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How to Attract Low Prosocial Funders in Crowdfunding? Matching Among Funders, Project Descriptions, and Platform Types

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How to attract low prosocial funders in crowdfunding? Matching among funders, project descriptions, and platform types

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ABSTRACT

The amount of crowdfunding research that investigates funding success factors has been increasing. The existing research shows inconsistent evidence regarding how a prosocial project description affects funding success and largely ignores the issue of alignment/misalignment among different factors in affecting funding success. We suggest that funders' prosocial motivation can be an important factor for this inconsistent evidence. We integrate the elaboration likelihood model and language expectancy theory and demonstrate distinct decision-making patterns from high and low prosocial motivation funders. Through three experiments, we provide evidence for alignment/misalignment effects among funders' prosocial motivation, prosocial project descriptions, and platform types (donation-based vs. reward-based). While there are no differences for participants with high prosocial motivation across conditions, we find that participants with low prosocial motivation are more willing to contribute to a project that has alignment between the different factors, namely to a project that has a high prosocial description on a donation-based platform, or to a project that has a low prosocial description on a reward-based platform. This research sheds light on the crowdfunding and prosocial motivation literature.

1. Introduction

Crowdfunding, as an innovative way to expand traditional funding opportunities for new ventures and other purposes, has been booming in recent years. The crowdfunding industry has grown rapidly with a compound annual growth rate of 11 percent and a global market value of $12.27 billion in 2021 and was projected to double by 2027 [1,2]. The number of crowdfunding campaigns is expected to reach over 12 million by 2023, which will almost double the number of crowdfunding campaigns from 2020 [1]. Among common crowdfunding models, donation-based and reward-based platforms have emerged to become popular for fundraising. Indeed, GoFundMe, the largest donation-based crowdfunding platform, has raised a total of four billion dollars and attracted more than forty million donors since its inception [3]. Meanwhile, Kickstarter, as a reward-based crowdfunding platform, has raised a total of three billion dollars and obtained fifteen million supporters since its launch [4].

With its rapid development, crowdfunding is receiving increased research attention. Not surprisingly, researchers are particularly interested in investigating the factors that affect funding success, which is

defined as achieving the funding goal with the total amount of funding it raises and the time it takes to do so [5–7]. Current research has found that various factors, including project description, platform model, and fundraisers' networking and behaviors, influence the success of crowdfunding projects (e.g., [6,8–11]).

In particular, an emerging research stream has suggested that project narrative and linguistic description affect crowdfunding project success (e.g., [5,7,12–16]). More specifically, research has examined whether a prosocial description that intends to benefit others or society at large would increase the likelihood of funding success. However, the evidence is inconsistent, as some find that a prosocial description can benefit funding success (e.g., [5,14]), while others show that it produces a negative effect (e.g., [7,17]).

The inconsistent findings of the existing literature can be the result of the following research gaps: first, crowdfunding funding success is influenced by multiple factors, not only project description but also the characteristics of creators, funders, and platforms [5,6,8]. While prior research has largely examined separated effects from different factors, the alignment/misalignment effects among these different factors have not been well examined. Second, given that the data from most studies

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were often drawn from a single crowdfunding platform, some researchers have called for studies that apply multiple crowdfunding platforms (e.g., [18,19]). We contend that a step forward is needed to examine the comparison effects from different types of crowdfunding platforms, especially from two major ones—reward-based versus donation-based platforms [3,4]. Third, the method of computer-assisted-text-analysis (CATA) has been frequently used in crowdfunding research, while other methods such as experiments (e.g., [20]) and surveys (e.g., [21]) have begun to be adopted. These emerging methods have advantages in examining important factors such as funders' underlying motivation to support crowdfunding projects that CATA is unable to capture.

In addressing these gaps, we propose that it is worthy to investigate multiple factors that affect crowdfunding success and examine their potential alignment/misalignment effects. Specifically, a significant research question arises about how key factors, including funder prosocial motivation, project description, and platform type, jointly affect crowdfunding success when they are aligned or misaligned. By conducting three experiments that adapted real crowdfunding projects from popular platforms (Kickstarter and GoFundMe) and examining their alignment/misalignment effects, this research responds to this question and extends contributions to the crowdfunding literature.

More specifically, we highlight the importance of funder prosocial motivation, the extent to which a funder has the motivation to benefit others, in affecting individuals' decision-making to support a crowdfunding project. Because high and low prosocial funders are different types of information processors (biased processors versus objective processors) and their language expectations vary under different contexts, we combine the elaboration likelihood model (ELM; [22]) and language expectancy theory (LET; [23,24]) as our theoretical guide. According to the ELM theory, high and low prosocial funders likely process the issue-relevant arguments differently due to their initial motivation levels. The LET theory further helps explain the process of how low prosocial motivation funders make their funding decisions under conditions of expectation violations. Moreover, our study emphasizes the needed alignment between projects' prosocial description and platform type and demonstrates that the mismatch between them makes low (but not high) prosocial motivation funders less likely to support the project due to these expectation violations. Taken together, our research suggests that prosocial crowdfunding narratives need to be strategic and their positive effect on funding success may be contingent on other factors.

2. Literature review

2.1. Crowdfunding platforms

As part of the new social and economic phenomenon of the "sharing economy", crowdfunding has grown significantly over the past decade as an alternative to traditional financing sources [6]. Crowdfunding can be defined as "the efforts by entrepreneurial individuals and groups (cultural, social, and for-profit) to fund their ventures by drawing on relatively small contributions from a relatively large number of individuals using the Internet, without standard financial intermediaries" ([6], p: 2). There are four common types of crowdfunding platforms: donation-based, reward-based, lending-based, and equity-based models [25,26].

Donation-based and reward-based crowdfunding platforms currently are the most common forms of crowdfunding [27]. They reflect distinct exchange relationships. For donation-based platforms, funders are usually considered as "philanthropists", as the platforms purely rely on goodwill and voluntary contributions to support the projects [28]. There is no monetary return or reward for contributing on such platforms. For reward-based crowdfunding platforms, funders receive rewards such as the actual products or the opportunity to meet the project creators or even a thank you note, instead of financial returns for their investment

[9]. Funders are often considered as "prosumers" as funders receive a preselling and prepurchase of a product [28].

Because of these distinct exchange relationships, donation-based and reward-based crowdfunding platforms are greatly associated with funders' prosocial motivation. While donation-based platforms simply ask funders to donate without return of material rewards [25], reward-based platforms offer funders preordering products, services, or incentives as a return on their investments [29]. As such, funders can have very different motivations by visiting donation-based versus reward-based platforms [30,31].

2.2. Crowdfunding research on prosocial descriptions

Among different factors that affect crowdfunding success, project narrative and linguistic description have been shown to be key factors that have attracted growing research attention [5,7,9,12–14,27,32]. Drawing on a large sample from Kiva, a well-known micro-lending platform, Allison et al. [12] demonstrated the importance of entrepreneurial narrative in affecting the funding time. Using the language expectancy theory as a guide, Parhankangas and Renko [32] found that linguistic styles that are more understandable and relatable boost the rate of success for social entrepreneurs who focus on delivering social good, but they hardly work for commercial entrepreneurs who develop new products and services for consumers.

Recently, an increasing amount of research in this direction has examined whether a prosocial description benefits the funding success of crowdfunding projects. The logic behind this idea is that an entrepreneurial venture should do better than simply providing economic returns [33]. However, the results are inconclusive. On the one hand, some research has supported a prosocial approach in describing the crowdfunding project as it can increase the likelihood of funding success [5,13,14,33–35]. For example, Allison et al. [5] found that funders invest more in projects with prosocial descriptions (that use more human interest and diversity language) than in those that highlight business opportunities (that use more profit and risk-taking language).

On the other hand, other research shows counterevidence suggesting that prosocial language in project descriptions may be detrimental to the funding success of those projects [7,17]. As an example, Moss et al. [7] analyzed a large number of projects from the platform Kiva and demonstrated that prosocial funders actually prefer to fund business-oriented projects with a larger social and economic impact rather than projects that use more prosocial descriptions. A recent study from Berns et al. [17] also provided evidence that projects' financial appeal (indicating low risk) is more important than projects' social appeal (indicating altruism) for the funding amount that the projects received.

