; 23/55) than in the low-salience condition (68.8%; 42/61), $\chi^2 = 26.51$, $p < .001$. Some participants in the low-salience condition may have chosen to volunteer to justify risk-taking in the allocation task.

As Table 2 shows, participants who chose to volunteer and then did the investment-allocation task took the most risk. The main effects of salience, $F(1,112) = 1.69$, $p = .19$, and of volunteering, $F(1,112) = 2.07$, $p = .15$, were not significant. There was a marginally significant salience condition (high vs. low) × volunteering (yes vs. no) interaction, $F(1,112) = 3.39$, $p = .068$, $\eta_p^2 = 0.029$. Supporting Hypothesis 1, those in the high-salience condition that chose to volunteer allocated a higher percentage of their money to the risky investment ($M = 46.73\%$) than those in the low-salience condition who chose to volunteer ($M = 34.64\%$), $F(1,112) = 6.05$, $p = .015$. There was no general effect of volunteering on risk-taking, as those in the low-salience condition who chose to volunteer ($M = 34.64\%$) did not allocate more money to the risky investment than those who chose not to volunteer ($M = 36.63\%$), $F < 1$.

In sum, a salient commitment to volunteer increased monetary risk-taking.

Table 2
The Effect of Salient Volunteering on an Allocation Decision in Study 2

	Volunteered	Did not volunteer
High salience	46.73%[a] (18.94)	35.15%[b] (18.66)
Low salience	34.64%[b] (18.92)	36.63%[b] (18.91)

Note. SDs are indicated in parentheses. For the contrast comparisons, cells with no overlapping alphabet in the superscripts differ at $p < .05$.

Study 3

Study 3 aimed to test the effect of salient volunteering on a behavioral risk-seeking outcome (Hypothesis 1). To gauge behavioral risk-seeking, we used the Balloon Analogue Risk Task (BART; Lejuez et al., 2002) that involves actual risky behavior for which, similar to many real-world situations, riskiness is rewarded up until a point at which further risk results in poorer outcomes (Cornil, Chandon, & Krishna, 2017). A second aim was to test the mediating role of sense of security, optimism, mood, and perceived control (Hypothesis 2). We used the same 2 × 2 between-subjects design as in previous studies, making volunteering salient using a recall paradigm.

Method

Participants

We recruited 441 MTurkers (406 provided demographic information: 186 males; $M_{age} = 38.8$, $SD = 11.98$). Because the BART requires training (Lejuez et al., 2002), we omitted from further analysis 39 participants that did not properly perform the three training trials, 24 participants that wrote nonsense to describe their volunteering, and 19 participants that did not indicate whether they had volunteered or not. The final sample included 359 participants.

Procedure

We randomly allocated participants to the high- versus low-salience conditions. In the high-salience condition, participants first reported whether they had volunteered in a meaningful way in the past 6 months (those who reported having volunteered were then asked to describe the experience). They then completed the BART, a computer-based risk-seeking task. Specifically, after completing three training trials, in each of 10 test trials participants could earn extra pay by pumping a virtual balloon. Each pump inflated the balloon and added 3 cents to a counter. Participants could cash out before the balloon exploded or keep pumping at the risk it would explode, resulting in the loss of the earnings accumulated on the trial. For all participants, the balloon exploded on the tenth, seventh, eighth, fifth, seventh, third, ninth, fifth, seventh, and fifth pumps on test trials 1 through 10, respectively. Risk-seeking was measured by the number of pumps of the first balloon (a higher number

indicating more risk-seeking), the sum of pumps over the 10 trials, and the number of balloon explosions over the 10 trials. Next, we measured four randomly ordered potential mediators, sense of security (Levav & Argo, 2010), optimism (Scheier & Carver, 1985), mood (Swinyard, 1993), and perceived control (Fritsche, Jonas, & Fankhänel, 2008) using 7-point scales (see the Appendix S1). In the low-salience condition, participants completed the BART, then the randomly ordered mediators, and finally reported whether they had volunteered in the past 6 months.

Results

A similar percentage of participants in the high-salience (34.5%; 57/165) and low-salience conditions (34%; 66/194) reported they had volunteered ($\chi^2 = 0.00$, $p = .97$), suggesting the BART did not influence participants' propensity to report having volunteered.

First Balloon Pumps (Risk-Seeking Without Experience)

The effect of volunteering salience was marginally significant, $F(1,355) = 3.63$, $p = .06$, and the effect of volunteering was not significant, $F < 1$. The salience condition (high vs. low) × volunteering (yes vs. no) interaction was significant, $F(1,355) = 5.91$, $p = .016$, $\eta_p^2 = 0.016$ (see Table 3). Supporting Hypothesis 1, participants who reported having volunteered in the high-salience condition pumped the first balloon more times ($M = 4.42$) than those who reported having volunteered in the low-salience condition ($M = 3.17$), $F(1,355) = 7.15$, $p = .008$. There was no general effect of volunteering on risk-seeking. In the low-salience condition, those who reported having volunteered did not pump the first balloon more times ($M = 3.17$) than those who reported having not volunteered ($M = 3.78$), $F(1,355) = 2.44$, $p = .12$.

