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Empirical Research Paper

How Much Is Enough? The Relationship Between Prosocial Effort and Moral Character Judgments

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Abstract

The amount of effort required to bring about a prosocial outcome can vary from low—handing a stranger the wallet she just dropped—to high—spending days tracking down the owner of a lost wallet. The goal of the current research is to characterize the relationship between prosocial effort and moral character judgments. Does more prosocial effort always lead to rosier moral character judgments? Across four studies (N = 1,658), we find that moral character judgments increase with prosocial effort to a point and then plateau. We find evidence that this pattern is produced, in part, by descriptive and prescriptive norms: exceeding descriptive norms increases moral character judgments, but exceeding prescriptive norms has the opposite effect, which leads to a tapering off of moral character judgments at higher levels of effort.

Keywords

morality, effort, prosocial behavior, social norms, social cognition

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Imagine that you are walking in a park and find a wallet on the ground. You realize that the wallet belongs to a person near you and you hand it back to the owner. Most people would consider your behavior prosocial and would evaluate your character positively for it. Now imagine that you find a wallet on the ground, but this time you search the park for 15 minutes before finding the owner and returning the wallet. In this second scenario, you brought about the same prosocial outcome (returning the wallet), but you put in more effort. Here again, most people would consider your behavior prosocial. But would they evaluate your moral character more positively? If so, would this always be the case? What if you searched the park for 2 hours to return the wallet? All else equal, does higher effort lead to higher moral character evaluations?

In the present work, we seek to characterize the relationship between prosocial effort—the amount of effort required to bring about a prosocial outcome—and moral character judgments. On one hand, putting in more effort to do something prosocial is likely to increase moral character judgments (Bigman & Tamir, 2016; Olivola & Shafir, 2013). Indeed, society values and rewards effortful behavior (Furnham, 1984; Kruger et al., 2004; Norton et al., 2012). But, is putting in more effort always seen as better? Aristotle famously spoke of virtues existing as a golden mean between deficiency and excess (Nicomachean Ethics, 1106a26–b28; see also Grant & Schwartz, 2011). It is not surprising that someone who exerts no prosocial effort (i.e., deficiency) would be seen as less virtuous than someone who exerts some prosocial effort. But is it possible to do too much (i.e., excess)? At high levels of prosocial effort, do observers stop seeing additional effort as additionally virtuous, and possibly even see additional effort as less virtuous? The goal of the current research is to investigate this relationship between prosocial effort and moral character judgments. We describe three theoretical perspectives that form different hypotheses about this relationship and test them across four studies. We also test underlying mechanisms (descriptive norms, prescriptive norms, and ulterior motives) that help clarify when and why one might expect a given relationship between prosocial effort and moral character judgments to occur.

The Linear Perspective

People value effort, particularly in Western and Capitalistic societies (Furnham, 1984). For instance, effort investment increases the perceived value of one's own work (Festinger, 1957; Norton et al., 2012) and the work of others (Burgmer et al., 2019; Kruger et al., 2004). Similarly, effortful initiation can increase the perceived value of a social group

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(Aronson & Mills, 1959). Research finds that effort is valued in the moral domain as well. In one study, participants donated more money to a charity event when the event required participants to complete a charity run (higher effort) versus attend a picnic (lower effort; Olivola & Shafir, 2013). Another study found that participants evaluated people as more moral after they engaged in a more effortful act (e.g., running off of a bus to return a dropped wallet) versus a less effortful act (e.g., handing a stranger the wallet she just dropped; Bigman & Tamir, 2016). Related work found that high-effort moral acts were seen as more valuable than low-effort moral acts, regardless of the actor's moral motives (Robinson et al., 2017). These findings suggest that the more effort an actor invests into bringing about a prosocial outcome, the more positively perceivers view the actor's moral character. This leads to the first hypothesis, which is that moral character will increase linearly with prosocial effort (the *linear* hypothesis).

A positive, linear relationship between prosocial effort and moral character can be explained, in part, by descriptive social norms. Because people are less likely to engage in more effortful (vs. less effortful) behaviors (Leventhal et al., 1965), more effortful behaviors are less descriptively normative than less effortful behaviors (all else equal). Thus, people who do engage in effortful prosocial behaviors may be seen as exceeding what most others would do and, consequently, would stand out as particularly moral. Consistent with this account, a key characteristic of people perceived as morally exceptional is that their sense of moral obligation leads them to break with the behavior of the group majority in favor of what they believe is morally right (Lawn et al., 2022; Monin et al., 2008).

Although the linear hypothesis finds direct empirical support from the current literature (e.g., Bigman & Tamir, 2016; Robinson et al., 2017), one notable limitation of these studies is that they typically compare only two acts: a higher effort act and a lower effort act. For example, Bigman and Tamir (2016) compared running off a bus to return someone's wallet (higher effort) to handing someone their wallet (lower effort). It is unclear how people would perceive behaviors that involved additional effort, such as searching for the wallet owner, taking the wallet to a lost-and-found, or notifying local authorities. Does the positive relationship between prosocial effort and moral character persist across a wider range of efforts?

The Diminishing Returns Perspective

Aristotle famously wrote that a virtuous person's actions must lie between doing too little (i.e., deficiency) and doing too much (i.e., excess; Nicomachean Ethics, 1106a26–b28). This Golden Mean logic can be applied to the domain of prosocial effort. On the side of deficiency, doing nothing or investing minimal prosocial effort may be perceived as antisocial and signal poor moral character relative to doing more. The deficiency argument is captured by the linear perspective described in the previous section (Bigman & Tamir, 2016; Olivola & Shafir, 2013; Robinson et al., 2017).

Opposite to deficiency, the notion of excess states that one can do too much, such that investing higher levels of prosocial effort may fail to boost moral character judgments beyond lower levels of effort. But why would moral character judgments not continue to increase at higher levels of prosocial effort? One reason may be because high-effort prosocial behaviors exceed people's expectations of how much effort people should exert. That is, these behaviors are inconsistent with people's prescriptive norms of prosocial effort. If observers perceive that people should not be obligated to engage in a given high-effort prosocial behavior, then observers may not attribute commensurate increases in moral character to people that do engage in that behavior. This argument is consistent with research on the *moral threshold model*, which finds that people perceive their actions as moral so long as they meet a "morality threshold" (functionally similar to a prescriptive norm), beyond which people are relatively insensitive to the magnitude of the good they cause (Zlatev et al., 2019). Zlatev and colleagues found that people cared more about not falling below a moral threshold (i.e., not choosing the worst possible moral outcome) than about distinguishing between alternatives that surpassed the threshold (i.e., alternatives that could maximize moral benefits). In the context of moral character judgments, the moral threshold model suggests that people attribute more moral character to targets that engage in the more prosocial effort up to a "threshold," after which increases in prosocial effort may negligibly influence moral character judgments. Research on third-party judgments of charitable giving supports this prediction. This research finds that people are evaluated more positively when they give the suggested donation amount compared with less than the suggested donation amount. However, they are not evaluated any more positively when they give more than the suggested donation (Klein & Epley, 2014; Klein et al., 2015). In one study, orchestra concertgoers rated a hypothetical attendee who gave the suggested donation amount as more prosocial than an attendee that gave nothing, but similar in prosociality to an attendee that gave twice the suggested donation amount (Klein & Epley, 2014).

Taken together, these studies and Aristotle's Golden Mean logic inform the second hypothesis: The relationship between prosocial effort and moral character judgments is positive at lower and moderate levels of prosocial effort, but then plateaus at higher levels (the *diminishing returns* hypothesis). We suspect this would occur because of people's—implicitly or explicitly held—prescriptive norms about how much prosocial effort is an appropriate or necessary amount.

Finally, the third theoretical perspective represents a stronger version of the diminishing returns perspective, predicting that moral character judgments not only plateau at higher levels of effort, but that they decline.

The Backlash Perspective

The diminishing returns perspective suggests that at high levels of prosocial effort, additional prosocial effort no longer yields additional moral character gains. However, Aristotle's notion of "too much of a good thing" suggests that higher levels of virtue could be detrimental (for reviews see Grant & Schwartz, 2011; Pierce & Aguinis, 2013). For example, although honesty is a desired virtue, in some contexts, it is possible to be perceived as too honest and, consequently, less moral (e.g., prosocial lies; Levine & Schweitzer, 2014). Similarly, although research finds that assertiveness is a desirable leadership skill, highly assertive people are evaluated less positively than their moderately assertive counterparts (Ames & Flynn, 2007). Consistent with these "too much of a good thing" arguments, the third hypothesis is that moral character increases from lower to moderate levels of prosocial effort, but then decreases from moderate to higher levels of prosocial effort (the *backlash* hypothesis).

The backlash hypothesis is consistent with two areas of prior literature. The first is research on moral self-threat. This research finds that people can feel threatened by others who exhibit high levels of moral behavior. Research on "do-gooder derogation" finds that when an actor strongly adheres to moral principles that are not considered socially normative, people experience a moral self-threat and derogate the actor's moral character (Minson & Monin, 2012). Relatedly, perceiving a leader as highly (versus moderately) ethical leads employees to anticipate moral reproach from that leader (Stouten et al., 2013). Finally, developmental research finds that even children exhibit an attenuated preference for generous peers when the social comparison is salient (Tasimi et al., 2015). The second reason that high prosocial effort may spur backlash is that it could lead to uncharitable motive attributions. This is because people often assume that others act in their own self-interest (Miller, 1999; Tsay et al., 2011; Walmsley & O'Madagain, 2020). So much so, that observers are sensitive to moral decision-making cues that signal self-interest (accurate or not). For example, people who deliberate about moral decisions (vs. make quick judgments) are seen as less moral (Critcher et al., 2013). Similarly, people who use calculated (vs. intuitive) moral thinking are seen as less moral (Everett et al., 2016). Given this, high levels of prosocial effort may violate the norm of self-interest and prompt a search for explanations beyond merely prosocial motives (Kahneman & Miller, 1986). In the context of a prosocial act for which people are likely to spontaneously generate positive attributions, additional rumination might lead people's attributions to move in a more negative direction toward attributions of ulterior or selfish motives (Bond et al., 1992; Lucas et al., 2016; Newman & Cain, 2014). In summary, people who engage in high, versus moderate, prosocial effort may be perceived as having worse moral character because the high-effort act leads others to feel self-threat or infer ulterior motives.

Overview of the Studies

Across four studies, we explore the relationship between prosocial effort and moral character judgments. Studies 1a and b investigate the relationship across different prosocial contexts using different experimental designs, and conduct exploratory mediation to explain the observed effect. Drawing on insights from the first two studies, Study 2 is a preregistered test of the relationship between prosocial effort and moral character judgments as well as underlying mechanisms. Study 3 is a preregistered test of our hypotheses using a different sample and a prosocial context with higher ecological validity.

Overview of Studies 1a–b

Studies 1a–b provided initial tests of the relationship between prosocial effort and moral character judgments. Both studies manipulated the level of effort that a target administered to bring about a prosocial outcome. Study 1a manipulated prosocial effort as a within-participants factor, and Study 1b manipulated prosocial effort as a between-participants factor. We also explored potential underlying mechanisms.