While there are likely a variety of reasons for these inconsistent findings, a significant factor is that most of these studies assume that funders who support the crowdfunding projects on prosocial platforms (such as Kiva) are high in prosocial motivation [5,7]. Despite funders' willingness to fund the projects, they may have different levels of prosocial motivation, which may affect their decisions to fund the projects in different situations. More specifically, we speculate that funders with various levels of prosocial motivation may react differently to prosocial project descriptions on different types of crowdfunding platforms. Therefore, it is necessary to examine funders' prosocial motivation and its role in funders' willingness to contribute to crowdfunding projects across different platforms.

2.3. The role of funders' prosocial motivation

Prosocial motivation is one's desire to benefit others or expend efforts out of concern for others [36]. Prosocial motivation usually leads to efforts and behaviors that make a positive impact on others' lives [37]. Research on prosocial motivation has demonstrated that it significantly influences a variety of positive work behaviors and performance, such as

initiative [38], helping behaviors [39], persistence [37], and individual creativity [40]. However, the role of prosocial motivation on entrepreneurial project success remains largely unknown [41].

A stream of research in the prosocial motivation literature has shown that people with high versus low prosocial motivation have different decision-making processes [42–44]. More specifically, in a debate with De Dreu and Nauta [38] on whether other-oriented goals and self-interest are exclusive, Meglino and Korsgaard [44] proposed a 2×2 matrix by combining the dimensions of self-other interest and rationality. In this matrix, people who are high in prosocial motivation are other-oriented but low in rationality. They describe these people as "focused on benefiting others but do not give careful consideration to personal consequences and do not consciously attempt to achieve" (p: 1256–1257). Such individuals tend to pursue other-oriented goals without carefully considering personal gains and costs. In contrast, people who are high in rationality but self-oriented can be described as being low in prosocial motivation. These rational self-interested individuals may help others but with the expectation of personal gains. Overall, this matrix suggests that people high in prosocial motivation tend to help others without considering their personal gains much, whereas people low in prosocial motivation tend to be rational and calculate their personal costs and gains when helping others. An experiment from Korsgaard et al. [42] also supports that people who are high in concern for others place less importance on personal payoffs and are also less sensitive to personal losses. Despite this debate, this stream of research sheds light on the decision-making dynamics between people high versus low in prosocial motivation.

The reason we discuss this comparison of people high versus low in prosocial motivation is because both groups likely access crowdfunding platforms. In particular, we focus our attention on people with low prosocial motivation as they likely have a decision-making process distinct from those with high prosocial motivation. This comparison may also help solve the aforementioned inconsistent research findings regarding how prosocial project description influences funding success (e.g., [5,7]). More specifically, research should not assume that funders on various platforms are all high in prosocial motivation. Funders with different levels of prosocial motivation may contribute their funds on different platforms (donation-based vs. reward-based) but with different decision-making processes. As such, next we apply the theories and build our hypotheses to understand how funders with various levels of prosocial motivation process information differently in deciding whether to support crowdfunding projects on different platforms.

3. Theory and hypotheses

We integrate two theories about persuasion, ELM and LET, to explain funders' decision-making with different levels of prosocial motivation. While ELM helps shed light on different types of information processors between high and low prosocial motivation funders, LET depicts the specific decision-making process for different prosocial project descriptions on different crowdfunding platforms.

3.1. Elaboration Likelihood model (ELM)

The ELM began with Petty and Cacioppo's [45] research that focused on the differential persistence of communication that leads to attitude change. ELM posits two distinct routes for one's evaluation of a given message: central route and peripheral route [22]. An evaluation through the central route tends to draw upon relatively extensive information and resources and involve more effort. Conversely, an evaluation through the peripheral route involves less information, resources, and cognitive effort [46].

While ELM mainly depicts two distinct routes, it also notes that information processing can be biased. Petty and Cacioppo [22] summarize different ways that induce biased processing by affecting motivation and/or ability. Specifically, they distinguish biased processors from objective processors. An objective processor is motivated/able to "validate" messages and distinguish strong messages from weak messages in inducing persuasion. In contrast, a biased processor is particularly motivated/able to have certain thoughts, often resulting in defense of an initial attitude without carefully processing the information. Petty and Cacioppo [22] further note that message cues could play a role for biased processors, as with reduced argument scrutiny, peripheral cues become more important for persuasion. More specifically, the joint effect from message cues and pre-existing motivation/ability would result in biased information processing. Indeed, recent empirical research shows that personal motivation is an important source of biased information processing (e.g., [47,48]).

There is a growing trend of using ELM to predict funding decision-making in crowdfunding (e.g., [27,49,50]). For example, Du et al. [50] found that project descriptions in terms of argument quality and source credibility can affect funders' decision routes and project funding success. Allison et al. [49] more comprehensively examined the factors related to the two decision-making routes. They found that project-relevant factors such as entrepreneurs' education and experience were evaluated through the central route and were positively related to funding success. They also found that project description cues went through the peripheral route in affecting funding success. In addition, Bi, Liu, and Usman [27] found equally positive impacts of the central route (project quality) and peripheral route (e-word of mouth) on funders' investment decisions.

While most crowdfunding research applied ELM's two routes in explicating funders' decision-making process, how funders' biased information processing affects their decision-making process has not been well understood. In relation to the emerging prosocial motivation research, we argue that high and low prosocial motivation funders likely process messages in different ways. While high prosocial motivation funders' initial attitude is to help others and society overall, low prosocial motivation funders are likely to process the information in a more rational and systematic way. As such, high prosocial motivation funders are more likely to be considered as biased processors in defending their initial attitude for supporting a prosocial-oriented crowdfunding project. Low prosocial motivation funders, on the other hand, can be regarded more as objective processors with more careful information scrutiny and validation.

3.2. Language expectancy theory (LET)

We further combine LET to enhance understanding of low prosocial motivation funders' information processing and decision-making. LET states that individuals develop normative expectations and accept/reject a message largely based on language patterns [51,52]. Importantly, LET develops three key assumptions [53,24]. First, people develop expectations for language that subsequently affect their attitude towards given persuasive messages. Second, use of language that fails to meet normative expectations inhibits persuasive effectiveness (negative violation). Third, use of language that exceeds normative expectations facilitates persuasive effectiveness (positive violation). A positive violation occurs when the message is beyond what was expected in the situation [24]. It increases the credibility and persuasiveness of the source, and the chance that message receivers adopt the advocated attitude. In contrast, a negative violation occurs when use of language negatively violates interpersonal, social and cultural norms of the message receiver, decreasing the credibility and persuasiveness of the sender. This leads to no attitude change for message receivers or attitude changes in the opposite direction of what was intended [54].

Crowdfunding research has recently begun to apply LET in explicating how language patterns affect funders' decision-making [32,55, 56]. For example, on the basis of LET, Parhankangas and Renko [32] examined the importance of linguistic style in impacting funders' attitude change in social- versus commercial-based crowdfunding projects. They found that using concrete, precise, and interactive language was

more beneficial to social projects than to commercial projects. Koh et al. [56] also found that project descriptions that were concrete and with fewer first-person pronouns had a higher chance of success in restaurant fundraising. Regarding our research, we contend that LET is a valuable theoretical lens in conjunction with ELM, especially in explaining low prosocial motivation funders' decision-making based on project language description on different types of platforms. Below we elaborate and formulate our hypotheses with guidance from the theories of ELM and LET.

3.3. Hypotheses

According to the logic of biased elaboration, high versus low prosocial motivation funders can be very different in processing information cues. While high prosocial motivation funders are more likely to be biased processors because of their high initial motivation to help the crowdfunding project achieve success, funders low in prosocial motivation are more likely to be objective processors so as to evaluate and validate the project messages [49]. If the messages sent from the project description are consistent with their expectations for different platforms, they would likely consider these messages to be strong, and thus be more likely to be persuaded. Specifically, in the context of donation-based platforms, as the nature of the platform is to help others or society at large, they would expect a high prosocial project description on such platforms. In contrast, for reward-based platforms with the norm of exchange as its basic rule, low prosocial motivation funders would expect to receive a product or service for their funding contributions.