Table 3
The Effect of Salient Volunteering Behavior on Balloon Pumps and Explosions in Study 3

	Volunteered	Did not volunteer
High salience		
1st balloon	4.42^{a} (2.67)	3.62^{b} (2.72)
10 balloons	$36.19^{a,c}$ (15.51)	$33.01^{b,c}$ (16.47)
Explosion	$0.28^{a,c}$ (0.20)	$0.23^{b,c}$ (0.18)
Low salience		
1st balloon	3.17^{b} (2.36)	3.78^{b} (2.56)
10 balloons	31.30^{b} (15.63)	$34.14^{b,c}$ (15.18)
Explosion	0.22^{b} (0.18)	$0.25^{b,c}$ (0.18)

Note. SDs are indicated in parentheses. For the contrast comparisons, cells with no overlapping alphabet in the superscripts differ at $p < .1$.

Sum of 10 Balloon Pumps (Risk-Seeking With Experience)

The main effects of volunteering salience, $F(1,355) = 1.14$, $p = .28$, and of volunteering, $F < 1$, were not significant. The salience condition (high vs. low) × volunteering (yes vs. no) interaction was marginally significant, $F(1,355) = 2.95$, $p = .087$, $\eta_p^2 = 0.008$ (see Table 3). Supporting Hypothesis 1, those who reported having volunteered in the high-salience condition pumped more ($M = 36.19$) than those who reported having volunteered in the low-salience condition ($M = 31.30$), $F(1,355) = 2.96$, $p = .086$. We found no evidence for a general effect of volunteering on risk-seeking. In the low-salience condition, those who reported having volunteered did not pump more times ($M = 31.30$) than those who reported having not volunteered ($M = 34.14$), $F(1,355) = 1.42$, $p = .23$.

Sum of Exploded Balloons over The 10 Trials (Risk-Seeking with Experience)

The main effects of volunteering salience and volunteering were not significant, both F's < 1. The salience condition (high vs. low) × volunteering (yes vs. no) interaction was marginally significant, $F(1,355) = 3.60$, $p = .058$, $\eta_p^2 = 0.01$ (see Table 3). Supporting Hypothesis 1, the balloon exploded more times for those who reported having volunteered in the high-salience condition ($M = 0.28$) than those who reported having volunteered in the low-salience condition ($M = 0.21$), $F(1,355) = 3.11$, $p = .07$. There was no general effect of volunteering. In the low-salience condition, the balloon did not explode more times for those who reported having volunteered ($M = 0.21$) than those who reported having not volunteered ($M = 0.25$), $F(1,355) = 1.54$, $p = .21$.

These results suggest the differences in the number of balloon pumps for those who reported having volunteered in the high- and low-salience conditions on the first trial and over the ten trials may have been larger had we allowed for more pumps before exploding the balloons. This is because participants for whom the balloon exploded may have continued pumping had the balloon not exploded.

Mediators

To study the potential mediation effects of sense of security, optimism, mood, and perceived control, we applied PROCESS bootstrapping mediation analysis (Model 4, Preacher, Rucker, & Hayes, 2007). Among those who had reported having volunteered, we tested the mediating power of each of the four mediators on the relationship between salience and the risk-seeking measure. None of the mediators demonstrated significant effects across the three risk-seeking measures (for brevity, we report the effects only for pumps of the first balloon): for optimism, $b = -0.014$, 95% CI [−0.139, 0.085]; for sense of security $b = -0.0002$, 95% [−0.096, 0.098]; for mood $b = 0.006$, 95% CI [−0.165, 0.168]; and perceived control $b = -0.001$, 95% CI [−0.093, 0.081].

Study 4

In Studies 1–3, participants self-assigned into volunteering and nonvolunteering groups. Study 4 aimed to examine whether our effect replicates under random assignment to salient volunteering and nonvolunteering groups, and to test whether attributing volunteering to an external source attenuates our effect (Hypothesis 3). Risky choices were consequential.

Method

Participants

Ninety-nine students (44 males; $M_{age} = 25.90$, $SD = 3.20$) participated in return for entrance in a raffle.

Procedure

Participants were randomly assigned to volunteering, control, and external-motivation conditions (after Khan & Dhar, 2006). We instructed those in the volunteering condition to imagine they had volunteered to spend three hours doing community service. Next, they read descriptions of two community services for which they could volunteer ("helping children" and "helping the environment") and chose one. To increase task involvement, we asked participants to explain their choice. In the external-motivation condition, participants were given an external reason for performing the community service. Following Khan and Dhar (2006), we asked participants to imagine that, as punishment for having committed a driving violation, they had to perform three hours of community service. In the control condition, participants chose between two chairs that differed on several features and explained their decision.