Transparency and Openness

In all studies, sample size was determined before any data analysis, and we report all measures, manipulations, data exclusions, and sample size rationales. The study design, sample size, inclusion/exclusion criteria, and planned analyses for Studies 2–3 were preregistered on AsPredicted.org, and we report all preregistered analyses in the article. This research was conducted in accordance with established ethical guidelines and was approved by the Institutional Review Board at Cornell University. All data, materials, and preregistrations are available on the Open Science Framework (link: https://osf.io/b7csf/?view_only=b0f9bff456ca4bc59a8218fb61689dc0).

Study 1a

Method

Participants. Across studies, we used a recruitment heuristic of 100 per between-participants condition. However, in Study 1a, we oversampled by doubling this recruitment heuristic because we did not know what effect size to expect. We set a recruitment goal of 200 participants per between-participants condition or 800 total. We recruited 805 participants (49% female, $M_{age} = 36.34$, $SD_{age} = 10.37$) via CloudResearch. A sensitivity analysis in G*Power 3.1 (Faul et al., 2009; two-tailed; $\alpha = .05$) for the effect of effort condition (low vs. moderate effort, or moderate vs. high effort) on morality indicated this sample size provides 80% power to detect an effect of Cohen's $d = .10$. Here,

and in all subsequent studies, participants were compensated for participating. We took a number of steps to promote data quality: We restricted participation to the United States, required participants to pass an image-based "captcha" before the consent form to screen out nonhumans, and restricted participants of one study from participating in subsequent studies. In this study and all other studies, all participants who completed the survey were included in the main analysis.

Procedure. The study design was a 3 (effort level: low, moderate, high) × 4(vignette domain: lost wallet, elderly help, medical help, missing child) mixed design, with the first factor within-participants and the latter between-participants. Participants were told that they would read three brief scenarios and be asked to answer a few questions after each scenario. Participants were randomly assigned to one of the four vignette domains in which they read three scenarios about a prosocial actor who administered low effort, moderate effort, and high effort to bring about a prosocial outcome. Participants viewed the scenarios in the order from low effort to high effort. The vignette domains included returning a stranger's wallet, helping an elderly person with their groceries, helping a woman who was unconscious in a parking lot, and helping find a missing child (see Appendix for the full text of all vignettes).

Effort Manipulation. Within each vignette domain, we manipulated the amount of effort the actor administered to bring about the prosocial outcome. In the low-effort condition, minimal effort was required to bring about the prosocial outcome (we loosely modeled these vignettes on the low-effort vignettes by Bigman & Tamir, 2016). The moderate and high-effort conditions built on the low-effort condition vignette by adding additional steps and longer timeframes to increase the amount of effort required to bring about the prosocial outcome. For example, the wallet vignette involved handing someone the wallet they just dropped (low effort), running off a bus to hand someone the wallet they dropped (moderate effort), and revisiting the bus stop for 3 days in a row to find the wallet owner (high effort).

Measures

Participants evaluated the prosocial actor's moral character after each vignette (and before continuing to the next vignette). Participants rated how much the person is *moral* and *honest* (1 = *not at all*, 7 = *extremely*; adapted from Goodwin et al., 2014). We averaged these items into a measure of moral character, $r(805) = .66$, $p < .001$. As a manipulation check, participants indicated how much effort they thought the actor applied toward the prosocial outcome (7-point Likert-type scale; 1 = *no effort at all*, 7 = *extreme effort*). We also included exploratory measures of potential mechanisms for the relationship between prosocial effort and moral character judgments. Derived from the linear, diminishing returns, and backlash hypotheses, we included single-item measures of how much the actor's behavior aligned with prescriptive norms (i.e., people *should* do what [target] did if they were in the same situation), descriptive norms (i.e., people *would* do what [target] did if they were in the same situation), and perceptions of how much the actor's behavior was driven by ulterior motives, all of which were measured on 7-point Likert-type scales (1 = *not at all*, 7 = *extremely*).[1]

Results

We tested the effect of prosocial effort condition on our dependent measures using a dummy contrast approach (Hardy, 1993). This approach models the effect of prosocial effort using two dummy variables with moderate effort as the reference category: the low-to-moderate dummy (*moderate effort* = 0, *low effort* = 1) tests the relationship between low and moderate effort, and the moderate-to-high dummy (*moderate effort* = 0, *high effort* = 1) tests the relationship between moderate and high effort. Models also included a random intercept for the participant to account for the repeated measures design. We built regression models using the "lme4" R package (Bates et al., 2015), and we used the "lmerTest" package (Kuznetsova et al., 2017) to calculate *p* values. The vignette domain did not significantly interact with either of the prosocial effort dummy variables, so we collapsed this factor in the main analysis (see Supplementary Online Materials for analyses with the vignette domain as a factor).

Effort Manipulation Check. We regressed perceived effort on both the low-to-moderate and moderate-to-high effort dummy variables. Confirming the efficacy of our effort manipulation, perceived effort increased across all levels of effort, such that low effort ($M = 4.64$, standard deviation [*SD*] = 1.45, confidence interval 95% [CI95%]: [4.54, 4.74]) was perceived as significantly less effortful than moderate effort ($M = 6.02$, $SD = 1.01$, *CI95%*[5.95, 6.09]), [$b = -1.38$, standard error [*SE*] = 0.05, $p < .001$, $d = -1.09$, *CI95%*[−1.18, −.99]); and moderate effort was perceived as significantly less effortful than high effort ($M = 6.63$, $SD = 0.82$, *CI95%*[6.57, 6.69]), ($b = 0.60$, $SE = 0.05$, $p < .001$, $d = -.65$, *CI95%*[−.73, −.58]).

Moral Character Judgments. We regressed moral character judgments on both the low-to-moderate and moderate-to-high effort dummy variables. Means and 95%CIs are depicted in Table 1 and visualized in Figure 1. The model revealed a significant increase in moral character from low to moderate effort ($b = -0.16$, $SE = 0.03$, $p < .001$, $d = -.16$, *CI95%*[−.21, −.11]) and a non-significant difference from moderate to high effort ($b = 0.02$, $SE = 0.03$, $p = .558$, $d = -.01$, *CI95%*[−.06, −.04]). The pattern remained the same

Table 1. Study 1a Means and 95% CIs by Vignette Domain.

	Effort condition		
Domain	Low	Moderate	High
Average	6.05 [5.98, 6.12]	6.21 [6.14, 6.28]	6.23 [6.15, 6.31]
Missing child	5.96 [5.83, 6.08]	6.16 [6.04, 6.29]	6.29 [6.16, 6.42]
Elderly help	5.76 [5.61, 5.92]	5.91 [5.74, 6.09]	5.80 [5.59, 6.01]
Lost wallet	6.39 [6.25, 6.53]	6.51 [6.38, 6.64]	6.49 [6.34, 6.63]
Medical help	6.07 [5.95, 6.20]	6.23 [6.10, 6.36]	6.28 [6.13, 6.42]

Note. Means and 95%CIs of moral character by effort level and vignette domain. CI = confidence interval.

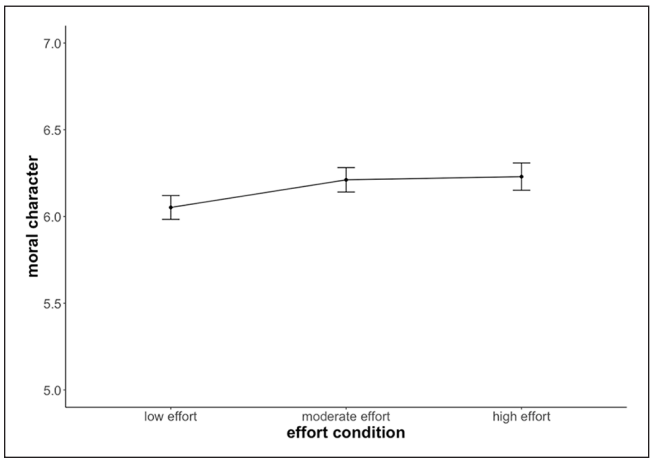


Figure 1. Study 1a Moral Character by Effort Condition.
Note. Error bars represent 95%CIs. The full-scale range is 1–7.
CI = confidence interval.

when controlling for vignette domain and the vignette domain × effort dummy interactions (see Supplementary Online Materials for these analyses).

Mediation. We conducted exploratory mediation to further understand the relationship between prosocial effort and moral character judgments. We tested for indirect effects with bootstrapped confidence intervals and 5,000 samples using the Lavaan package in *R* (Rosseel, 2012). To aid in the interpretation of results, we recoded the prosocial effort independent variable such that higher values always correspond to higher levels of effort. Indirect effects, direct effects, and total effects all with 95% CIs are depicted in Figures 2 and 3, and the descriptives for each mediator can be found in the Supplementary Online Materials. Across our mechanism analyses, we found that some process variables resulted in mediation effects and others in suppression effects. Mediation occurs when the explanatory variable (i.e., the mediating variable) significantly weakens the relationship between the independent variable (IV) and the dependent variable (DV; MacKinnon et al., 2000). In other words, mediators provide an explanation for the observed relationship between the IV and the DV. Alternatively, statistical suppression occurs when the explanatory variable significantly strengthens the relationship between the IV and DV. In other words, suppressors provide an explanation for the lack of an observed relationship between IV and DV. Insight into factors that facilitate an effect (mediators) as well as factors that block an effect (suppressors), both contribute to an understanding of the underlying mechanisms.