Conversely, a mismatch, such as a low prosocial description on a donation-based platform or a high prosocial description on a reward-based platform, causes an expectation violation and likely invokes low prosocial motivation funders' critical information processing. A crowdfunding project with a high prosocial description on a donation-based platform (e.g., GoFundMe) is expected to create a positive violation, which increases persuasion for low prosocial motivation funders to fund the project. However, if a crowdfunding project is described in a low prosocial way, it creates a negative violation that fails to meet the low prosocial motivation funders' expectations. They are likely to not change their attitude and to be more suspicious about the project, leading them to be less willing to contribute to it.

Similarly, a crowdfunding project with a low prosocial description on a reward-based platform (e.g., Kickstarter) will create a positive violation, but a project with a high prosocial description on this type of platform would breach expectations and create a negative violation. Due to this inconsistency, low prosocial motivation funders would likely cast doubt on the potential personal gains from the project, thereby decreasing their contribution intentions to the project. Indeed, there is some suggestive evidence from prior research for these predictions as prior work has shown that effect of project language descriptions may depend on the platform type and funders' prosocial motivation (e.g., [5, 7]). Recent research from Zhang and Chen [57] also suggests the importance of the match between prosocial project description and platform type. They found that projects that are other-oriented (high prosocial description) on Kickstarter, a reward-based platform, were less likely to achieve success.

By contrast, funders high in prosocial motivation as biased processors are highly motivated to fund the project and less likely to pay attention to such mismatches. Overall, they would be less likely to change their initial funding decisions across matched/mismatched contexts. Taken together, in comparison to high prosocial motivation funders, low prosocial motivation funders are more likely to evaluate the alignment/misalignment from the prosocial project description and platform type and, therefore, are more cautious in making their funding decisions. We thus propose two hypotheses in highlighting low prosocial motivation funders' contribution intentions in the mismatched contexts between prosocial project description and platform type.

H1. *A high (vs. low) prosocial project description on a donation-based platform will increase (vs. decrease) low prosocial motivation funders' contribution intentions.*

H2. *A high (vs. low) prosocial project description on a reward-based platform will decrease (vs. increase) low prosocial motivation funders' contribution intentions.*

4. Methodology

We conducted three experiments to test our hypotheses. All experiments adapted real crowdfunding projects. Study 1 investigated how individual differences in prosocial motivation interact with crowdfunding platform type to influence individuals' contribution intentions toward the crowdfunding project. With a sample of undergraduate students, Study 1 demonstrated that for a high prosocial project description, a reward (vs. donation)-based crowdfunding platform decreases the contribution intentions of participants low in prosocial motivation, thereby providing support for H1 and H2. Study 2 examined the full proposed model by investigating the three-way interaction between prosocial nature of the project description, crowdfunding platform type, and participants' prosocial motivation on contribution intentions. Sampling participants on Amazon's Mechanical Turk (MTurk), Study 2 found that for people low in prosocial motivation, a high (vs. low) prosocial project description tends to decrease (vs. increase) their contribution intentions on a reward-based crowdfunding platform. Study 2 also showed that a high (vs. low) prosocial project description increases (vs. decreases) low prosocial motivation funders' contribution intentions on a donation-based crowdfunding platform. Taken together, these results provide more evidence for H1 and H2. Finally, in order to investigate potential differences in the effects for participants from different national contexts, Study 3 sampled both American and Chinese participants on Prolific. Controlling for nationality, we again found that a high (vs. low) prosocial project description increases (vs. decreases) low prosocial motivation funders' willingness to contribute to a crowdfunding project on a donation-based platform, providing more evidence for H2. Across the studies, as expected, we found no significant differences across conditions for individuals high in prosocial motivation.

Note that as mentioned, we used MTurk and Prolific as sample sources for Studies 2 and 3, respectively. Indeed, previous research supports the use of MTurk (e.g., [58,59]) and Prolific (e.g., [60,61]) as effective data collection methods. Importantly, as previous research has recommended, we utilized an attention check in Study 2 with the MTurk sample to filter out participants who were not adequately paying attention while completing the study in order to maintain high quality data. See Table 1 for a summary of the results for our studies.

5. Study 1

The first experiment utilized a high prosocial project description case and investigated the interaction between participants' prosocial motivation level and the type of crowdfunding platform (donation-based vs. reward-based) on participants' contribution intentions.

5.1. Method

5.1.1. Participants and design

Eighty-seven undergraduates from a large university in the Southwestern United States (46 females; $M_{age} = 24.47$, $SD_{age} = 6.58$) completed the survey. Six participants failed the attention check and, therefore, were removed from the analysis. The final sample included 81 participants (43 females; $M_{age} = 24.53$, $SD_{age} = 6.71$). Participants were randomly assigned to one of two conditions (crowdfunding platform type: reward vs. donation) in a between-subjects design.

Table 1
Summary of the studies' results.

Study #	Participants	Study design	Main findings
Study 1	81 undergraduate participants	One-factor (crowdfunding platform type: reward vs. donation) between-subjects design	For a high prosocial project description, a reward (vs. donation)-based crowdfunding platform decreases the contribution intentions of participants low in prosocial motivation. Conversely, there is no difference in contribution intentions between the reward (vs. donation)-based crowdfunding platforms for those high in prosocial motivation.
Study 2	200 Amazon MTurkers	2 (prosocial nature of project description: high vs. low) × 2 (crowdfunding platform type: reward vs. donation) between-subjects design	For participants low in prosocial motivation, a high (vs. low) prosocial project description tends to decrease (vs. increase) their contribution intentions on a reward-based crowdfunding platform. Also, a high (vs. low) prosocial project description increases (vs. decreases) low prosocial motivation funders' contribution intentions on a donation-based platform. Conversely, for high prosocial motivation participants, there is no difference in contribution intentions between high and low prosocial project descriptions across both reward and donation-based crowdfunding platform types.
Study 3	608 participants (451 American participants and 157 Chinese participants)	2 (prosocial nature of project description: high vs. low) × 2 (crowdfunding platform type: reward vs. donation) between-subjects design	A high (vs. low) prosocial project description increases (vs. decreases) low prosocial motivation funders' willingness to contribute to a project on a donation-based platform. For participants low in prosocial motivation, the effect of a high (vs. low) prosocial project description on participants' willingness to contribute to a project on a reward-based platform did not

Table 1 (*continued*)

Study #	Participants	Study design	Main findings
			reach statistical significance. However, when we ran separated samples for American and Chinese participants, we found that this effect was marginally significant for the American participants, but did not replicate for the Chinese participants. On the other hand, for individuals high in prosocial motivation, there is no difference in their contribution intentions between high and low prosocial project descriptions across both reward- and donation-based crowdfunding platforms.

5.1.2. Procedure

Participants were told that they would first read about a project taken from a crowdfunding website. They were also instructed to imagine that they were in a solid financial position during the study. Next, they were presented with the crowdfunding project, which was about the Reading Rainbow (see Appendix 1 for the project description). Participants were randomly assigned to either the reward or donation condition. In both conditions, participants were given nine different choices of monetary amounts that they may be willing to contribute to the project (1 = $0, 2 = $5, 3 = $10, 4 = $15, 5 = $20, 6 = $25, 7 = $50, 8 = $100, 9 = $250 or more) ($M = 4.05$, $SD = 2.37$). In the reward condition, participants were instructed to select the pledge they would be willing to purchase, with a different reward associated with each of the monetary amounts. As examples, participants would receive exclusive digital wallpapers from the Reading Rainbow for a $5 contribution, be able to select either a bumper sticker or a magnet from the Reading Rainbow for a $10 contribution, and go along with a guest to Los Angeles to have dinner with LeVar Burton (the spokesperson for the Reading Rainbow) for a contribution of $250 or more. Conversely, in the donation condition, participants were asked how much money they would be willing to donate to the project, with no reward associated with the different contribution amounts.

After they made their contribution choices, participants responded to a five-item measure of prosocial motivation [62]. Example items included, "I get energized by working on tasks that have the potential to benefit others" and "It is important to me to have the opportunity to use my abilities to benefit others." Responses were made on a 1 (strongly disagree) to 7 (strongly agree) scale and were averaged to form a prosocial motivation index ($M = 5.96$, $SD = 0.72$; $\alpha = 0.87$). Finally, participants responded to basic demographic questions.

