



Go Pro Bono

Prosocial Language as a Success Factor in Crowdfunding

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Abstract: Crowdfunding enables fundraising of various ventures by collecting money from several donors. We argue that the inclusion of prosocial language contributes to success in this new domain of resource acquisition. In Study 1, we analyzed 164,056 projects from the online crowdfunding platform Kickstarter and found that the higher the percentage of prosocial words employed in a project's description, the larger the number of investors and the greater the chances of reaching a funding goal. In Study 2 ($N = 234$), an experimental study, we documented that the use of prosocial words increases the support people thought they would give to a project. Our results indicate that people want to invest their financial resources in ventures that contribute to prosocial goals.

Keywords: prosocial behavior, giving, crowdfunding, entrepreneurship, language, Big Data

The rapid growth of modern technologies such as the Internet has allowed for the development of bottom-up social initiatives to assist the less fortunate or those who do not have access to facilities through conventional channels. One of these social initiatives has been the development of crowdfunding, which is a way of raising capital outside traditional financial channels using an online platform. Crowdfunding enables aspiring entrepreneurs to source funding from a large range of backers regardless of their geographical location, income, race, or gender (Belleflamme, Lambert, & Schwienbacher, 2014; Mollick, 2014) and allows funds to be raised for small-scale projects that are generally unable to procure funding from traditional capital markets. In 2015, the global crowdfunding market reached \$34.4 billion and the number of active crowdfunding platforms grew to 1,250 globally, with the market expected to grow rapidly (Massolution, 2015). In appreciation of its entrepreneurial potential, President Obama included crowdfunding in the 2012 JOBS Act (Stemler, 2013), which garnered a great deal of attention from the media and policymakers because this recognition elevated the status of crowdfunding to “a relevant contributor to innovation, employment, and ultimately economic growth” (Cordova, Dolci, & Gianfrate, 2015, p. 116).

Because of the high entrepreneurial, financial, and social capital relevance of the crowdfunding market, understanding the factors that attract people to support these projects is of utmost importance. In this paper, a multi-method psychological perspective is employed to shed light on what mobilizes people to invest in advertised crowdfunding

ventures. Building on past prosocial behavior findings and, in particular, those that have documented the role of prosocial intentions in giving, the following research question is pursued: Does the prosocial language of crowdfunding entrepreneurs translate into fundraising success?

Why Do People Give?

Past research has identified two main reasons why people demonstrate prosocial behavior (i.e., behavior that is beneficial to other people; Penner, Dovidio, Piliavin, & Schroeder, 2005): egoistic and altruistic (Boice & Goldman, 1981; Cialdini, Brown, Lewis, Luce, & Neuberg, 1997; Feiler, Tost, & Grant, 2012; Paulhus, Shaffer, & Downing, 1976; White & Peloza, 2009). Egoistically motivated giving refers to a person seeking to protect or enhance their own identity, image, or emotions (Aaker & Akutsu, 2009; Ariely & Norton, 2009; Feiler et al., 2012; Schlosser & Levy, 2016). For instance, giving can be seen as a way to enhance one's image of being a good person (Ariely & Norton, 2009; Schlosser & Levy, 2016) or to purchase moral satisfaction (Kahneman & Knetsch, 1992). The second reason that mobilizes people to give is taking pleasure in protecting and/or improving others' well-being. Such altruistic giving is reflected in engaging in actions that benefit individuals or groups through the giving of time or money (Feiler et al., 2012; Gray, Ward, & Norton, 2014; Penner et al., 2005).

These two motivations are by no means contradictory and can be experienced at the same time for people who give. For instance, people can give for altruistic reasons, and still

benefit personally. Indeed, research has found that people who spend money on others are happier than people who spend money on themselves (Dunn, Aknin, & Norton, 2008; Harbaugh, Mayr, & Burghart, 2007; Liu & Aaker, 2008), particularly if the giving has a prosocial impact (Aknin, Dunn, Whillans, Grant, & Norton, 2013). Similarly, studies by Harbaugh et al. (2007) and Penner et al. (2005) found that prosocial behavior was related to having a *warm glow*, the positive emotional feeling people get from helping others.

The focus of this study, however, is not on why people donate, but on the language of the donation requests that triggers prosocial giving behavior. Therefore, it is assumed that regardless of whether people invest altruistically or just want to feel good about the act of helping others, there are some common factors that mobilize individuals to pledge funds for new ventures. Barasch, Berman, and Small (2016), for example, focused on the signaling of selfish motives in charitable appeals and their impact on the ones that advocate for a charitable cause. They found that such motives hindered charitable behavior. In this paper, the role of prosocial language and its relationship to giving is examined in the crowdfunding context.

Why Do Prosocial Intentions Matter?

There is a good deal of indirect evidence that the signaling of prosocial intentions plays an important role in donation elicitation. For example, Fiske, Cuddy, and Glick (2007) found that presenting a warm, prosocial attitude increased social approval. It has also been noted that the “genuineness” of the prosocial intentions of others plays an important role when evaluating their prosocial acts (Barasch, Levine, Berman, & Small, 2014), with people responding negatively toward those who may have ulterior motives (Critcher & Dunning, 2011; Newman & Cain, 2014). Similarly, sincerity or trustworthiness of a project or seller has been found to be important for people wishing to donate to charity (Barasch et al., 2016; Bekkers, 2003) and for those who are considering granting unsecured personal loans (Herzenstein, Sonenshein, & Dholakia, 2011). In addition, in anonymous online markets, organizations perceived to be credible have been found to receive greater support and the perceived trustworthiness of a project or a seller has been found to be an important indicator of project support (Przepiorka, 2013). These findings suggest that highlighting warmth, sincerity, and trustworthiness, all of which are closely aligned with a general other-oriented attitude (Abele & Wojciszke, 2007), may positively affect the motivation to donate.