We conducted two sets of analyses, one for the effects of low-versus-moderate prosocial effort, and another for the effects of moderate-versus-high prosocial effort. Both analyses revealed mostly similar findings, so we report them concurrently and note any differences. For descriptive norms, we found a significant indirect effect such that descriptive norms had a mediating effect on the relationship between prosocial effort and moral character judgments (low-versus-moderate prosocial effort: $b = .07$, *CI95%*[.04, .11], $p < .001$; moderate-versus-high prosocial effort: $b = .05$, *CI95%*[.03, .07], $p < .001$). Specifically, prosocial effort negatively predicted perceived descriptive norms, and descriptive norms negatively predicted moral character. In other words, as the effortfulness of the act increased, participants perceived that others would be less likely to do the act, which made the actor that did do the act seem higher in moral character (i.e., praise for exceeding what others would typically do). Next, we looked at prescriptive norms, and we found a significant indirect effect, such that prescriptive norms had a suppressing effect on the relationship between prosocial effort and moral character judgments (low-versus-moderate prosocial effort: $b = -.03$, *CI95%*[−.05, −.02], $p < .001$; moderate-versus-high prosocial effort: $b = -.05$, *CI95%*[−.07, −.03], $p < .001$). Specifically, prosocial effort negatively predicted perceived prescriptive norms, and prescriptive norms positively predicted moral character judgments. In other words, as the effortfulness of the act increased, participants perceived that others should be less obligated to do the act, which made the actor that did do the act seem lower in moral character (i.e., reprimand for violating societal rules, albeit by excess). Finally, we looked at ulterior motives and we found mixed results. The indirect effect for the low-to-moderate prosocial effort comparison was nonsignificant ($b = .006$, *CI95%*[−.01, .02], $p = .289$). However, the indirect effect for the moderate-to-high prosocial effort comparison was significant ($b = .024$, *CI95%*[−.04, −.01], $p < .001$) such that ulterior motives had a suppressing effect

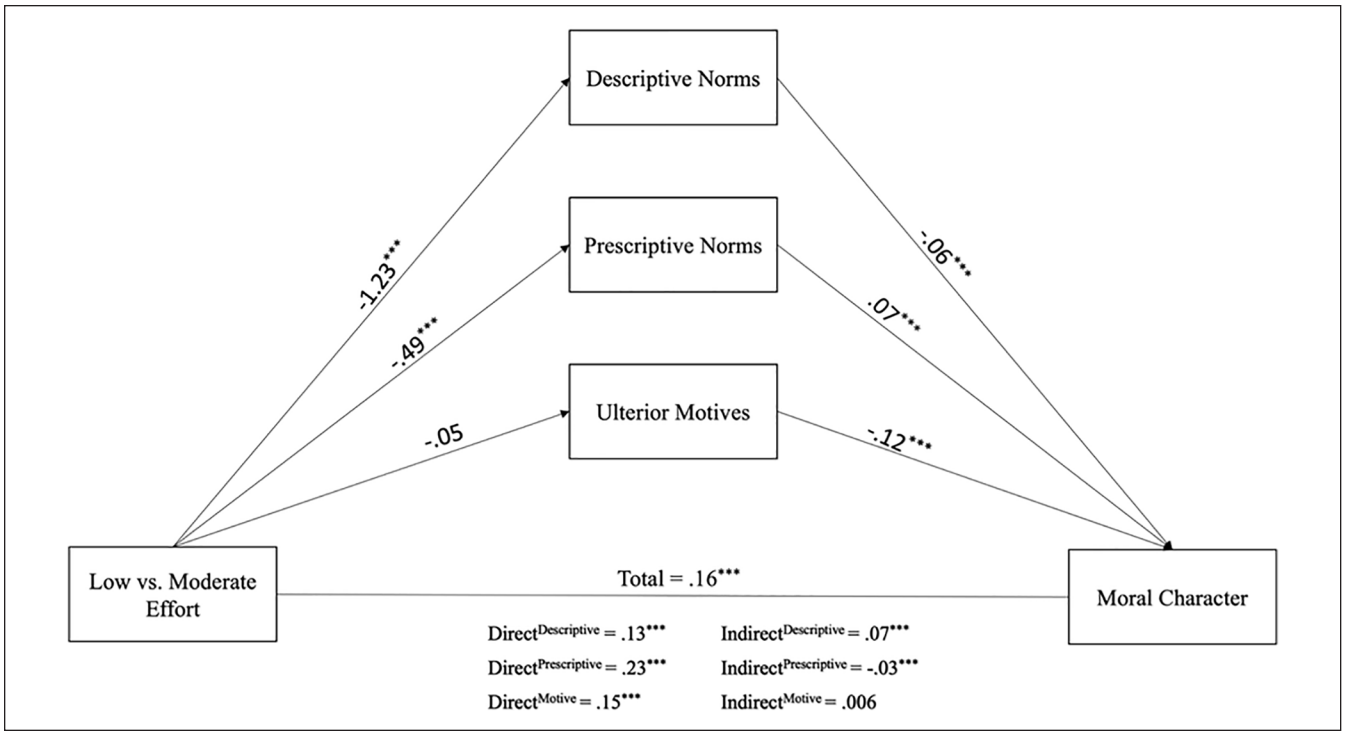


Figure 2. Study 1a Low Versus Moderate Prosocial Effort.
Note. Values for the effects of the mediators on the relationship between low-to-moderate effort and moral character judgments. The prosocial effort variable is coded such that the higher level of effort is coded "1" and the lower level of effort is coded "0." Coefficients are standardized betas.
*$p < .05$. **$p < .01$. ***$p < .001$.

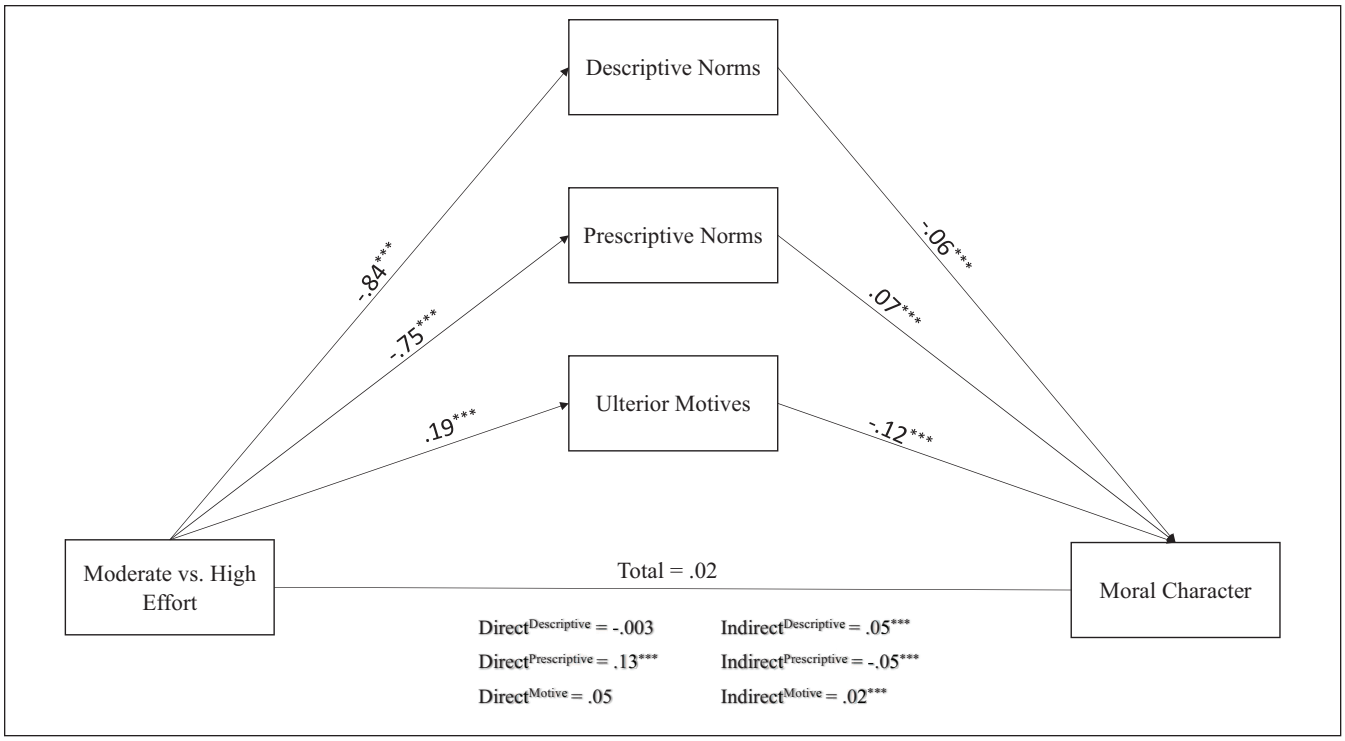


Figure 3. Study 1a Moderate Versus High Prosocial Effort.
Note. Values for the effects of the mediators on the relationship between moderate-to-high effort and moral character judgments. The prosocial effort variable is coded such that the higher level of effort is coded "1" and the lower level of effort is coded "0." Coefficients are standardized betas.
*$p < .05$. **$p < .01$. ***$p < .001$.

Table 2. Study 1b Descriptives and Results by Vignette Domain.

	Effort condition means [95% CIs]			Low vs. Mod. effort		Mod. vs. High effort	
Domain	Low	Moderate	High	*b* (*SE*)	d	*b* (*SE*)	d
Avg. All Vignettes	5.95 [5.85, 6.06]	6.36 [6.28, 6.43]	6.36 [6.28, 6.44]	–0.36(.10)	–.50	0.02(.10)	–.01
Missing child	5.71 [5.49, 5.94]	6.22 [6.07, 6.38]	6.25 [6.07, 6.43]	–0.51(.13)***	–.59	0.03(.13)	–.03
Elderly help	5.84 [5.63, 6.04]	6.29 [6.14, 6.44]	6.26 [6.10, 6.42]	–0.45(.12)***	–.56	–0.03(.12)	.04
Lost wallet	6.39 [6.22, 6.57]	6.53 [6.40, 6.67]	6.54 [6.40, 6.69]	–0.14(.11)	–.19	0.01(.11)	–.01
Medical help	5.87 [5.65, 6.08]	6.39 [6.25, 6.53]	6.39 [6.24, 6.55]	–0.52(.12)***	–.68	0.01(.12)	–.01

*Note.*This table displays means and 95% CIs of moral character by effort level and vignette domain, as well as the results for the dummy contrasts for effort condition on moral character by vignette domain. CI = confidence interval. ***$p < .001$.

on the relationship between prosocial effort and moral character judgments. Specifically, prosocial effort positively predicted perceived ulterior motives, and ulterior motives negatively predicted moral character judgments. In other words, as the effortfulness of the act increased from moderate to high prosocial effort, participants increasingly questioned the actor's motives, which resulted in lower perceived moral character (i.e., reprimand for tainted altruism).

Study 1b

Study 1b used the same prosocial effort manipulation and vignettes as in Study 1a. However, Study 1b manipulated prosocial effort between-participants and vignette domain within-participants. The between-participants effort manipulation builds on Study 1a by addressing a methodological concern related to effort condition presentation order. While in a within-participants design it is possible that the order in which the effort conditions are presented could affect the results, this is not a possible concern in the between-participants effort manipulation. Thus, finding converging results across within-participant and between-participant designs would speak against presentation order effects as an alternative explanation.

Method

Participants. We recruited 302 participants (53% female, $M_{age} = 37.45$, $SD_{age} = 11.60$) via CloudResearch with a recruitment goal of 100 participants per between-participants effort condition. A sensitivity analysis (G*Power 3.1, two-tailed, $\alpha = .05$; Faul et al., 2009) for the effects of prosocial effort (low vs. moderate or moderate vs. high) on moral character indicated that a sample of this size yielded 80% power to detect an effect of Cohen's $d = .40$.

Procedure. We used the same effort manipulation and vignettes as in Study 1a. Participants were randomly assigned to one of three prosocial effort conditions (low, moderate, and high) and then read each of the four vignettes, answering questions after each vignette. The vignette order was counterbalanced across participants.

Measures

We used the same measure of moral character, $r(302) = .65$, $p < .001$, as in Study 1a. As mechanism tests, we also included the same measures of prescriptive norms, descriptive norms, and ulterior motives from Study 1a.

Results

We used the same analytical approaches as in Study 1a.