5.2. Post-Test

To confirm the high prosocial nature of the project description used in this study, we conducted a post-test with forty-nine participants (21 females; $M_{age} = 34.41$, $SD_{age} = 9.23$) who completed the survey on MTurk for a small monetary payment. First, participants read the Reading Rainbow crowdfunding project as in Study 1. Then, they were asked to rate the extent to which they thought the project was designed

to: "benefit others"; "have a positive impact on others"; "contribute to the well-being of others"; and "help others". Responses to these four items were made on a 1 (strongly disagree) to 7 (strongly agree) scale and were averaged to create a perceived prosocial nature index ($M = 6.01$, $SD = 0.90$; $\alpha = 0.89$). A one-sample t-test was conducted to test whether the crowdfunding project was rated as significantly higher than the midpoint of the perceived prosocial nature scale. The results revealed that the project was perceived to be significantly more prosocial than the midpoint of the scale ($t(48) = 15.71$, $p < 0.001$), demonstrating the effectiveness of our manipulation.

5.3. Results

Contribution intentions were regressed on crowdfunding platform type (1 = reward; 0 = donation), prosocial motivation, and their interaction (see Table 2 for the stepwise regression results). As expected, the results revealed a significant interaction between crowdfunding platform and prosocial motivation ($B = 2.24$, $SE = 0.72$, $p < 0.01$). As prosocial motivation is a continuous measure, the analyses were repeated using a spotlight analysis at one standard deviation below and above the mean (see Fig. 1; [63]). The analysis revealed a significant negative simple effect of crowdfunding platform type for participants low in prosocial motivation ($B = -2.31$, $SE = 0.74$, $p < 0.01$), indicating they were willing to contribute less money in the reward (vs. donation) condition. Conversely, there was no effect of crowdfunding platform type for those with high prosocial motivation ($B = 0.93$, $SE = 0.71$, $p = 0.20$).

5.4. Discussion

This experiment finds that for a high prosocial project description, a reward (vs. donation)-based crowdfunding platform reduces the contribution intentions of participants low in prosocial motivation. However, there is no difference in contribution intentions between the reward (vs. donation)-based crowdfunding platforms for those high in prosocial motivation. Taken together, these results provide initial support for H1 and H2.

6. Study 2

In this study, we manipulated the prosocial nature of the project description and investigated this factor at both high and low levels. As such, we examined the three-way interaction between prosocial nature of the project description, crowdfunding platform type, and participants' prosocial motivation on contribution intentions. This study also used a different crowdfunding project to help demonstrate the generalizability of our findings.

6.1. Method

6.1.1. Participants and design

Two-hundred and three participants (76 females; $M_{age} = 35.29$,

Table 2
Stepwise regression results (Study 1).

Variable	Step 1 Coefficient (Standard error)	Step 2 Coefficient (Standard error)
Crowdfunding platform type	−0.64 (0.53)	−14.02*** (4.33)
Prosocial Motivation	0.44 (0.37)	−0.43**(0.45)
Crowdfunding platform type × prosocial motivation		2.24***(0.72)
R^2	0.03	0.14

*$p < 0.10$;.

** $p < 0.05$;.

*** $p < 0.01$.

$SD_{age} = 11.17$) completed the survey on MTurk for a small monetary payment. Three participants failed the attention check and, therefore, were removed from the analysis. The final sample included 200 participants (75 females; $M_{age} = 35.33$, $SD_{age} = 11.24$). Participants were randomly assigned to one condition of a two (prosocial nature of project description: high vs. low) × two (crowdfunding platform type: reward vs. donation) between-subjects design.

6.1.2. Procedure

Similar to the first experiment, participants were told that they would first read about a project taken from a crowdfunding website. They were also instructed to imagine that they were in a solid financial position during the study. Next, they were presented with the crowdfunding project, which was about a product called the Travel Robot that sanitizes and disinfects all hotel surfaces and helps prevent the spread of airborne diseases (see Appendix 2 for the project descriptions). Participants were randomly assigned to either the high or low prosocial nature of the project description condition. Participants were also randomly assigned to either the reward or donation crowdfunding platform. In both conditions, participants were given six different choices of monetary amounts that they may be willing to contribute to the project (1 = $0, 2 = $100, 3 = $200, 4 = $300, 5 = $500, 6 = $1000) ($M = 1.92$; $SD = 1.11$). In the reward condition, participants were instructed to select the pledge they would be willing to purchase, with a different reward associated with each of the monetary amounts. For example, participants would receive "a CleanseBot single package. This includes the CleanseBot, a charging cable, and a handheld cover. Over 60% off ($159) of planned retail price of $259″ for a $100 contribution. As another example, participants would receive "the CleanseBot Big Ten package. This includes 10 CleanseBots, 10 charging cables, and 10 handheld covers. Over a 60% savings ($1590) for ten CleanseBots at a retail price of $259 each" for a $1000 contribution. Conversely, in the donation condition, participants were asked how much money they would be willing to donate to the project, with no reward associated with the different contribution amounts.

Participants also responded to the same five-item measure of prosocial motivation as in Study 1 [62]. Responses were averaged to form a prosocial motivation composite ($M = 5.34$, $SD = 1.22$; $\alpha = 0.91$). Finally, participants responded to basic demographic questions, including gender, age, education level ("What is the highest level of education you have completed?" where 1 = "less than high school"; 2 = ""high school/GED"; 3 = "some college"; 4 = "2 year college degree (Associates)"; 5 = "4 year college degree (BA, BS)"; 6 = "master's degree"; 7 = "doctoral degree"; 8 = "professional degree (MD/JD)"), and income level ("What category best describes your annual household income?" where 1 = "less than $24,999″; 2 = "$25,000 to $49,999″; 3 = "$50,000 to $74,999″; 4 = "$75,000 to $99,999″; 5 = "$100,000 or more").

6.2. Results

Given that this study sampled the general population on MTurk rather than a more homogeneous undergraduate sample as in Study 1, we controlled for participants' gender, age, education level, and income. Contribution intentions were regressed on prosocial nature of the project description (1 = high; 0 = low), crowdfunding platform type (1 = reward; 0 = donation), prosocial motivation, their three-way interaction, and all lower-order interactions, while controlling for gender, age, education level, and income level (see Table 3 for the stepwise regression results). The results showed significant effects of the interaction between prosocial nature of the project description and crowdfunding platform type ($B = -3.64$, $SE = 1.45$, $p = 0.01$), the interaction between prosocial nature of the project description and prosocial motivation ($B = -0.39$, $SE = 0.19$, $p = 0.04$), and the three-way interaction between prosocial nature of the project description, crowdfunding platform type, and prosocial motivation ($B = 0.56$, $SE = 0.26$, $p = 0.03$). As prosocial motivation is a continuous measure, the analyses were repeated using a
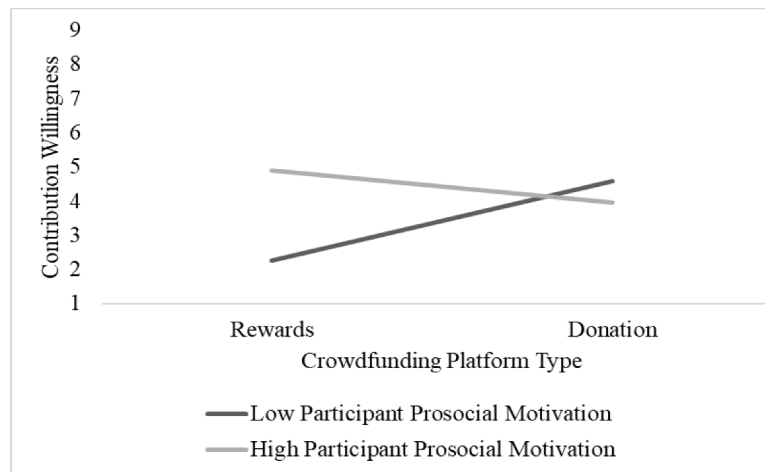
Fig. 1. Contribution Intentions as a Function of Crowdfunding Platform Type and Individual Levels of Prosocial Motivation (Study 1).

Table 3
Stepwise regression results (Study 2).