This paper applies these insights to an examination of the role of prosocial signaling in increasing the motivation to donate in the growing crowdfunding domain. Specifically,

we examine if prosocial orientation in the language of a crowdfunding project contributes to its success in raising funds.

Why Might Prosocial Language Matter for Crowdfunding?

Previous research on crowdfunding has largely focused on how technical aspects of online campaigns impact backers' funding decisions. For instance, a high project funding goal as well as a relatively long project duration may decrease the chances of success (Cordova et al., 2015; Kuppaswamy & Bayus, 2015; Mollick, 2014). Further, project quality, which is the time and effort taken to prepare the project presentations (i.e., video preparation, language correctness), can translate into success (Mollick, 2014). Finally, the inclusion of a video, the support received from a large social network, and the creator's previous interactions with crowdfunding have all been found to increase the probability of a project achieving its funding goal (Agrawal, Catalini, & Goldfarb, 2015; Mollick, 2014; Rakesh, Choo, & Reddy, 2015).

Besides the technical factors that contribute to campaign success, some researchers have started to investigate the language used in online project promotion. This is not surprising as creators rely on text to describe their projects, inform potential backers of the aims of the project (e.g., producing a video game) and the funding goal, and provide other project details (Martens, Jennings, & Jennings, 2007). Therefore, the textual information is central to backers making a final decision as to whether or not to pledge. Mitra and Gilbert (2014) analyzed a corpus of 45,000 crowdfunding projects and found that the language used in the projects had a strong predictive power, accounting for 58.56% of the variance around successful funding. However, this research only focused on the words and phrases used in successfully funded projects and did not consider the psychological mechanisms behind the role of the crowdfunding language.

There have also been attempts to analyze the psychological factors including the role of language in campaign success. For example, Allison, Davis, Short, and Webb (2014) analyzed textual data from 36,665 Kiva microloans, the leading microloan platform. Microlending is “the issuance of small, unsecured loans for the purpose of business generation within poor communities” (Barton, Khavul, & Chavez, 2011, p. 718). Similar to crowdfunding, microlending has emerged as a valuable alternative to traditional financing. However, it is solely nonprofit in nature, is dedicated to the support of “needy entrepreneurs and/or to reduce poverty” (Allison et al., 2014, p. 57), supports initiatives in poor countries such as Cambodia or Uganda, and all microloans are repaid by the borrowers. Allison et al. (2014) investigated how *human interest* and *profit language* impacted the

time needed for a microloan to be funded. The human interest language was based on a human interest dictionary (Hart, 1984, 2001, 2010) and assessed the extent to which the narrative concentrated on people and their activities. It included words for family members (wife, cousin, grandchild, and uncle) as well as generic terms that referred to human beings (baby, friend, and human). The profit language dictionary included words such as gains, profitability, and revenue, and was designed to assess the extent to which an entrepreneur or firm was focused on generating profits from the venture. It was found that a high degree of human interest language decreased the time needed to achieve the funding while profit language increased the time needed to achieve the funding. However, as these results were limited to the very specific domain of microlending which has clear prosocial goals, they cannot be generalized to the effects of crowdfunding language.

In a more recent study, Gorbatai and Nelson (2015) focused on the role of *feminine* and *masculine* language in successful crowdfunding. A selected sample of 9,943 campaigns from Indiegogo (an alternative crowdfunding platform to Kickstarter) was analyzed using the Linguistic Inquiry Word Count (LIWC) dictionary (Tausczik & Pennebaker, 2010). Feminine language was associated with an inclusiveness dictionary (e.g., and, along, and both) and masculine language with a money dictionary (e.g., bank, bargain, and dollar). It was found that masculine language was negatively correlated with the money raised while feminine language was positively correlated with fundraising success. As femininity has been found to be highly correlated with a beneficial orientation toward others (Abele & Wojciszke, 2007), these findings further suggest that signaling prosocial intentions should increase the possibility of attracting funds.

In another study, Pitschner and Pitschner-Finn (2014) classified Kickstarter campaigns into nonprofit and for-profit projects and found that nonprofit projects were more likely to reach their minimum funding goals and receive more money from the average investor. However, the findings were based on a smaller number of Kickstarter projects (46,888) and only a few control variables were included. Moreover, they did not rely on a prosocial dictionary but divided the sample into nonprofit (i.e., the project's description contained at least one occurrence of a variant of the word "nonprofit") and for-profit (i.e., did not contain any variant of the "nonprofit" phrase) categories. The categorization of continuous variables can result in errors such as a loss of power and a loss of precision in the estimate effects (Maccallum, Zhang, Preacher, & Rucker, 2002). Moreover, the results presented by Pitschner and Pitschner-Finn (2014) do not answer the question whether it is prosocial language or the mere use of the word nonprofit that affects campaigns' success.

The above-mentioned research offers indirect hints as to the importance of prosocial language. However, none of these studies have specifically investigated the role of prosocial language nor have they been supported by experimental evidence attesting to the role of language in a project's funding performance on a crowdfunding platform. In this paper, we therefore turn our attention to the role of prosocial intentions expressed through language in the context of crowdfunding.

Current Research

The hypothesis driving this study is that the prosocial orientation signaled through crowdfunding project description language predicts success in attracting funds. A systematic investigation of this hypothesis is presented through a triangulation of big correlational data and an experimental study. Specifically, in Study 1, using naturalistic data, the hypothesis that a higher percentage of prosocial words in a project's description more likely results in reaching a preset funding goal was tested above and beyond structural determinants such as rewards, project category, number of updates, and the extent of the creator's social network. In Study 2, the focus was on replicating and extending the findings from Study 1 by examining whether the effect of prosocial language in gaining support went beyond the perceived trustworthiness and credibility of the project and beyond general happiness. Therefore, in the experiment, happiness and trustworthiness, which have both been previously linked to increased funding support (Barasch et al., 2016; Fehrler & Przepiorka, 2013), were controlled for.