Effort Manipulation Check. We regressed perceived effort on both the low-to-moderate and the moderate-to-high dummy-coded variables of effort. Confirming the efficacy of our manipulation, perceived effort increased across all levels of effort, such that low effort ($M = 4.53$, $SD = 1.59$, *CI95%*[4.37, 4.70]) was perceived as significantly less effortful than moderate effort ($M = 6.07$, $SD = 1.09$, *CI95%*[5.97, 6.17]), ($b = -1.54$, $SE = 0.13$, $p < .001$, $d = -1.41$, *CI95%*[−1.56, −1.25]); and moderate effort was perceived as significantly less effortful than high effort ($M = 6.48$, $SD = 0.81$, *CI95%*[6.40, 6.56]), ($b = 0.41$, $SE = 0.13$, $p = .002$, $d = -.51$, *CI95%*[−.65, −.38]). These effects remained significant when controlling for vignette and the vignette × effort dummy interactions.

Moral Character Judgments. Preliminary analyses found that the low-to-moderate effort dummy significantly interacted with the vignette domain (all three vignette dummy × low-to-moderate effort dummy interactions were significant, see full analysis in the Supplementary Online Materials). Given this, we analyzed the effect of prosocial effort on moral character judgments separately for each vignette. However, we first present an omnibus analysis across vignettes for consistency of reporting with Study 1a. Means and 95% CIs are depicted in Table 2 and are plotted in Figure 4.

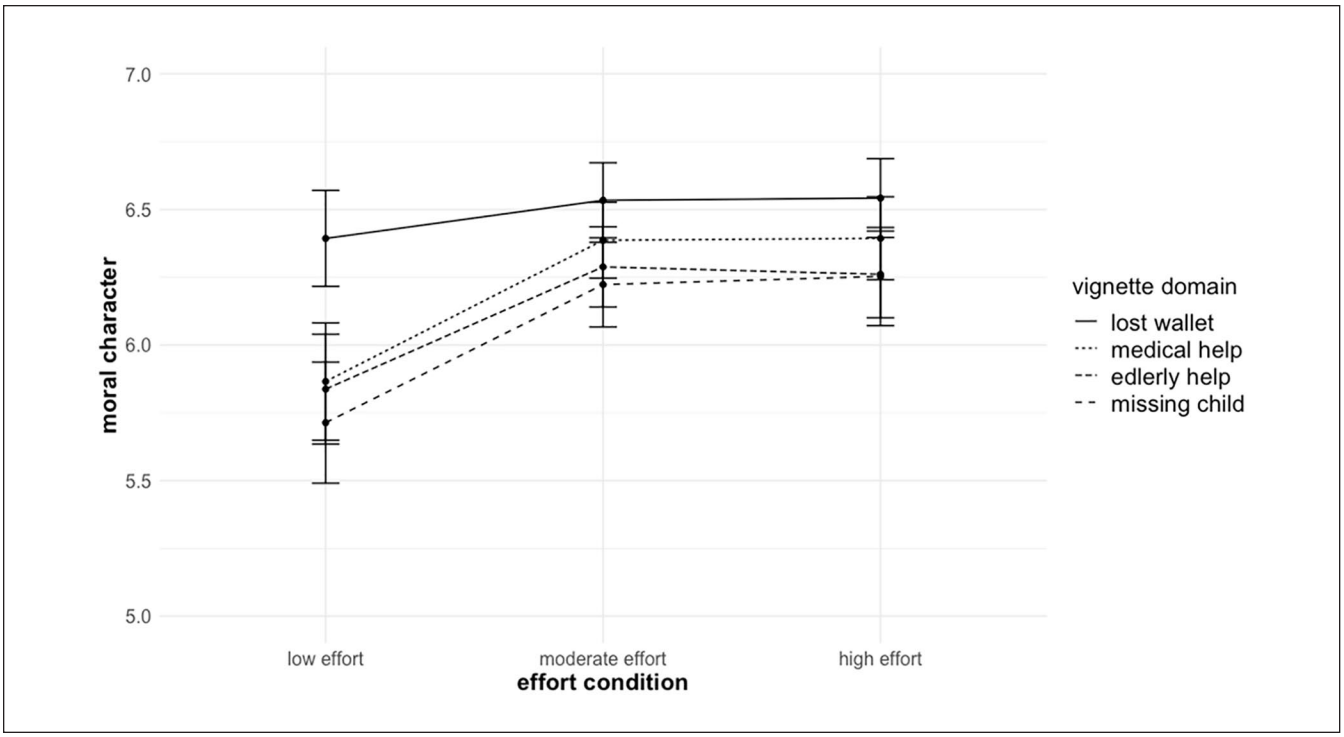


Figure 4. Study 1b Moral Character by Effort Condition and Vignette Domain.
Note. The error bars represent 95% CIs. The full-scale range is 1–7. CI = confidence interval.

Mediation. Indirect effects, direct effects, and total effects all with 95% CIs are depicted in Figures 5 and 6, and the descriptives for each mediator can be found in the Supplementary Online Materials. Similar to Study 1a, we found mostly similar results across the low-to-moderate prosocial effort analysis and the moderate-to-high prosocial effort analysis. Given this, we report the two analyses concurrently.

For descriptive norms we found a significant indirect effect such that descriptive norms mediated the relationship between prosocial effort and moral character judgments (low-versus-moderate prosocial effort: $b = .04$, *CI95%*[.01, .08], $p = .023$; moderate-versus-high prosocial effort: $b = .03$, *CI95%*[.002, .06], $p = .034$). Similar to Study 1a, as the actor's effort increased, what people thought others would do in the situation decreased, which led to an increase in moral character judgments. For prescriptive norms, we found a significant indirect effect, such that prescriptive norms had a suppressive effect on the relationship between prosocial effort and moral character judgments (low-versus-moderate prosocial effort: $b = -.06$, *CI95%*[− .11, − .01], $p = .026$; moderate-versus-high prosocial effort: $b = -.13$, *CI95%*[− .19, − .07], $p < .001$). Similar to Study 1a, as the actor's effort increased, what people thought others should do in the situation decreased, which led to a decrease in moral character judgments. Finally, we did not find a significant indirect effect of ulterior motives for the low-to-moderate prosocial effort comparison ($b = .04$, *CI95%*[− .001, .09], $p = .054$), or the moderate-to-high prosocial effort comparison ($b = -.04$, *CI95%*[− .08, .01], $p = .101$).

Studies 1a–b Discussion

Our results broadly supported the diminishing returns perspective, both when the effort was manipulated within participants and between participants: Participants perceived higher moral character after a moderate effort prosocial act compared with a low effort prosocial act, but did not perceive differences in moral character after a moderate effort prosocial act compared with a high effort prosocial act. The two studies revealed some differences across vignettes. Most notably, in Study 1b, the lost wallet vignette revealed a nonsignificant difference in moral character between the low and the moderate effort conditions. This discrepancy could be due to participants perceiving the scenario differently in a within-participants compared with a between-participants design (Bazerman et al., 1999; Clark & Schober, 1992; Hippler & Schwartz, 1987; Hsee, 1996; Hsee et al., 1999). However, the bigger picture conclusion across vignettes and Studies 1a–b is a general pattern of support for the diminishing returns perspective.

Our exploratory mediation analyses revealed consistent support for the roles of descriptive and prescriptive norms in explaining the relationship between prosocial effort and

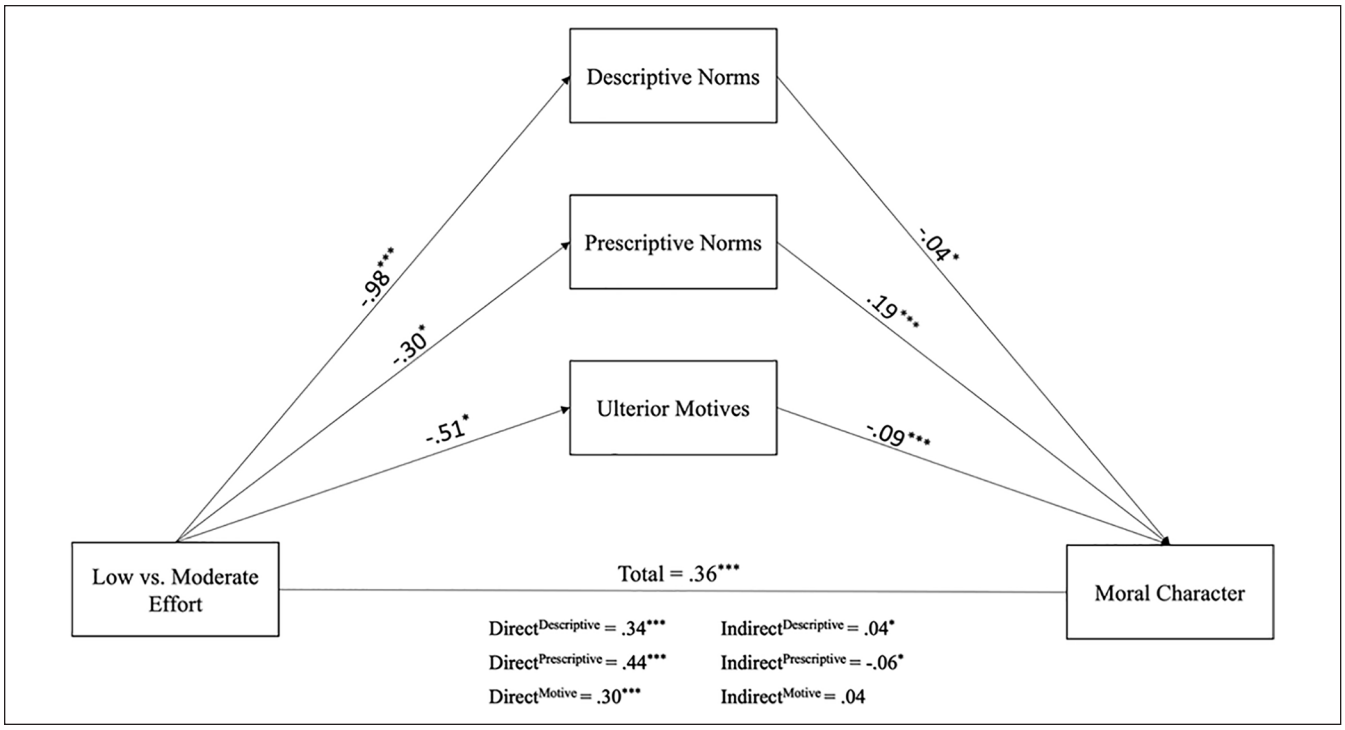


Figure 5. Study 1b Low vs. Moderate Mediation Results.
Note. Values for the effects of the mediators on the relationship between low-to-moderate effort and moral character judgments. The prosocial effort variable is coded such that the higher level of effort is coded "1" and the lower level of effort is coded "0." Coefficients are standardized betas.
*$p < .05$. **$p < .01$. ***$p < .001$.