Variable	Step 1 Coefficient (*SE*)	Step 2 Coefficient (*SE*)	Step 3 Coefficient (*SE*)	Step 4 Coefficient (*SE*)
Gender	0.20 (0.13)	0.20 (0.13)	0.21 (0.13)	0.20 (13)
Age	−0.01 (0.01)	−0.01 (0.01)	−0.01 (0.01)	−0.01 (0.01)
Income	0.01 (0.07)	−0.01 (0.07)	−0.02 (0.07)	−0.02 (0.07)
Education	0.09 (0.06)	0.10* (0.06)	0.11* (0.06)	0.11* (0.06)
Crowdfunding platform type		0.18 (0.16)	0.40 (0.72)	1.75* (0.95)
Project description		−0.03 (0.16)	0.79 (0.76)	2.40** (1.06)
Prosocial Motivation		0.13** (0.06)	0.16 (0.10)	0.26** (0.11)
Crowdfunding platform type × project description			−0.60** (0.31)	−3.64** (1.45)
Crowdfunding platform type × prosocial motivation			0.01 (0.13)	−0.25 (0.18)
Project description × prosocial motivation			−0.10 (0.13)	−0.39** (0.19)
Crowdfunding platform type × project description × prosocial motivation				0.56** (0.26)
R^2	0.03	0.05	0.07	0.10

* $p < 0.10$;.
** $p < 0.05$;
*** $p < 0.01$.

spotlight analysis at one standard deviation below and above the mean to probe the three-way interaction [63]. Results revealed that for participants low in prosocial motivation who were in the donation condition, a high (vs. low) prosocial project description significantly increased the amount of money they were willing to contribute to the project ($B = 0.79$, $SE = 0.35$, $p = 0.03$) (see Fig. 2). On the other hand, for participants low in prosocial motivation who were in the reward condition, a high (vs. low) prosocial project description marginally significantly decreased the amount of money they were willing to contribute to the project ($B = -0.50$, $SE = 0.30$, $p = 0.10$) (see Fig. 3). However, for participants high in prosocial motivation, there was no

effect of project description in either the donation ($B = -0.18$, $SE = 0.32$, $p = 0.58$) or reward ($B = -0.08$, $SE = 0.31$, $p = 0.79$) condition. In order to replicate the observed effects from Study 1, we found that for those in the high prosocial project description, the reward (vs. donation) platform marginally significantly decreased the contribution amount for participants low in prosocial motivation ($B = -0.57$, $SE = 0.31$, $p = 0.06$), but had no effect for those high in prosocial motivation ($B = 0.24$, $SE = 0.29$, $p = 0.41$).

6.3. Discussion

This study finds that for individuals low in prosocial motivation, a high (vs. low) prosocial project description tends to decrease (vs. increase) their contribution intentions on a reward-based crowdfunding platform. It also shows that a high (vs. low) prosocial project description increases (vs. decreases) low prosocial motivation funders' contribution intentions on a donation-based platform. However, for people high in prosocial motivation, there is no difference in their contribution intentions between high and low prosocial project descriptions across both reward- and donation-based crowdfunding platform types. Taken together, these results provide more support for H1 and H2. Finally, this study leverages a crowdfunding project different from that of the first study, helping to demonstrate the generalizability of our findings.

7. Study 3

To further investigate the observed effects from the prior studies and potential cross-cultural differences, in this study, we collected data from both American and Chinese participants on Prolific, a data source different from that of the previous studies. We used the same crowdfunding project as in Study 2.

7.1. Pre-Test

To confirm the success of the manipulation that will be used in this study, and as in the previous study as well, we conducted a pre-test with one-hundred and fifty-three participants (57 females; $M_{age} = 36.59$, $SD_{age} = 10.81$) who completed the survey on MTurk for a small monetary payment. Forty participants failed the attention check ("What was the name of the product in the crowdfunding project?"), leaving us with a final sample of 113 participants (43 females; $M_{age} = 37.71$; $SD_{age} = 11.37$). Participants were randomly assigned to read either the high or low prosocial project description from Study 2. Then, they were asked to rate the extent to which they thought the project was designed to: "benefit others"; "have a positive impact on others"; "contribute to the well-being of others"; and "help others". Responses to these four items
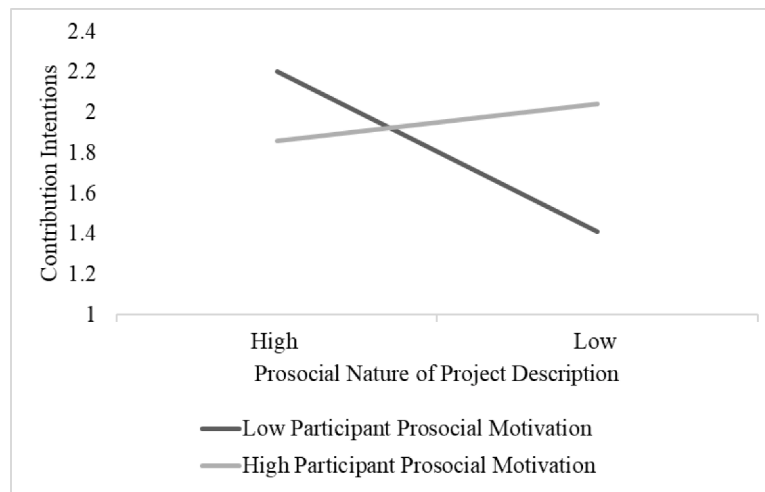
Fig. 2. Contribution Intentions with a Donation-Based Crowdfunding Platform as a Function of Prosocial Nature of the Project Description and Individual Levels of Prosocial Motivation (Study 2).
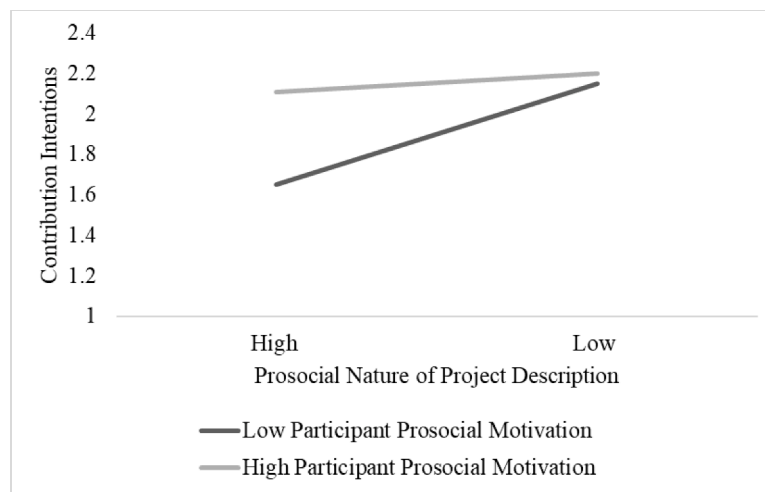

Fig. 3. Contribution Intentions with a Reward-Based Crowdfunding Platform as a Function of Prosocial Nature of the Project Description and Individual Levels of Prosocial Motivation (Study 2).

were made on a 1 (strongly disagree) to 7 (strongly agree) scale, and were averaged to create a perceived prosocial nature index ($M = 5.64$, $SD = 1.07$; $\alpha = 0.92$). A one-way ANOVA was conducted to test whether the high prosocial project description was perceived as significantly more prosocial than the low prosocial project description. Results confirmed the success of our manipulation, as participants perceived the high prosocial description to be more prosocial compared to the low prosocial project description ($F(1, 111) = 4.53$, $p = 0.04$; $M = 5.85$, $SD = 0.81$ vs. $M = 5.43$, $SD = 1.25$).

7.2. Method

7.2.1. Participants and design

Six-hundred and nineteen participants (336 females; $M_{age} = 29.69$, $SD_{age} = 9.63$) completed the survey on Prolific for a small monetary payment. We recruited both American and Chinese participants; however, 11 participants indicated that they were neither American nor Chinese, and thus were removed from the analysis. The final sample included 608 participants (451 American participants and 157 Chinese participants). As in the previous study, participants were randomly assigned to one condition of a two (prosocial nature of project description: high vs. low) × two (crowdfunding platform type: reward vs.

donation) between-subjects design.

7.2.2. Procedure

The procedure was the same as in Study 2. However, we used a behavioral choice measure for contribution intentions in this study. Specifically, participants in the reward condition were asked, "Would you be willing to purchase a pledge (and, as a result, receive a reward) for this project?" Conversely, participants in the donation condition were asked, "Would you be willing to donate money to this project?" All participants responded either "Yes" or "No" to these questions (participant responses: Yes: 351; No: 257).