Investigating the impact of prosocial intentions on giving using a big data sample is the methodological strength of this study as patterns not apparent in smaller samples can be revealed and the sampling errors typical to social science studies can be reduced (Kosinski, Stillwell, & Graepel, 2013). At the same time, in the experimental study, we paid attention to reduce common problems in many psychological experiments such as the overreliance on small, female dominated samples, and disproportionately *weird* samples (i.e., Western, educated, industrialized, rich, and democratic; Henrich, Heine, & Norenzayan, 2010).

Study 1

Method

Kickstarter

In this study, the focus was on a set of crowdfunding projects that were seeking financing on <https://www.Kickstarter.com>. The Kickstarter platform was launched

in April, 2009 (“About – Kickstarter”, 2017) and is currently the most popular platform for crowdfunding entrepreneurs (Barnett, 2013). To attract funding, the creator must register on the platform and prepare a webpage for the project. The main part of this website is dedicated to the project description, which usually involves a detailed description of the campaign, the goals, risks, and the challenges, with the objective of presenting the project in the most comprehensive and attractive way. If a project is liked, it may be disseminated via other social media. Although they are not obligatory, creators generally include videos or pictures as part of the description. A previous study found that 86% of all projects included these visual media (Mollick, 2014).

At Kickstarter, projects are assigned to one of the following 15 main categories: art, comics, crafts, dance, design, fashion, film and video, food, games, journalism, music, photography, publishing, technology, and theater. Project creators choose a deadline and a minimum funding goal, which is the funding needed to be able to complete the project. Raising money on Kickstarter is subject to an “all-or-nothing” rule. That is, the project can be funded only when it reaches its funding goal. If the goal is not achieved by the planned deadline, no funds are collected. Importantly, as there is no upper limit, some projects have surpassed their goals. To mobilize funding backers, creators may choose to give rewards, most of which are typically symbolic, such as limited editions or copies of the creative work being produced. However, as the backers never receive shares in the business or any other monetary benefits, they are more akin to donors than investors as they may support projects for social or value-related reasons or to receive the products or services that will be available if the proposed project is successful (Gorbatai & Nelson, 2015).

Data

Specific software was developed and customized to analyze the publicly available data on the Kickstarter platform. Our input dataset consisted of 204,447 projects published between April 21, 2009 and April 29, 2015. Projects with a status other than successful or unsuccessful (i.e., canceled or suspended, $n = 18,687$; purged, $n = 55$; and uncompleted/ongoing, $n = 1,857$), projects that did not have a project

description (i.e., the number of words = 0, $n = 451$), and one project that received negative donations due to a webpage error were excluded.

Moreover, on March 25, 2015, Kickstarter enabled those creators who had successfully raised funding to modify their project descriptions to inform their donors of the project’s progress (the so-called Spotlight feature). To ensure we analyzed webpages that were only designed to raise funds, all projects that had been modified after March 25, 2015 were also excluded ($n = 19,340$). Hence, the final dataset on which analyses were performed consisted of 164,056 projects (40.9% successfully funded, and 59.1% unsuccessfully funded).

Measures

Control Variables

A range of control variables that may be potential predictors for crowdfunding success or failure were collected from previous crowdfunding studies (Cholakova & Clarysse, 2015; Mitra & Gilbert, 2014; Robertson & Wooster, 2015): the number of rewards offered to investors, presence of a video (yes/no), number of images attached to a project, number of edits (i.e., changes) the creator made to the webpage during fund raising, funding goal (in \$), project duration (in days), and the project category (as a set of dummy coded variables). Additionally, the total number of words per project description was calculated.

Dependent Variables

Three variables were utilized to measure crowdfunding success. That is, whether or not a project had met its stated funding goal, which was coded as a binary variable: success (indicating that the project had met its minimum funding goal) or failure (indicating that the project had not met its funding goal),¹ the number of backers, and Facebook shares² (because of the highly skewed distribution, the last two variables were log transformed).

Predictor

As the goal was to evaluate the impact of prosocial language on crowdfunding success, a prosocial word list was developed. First, based on previous studies and the

¹ We also conducted an analysis in which the percentage of the funding target reached (log transformed) served as a dependent variable (all other previously used predictors were also involved in the analysis, as well as the number of backers and the number of Facebook shares as two other dependent variables in the model). The percentage of prosocial words remained a significant predictor for this dependent variable ($B = 0.15$; $SE = 0.006$; $p < .001$). However, this analysis, although speaking to the importance of prosocial words in the evaluation of Kickstarter campaigns, does not reflect the specific nature of the “all-or-nothing” crowdfunding rule. If the project gathered for instance 99% of its funding goal, it still was not funded. The correlation coefficient between the number of prosocial words and the percentage of funding goals does not inform about the possible success. Therefore, we consider the categorical variable funded versus not funded as a more adequate measure for this specific type of campaigns.

² Initially, our analyses only involved campaign success and the number of backers as dependent variables. Following the suggestion of a Reviewer, we also included Facebook shares as a dependent variable.