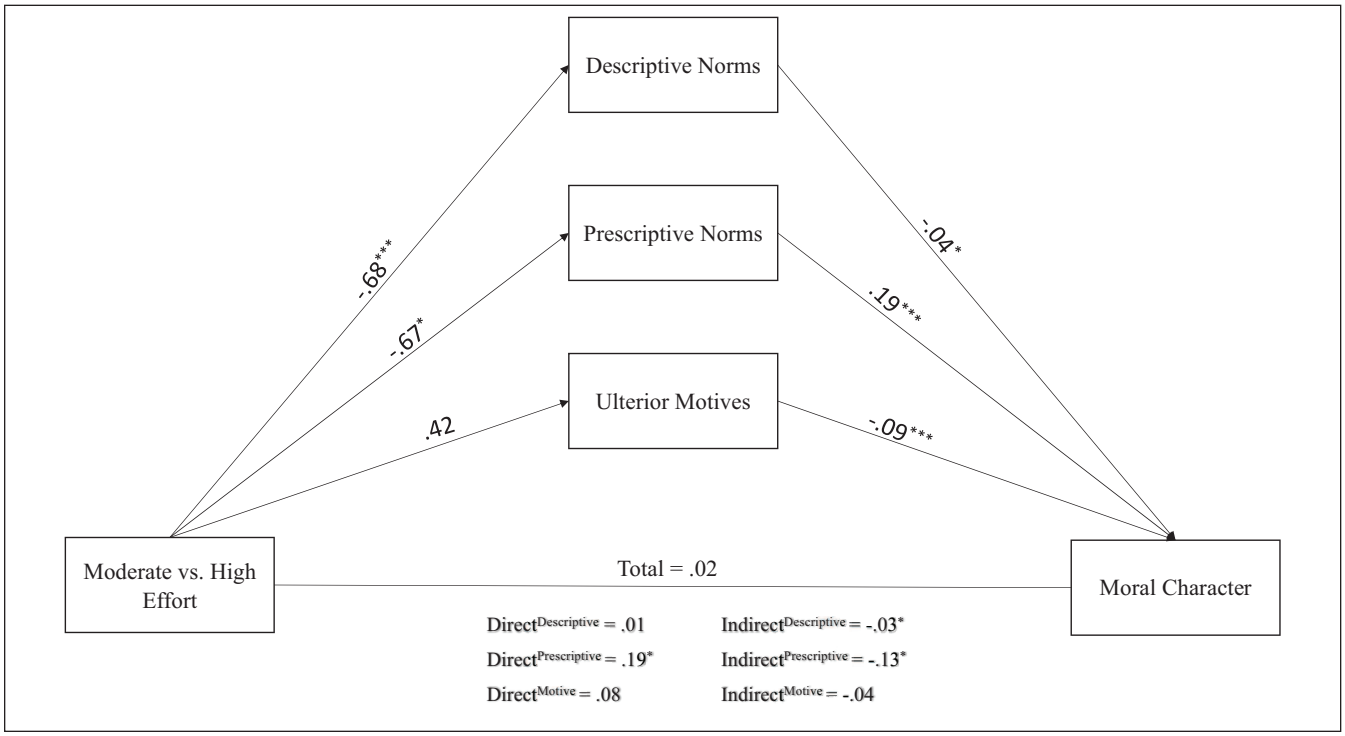


Figure 6. Study 1b Moderate Versus High Mediation Results.
Note. Values for the effects of the mediators on the relationship between moderate-to-high effort and moral character judgments. The prosocial effort variable is coded such that the higher level of effort is coded "1" and the lower level of effort is coded "0." Coefficients are standardized betas.
*$p < .05$. **$p < .01$. ***$p < .001$.

moral character judgments (and mixed results for the role of ulterior motives). Across our scenarios, participants perceived increasingly effortful prosocial acts as less normative, both descriptively and prescriptively. People thought others would be less likely (descriptive norm) and should be less obligated (prescriptive norm) to engage in increasingly effortful prosocial acts. Interestingly, these perceptions had countervailing consequences on the relationship between prosocial effort and moral character judgments, with descriptive norms mediating this relationship and prescriptive norms suppressing it. When people exceed the descriptive norm—doing more than what others would typically do—their prosocial effort is rewarded with higher moral character judgments. However, when people exceed the prescriptive norm—violating what people should be obligated to do, albeit in a positive direction—their prosocial effort is reprimanded with lower moral character judgments. Together, the mediating effect of descriptive norms and the suppressing effect of prescriptive norms both help to explain the effect of prosocial effort on moral character judgments. Presumably, in the low-to-moderate effort comparison (where higher prosocial effort increases moral character), the effect of descriptive norms is stronger than the counteracting effect of prescriptive norms. Alternatively, in the moderate-to-high effort comparison (where higher prosocial effort does not significantly change moral character judgments), the effect of descriptive and prescriptive norms cancel each other out. This is suggested by the data. In the low-to-moderate effort comparison, the change in descriptive norms across effort conditions (M_{change} = 1.13) was 2.9x the change in prescriptive norms across effort conditions (M_{change} = .39), suggesting that descriptive norms would have a stronger effect across effort conditions. But for moderate-to-high effort, the change in descriptive and prescriptive norms across effort conditions was of similar magnitude (M_{change} = .76 and M_{change} = .72, respectively), suggesting that the two mechanisms would have a similar-sized effect. The findings of Studies 1a–b point to countervailing mechanisms that reveal a fundamental tension in moral character judgments: Prosocial effort is rewarded for exceeding what people would do, but is punished for exceeding what people should do. We further test this mechanism explanation in Study 2, and we speak to its theoretical implications in the General Discussion.

Study 2

The primary goals of Study 2 were to conduct a confirmatory replication of the patterns found in Studies 1a–b and to rule out a methodological concern from Studies 1a–b. In our prior vignettes, our prosocial effort manipulations worked out as intended, with the low-effort conditions seen as the least effortful, followed by the moderate-effort conditions, and then the high-effort conditions. However, the absolute distance between the low and the moderate levels of prosocial effort was always larger than the distance between the moderate and high levels of prosocial effort. In Study 2, we refined the effort manipulation so that the distances in perceived effort between the low, moderate, and high effort conditions were equidistant.

Method

Participants. We conducted an a priori power analysis, based on the observed effect size between low and moderate effort on moral character judgments (Cohen's d = .50, two-tailed; from Study 1b, which used the same experimental design as Study 2), which suggested a total sample size of 192 (64 per cell) to achieve 80% power. Given this low recommendation, we relied upon a recruiting heuristic of 100 people per between-participant condition, like in previous studies. We recruited 300 participants (54% female, M_{age} = 40.67, SD_{age} = 12.56) via CloudResearch. A sensitivity analysis in G*Power 3.1 (Faul et al., 2009; two-tailed, α = .05) for the effect of effort (low vs. moderate, or moderate vs. high) on moral character indicated that a sample of this size would provide 80% power to detect an effect of Cohen's d = .40.This study was pre-registered on AsPredicted (link: https://aspredicted.org/YSY_PYG).

Procedure. Participants followed the same procedure as in Study 1b, where they were randomly assigned to one of three effort conditions in which they read one scenario where an actor administered low effort, moderate effort, or high effort to help an elderly woman who fainted in a parking lot. The vignette context was based on the "medical help" vignette in Studies 1a–b. However, we revised the content based on the results of a pretest. We pretested 10 different effort levels with a sample of 504 CloudResearch workers (57% female, M_{age} = 41.63, SD_{age} = 13.90). We selected three levels that yielded approximate equidistance between conditions: low effort (M = 5.00), moderate effort (M = 5.80), and high effort (M = 6.44); low versus moderate effort distance = .80 and moderate versus high effort distance = .64 (see Supplementary Online Materials for the means, SDs, and 95% CIs for each effort level involved in pretesting).

Measures

We used the full 6-item version of Goodwin and colleagues' (2014) moral character scale (Studies 1a–b had used a shortened 2-item version of the scale). Participants rated how much they thought the actor was moral, principled, honest, trustworthy, fair, and responsible (Goodwin et al., 2014; α = .91; 1 = *Not at all*, 7 = *An extreme amount*). As potential mechanisms, we tested the role of prescriptive norms, single-item: "people *should* do what [target] did if they were in the same situation," and descriptive norms (single-item: "people *would* do what [target] did if they were in the same

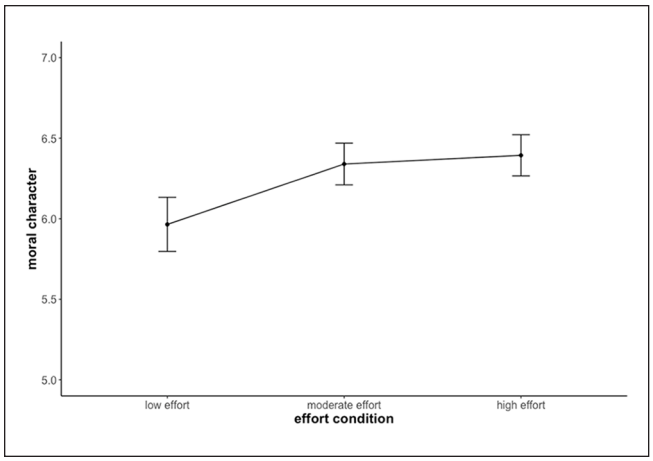


Figure 7. Study 2 Moral Character by Effort Condition.
Note. The error bars represent 95% CIs. The full-scale range is 1–7.
CI = confidence interval.

situation"); both on 7-point Likert-type scales, 1 = *strongly disagree*, 7 = *strongly agree*. These two mechanisms found the most consistent support across Studies 1a–b. For consistency with our theoretical predictions, we also included a measure of the actor's ulterior motives (same item as in Studies 1a–b), which we report in the Supplementary Online Materials.

Results

Moral Character Judgments. We regressed moral character ratings on both the low-to-moderate and the moderate-to-high dummy-coded variables of effort and a random intercept for participant ID. Means and 95% CIs are plotted in Figure 7. Consistent with the diminishing returns perspective, there was a significant increase in moral character from low ($M = 5.96$, $SD = .85$, *95%CIs*[5.80, 6.13]) to moderate effort ($M = 6.34$, $SD = .66$, *95%CIs*[6.21, 6.47]), ($b = -.37$, $SE = .10$, $p < .001$, $d = -.49$, *95%CIs*[−.77, −.21]), and a nonsignificant difference from moderate to high effort ($M = 6.39$, $SD = .64$, *95%CIs*[6.27, 6.52]), ($b = .05$, $SE = .10$, $p = .597$, $d = -.08$, *95%CIs*[−.36, .20]).

Mechanism Analyses. We conducted mediation in the same manner and with the same R packages as in Studies 1a–b.[2] Indirect effects, direct effects, and total effects all with 95% CIs are depicted in Figures 8 and 9, and the descriptives for each mediator can be found in the Supplementary Online Materials.