Participants also responded to the same five-item measure of prosocial motivation as in the previous studies. Responses were averaged to form a prosocial motivation composite ($M = 5.80$, $SD = 0.83$; $\alpha = 0.89$). To rule out an alternative explanation of our effects, participants also answered four items that measured the extent to which they perceived the crowdfunding project to be a good financial investment. Specifically, participants were asked, "Based on the manner in which the project description was written, to what extent do you think the Travel Robot crowdfunding project you just read was primarily designed in order to…": 1) "be a good business opportunity"; 2) "have a good business performance"; 3) "be a good financial investment"; and 4) "make

money" ($\alpha = 0.89$). Finally, participants responded to the same basic demographic questions as in Study 2.

7.3. Results

First, we checked to ensure that there were no differences across the prosocial nature of the project description conditions regarding the extent to which participants perceived the crowdfunding project as a good financial investment or an attractive reward. As expected, a one-way ANOVA showed that there were no differences on this measure (F (1, 606) = 1.02, $p = 0.31$; $M_{HighProsocial} = 5.18$, $SD = 1.25$ vs. $M_{LowProsocial} = 5.28$, $SD = 1.25$).

Similar to Study 2, given that this study sampled a more general population on Prolific rather than a more homogeneous undergraduate sample, we controlled for participants' gender, age, education level, and income. We also controlled for nationality given that we collected data from both American and Chinese participants. Contribution intentions were regressed on prosocial nature of the project description (1 = high; 0 = low), crowdfunding platform type (1 = reward; 0 = donation), prosocial motivation, their three-way interaction, all lower-order interactions, and control variables (see Table 4 for the stepwise regression results). Results showed significant effects of the interaction between prosocial nature of the project description and prosocial motivation ($B = -0.74$, $SE = 0.34$, $p = 0.03$) and the interaction between crowdfunding platform type and prosocial motivation ($B = -0.94$, $SE = 0.31$, $p < 0.01$). There were also marginally significant effects of the interaction between prosocial nature of the project description and crowdfunding platform type ($B = -5.09$, $SE = 2.62$, $p = 0.05$) and importantly, the three-way interaction between prosocial nature of the project description, crowdfunding platform type, and prosocial motivation ($B = 0.78$,

Table 4
Stepwise regression results (Study 3).

Variable	Step 1 Coefficient (*SE*)	Step 2 Coefficient (*SE*)	Step 3 Coefficient (*SE*)	Step 4 Coefficient (*SE*)
Gender	−0.23* (0.13)	−0.28** (0.13)	−0.26* (0.13)	−0.25* (0.13)
Age	0.01 (0.01)	0.01 (0.01)	0.02 (0.01)	0.02 (0.01)
Income	0.03 (0.06)	0.02 (0.06)	0.03 (0.06)	0.03 (0.07)
Education	0.10 (0.07)	0.10 (0.07)	0.10 (0.07)	0.10 (0.07)
Nationality	−0.46** (0.20)	−0.30 (0.21)	−0.30 (0.21)	−0.30 (0.21)
Crowdfunding platform type		0.10 (0.17)	3.71*** (1.32)	5.83*** (1.84)
Project description		−0.04 (0.17)	2.06 (1.32)	4.60** (1.98)
Prosocial Motivation		0.46*** (0.11)	0.91*** (0.20)	1.13*** (0.25)
Crowdfunding platform type × project description			−0.57 (0.35)	−5.09* (2.62)
Crowdfunding platform type × prosocial motivation			−0.58** (0.22)	−0.94*** (0.31)
Project description × prosocial motivation			−0.31 (0.22)	−0.74** (0.34)
Crowdfunding platform type × project description × prosocial motivation				0.78* (0.45)
Nagelkerke R^2	0.04	0.08	0.106	0.112

* $p < 0.10$;.
** $p < 0.05$;.
*** $p < 0.01$
Note: the three-way interaction term is marginally significant.

$SE = 0.45$, $p = 0.08$). As prosocial motivation is a continuous measure, the analyses were repeated using a spotlight analysis at one standard deviation below and above the mean to probe the three-way interaction [63] (see Figs. 4 and 5). Results revealed that for participants low in prosocial motivation who were in the donation condition, a high (vs. low) prosocial project description significantly increased their contribution likelihood ($B = 0.91$, $SE = 0.39$, $p = 0.02$). On the other hand, for participants low in prosocial motivation who were in the reward condition, the effect of a high (vs. low) prosocial project description on participants' contribution likelihood was not statistically significant ($B = -0.31$, $SE = 0.33$, $p = 0.35$). Moreover, for all participants high in prosocial motivation, there was no effect of project description in either the donation ($B = -0.33$, $SE = 0.36$, $p = 0.37$) or reward ($B = -0.25$, $SE = 0.35$, $p = 0.48$) condition.

7.4. Discussion

This study samples both American and Chinese participants and, controlling for nationality, again finds that a high (vs. low) prosocial project description increases (vs. decreases) low prosocial motivation funders' willingness to contribute to a project on a donation-based platform, providing more evidence for H2. For participants low in prosocial motivation, the effect of a high (vs. low) prosocial project description on participants' willingness to contribute to a project on a reward-based platform did not reach statistical significance. However, when we ran separated samples for American and Chinese participants, we found this effect was marginally significant for the American participants ($B = -0.73$, $SE = 0.39$, $p = 0.06$), but this effect did not replicate for the Chinese participants. While the sample size for Chinese participants is relatively small, other factors, such as nationality differences (as we discuss more below), could play a significant role. On the other hand, as in the previous study, for individuals high in prosocial motivation, there is no difference in their contribution intentions between high and low prosocial project descriptions across both reward- and donation-based crowdfunding platforms.

8. General discussion

Across three experimental studies, using the ELM and LET as our theoretical guide, we demonstrate that funders' prosocial motivation, prosocial project description, and type of crowdfunding platform interact to influence funders' contribution intentions toward the crowdfunding project. Across our studies, we find that in comparison to funders high in prosocial motivation, funders low in prosocial motivation are more likely to fund crowdfunding projects when the prosocial project description is consistent with the platform type. More specifically, they are more likely to fund a project that has a high prosocial description on a donation-based platform or a project that has a low prosocial description on a reward-based platform.

9. Theoretical and practical implications

This research contributes to crowdfunding research in several important aspects. First, by integrating the theories of ELM and LET, this study helps extend our understanding of the role of funders' prosocial motivation, especially that of low prosocial motivation funders, in determining crowdfunding funding decisions. Most of the existing crowdfunding research focuses on the project itself and the creators' characteristics. Although researchers have begun to examine funders' characteristics, such as education and experience (e.g., [49]), in affecting their decision-making, the influence of funders' motivations on their contribution decisions is not well understood. Our research fills this void by highlighting funders' prosocial motivation levels. Our findings from three studies suggest that low prosocial motivation funders have a decision-making pattern distinct from that of high prosocial motivation funders. By integrating prosocial motivation research and
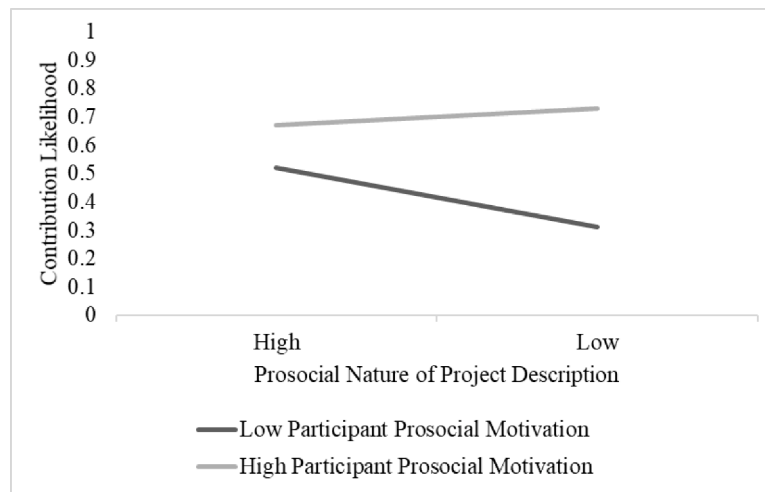
Fig. 4. Contribution Likelihood with a Donation-Based Crowdfunding Platform as a Function of Prosocial Nature of the Project Description and Individual Levels of Prosocial Motivation (Study 3).
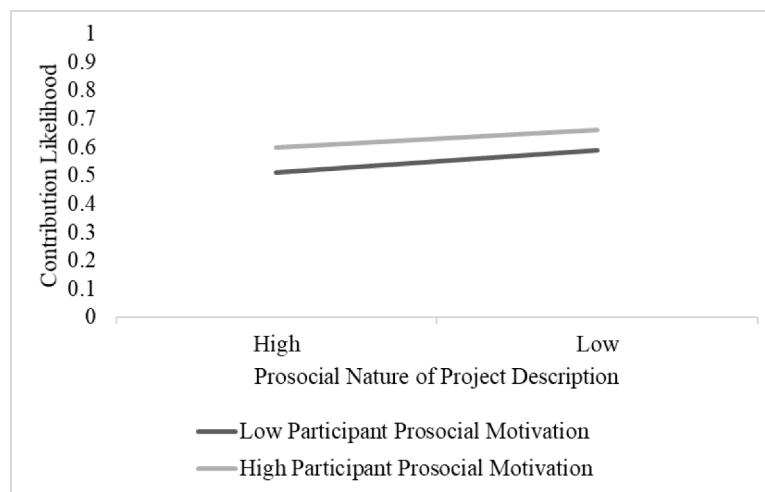