Table 1. Descriptive statistics for the variables used in Study 1

Variable	<i>M</i>	<i>SD</i>	Median	Skewness	Minimum	Maximum
% Prosocial words	0.45	0.68	0.22	3.41	0	14.81
Success (yes/no)	0.41	0.49	0	0.37	0	1
Backers	64.17 (2.76)	414.45 (1.68)	17	113.04 (0.07)	0	91,585
Facebook shares	62.23 (1.09)	407.30 (2.01)	0	46.15 (1.66)	0	56,435
Rewards	9.11	5.22	8	3.41	1	250
Video (yes/no)	0.76	0.43	1	-1.20	0	1
Images	3.44	7.07	0	4.76	0	378
Updates	4.41	7.82	1	4.76	0	301
Goal	25,891.55 (8.45)	670,963.94 (1.56)	5,000	118.47 (-0.17)	0.01	100,000,000
Duration (days)	34.84	13.87	30	1.38	1	91.96
Words in description	471.44	455.47	338	4.96	1	27,855

Notes. For the three variables *Backers*, *Facebook shares*, and *Goal* the descriptive statistics are presented without and with (in brackets) logarithmic transformation. In case of the variables *Backers* and *Facebook shares* a constant of 1 has been added to all the values for scaling reasons.

prosocial dictionary developed by Frimer, Aquino, Gebauer, Zhu, and Oakes (2015), a set of keywords related to prosocial behavior (e.g., altruism, charity, humanitarianism, nonprofit, noncommercial, and philanthropic) was assembled. Next, this list was supplemented with related synonyms and screened for ambiguity. Subsequently, to develop a comprehensive analysis dictionary, the Corpus of Web-Based Global English (Davies, 2013) was used to search for words that often co-occurred with the words on the assembled list and the added words screened for ambiguity. As a final step, recursive derivations were added (e.g., for *altruism*, *altruist*, *altruistic*, and *altruistically* were added) (WordNet 3.1, Princeton University, 2010). The final keyword list consisted of 189 words (see Appendix). The method chosen for this procedure was informed by several previous studies (Gustafsson Sendén, Lindholm, & Sikström, 2014; Pennebaker, Mehl, & Niederhoffer, 2003) that have demonstrated that text analysis can provide a reliable source of information about personal, social, and psychological biases.

All textual data for the final sample of 164,056 projects was input into the Stanford Core NLP version 3.5.2 (Manning et al., 2014) to run stemming and lemmatization, with the goal being to reduce inflectional forms and the sometimes derivationally related word forms to a common base form (e.g., *am*, *are*, *is* = *be*; *colors*, *color's* = *color*). Then, the online descriptions were converted to lowercase and all so-called stop words (i.e., *a*, *the*, *one*, *oneself*, *someone*, *other*, *others*, *own*) as well as numbers and special characters were removed. Therefore, the words used for the final analysis contained only letters or letters and a hyphen (-).

Using a computerized algorithm, the number of prosocial words that appeared in each project description was counted separately and the total number of words in each description was also calculated to control for text length. Finally, for each project, we calculated the ratio

between the number of prosocial words and the total number of words.

Results

A regression analysis was conducted using the Maximum Likelihood Robust estimator in Mplus 7 (Muthén & Muthén, 1998–2009). Three dependent variables were used: campaign success (0 = not funded; 1 = funded), the number of backers, and the number of Facebook shares with the main predictor being for all variables the percentage of prosocial words used in the project description. Further, a set of control variables from previous studies that had been proven to play a role in campaign success were also included for the dependent variables: category type (as a set of dummy codes), number of rewards, presence or lack of a video, number of images, number of updates, campaign goal (i.e., the amount of money that a creator seeks to raise for a project), how much money was requested (due to the highly skewed distribution, this variable was log transformed), duration of the project in days, and the total number of words in the project description. The basic descriptive statistics for these variables are presented in Table 1, the correlations depicted in Table 2, and the model results listed in Table 3. As can be seen, when controlling for other variables, the percentage of prosocial words still played a role in predicting the success of a campaign. That is, for every one percent of prosocial words used, the log odds of success (vs. failure) increased by 0.26. Moreover, for every one percent of prosocial words used, the expected change in the log of backers, holding all other variables at any fixed value, was 0.13, and when back transformed to the original scale it was 13%. The percentage of prosocial words, however, did not matter in sharing the project via Facebook.

Table 2. Correlation coefficients for the variables used in Study 1

Variable	2	3	4	5	6	7	8	9	10	11
1. % Prosocial words	0.04***	0.01***	−0.02***	−0.05***	−0.01***	−0.09***	−0.05***	−0.01*	0.03***	−0.06***
2. Success		0.66***	0.16***	0.18***	0.18***	0.03***	0.44***	−0.26***	−0.11***	0.06***
3. Backers _T			0.29***	0.43***	0.35***	0.29***	0.56***	0.14***	−0.04***	0.32***
4. Facebook shares _T				0.16***	0.10***	0.26***	0.16***	0.10***	−0.08***	0.18***
5. Rewards					0.28***	0.36***	0.33***	0.25***	0.01***	0.37***
6. Video (yes/no)						0.15***	0.18***	0.20***	−0.01**	0.20***
7. Images							0.28***	0.21***	−0.05***	0.50***
8. Updates								0.07***	0.02***	0.30***
9. Goal _T									0.17***	0.29***
10. Duration (Days)										−0.01***
11. Words in Description										

Notes. Subscript "T" refers to logarithmic transformations. In case of *Backers* and *Facebook shares* a constant of 1 has been added to all the values. * $p < .05$; ** $p < .01$; *** $p < .001$.

Table 3. Unstandardized coefficients for the regression analysis with three dependent variables: *Success*, *Backers*, and *Facebook shares* in Study 1

Variable	Success		Backers _T		Facebook shares _T	
	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>
% Prosocial words	0.26***	0.010	0.13***	0.005	0.00	0.007
Rewards	0.05***	0.002	0.06***	0.002	0.02***	0.001
Video (yes/no)	0.78***	0.018	0.73***	0.009	0.18***	0.010
Images	−0.01***	0.002	0.01***	0.001	0.05***	0.002
Updates	0.35***	0.004	0.09***	0.002	0.02***	0.001
Goal _T	−0.74***	0.006	0.01*	0.002	0.03***	0.003
Duration (days)	−0.02***	0.001	−0.01***	0.000	−0.01***	0.000
Words in description	0.00	0.000	0.00	0.000	0.00	0.000
Category controls						

Notes. Subscript "T" refers to logarithmic transformations. In case of *Backers* and *Facebook shares* a constant of 1 has been added to all the values. MLR estimator was used across the analysis. * $p < .05$; *** $p < .001$.