First, we looked at the low-to-moderate prosocial effort comparisons (see Figure 8). As predicted, we found a significant indirect effect of descriptive norms ($b = .09$, *CI95%*[.02, .17], $p = .016$) such that descriptive norms mediated the relationship between low versus moderate effort and moral character judgments. The indirect effect of prescriptive norms was not significant ($b = -.06$, *CI95%*[−.15, .02], $p = .159$; we note that all relationships between variables in the model were in the predicted directions). Next, we looked at the moderate-to-high prosocial effort comparisons (see Figure 9). As predicted, we found significant indirect effects of both descriptive norms ($b = .05$, *CI95%*[.004, .10], $p = .034$) and prescriptive norms ($b = -.10$, *CI95%*[−.19, −.02], $p = .021$). Specifically, descriptive norms had a significant mediating effect on the relationship between moderate versus high effort and moral character judgments, and prescriptive norms had a significant suppressing effect on this relationship.

Discussion

Study 2 found that judgments of moral character significantly increased from low to moderate effort but did not significantly change from moderate to high effort. Thus, we found further support for the diminishing returns perspective in a preregistered replication of our prior studies. Lending further confidence to this pattern of results, Study 2 used a refined effort manipulation in which the differences in perceived effort across conditions were roughly equidistant. We also found evidence consistent with Studies 1a–b that this relationship is influenced by both descriptive norms (what participants thought people *would* do) and prescriptive norms (what participants thought people *should* do). Specifically, these two constructs exerted countervailing influence on the effects of prosocial effort, such that prosocial effort that exceeded the descriptive norm increased moral character judgments (mediation effect), but the prosocial effort that exceeded the prescriptive norm decreased moral character judgments (suppression effect). We note that the indirect effect of prescriptive norms on the relationship between low to moderate effort and moral character judgments did not reach statistical significance (though all relationships in the model were in the predicted direction). This could be a result of using different study materials (i.e., vignettes with equidistant effort levels). We return to this issue in the General Discussion where we conduct a mini meta-analysis of our effects.

Study 3

In Study 3, we sought to test our hypothesis in a context with higher ecological validity. We recruited undergraduate students and asked them to make judgments about prosocial acts done by students toward the local community.

Participants

We recruited 199 participants (66% female, $M_{age} = 23.83$ years, $SD_{age} = 7.77$) from a participant pool at Cornell

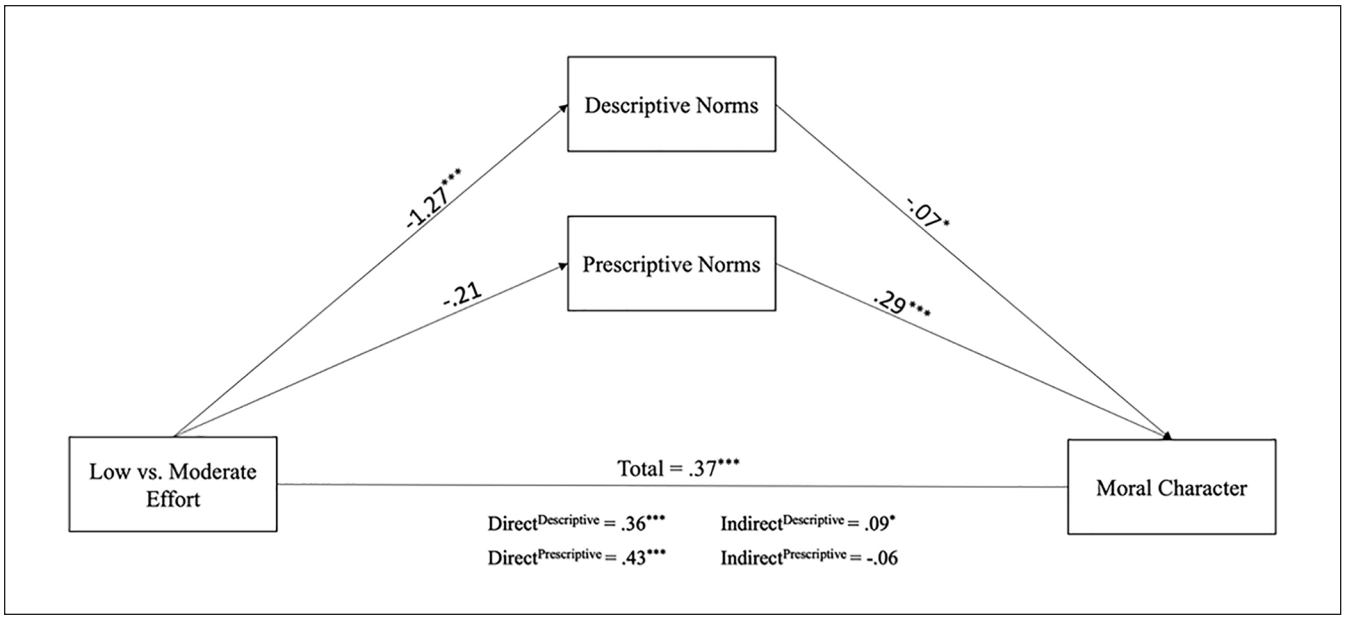


Figure 8. Study 2 Low Versus Moderate Mediation Results.
Note. Values for the effects of the mediators on the relationship between low-to-moderate effort and moral character judgments. The prosocial effort variable is coded such that the higher level of effort is coded "1" and the lower level of effort is coded "0." Coefficients are standardized betas.
*$p < .05$. **$p < .01$. ***$p < .001$.

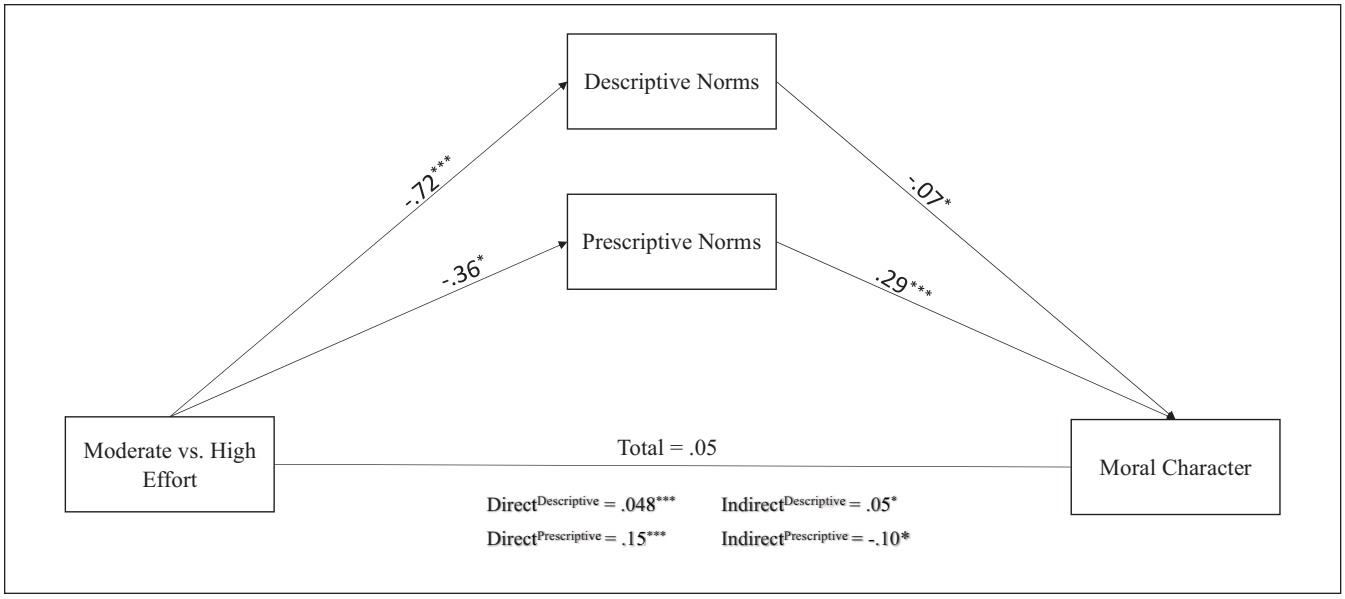


Figure 9. Study 2 Moderate Versus High Mediation Results.
Note. Values for the effects of the mediators on the relationship between moderate-to-high effort and moral character judgments. The prosocial effort variable is coded such that the higher level of effort is coded "1" and the lower level of effort is coded "0." Coefficients are standardized betas.
*$p < .05$. **$p < .01$. ***$p < .001$.

University. We preregistered a target sample size of 200 based on a prior power analysis from pilot data. A sensitivity analysis (G*Power 3.1, two-tailed, $\alpha = .05$; Faul et al., 2009) for the effect of moderate versus high prosocial effort on moral character indicated that the sample size yielded 80% power to detect an effect of $d = .20$. This study was preregistered on AsPredicted (link: https://aspredicted.org/blind.php?x=4DP_18S).

Procedure

The study design was a single factor, 3 condition (prosocial effort: low, moderate, high), within-participants design. We recruited students from Cornell University and used a cover story in which participants were told that the University's newspaper was conducting a story about how students think about prosocial behavior that their peers engage in. Participants read three scenarios about different students that volunteered their time at different food kitchens around the Upstate NY area. We designed this cover story to elicit moral character judgments in a more localized, realistic context.

Effort Manipulation

We manipulated prosocial effort by varying the location of the food kitchen where the target student was said to volunteer. The student either volunteered at a food kitchen on campus (low effort condition), in Syracuse, a town that is a 1-hour drive from campus (moderate effort condition), or in Rochester, a town that is a 2-hour drive from campus (high effort condition). Participants were shown a map of the area that included the campus and both towns to ensure all participants were acquainted with the geographic region. The full-text vignettes and the map can be found in the Appendix.

Measures

After reading each scenario, participants rated the student's moral character with a single item that asked, "How moral is [target]" (7-point scale; 1 = *not at all moral*, 7 = *extremely moral*). We used a single-item measure to reduce survey length and to facilitate the cover story that the survey was for the local newspaper.

Results

We used the same dummy contrast approach from Studies 1a–2.

Effort Manipulation Check. We pilot tested the effort scenarios with a separate sample of 129 students (53% female, M_{age} = 18.78 years, SD_{age} = 1.80) from the same sample population. For each scenario participants rated, "How much effort does [the target] put into volunteer?." Confirming that our manipulation worked as intended, perceived effort increased across all levels of effort, such that low effort ($M = 4.38$, $SD = 1.09$, *95%CI* [4.19, 4.57]) was perceived as significantly less effortful than moderate effort ($M = 5.63$, $SD = 0.94$, *95%CI* [5.46, 5.79]), ($b = -1.25$, $SE = 0.08$, $p < .001$, $d = -1.21$, *95%CI* [− 1.40, − 1.03]); and moderate effort was perceived as significantly less effortful than high effort ($M = 6.22$, $SD = 0.80$, *95%CI* [6.08, 6.36]), ($b = 0.59$, $SE = 0.08$, $p < .001$, $d = -.66$, *95%CI* [− .80, − .53]).