Next, all participants completed the risky choice task used in Study 1 that involved making 14 choices between a certain cash payoff and a risky choice (gamble) that offered an equal chance of winning a cash prize or winning nothing. We used the same lottery incentive as in Study 1 to increase task involvement.

Results

We found a main effect of condition, $F(2,96) = 5.08$, $p = .007$, $\eta_p^2 = 0.10$. Consistent with Hypothesis 3, participants chose significantly more gambles in the self-attribution volunteering condition than in the control condition ($M = 6.03$, $SD = 1.45$, vs. $M = 4.62$, $SD = 2.17$), $t(96) = 3.08$, $p = .002$, and in the external-motivation condition ($M = 4.97$, $SD = 1.88$), $t(96) = 2.29$, $p = .023$. The difference between the two latter conditions was not significant, $t < 1$.

Randomly allocating participants to volunteering and control conditions, we replicated the effect of salient volunteering behavior on risk-taking. Further, we found this effect attenuates when volunteering behavior is attributed to an external motivation.

General Discussion

Our research contributes to the prosocial behavior and risk-taking literatures. We demonstrate a novel consequence of salient volunteering behavior and reveal a new factor influencing risk-taking. Prior work shows social support from others increases risk-taking (e.g., Levav & Argo, 2010; Mandel, 2003). We demonstrate that a salient act of volunteering increases risk-taking, but only when the motivation to volunteer is internal. From a methodological perspective, our finding adds to research showing question-order effects, wherein answers to a target question, or willingness to perform a behavior (monetary take risk), change by asking another question before asking the target question (do you volunteer?) (Mcfarland, 1981; Stark et al., 2018).

Future Research Directions

Because this research is the first to link prosocial behavior with risk-taking, there are many

opportunities for future research that can examine other prosocial behaviors, other types of risk-taking, and the temporal parameters necessary to produce the observed effects. In regard to prosocial behavior, we focused on volunteering, a relatively demanding and time-consuming prosocial behavior. Future research could examine whether donating money, which may be a less demanding form of prosocial behavior and may therefore have different effects on the self, also increases risk-taking.

In regard to risk-taking, we focused on monetary risk-taking. Research shows peoples' risk-taking tendencies differ across decision domains (Blais & Weber, 2006). Future work can examine whether the effects we observe extend to nonmonetary domains, using the DOSPERT survey developed by Blais and Weber. Further research may also extend our investigation of active risk-taking that involves performing risky behaviors (e.g., gambling, investing) to passive risk-taking, that involves abstaining from taking action (e.g., avoiding medical screen tests, Keinan & Bereby-Meyer, 2012, 2017).

Finally, we manipulated volunteering salience in multiple ways (e.g., asking participants to recall a volunteering behavior (studies 1 and 3), decide whether to volunteer (study 2), or make a hypothetical choice between two volunteering activities (study 4). Though we found consistent effects on risk-taking across salience manipulations, we did not find evidence for mediation. Surprisingly, none of the four potential mediators that prior literature has identified as outcomes of volunteering behavior and drivers of risk-taking mediated the effect. A salience account suggests the effects of volunteering on its psychological outcomes should be largest when tested while volunteering or immediately after. Future research could test this proposal and focus on how salient volunteering must be for it to impact monetary risk-taking. Research may also test other potential mediators of the monetary risk-taking effect we find, perhaps examining the role of promotion motivation, that is linked with prosocial behavior (Park & Ryu, 2018) and in domains where people can gain money, increases risk-taking (Zou & Scholer, 2016).

Organization and Consumer Implications

In a study reported in the Appendix S2, we find a salient volunteering behavior increases investment advisors' tendency to advise a hypothetical customer to allocate money to a risky stock option. This finding adds to research showing professional decision makers are subject to context effects (Kahneman, Lovallo, & Sibony, 2011). Perhaps more importantly, it indicates an unexpected "side effect" of company-initiated employee engagement in volunteering. For example, organizations could use salient volunteering behaviors to increase employee risk-taking when seeking innovative product ideas. A salient volunteering behavior could liberate employees to propose novel and unconventional ideas. Alternatively, managers could promote riskier corporate decision making by scheduling board meetings immediately after a volunteering activity.

In consumer settings, our results suggest marketers could prompt consumers to purchase products associated with greater risk (innovative, unique, or less familiar products), by offering promotions based on volunteering activities or merely referencing volunteering. For example, in the context of a lottery ticket campaign, posing the question "Have you volunteered lately?" should increase lottery ticket purchases of consumers who did volunteer, without influencing the purchase likelihood of those who did not.

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Supporting Information

Additional supporting information may be found in the online version of this article at the publisher's website:

Apppendix S1. All Studies' Stimuli and Measures.

Apppendix S2. Salient Volunteering Increases Professional Decision-makers Risk-taking.