Additional analyses were conducted to further illuminate when our hypothesized effect holds. First, to attest to the robustness of the findings, the results for each category were computed separately, using the same predictors as in the main analysis (without the Kickstarter categories as dummies). The results indicate that the number of prosocial words mattered for campaign success in 12 out of the 15 categories (with not being significant for only three categories: comics, dance, and theater). Second, out of the total of 164,056 projects, 65,676 projects (40%) had no prosocial words at all and 98,380 projects (60%) had at least one prosocial word ($M = 3.23$, $SD = 3.68$; $Mdn = 2$). Thus, to further attest to the robustness of the effect, an analysis restricted to the projects with at least one prosocial word was conducted. The percentage of prosocial words remained a significant predictor of campaign success ($B = 0.08$; $SE = 0.01$; $p < .001$). The percentage of prosocial words, however, ceased to be a significant predictor of the

number of backers, and remained insignificant to the number of Facebook shares.

Finally, to ensure that the effect was not solely driven by the word "nonprofit," which has already been shown by Pitschner and Pitschner-Finn (2014), we compared whether our prosocial dictionary had the power to predict the success of a campaign, the number of backers, and Facebook shares above and beyond the occurrence of "nonprofit" words. To that end, two indices were computed. One was the percentage of occurrences of all variants of the word "nonprofit" in the project descriptions. The second was the percentage of all the other words from our dictionary (except for the word "nonprofit") in the project descriptions. When the two indices were entered into the regression analysis, both were found to be significant predictors of campaign success and the number of backers but not of the number of Facebook shares. This indicated that both the word "nonprofit" as well as other prosocial

Table 4. Unstandardized coefficients for the additional regression analysis with three dependent variables: *Success*, *Backers*, and *Facebook shares* in Study 1 (second analysis)

Variable	Success		Backers _T		Facebook shares _T	
	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>
% Prosocial words (except for nonprofit)	0.25***	0.010	0.12***	0.005	0.00	0.007
% Nonprofit words	0.33***	0.036	0.17***	0.019	0.05	0.025
Rewards	0.05***	0.002	0.06***	0.002	0.02***	0.001
Video (yes/no)	0.78***	0.018	0.73***	0.009	0.18***	0.010
Images	−0.01***	0.002	0.01***	0.001	0.05***	0.002
Updates	0.35***	0.004	0.09***	0.002	0.02***	0.001
Goal _T	−0.74***	0.006	0.01*	0.002	0.03***	0.003
Duration (days)	−0.02***	0.001	−0.01***	0.000	−0.01***	0.000
Words in description	0.00	0.000	0.00	0.000	0.00	0.000
Category controls						

Notes. Subscript “T” refers to logarithmic transformations. In case of *Backers* and *Facebook shares* a constant of 1 has been added to all the values. MLR estimator was used across the analysis. * $p < .05$; *** $p < .001$.

indications affected funding success, as hypothesized. The results of this analysis are shown in Table 4.

Study 2

Study 2 was designed to corroborate and extend the previous findings. Individuals’ reactions to the prosocial orientation of the project were examined to test the prediction that prosocial language increased the chances of receiving funding. We did so by experimentally manipulating the number of prosocial words in the description of projects. Support for a project was defined in two ways. First, the direct declaration of support for a project was measured – as a parallel to the campaign success indicator used in Study 1. Second, we measured whether individuals were interested in sharing the project with their friends via social media – as a parallel to the two measures of social support used in Study 1, the number of backers and the number of Facebook shares. Finally, to examine whether the role of prosocial words went beyond the factors already known to influence support, trustworthiness of the project and general happiness of the backer as potential predictors for online campaign support were controlled for.

Method

Participants

All participants were recruited through Amazon Mechanical Turk and were paid 60 cents for completing a 6-min survey. The payments used in this study reflected the standard compensation expectations of Mechanical Turk workers (Horton & Chilton, 2010). After seven participants were excluded based on the attention and commitment

questions, the final sample consisted of 234 participants (113 women, $M_{\text{age}} = 34.11$ years, $SD = 10.28$ years). Participants were randomly assigned to one of three conditions (prosocial: none vs. medium vs. high) in a between-participants design.

Procedure and Manipulation

The study was intended to investigate how people make decisions in a situation when the amount of information is limited. Participants were asked to read a version of a summary of a fictitious crowdfunding campaign called “The Mediamotion.” The material was inspired by real Kickstarter campaigns and consisted of a black and white logo and a short description of the project (approx. 150 words). It contained either zero (0%), one (approx. 1%: i.e., *nonprofit*), or six (3%; *nonprofit*, *altruistic*, *volunteers*, *charitable*, *philanthropic*, and *prosocial*) prosocial words. The prosocial words were based on the list utilized in Study 1 (see Appendix). Apart from that, the material was identical as shown in Figure 1.