Fig. 5. Contribution Likelihood with a Reward-Based Crowdfunding Platform as a Function of Prosocial Nature of the Project Description and Individual Levels of Prosocial Motivation (Study 3).

the theory of ELM, we theoretically demonstrate that in comparison to high prosocial motivation funders (biased processors), low prosocial motivation funders (objective processors) are more critical and evaluate the projects with more cognitive inputs. Using the LET, we further reveal that the language expectation violation is an important reason that low prosocial motivation funders notice the inconsistency between the prosocial project description and platform type. In this way, we contribute to crowdfunding research by shifting the current research from mainly focusing on project descriptions to funders' own motivations in affecting project funding success.

Second, our research helps to reconcile the debate on the effect of prosocial project descriptions on funding success of crowdfunding projects. As previously discussed, the existing literature shows inconsistent evidence regarding whether prosocial project descriptions can benefit or undermine funding success. For this mixed evidence, we argue that it is important to consider the alignment or misalignment of multiple prosocial factors that likely influence the funding success of projects. Our research suggests that funders' willingness to contribute funding is related not only to their own prosocial motivation, but also to the matching factors of prosocial project description and platform type. While most of the existing crowdfunding research limits sample collection to one type of crowdfunding platform, we use experiments that

integrate the factors of funders' prosocial motivation, prosocial project description, and platform type and help disentangle the mixed effects of prosocial project descriptions on funding success.

Third, we extend the prosocial motivation research from the organizational behavior and psychology areas into the crowdfunding context. The amount of research on prosocial motivation and behavior has grown rapidly but it is still relatively under-addressed in crowdfunding research [14,64]. One primary issue is that current crowdfunding research on prosocial motivation usually uses text analysis and has not leveraged psychometric measures. As such, organizational behavior researchers have called for more research on entrepreneurs' prosocial motivation, as Bolino and Grant [41] note: "additional research on the role of prosocial motives among entrepreneurs is warranted" (p: 621). While more work leveraging psychological research about prosocial motivation is needed, our study suggests that individual prosocial motivation levels for entrepreneurial actors, including entrepreneurs, funders, and others, should not be ignored. In addition, our research sheds light on the concept of "prosocial cost-benefit analysis", referring to individuals internalizing benefits to others who therefore have a cost-benefit formula different from those who only focus on their own benefits [65]. Although further investigation is needed, our research suggests different cost-benefit analyses between high and low

prosocial motivation funders.

Our study also has important practical implications. By examining the effect of prosocial motivation in crowdfunding campaigns, this research helps entrepreneurs and other fundraisers (e.g., already existing small businesses, non-profit organizations, etc.) to better design and refine their project descriptions in different conditions. This can lead to more effective use and delivery of prosocial messages in crowdfunding project descriptions. Our findings suggest that the prosocial nature of the project description needs to be more strategic and consider other related factors, especially to attract low prosocial motivation funders and gain their funding support. More specifically, crowdfunding designers should include more of a prosocial description when creating a donation-based crowdfunding project, while they should utilize less of a prosocial description when designing a crowdfunding project on a reward-based platform. We show that by doing so, project creators will likely be more effective in persuading funders low in prosocial motivation to contribute to their projects. In addition, our research along with other research together suggests that high prosocial descriptions are not always good and could be detrimental to the funding success of projects. Indeed, it is important for project creators to learn more about their targeted funders, including whether they are high or low prosocial motivation funders.

10. Limitations and future research

Our research poses limitations that merit future investigation. First, in this research, we use experiments, which is still a relatively new method in crowdfunding research. The experimental method provides a number of advantages for our study. One of the advantages is that we can directly measure participants' prosocial motivation levels. Moreover, we can manipulate different conditions to examine potential alignment or misalignment effects and exclude confounding factors. However, the experimental method also poses challenges as we did not examine our hypotheses in a real-world setting. Though we argue that anyone can go to crowdfunding platforms and contribute their funds to support the projects, the participants in our studies were not real funders and did not actually contribute any money to the projects. Therefore, future research should conduct a field study that tracks real crowdfunding projects on different platforms, survey the funders on their prosocial motivation levels, and observe their funding decisions.

Second, individual differences based on nationality could play a significant role in affecting funders' decisions to support a crowdfunding project. In separated sample analyses for Study 3, we only found the significant effect of low prosocial motivation funders decreasing their funding intentions for a high prosocial project description on a reward-based platform for American participants but not for Chinese participants, which may be due to national differences. Crowdfunding research has begun to study how national differences, including national culture, affect project funding success (e.g., [66,67]). Indeed, research has shown that Chinese participants influenced by their collectivistic cultural background have higher donation intentions than participants from an individualistic cultural background [68,69]. Therefore, future research can further explore this divergence in the pattern of effects as a result of individuals' national backgrounds, including directly measuring participants' national culture scores and investigating how the cultural differences influence their crowdfunding contribution behaviors.

Finally, for the crowdfunding platforms, we compared only two representative models: donation-based vs. reward-based platforms. We did not compare other models, such as equity-based and lending-based models, which could affect funders' decision-making in different ways. Other platform characteristics, such as keep-it-all vs. all-or-nothing, could also affect funders' willingness to contribute their funds. Low prosocial motivation funders may be more likely to be attracted to the model of all-or-nothing that lowers their fund contribution risk. Future research should further investigate the possible effects from other factors and effects for different factor alignments/misalignments.

11. Conclusion

Integrating the theories of ELM and LET as a theoretical guide, this research examines three prosocial factors related to crowdfunding project success: funders' prosocial motivation, prosocial project description, and platform type (donation-based vs. reward-based). By conducting three experiments, we find matching/mismatching effects among these factors. While there are no significant differences for participants high in prosocial motivation across conditions, we find that participants low in prosocial motivation are more likely to contribute their funds when the project has a high prosocial description on a donation-based platform or when the project has a low prosocial description on a reward-based platform. We hope that this research can spur more work on the intersection between crowdfunding and prosocial motivation research.

CRediT authorship contribution statement

Yuanqing Li: Conceptualization, Writing – original draft, Writing – review & editing. **Frank Cabano:** Methodology, Formal analysis, Investigation, Data curation. **Pingshu Li:** Conceptualization, Writing – original draft, Writing – review & editing.
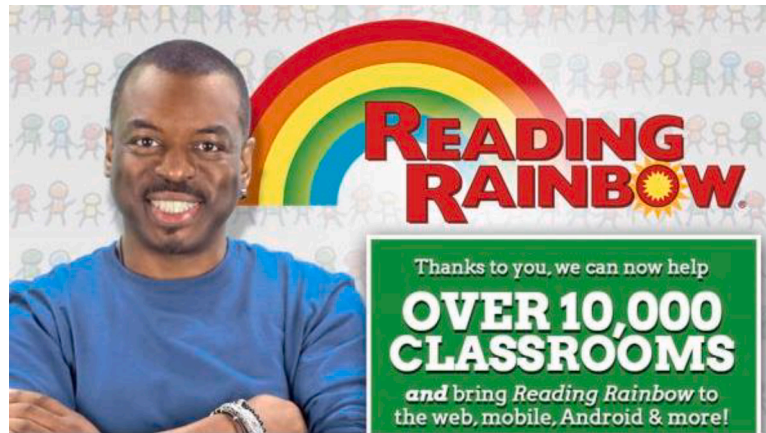
Declaration of Competing Interest

None.