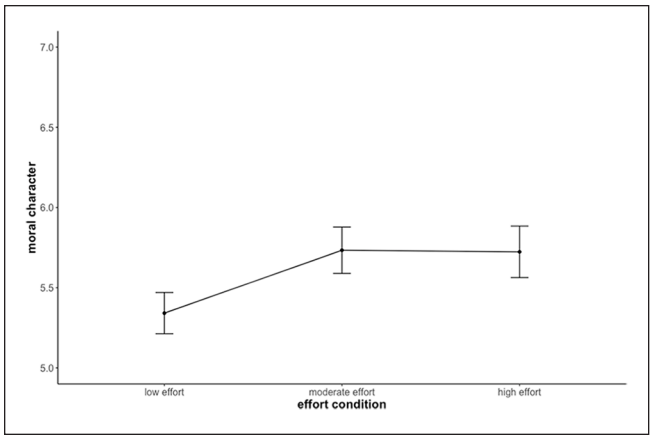


Figure 10. Study 3 Moral Character by Effort Condition.
Note. The error bars represent 95% CIs. The full-scale range is 1–7.
CI = confidence interval.

Moral Character Judgments. Means and 95% CIs are depicted in Figure 10. Consistent with the diminishing returns perspective, the model revealed a significant increase in moral character from low ($M = 5.34$, $SD = 0.92$, *95%CI* [5.21, 5.47]) to moderate ($M = 5.73$, $SD = 1.03$, *95%CI* [5.59, 5.87]) effort ($b = -0.39$, $SE = 0.06$, $p < .001$, $d = -.40$, *95%CI* [− .53, − .27]), and a non significant change from moderate to high ($M = 5.72$, $SD = 1.15$, *95%CI* [5.56, 5.88]) effort, ($b = -0.01$, $SE = 0.06$, $p = .861$, $d = .01$, *95%CI* [− .04, .06]).

Discussion

Study 3 manipulated prosocial effort in a new sample population (undergraduates) using a more ecologically valid vignette context (fellow undergraduates volunteering at local soup kitchens). We again found evidence for the diminishing returns perspective. Students thought that peers who administered moderate effort to bring about a prosocial outcome were more moral than peers who administered low effort, and equally moral to peers who administered high effort to bring about the same outcome.

General Discussion

Across four studies, we investigated the relationship between prosocial effort and moral character judgments. We sought to compare three perspectives in the literature that could explain the relationship between prosocial effort and moral character judgments. The first perspective—the linear perspective—builds on existing literature showing that people highly value effort (e.g., Bigman & Tamir, 2016; Norton et al., 2012) and claims that the relationship between prosocial effort and moral character judgments is positively linear: Higher prosocial effort always leads to higher moral character judgments. The

second perspective—diminishing returns perspective—builds on the notion of virtue in moderation (Grant & Schwartz, 2011; Pierce & Aguinis, 2013), which leads people to see highly prosocial actors as violating social norms, ultimately leading observers to stop rewarding moral behavior. This perspective claims that moral character judgments increase from low to moderate effort, but then plateau. The third perspective—backlash perspective—advances the diminishing returns perspective a step further suggesting that the violation of social norms may be so strong that observers experience moral self-threat and view the actor as having ulterior motives (Minson & Monin, 2012). This perspective claims that moral character judgments increase from low to moderate effort, but then decrease at higher levels of effort. Our work is the first work to systematically examine which of these theoretical perspectives explains the relationship between prosocial effort and moral character judgments.

Our results provide support for the diminish returns perspective. All four studies revealed that an actor's moral character increased from low to moderate prosocial effort, but plateaued from moderate to high prosocial effort. We found evidence for the diminishing returns perspective across five different vignette domains, different experimental designs (between- and within-participants), different sample populations (adults recruited online and undergraduates), and preregistered hypothesis tests (Studies 2–3).

We also investigated the mechanisms underlying this relationship. We found the most consistent evidence for the role of descriptive and prescriptive norms. Specifically, across studies, both descriptive norms and prescriptive norms decreased as prosocial effort increased, but had competing effects. Descriptive norms facilitated increases in moral character judgments: As descriptive norms decreased across levels of effort, moral character judgments increased (i.e., when fewer people act, the person that acts is praised). However, this effect was counteracted by decreases in prescriptive norms: As prescriptive norms decreased across levels of effort, moral character judgments decreased (i.e., when there is no obligation to act, the person that acts is scrutinized). As a result, moral character judgments increased from low to moderate effort because participants perceived the change in effort to exceed descriptive norms to a much greater extent than it exceeded prescriptive norms. However, moral character judgments failed to increase from moderate to high effort because participants perceived the change in effort to exceed both descriptive norms and prescriptive norms to a similar extent.

We note that in Study 2, the indirect effect for prescriptive norms on the relationship between low-to-moderate effort and moral character judgments failed to meet the threshold for significance. We mentioned in the Study 2 discussion that this likely occurred because of the emphasis we placed on creating an effort manipulation in which the change in effort between low and moderate effort was equidistant with the change in effort between moderate and high effort. In so doing, participants evaluated the moderate effort condition as far more prescriptive than it was viewed in the manipulation for Studies 1a–b. However, we decided to conduct an internal meta-analysis for the indirect effects across our studies to test whether the effect of prescriptive norms on low-to-moderate effort was significant across Studies 1a–2. We used a random-effects model for pooling, using the restricted maximum likelihood ("REML") estimator to account for the within-participants nature of these studies. The meta-analysis was conducted using the "meta" package in *R* (Balduzzi et al., 2019). For the relationship between low-to-moderate effort and moral character judgments, we found that descriptive norms had a significant mediating effect across studies (estimate = − .06, 95%CI[− .09, − .04], $p < .001$), and prescriptive norms had a significant suppressive effect across studies (estimate = .04, 95%CI[.02, .05], $p < .001$). For the relationship between moderate-to-high effort and moral character judgments, we found that descriptive norms had a significant mediating effect across studies (estimate = .04, 95%CI[.03, .06], $p < .001$), and prescriptive norms had a significant suppressive effect across studies (estimate = − .09, 95%CI[− .14, − .03], $p = .002$). Taken together, prescriptive norms had a significant suppressive effect on the relationship between low-to-moderate effort and moral character judgments across studies, despite the indirect effect of prescriptive norms failing to reach the threshold for significance in Study 2.

Implications for Theory

Prosocial Effort and Moral Character Judgments. People perceive value in the expenditure of effort (Kruger et al., 2004; Norton et al., 2012), and prior work finds that the moral domain is no exception (Olivola & Shafir, 2013; Robinson et al., 2017). Bigman and Tamir (2016) found that people judged actors that expended more effort to complete a prosocial act as having higher moral character compared to actors that expended less effort. The current research contributes to the moral judgment literature by taking a more nuanced look at this relationship between an actor's prosocial effort and judgments of moral character. Specifically, by adding a third level to our operationalization of prosocial effort, we are able to explore the function of this relationship beyond the linear effects captured in previous studies. We find that moral character judgments increase with the effort up to a point and then plateau. This nonlinear characterization provides a more nuanced view of the relationship between prosocial effort and moral character judgments. It reinforces the importance of testing curvilinear effects (Pierce & Aguinis, 2013), particularly in the domain of virtuous behavior (Grant & Schwartz, 2011). It is also consistent with nonlinear effects found in past research on

prosocial monetary allocations, which found that, relative to a default or equal split, selfish (i.e., low prosocial) monetary allocations elicited stronger moral judgments than equivalent generous (i.e., high prosocial) monetary allocations (Klein & Epley, 2014).

The Social Norms Perspective. We derived our hypotheses for this research from three different perspectives (linear, diminishing returns, and backlash), anticipating that one perspective would be supported over the others. On one level, this is what we found, diminishing returns was consistently supported across our studies. At the same time, the countervailing effects of descriptive norms (mediation) and prescriptive norms (suppression) suggest a more nuanced phenomenon. They suggest that the relationship between prosocial effort and moral character judgments is entangled with social norms, such that the three perspectives should not be seen as competing hypotheses but rather as three possible outcomes, with the likelihood of each outcome's occurrence resting on people's perceptions of descriptive and prescriptive norms. We characterize this as *the social norms perspective*. This perspective predicts that the relationship between prosocial effort and moral character judgments is determined by how much a prosocial act exceeds the descriptive and prescriptive norms perceived in a given situation. Specifically, as the effortfulness of a prosocial act exceeds the descriptive norm (which raises praise) more than it exceeds the prescriptive norm (which lowers praise), the act will elicit a net increase in moral character. Across our studies, we saw this in the low versus moderate effort conditions (i.e., the linear perspective). However, as the effortfulness of the act exceeds both the descriptive and prescriptive norms more evenly, the act fails to elicit a net change in moral character because the positive and negative forces cancel each other out. Across our studies, we saw this in the moderate versus high effort conditions (the diminishing returns perspective). Finally, if the effortfulness of the act exceeds the prescriptive norm more than it exceeds the descriptive norm, the act could elicit a net decrease in moral character (the backlash perspective). We did not find this pattern in our studies, but this could be because the high-effort conditions did not go far enough to violate the prescriptive norm.[3]

These findings build on prior work linking social norms and moral judgments (Miller, 1999). It also offers social norms as a possible mechanism for prior research involving "thresholds" of morality. For instance, prior work finds that people aim for their moral behavior to exceed a minimal threshold of moral behavior but does not theorize what determines these thresholds (Zlatev et al., 2019). Our work suggests that social norms play an important role in how people think about moral behavior. We also contribute to the understanding of backlash effects in moral psychology (i.e., when moral behavior is derogated). Previous work finds that moral behavior can lead to character derogations when the moral behavior triggers social comparisons or relational concerns that lead to moral self-threat (Minson & Monin, 2012; Stouten et al., 2013) or when one's motives are called into question (Critcher et al., 2013). The evidence reported in our studies suggests that in cases where one's moral behavior exceeds a prescriptive norm, and to a greater extent than it exceeds a descriptive norm, people's moral character may be derogated.

Limitations and Future Directions

There are a couple of limitations of the research to note. First, the demographic factors of the actor and the target of their prosociality were controlled. However, there is a large literature demonstrating biases in intergroup judgments (e.g., Tajfel, 1982) and biases in judgments of people perceived to belong to certain social categories (e.g., Fiske et al., 2002). As such, the current findings are constrained in their generalizability (Simons et al., 2017), which has been noted recently as a concern for interpreting results in moral psychology (Hester & Gray, 2020; Schein, 2020). Future research should consider the potential moderating role of demographic factors for the diminishing returns of prosocial effort on moral character, such as by varying the race or social class of actors in the situations.

Second, across our studies, effort was manipulated by manipulating both the number of steps taken and the amount of time taken to bring about the prosocial outcome. We did this intentionally to ensure that the vignettes made narrative sense. For example, in the lost wallet vignette, it is more realistic for the prosocial actor to search for the owner, and then leave for the day and come back to search again the next day, as opposed to saying that the target searched for the owner for 24 hours straight. Nevertheless, additional steps and longer timeframes are psychologically distinct and may thus be evaluated differently. Future research may consider isolating these two elements of our manipulations to advance understanding on the relationship between prosocial effort and moral character judgments.