Measures

Happiness

The happiness measures previously utilized by Dunn et al. (2008) were adopted. That is, before (Time 1) and at the end of the experiment (Time 2) participants were asked to answer the following question: “Read each item and indicate to what extent you feel this way right now, that is, at the present moment.” This question used five randomly presented positive items from the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988; i.e., excited, proud, inspired, determined, and attentive for Time 1, and interested, strong, enthusiastic, alert, and active for Time 2) on a scale ranging from 1 = *very slightly and not at all* to 5 = *extremely*

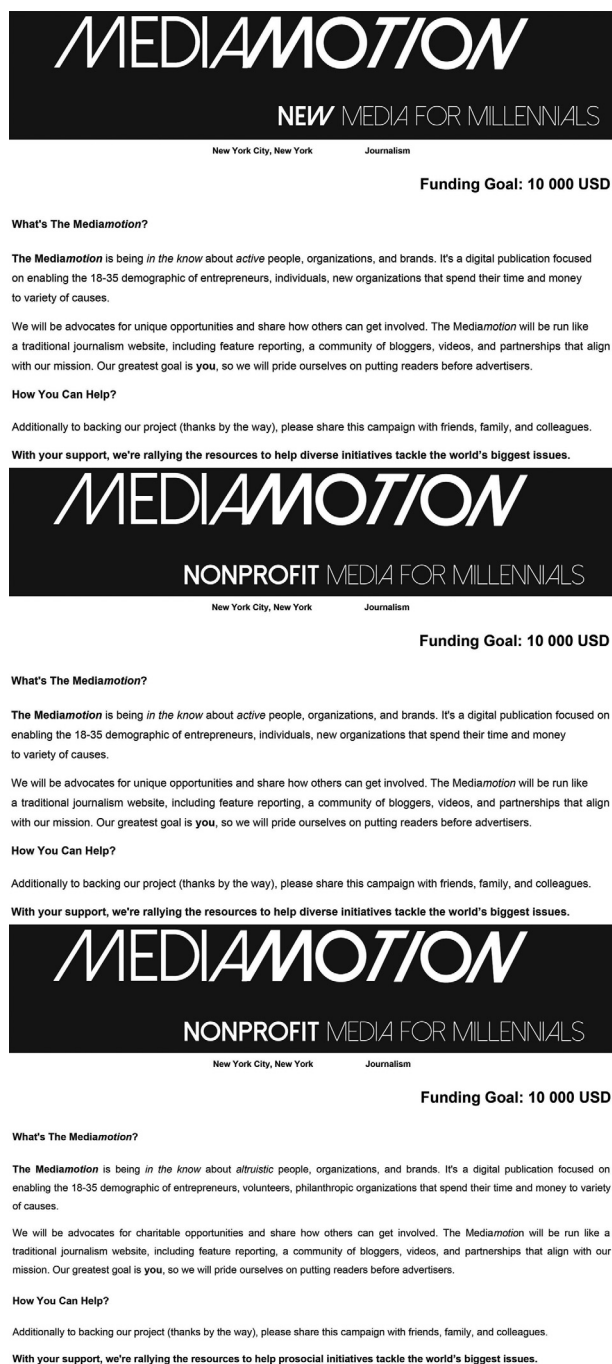


Figure 1. Visual material presented to the participants as part of Study 2 with zero (upper plot), one (middle plot), and six (bottom plot) prosocial words.

(Cronbach's $\alpha = .86$ and Cronbach's $\alpha = .85$, respectively). Subsequently, the participants were asked to evaluate their general happiness by answering the question "Do you feel happy, in general?" with answers ranging from 1 (= *no*) to 5 (= *yes*). Responses to this question have been shown to correlate strongly with scores on the 29-item Oxford Happiness Inventory (Argyle, Martin, & Lu, 1995) and to exhibit high test-retest reliability as well as good convergent and divergent validity (Abdel-Khalek, 2006). Following Dunn et al. (2008), we then averaged the PANAS items with the measure for general happiness at Time 1 and Time 2 separately to obtain an overall measure of happiness. The overall measure of happiness taken at Time 2 was not used in the analysis.

After reading the campaign summary (and before evaluating their final happiness), participants answered a few questions to evaluate the following:

Support

"Would you support 'The Mediamotion'?" (1 = *definitely no* to 7 = *definitely yes*).³

Sharing

"Would you recommend this campaign to your friends?" and "Would you share this campaign with your friends, family, and colleagues via social media?", with both questions being evaluated on a 7-point scale ranging from 1 = *definitely yes* to 7 = *definitely no*. These questions were reverse-scored so that a positive number is associated with a higher likelihood of sharing. Subsequently, the ratings were averaged and combined into one variable ($r = .87$).⁴

Trust

"How trustworthy is the project in your opinion?" (1 = *definitely untrustworthy* to 7 = *definitely trustworthy*), and "How credible is this project in your opinion?" (1 = *definitely not credible* to 7 = *definitely credible*), with the averaged ratings constituting the trust variable ($r = .83$).

The correlation coefficients for all variables are presented in Table 5.

The sequence of events was identical for every participant. That is, reporting on happiness, demographic data, reading and answering questions regarding a crowdfunding campaign, and finally, the second measurement of general happiness.

³ Participants were also asked a question worded as follows: "Imagine that you got \$30 that you can spend on any crowdfunding campaign. How much would you like to donate to The Mediamotion? Use the slider to indicate your potential donation." Due to a slider error, after having collected the results, we were not able to determine whether 0 meant that participants did not answer the question or did not decide to donate. For this reason, we decided to exclude this question from further analysis.

⁴ We also measured the perceived agency involved in the project with the use of two items: "In your opinion, will the campaign achieve its funding goal?" (1 = *definitely yes* to 7 = *definitely no*), and "In your opinion, how successful would be this campaign?" (1 = *very unsuccessful* to 7 = *very successful*). However, the correlation between the items was very low (.46), most likely due to the fact that the two questions did not tackle the same issue. Achieving the financial goal does not have to be related to the campaign's success. When we entered this variable into the analysis, it did not affect the main effect of the prosocial variable, although it was positively related to the intention to support.

Table 5. Correlation coefficients for the variables used in Study 2

Variable	<i>M</i>	<i>SD</i>	2	3	4	5
1. Happiness Time 1	3.72	0.84	.86***	.40***	.25***	.21***
2. Happiness Time 2	3.80	0.87		.40***	.24***	.25***
3. Support	3.25	1.74			.72***	.56***
4. Sharing	3.15	1.81				.53***
5. Trust	4.34	1.49				

Note. *** $p \leq .001$.