Acknowledgements

Appendix 1. Project Description Used in Study 1

Hi! LeVar Burton here. You may know me as Kunta Kinte, from ROOTS, or Geordi La Forge, from Star Trek: The Next Generation. Over the past year, I have watched crowdfunding platforms bring communities together to support artists and inventors. Again and again, I have been inspired by watching like-minded people team up to accomplish impossible dreams, and to change the world. **Now, I am hoping you will join me on my mission: to bring Reading Rainbow back for every child, everywhere.** Together, we can change the lives of millions of children. But you don't have to take my word for it: just keep reading!

Why Reading Matters?

I believe that every child has a right, and a need, to be literate. We have a responsibility to prepare our children…and right now, the numbers show that we, as a society, are failing in that responsibility. And here's the problem: **Right now, one out of four children in the USA will grow up illiterate. And numerous studies reveal that children who can't read at grade level by the 4th grade are 400% more likely to drop out of high school. And as of 2011, America was the only free-market country where the current generation was less well educated than the one before.** These problems won't solve themselves. Real change will require us all to work together. We cannot afford to lose generations of children to illiteracy. And if we work together, we don't have to.

Why Reading Rainbow?

Through Reading Rainbow, we've been working to solve these problems for over three decades. Starting in 1983, Reading Rainbow successfully used television to turn generations of kids into lifelong readers with great results! Now, we're trying to reach a new generation of digital natives. A few years ago, I launched the Reading Rainbow App for tablets. Building on the basics of the television series, we put hundreds of quality books - and educational video field trips - right in a child's hands. The response has been encouraging as almost 15 million books have been read and videos watched, and the Reading Rainbow App is currently ranked as the #1 educational app. But despite this progress, there are big challenges left to face.

First, not all families have access to tablets. Our goal is to cultivate a love of reading in all children, not just those who have tablets. To reach kids everywhere, we need to be everywhere: **we need to be on the web, mobile devices, game consoles, and connected televisions.**

Second, a resounding number of teachers have told me that they want Reading Rainbow in their classrooms, where they know it can make a difference. We will provide it, along with the tools that teachers need, including teacher guides, leveling, and dashboards. And with your help, **we'll provide it to thousands of disadvantaged classrooms for FREE.**

Our Vision—-Every Child, Everywhere

Every Home. Reading Rainbow's digital collection already contains hundreds of books and video field trips…but with your help, we'll be able to make the Reading Rainbow library available on more of the devices modern kids use to consume content. We are already on the web, but with your help we'll also be able to bring the service to mobile phones, game consoles like Xbox and PlayStation, and set-top boxes like Apple TV and ROKU. Together with your help, we will also be able to provide Reading Rainbow to as many impoverished classrooms as possible for free!

Appendix 2. Project Descriptions Used in Studies 2 and 3

High Prosocial Project Description Condition

Did you know that many people tend to get sick while or after traveling? This is due to the exposure to more bacteria and germs than normal in your daily life. We don't want you to suffer - we want to help you enjoy your travels! We are dedicated to realize our mission of helping people have the most memorable travels with their loved ones, by keeping them healthy both during and after their time away.

That is why we invented CleanseBot. CleanseBot can sanitize and disinfect all hotel surfaces, and the UV-C light helps prevent the spread of airborne viruses. In fact, the CleanseBot was tested by an independent third party, which showed that it kills 99.99% of E.coli!

Just set the CleanseBot down on the bed, turn it on for either 30 or 60 min, and go about your day while it sanitizes and disinfects your bed sheets and blankets! The CleanseBot will kill germs, bacteria, dust mites, and help prevent the spread of airborne viruses. CleanseBot is the ONLY thing like this in the world! We are very confident that this product will help the traveling community by keeping them healthy both during and after their travels. We can only fulfill our mission with your valuable support. We sincerely hope that you consider supporting this project that will be life-changing for so many people.

Low Prosocial Project Description Condition

Did you know that many people tend to get sick while or after traveling? This is due to the exposure to more bacteria and germs than normal in your daily life. Therefore, there is a major business opportunity for products that can help consumers protect themselves while traveling.

That is why we invented CleanseBot. CleanseBot can sanitize and disinfect all hotel surfaces, and the UV-C light helps prevent the spread of airborne viruses. In fact, the CleanseBot was tested by an independent third party, which showed that it kills 99.99% of E.coli!

Just set the CleanseBot down on the bed, turn it on for either 30 or 60 min, and go about your day while it sanitizes and disinfects your bed sheets and blankets! The CleanseBot will kill germs, bacteria, dust mites, and help prevent the spread of airborne viruses. CleanseBot is the ONLY thing like this in the world! We are very confident that this product will be highly successful in the marketplace as it helps fill a void in the market. We hope that you consider investing in this project. If you do so, you will also have the opportunity to purchase the product before anyone else.

Appendix 3. Scale Items Used in Studies 1–3

Variable	Items
Contribution Intentions in the reward-based crowdfunding platform condition (the donation-based condition includes the same dollar amounts, but without the corresponding rewards).	*Study 1* (1 = $0 to 9 = $250 or more): "The following are the rewards you would receive if you are willing to purchase a pledge from this project. Please click the pledge you would be willing to purchase below." ("How much money would you be willing to donate to this project?") 1. $0 2. $5. You will receive exclusive digital wallpapers from the Reading Rainbow.

(continued)

Variable	Items
	3. $10. You will be able to select either a bumper sticker or magnet from the Reading Rainbow.
	4. $15. You will receive a one month subscription to the Reading Rainbow app.
	5. $20. You will be able to select either a shirt, tote bag, or mug from the Reading Rainbow.
	6. $25. You will receive a personalized, autographed headshot of LeVar, with a message just for you.
	7. $50. You will be able to have a 5–10 min call or video chat with LeVar.
	8. $100. You and a guest will join LeVar and a small group of backers for a picnic lunch in Los Angeles, and get an exclusive Reading Rainbow picnic blanket to keep.
	9. $250 or more. You and a guest will join LeVar in Los Angeles for a private dinner. You'll get plenty of time to hang out, ask questions, and get pictures.
	Study 2 (1 = $0 to 6 = $1000): "The following are the rewards you would receive if you are willing to purchase a pledge from this project. Please click the pledge you would be willing to purchase below." ("How much money would you be willing to donate to this project?")
	1. $0
	2. $100. You will receive a CleanseBot single package. This includes the CleanseBot, a charging cable, and a handheld cover. Over 60% off ($159) of planned retail price of $259.
	3. $200. You will receive the CleanseBot couple package. This includes 2 CleanseBots, 2 charging cables, and 2 handheld covers. Over a 60% savings ($318) for two CleanseBots at a retail price of $259 each.
	4. $300. You will receive the CleanseBot family package. This includes 3 CleanseBots, 3 charging cables, and 3 handheld covers. Over a 60% savings ($477) for three CleanseBots at a retail price of $259 each.
	5. $500. You will receive the CleanseBot High Five package. This includes 5 CleanseBots, 5 charging cables, and 5 handheld covers. Over a 60% savings ($795) for five CleanseBots at a retail price of $259 each.
	6. $1000. You will receive the CleanseBot Big Ten package. This includes 10 CleanseBots, 10 charging cables, and 10 handheld covers. Over a 60% savings ($1590) for ten CleanseBots at a retail price of $259 each.
	Study 3 (1 = yes, 0 = no): "Would you be willing to purchase a pledge (and, as a result, receive a reward) for this project?"("Would you be willing to donate money to this project?")
	1. No
	2. Yes
Prosocial Motivation	"Please indicate your level of agreement or disagreement with the statements below."
Measured using the scale from Grant and Sumanth [62]. All items measured on a scale from 1 = strongly disagree to 7 = strongly agree.	1. I get energized by working on tasks that have the potential to benefit others.
	2. I like to work on tasks that have the potential to benefit others.
	3. I prefer to work on tasks that allow me to have a positive impact on others.
	4. I do my best when I'm working on tasks that contribute to the well-being of others.
	5. It is important for me to have the opportunity to use my abilities to benefit others.

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