Third, future research should explore how this relationship plays out within an organizational context. Research on organizational citizenship behaviors finds mixed results on how people are perceived for engaging in a high variety or a high number of organizational citizenship behaviors, contradicting the assumption that engaging in organizational citizenship behaviors is always a good thing (for review, see Bolino et al., 2013). Thus, future research might seek to explain when and why people will be evaluated positively or negatively for their organizational citizenship behaviors. Moreover, future research might examine how much effort is required in helping a new employee to make an employee feel helped and to receive the most amount of credit from supervisors.

Conclusion

Most people want to be seen as virtuous. In the domain of prosocial behavior, this can beg the question: How much is enough? Our work brings back Aristotle and reminds us that prosocial behavior is perceived around a golden mean, where people are perceived as more virtuous the more that they exceed the bare minimum, but going beyond what is socially normative does not elicit additional praise. In other words, when it comes to enacting effortful prosocial behaviors, make the effort to be a front runner, but do not run too far ahead of the pack.

Appendix

Vignette Text for all Studies

Vignettes for Studies 1a and 1b

Wallet

Low Effort. Joseph is taking the bus to work in the morning. He notices that a man who just got up to get off the bus has accidentally left his wallet behind.

The man is still on the bus, so Joseph quickly picks up the wallet and returns it to the man before the man gets off the bus.

Medium Effort. Joseph is taking the bus to work in the morning. He notices that a man who just got up to get off the bus has accidentally left his wallet behind.

The man has already gotten off the bus, and the bus is about to leave the station. Joseph quickly picks up the wallet, gets off the bus, runs after the man and returns the wallet to him; he then catches the next bus.

High Effort. Joseph is taking the bus to work in the morning. He notices that a man who just got up to get off the bus has accidentally left his wallet behind.

The man has already gotten off the bus, and the bus is about to leave the station. Joseph quickly picks up the wallet and gets off the bus but is unable to find the man. The next day, Joseph returns to the bus station to find the man whose wallet he still has. He waits around the bus station for 2 hr, but the man does not show-up. Joseph repeats this routine the next day and the day after. On the morning of the third day, the man arrives and Joseph is able to return the wallet.

Missing Child

Low Effort. Joseph is reading the news on his computer when he sees a missing person report. The alert suggests that the missing child was last seen in a neighborhood close to Joseph's house.

Joseph immediately logins-in to Facebook and shares the news to his Facebook friends, many of whom live in his neighborhood. A few days later, the missing child is discovered.

Medium Effort. Joseph is reading the news on his computer when he sees a missing person report. The alert suggests that the missing child was last seen in a neighborhood close to Joseph's house.

Joseph immediately logins-in to Facebook and shares the news to his Facebook friends, many of whom live in his neighborhood. He then spends 15 min knocking on all of the doors on his block to alert people to the situation. A few days later, the missing child is discovered.

High Effort. Joseph is reading the news on his computer when he sees a missing person report. The alert suggests that the missing child was last seen in a neighborhood close to Joseph's house.

Joseph immediately logins-in to Facebook and shares the news to his Facebook friends, many of whom live in his neighborhood. He then spends 15 min knocking on all of the doors on his block to alert people to the situation.

Next, Joseph creates flyers of the child's face to hang around his neighborhood. He spends 2 hr canvassing his neighborhood with flyers of the child's face. He then maps out possible cities that the child may have been taken to by car since the alert. He spends 2 hours every day for the next 3 days to hang-up flyers all around the cities that the child may have been taken to. A few days later, the missing child is discovered.

Elderly Help

Low Effort. Joseph is walking back home from the supermarket when he sees an elderly woman struggling with her groceries. Joseph agrees to help the woman carry the bags to her apartment.

The bags are small and light and her apartment is on the way to his house.

Medium Effort. Joseph is walking back home from the supermarket when he sees an elderly woman struggling with her groceries. Joseph agrees to help the woman carry the bags to her apartment.

The bags are big and heavy and her apartment is 45 min out of the way from his house.

High Effort. Joseph is walking back home from the supermarket when he sees an elderly woman struggling with her groceries. Joseph agrees to help the woman carry the bags to her apartment.

The bags are big and heavy and her apartment is 45 min out of the way from his house. In addition, he offers to help the woman with her other errands. He ends up picking up her laundry, driving her to her bingo night, and walking her to the grocery store to get more groceries for the next week.

Medical Help

Low Effort. Joseph is walking out of the grocery store when he notices an elderly woman faint in front of him. He immediately calls 911 and waits for them to arrive. The woman is taken to the hospital where she is treated and recovers nicely.

Medium Effort. Joseph is walking out of the grocery store when he notices an elderly woman faint in front of him. He immediately calls 911 and waits for them to arrive.

Joseph is concerned about the woman's body temperature in the cold weather, so he and another person carefully lay

the woman down in his car where she can stay warm before the ambulance arrives. Joseph goes back into the store to buy water for the woman and a heating blanket. The woman is taken to the hospital where she is treated and recovers nicely.

High Effort. Joseph is walking out of the grocery store when he notices an elderly woman faint in front of him. He immediately calls 911 and waits for them to arrive.

Joseph is concerned about the woman's body temperature in the cold weather, so he and another person carefully lay the woman down in his car where she can stay warm before the ambulance arrives. Joseph goes back into the store to buy water for the woman and a heating blanket.

Joseph receives a call back from the 911 operator informing him that due to a multi-car accident, the ambulance will not be able to make it for a while. Joseph decides to drive 4 hours to bring the elderly woman to the closest hospital. Upon arriving, Joseph waits at the hospital to ensure that the woman is alright and can get home safely. He waits overnight at the hospital for 3 days before the woman is given a clean bill of health and discharged.

Vignettes for Study 2

Low Effort. Joseph is in his car leaving a store parking lot when he notices an elderly woman coming out of the store slip and take a hard fall.

Joseph calls 911 to help get her to the hospital.

Moderate Effort. Joseph is in his car leaving a store parking lot when he notices an elderly woman coming out of the store slip and take a hard fall.

Joseph goes over to the woman and offers her water. Then Joseph picks-up the woman and helps her into his car, and spends the 5 min it takes to drive the woman to the nearby hospital.

High Effort. Joseph is in his car leaving a store parking lot when he notices an elderly woman coming out of the store slip and take a hard fall.

Joseph goes over to the woman and offers her water. Then Joseph picks-up the woman and all of her belongings and helps her into his car. He decides to spend the 40 min it takes to drive the woman to the nearby hospital.

Vignettes for Study 3

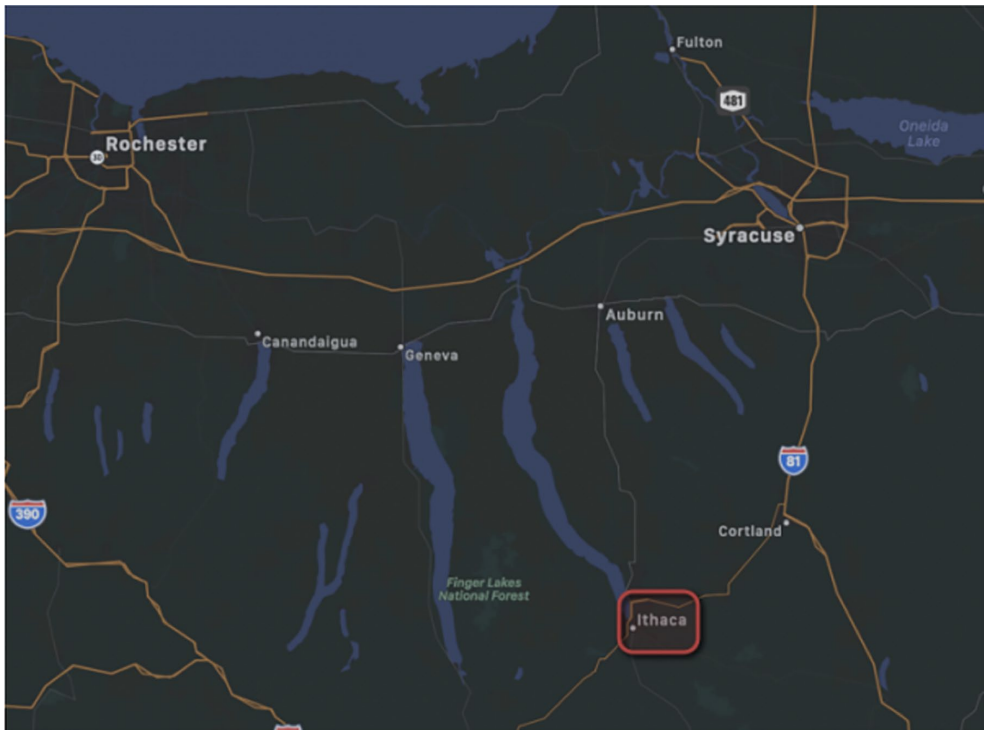
Low Effort. John is an undergrad at Cornell. Every other week, John volunteers a 2-hr shift at the Cornell Food Pantry near West Campus.

Medium Effort (Text). Todd is an undergrad at Cornell. Every other weekend, Todd drives to Syracuse to volunteer a 2-hr shift at the Syracuse food shelf.

High Effort (Text). Bill is an undergrad at Cornell. Every other weekend, Bill drives to Rochester to volunteer a 2-hr shift at the Rochester food shelf.

Medium and High Effort Map. For both of these conditions, participants were shown a map of the area to ensure everyone was thinking about the same cities referenced in the vignettes. The map and the text above the map that participants saw are below for reference.

Below is a map of the local area that you can use to answer the following question.



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Data Availability

All data, materials, and pre-registrations are available on the Open Science Framework (link: https://osf.io/b7csf/?view_only=b0f9bff456ca4bc59a8218fb61689dc0).

Supplemental Material

Supplemental material is available online with this article.

Notes

1. Our surveys also included additional exploratory measures. We measured judgments of the actor's sociability and preferences for social distance (Studies 1a–b), dark triad traits (Study 1a), and competence (Study 1b). We report the results of these exploratory measures in the Supplementary Online Materials.
2. In the pre-registration, we said that we were going to code moderate effort as "0" for both the low-to-moderate and moderate-to-high effort comparisons in our models. However, we decided to recode moderate effort as "1" and low effort as "0" for the low-to-moderate comparison to aid in the interpretability of the results. Now, across comparisons, higher levels of effort are coded as "1" and lower levels of effort as "0." The results do not change with this deviation from the pre-registration, as the only thing that changes are the signs for the coefficients on the low-to-moderate effort comparisons.
3. Albeit speculative, we note that prior research on backlash effects has found them in domains where the behavior or moral stance highly exceeds the prescriptive norm: people that advocate for not eating meat (Minson & Monin, 2012) and leaders that subscribe to extreme levels of ethical leadership (Stouten et al., 2013). At least in Western cultures, the mainstream opinion is that it is generally acceptable or even desirable to eat meat (although moderation is certainly advocated) and to base a business strategy on factors besides ethics (although ethics are certainly advocated). Thus, people that advocate for full meat avoidance and leaders that solely prioritize ethics, drastically exceed the prescriptive norm. As was found in those studies, the social norms perspective would predict backlash in these cases.

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