Results

First, we examined whether the number of prosocial words in a project description affected the support for the project. The results indicated that there was a significant linear trend (point estimate 2.06; $p = .04$). The proposal that had no prosocial words was found to be supported to a lesser extent ($M = 3.00$; $SD = 1.58$) than the proposals with one prosocial word ($M = 3.19$; $SD = 1.78$) or six prosocial words ($M = 3.57$; $SD = 1.82$).

To conduct a parallel analysis to Study 1, a regression analysis was performed using the Maximum Likelihood Robust estimator in Mplus 7 (Muthén & Muthén, 1998–2009). We used two dependent variables: declared support for the project and intention to share the project with the main predictor being for both variables the number of prosocial words used in the project's description. In addition, the variables overall happiness at Time 1 and trustworthiness, gender, and age were included in the model (see Table 6). The results indicated that even when controlling for other potential success predictors, the prosocial orientation significantly increased the project support received from an individual donor, however, not the intention to share.

Discussion

The two studies in this paper both indicated that prosocial language significantly contributes to success in the new domain of resource acquisition – crowdfunding. Consistent with our hypothesis, it was found that prosocial language was an important contributor to campaign success, which was measured by the achievement of the funding goal and the number of people wanting to invest in the project (Study 1), as well as by the intentions to support received from individual donors (Study 2).

In Study 1, it was demonstrated that when controlling for other potential crowdfunding success predictors, the level of prosocial words used in a project's description played a role in predicting campaign success. The use of a high percentage of prosocial words translated both into the achievement of a project's financial goals and attracting a

Table 6. Unstandardized coefficients for the regression analysis with two dependent variables: *Support* and *Sharing* in Study 2

Variable	Support		Sharing	
	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>
# of Prosocial Words	0.27*	0.10	0.16	0.12
Happiness Time 1	0.65***	0.10	0.31**	0.11
Trust	0.56***	0.06	0.60***	0.06
Age	−0.02**	0.01	−0.01	0.01
Gender	0.35*	0.18	0.47*	0.19

Note. * $p < .05$; ** $p < .01$; *** $p < .001$.

large number of supporters. In Study 2, we focused on the individual reactions of potential donors and found that the more prosocial words included in the project description, the more support the donors thought they would give to the project, independent of the perceived trustworthiness and general happiness of the backer.

In both studies, however, prosocial words did not predict the number of Facebook shares (Study 1) or the declared intention to share the project via social media (Study 2). In other words, expressed prosocial orientation only affects individual backers to give, but it does not mobilize them to further advertise the project. Sharing a project via social media seems to be driven by other factors not captured by our study, such as the actual content of a proposed project or the size of the social online network of a backer. As social media in the context of crowdfunding was not the focus of our study, we can only speculate about the drivers of sharing and encourage future research to further investigate the topic.

Altogether, our results indicate that the number of prosocial words positively affects campaign success and potential success, and also attracts a higher number of backers. These findings contribute significantly to the small but growing research on prosocial behavior in a novel domain – crowdfunding. First, psychological factors that play a significant role in successful crowdfunding were illuminated. Signaling the prosocial nature of a project appears to be important when individuals are making decisions about whether to invest and which project to support. Therefore, our work lends support to the assumption that prosocial orientation may matter not only when evaluating other people (Abele & Bruckmüller, 2011; Study 4) but also when assessing entrepreneurial projects and making online investment decisions.

Second, these results mesh well with previous research showing that language is important when formulating altruistic requests (Althoff, Danescu-Niculescu-Mizil, & Jurafsky, 2011). The two studies in this paper extend these insights by utilizing a direct and precise measure of prosocial orientation to demonstrate that prosocial content matters in mobilizing crowds and attracting people to

support entrepreneurial initiatives. Therefore, whereas other studies such as Barasch et al. (2016) focused on how selfish motives conveyed in a project description hinder support of prosocial projects, this study focused on how prosocial orientation conveyed in a project description enhances support for entrepreneurial crowdfunding projects – which to some extent is always driven by the selfish motives of the creators to have their product, film, or music recording produced. However, even within such a predefined sample (i.e., driven by selfish or mixed motives), the prosocial orientation signaled through language was found to positively affect project success. We also showed that prosocial language in general and not only the single appearance of the word “nonprofit” contributes to successful crowdfunding.

However, the link between prosocial language and funding support might be more complex. For instance, it has been found that the more a prosocial message is perceived to limit the freedom to choose a course of action, the less effect this message has (Miller & Quick, 2010). Therefore, it could be interesting to examine whether the link between prosocial language and persuasiveness is linear; that is, the more prosocial words used, the more support the project receives; or curvilinear; that is, there is a certain percentage of prosocial words above which the link between prosocial language use and crowdfunding support decreases.

Third, Study 2 went above and beyond other prosocial behavior indicators, such as a positive mood (Carlson, Charlin, & Miller, 1988; George, 1991) and trustworthiness (Przepiorka, 2013), and found that prosocial orientation played an important role in garnering support when happiness and perceived trustworthiness were controlled for. This could mean that in contrast to the aforementioned findings, at least in an economic context, prosocial signaling could directly lead to mobilizing others to support the project. However, further verification is needed. Therefore, in the crowdfunding context, in which there is no personal contact between the creator and the investor, entrepreneurial creators who underline and express high prosocial levels may be perceived as more credible and might, to a larger extent, make backers believe that their donations will be spent wisely and for the common good. Future research, for example, should establish the motives of the creators that use prosocial language and answer the question “Do people who want to raise funding use prosocial language strategically or non-strategically?”

Limitations

The contributions in this paper should be viewed in light of its limitations. First, although Study 1 was based on a big

data sample, the results might be skewed to self-recruited individuals who were eager to support new initiatives on the crowdfunding platform. This drawback was somehow compensated for in Study 2, which recruited participants via MTurk, which has been shown to be reliable for social science research (Clifford, Jewell, & Waggoner, 2015; Hauser & Schwarz, 2016). At the same time, it should be acknowledged that even panel data can be affected by self-selection bias because only certain people take part in such panels (Blumberg & Luke, 2009). Therefore, determining the degree to which the results can be generalized to the larger population is an important question for both big data and online studies.

Moreover, it was recently documented that high- and low-income individuals are responsive to different donation appeals, such that wealthier individuals respond best to reminders of agency, while less wealthy individuals respond best to reminders of communion (Whillans, Caruso, & Dunn, 2016). Thus, the question arises to what extent our findings might be generalizable and whether prosocial language only appeals to relatively less wealthy donors. As Kickstarter does not publicly share the list of a project’s backers, our knowledge about their demographics is limited. However, some available statistics have reported that males are overrepresented (66% as reported by Marom, Robb, & Sade, 2014) and that most crowd funders are relatively young (aged 25–34 years) and in the earlier stages of their careers (Crowdfunding Demographics and Statistics [INFOGRAPHIC] | Art of the Kickstart, 2016). Further investigation is needed to gain deeper insights into backers’ attributes as important moderators of prosocial behavior, such as wealth or previous crowdfunding experience.

Third, in both Study 1 and Study 2, small effect sizes were reported, which might suggest relatively low relationship strength between the variables. However, it has been documented that effect sizes tend to decrease as sample sizes increase and become more stable (Schwartz et al., 2013; Sterne, Gavaghan, & Egger, 2000). Moreover, the effect size estimates should be evaluated in the research context (Fritz, Morris, & Richler, 2012). Indeed, past studies on language have documented the small effects of language on a person’s perception in general (e.g., Formanowicz, Cislak, Horvath, & Szczesny, 2015; Merkel, Maass, & Frommelt, 2012). At the same time, these small effect sizes may produce large societal consequences as they may accumulate over time (Martell, Lane, & Emrich, 1996).

Finally, in Study 2, only donating intentions were measured, rather than actual behavior. Therefore, these findings need to be further verified to investigate whether the prosocial intentions signaled in the project descriptions affect potential funders’ real decisions.

General Conclusion

To conclude, prosocial signaling through language appeared to have a significant impact on successful fundraising on crowdfunding platforms as it was found to increase the chances of achieving the funding goal and attracting a higher number of donors. From a more general perspective, a prosocial orientation in crowdfunding projects could be interpreted as an indicator of positive societal change. To be precise, our findings indicated that people are not only focused on their own personal gain but also want to invest their social and financial resources in ventures that contribute to the community. Therefore, crowdfunding is a novel financial platform that has the potential to change the interplay between business and society as it channels resources to initiatives that otherwise would have had only limited access to traditional capital and financial support sources. As such, people who donate using crowdfunding platforms not only help young entrepreneurs build successful businesses, but also, more importantly, contribute to high prosocial goals such as community and sustainability building.

Acknowledgments

This work was supported by the Swiss National Science Foundation [Grant Number 164512] awarded to A. Pietraszkiewicz. We thank Gillian Sandstrom and one anonymous reviewer for their helpful comments on an earlier version of this manuscript.

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Received January 31, 2017

Revision received July 31, 2017

Accepted August 2, 2017

Published online October 17, 2017

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Appendix

Prosocial Word List Used in Study 1

activism	empathetic	idealistic	peacefulness
activist	empathic	idealistically	philanthropic
activistic	empathically	integrity	philanthropically
altruism	empathise	justice	philanthropist
altruist	empathize	justly	philanthropy
altruistic	empathy	justness	pro social
altruistically	empower	liberate	pro-social
aware	empowerment	liberty	pro-socially
awareness	equal	local	prosocial
charity	equality	localism	prosociality
civic	equally	localist	prosocially
civil	ethic	localistic	prosocialness
civility	ethicist	locality	pro-sociality
civilly	fair	locally	pro-socially
co-op	fair-minded	localness	pro-socialness
co-operate	fair-mindedness	moral	public assistance
co-operation	fair-trade	moralism	responsible
co-operative	fairing	moralist	responsibility
co-operatively	fairly	moralistic	responsible
co-operativeness	fairmind	moralistically	responsibleness
co-operativity	fairness	morality	responsibly
co-operator	fairtrade	morally	rights
collective	freedom	mutual	selfless
collectively	generosity	mutuality	selflessly
collectiveness	generous	mutually	selflessness
collectivise	generously	mutualness	social benefit
collectivism	generousness	no gain	social change
collectivist	grass-root	non commercial	societal change
collectivistic	grass root	non for profit	solidarity
collectivity	grassroot	non profit	solidary
collectivize	health	non-commercial	unselfish
communal	healthful	non-commercially	unselfishly
community	healthfully	non-for-profit	unselfishness
compassion	healthfulness	non-profit	value drive
compassionate	healthily	non-profit-making	value orientation
compassionately	healthiness	noncommercial	value system
cooperate	healthy	noncommercially	value-driven
cooperation	humane	nonprofit	value-orientation
cooperative	humanely	not commercial	value-system
cooperatively	humaneness	not for profit	voluntary
cooperativeness	humanitarian	not gain	volunteer
cooperativity	humanitarianism	not-for-profit	volunteerism
cooperator	humanity	not-profit-making	welfare
donate	humanly	open source	well-being
donation	humanness	open-source	wellbeing
donator	ideal	peace	
egalitarian	idealism	peaceful	
egalitarianism	idealist	peacefully	