

Abstract

In fundraising, it is common for the donor to see how much a charity has received so far. What is the impact of this information on a) how much people choose to donate and b) which charity they choose to donate to? Conditional cooperation suggests that people will donate to the charity that has received the most prior support, while the Underdog Effect suggests increased donations to the charity with the least support. Across 2 laboratory experiments, an online study (combined N = 494) and a qualitative survey (N = 60), a consistent preference to donate to the charity with the least prior support was observed. Thus, the Underdog Effect was supported. We suggest people will show a preference for the underdog if there are two or more charities to donate to, one of the charities is at a disadvantage and people have little pre-existing loyalty to either charity.

Keywords: Social Information, Charitable Donations, Underdog Effect, Impact Philanthropy

It is becoming increasingly common for charities to allow potential donors to be able to observe others' prior donations (Butt & Shah, 2012). It is believed that the visibility of previous donations provides social information that potential donors can use to help inform their own donation decisions. A number of studies examining this type of social information have shown that people have a preference to give to a charity/organization with a larger number of previous donations (Frey & Meier, 2004; Martin & Randal, 2008). However, many of these studies prevented direct comparison of information across charities by using between subjects designs, whereby participants were presented with information about either one charity or another (Frey & Meier, 2004; Martin & Randal, 2008). A more realistic scenario is that potential donors are able to compare information on previous donations across charities simultaneously. This is akin to online fundraising where donation information for a variety of charities can be compared. Therefore, we investigate whether, under this donation scenario, donors would show a preference to donate to either the most supported or the least supported charity. If participants do prefer the least supported charity, we ask: is this because they are motivated by the desire to make their donation have a bigger impact on the charity (the impact donor) or are they motivated by a preference to support those at a disadvantage (the underdog donor)? Theoretically, this paper explores the potential role of an underdog effect in charitable decisions. First, we review the theories that support the preference to give to a charity with greater prior support. We then review the theories supporting the preference to contribute to a charity with the least prior support. Finally, we explore how these preferences may be moderated by the observability of prior donations before outlining the current research.

Preferences for giving to a charity with greater prior support

Conditional cooperation suggests that there should be a positive association between the amount others have already contributed to a cause and how much another individual will

contribute (Fischbacher, Gächter, & Fehr, 2001). That is, if a large number of people are known to have donated to one charity compared to another, then conditional co-operators should be more likely to contribute to the charity with a greater number of prior donations. For example, Frey and Meier (2004) informed students that either 64% or 46% of past students contributed to two student funds. Those students were 2.3% more likely to donate to the charity to which they believed 64% of previous students had donated. Quality Signaling theory suggests that individuals give to charities that already have high levels of contributions because they are perceived to be: (1) of higher quality, (2) more likely to use donations effectively, and (3) more likely to receive future donations (Vesterlund, 2003).

Preferences for giving to a charity with least prior support

Duncan's (2004) 'Impact Philanthropy' model defines an alternative type of philanthropic donor, known as an impact donor. Impact donors derive satisfaction from knowing their contribution makes a real difference to the level of goods and/or services provided by a charity. If other donors have given substantially to a charity then, potentially, any additional donations will have a smaller effect on increasing the level of goods and/or services that the charity provides. To test this model empirically, Borgloh, Dannenberg, and Aretz, (2013), gave participants the option of donating to a charity that has a small (€40,000-300,000) or large (€5-11 million) annual revenue. They found that 73% of participants choose to give to the charity with the smaller revenue, which resulted in an additional €323 being donated to that charity. Borgloh et al (2013) suggested donations to the charity with a smaller revenue would have greater impact since the donors' contributions would have the largest effect on increasing the endowment of the charity.

An alternative explanation focuses on the 'Underdog Effect' where one favors a previous unaffiliated entity, which is perceived to be at an undeserved disadvantage relative to others (Vandello, Goldschmied, & Richards, 2007). The 'Underdog Effect' is a robust

phenomenon observed in voting behavior, brand loyalty, and sports spectators' choice of team (Goldschmied & Vandello, 2012; Goldschmied & Vandello, 2009; Shirai, 2017). The Underdog Effect may then be plausibly extended to charitable decision making, predicting that donors should give to the charity with the least revenue since that charity is at a relative disadvantage (i.e. less funding). Indeed, the concept of the underdog is highly accessible (Kim et al., 2008) and a lay conception of the underdog is overly optimistic regarding the likelihood of the underdog succeeding (Goldschmied & Vandello, 2012). However, if the charity with lower revenue were perceived to be at a deserved disadvantage due to squandering donations (i.e. high staffing costs) then it would not be perceived as an underdog.

Effects of Observability on Donations

An ongoing, prominent debate in the charitable donation literature is whether the observability of a donation act increases the amount donated (Jones & Linardi, 2012; Mason, 2016). The evidence for observability is mixed, with some researchers finding evidence that it increases donations, both inside and outside the laboratory (Andreoni & Petrie, 2004; Soetevent, 2005; van Leeuwen & Wiepking, 2013), whilst other researchers find no correlation between the level of observability and the amount donated (Dufwenberg & Muren, 2006; Jones & Linardi, 2012). Thus, studies 1 and 2 include an observability manipulation to contribute to the evidence on the effects of observability on donations.

Present research

From previous empirical findings and theoretical models, two key questions emerge. First, when comparing across charities, do people donate to the charity with the least prior support (e.g. impact donors or underdog donors) or do they favor a charity with more support (e.g. conditional co-operators or quality signaling). Second, if the least supported charity is preferred, which of the competing explanations ('Impact Model' or the 'Underdog effect')

best explains the behavior? Conversely, if the greater-supported charity is favored, which explanation (conditional cooperation or quality signaling) is preferred? These questions are addressed in four studies.

Study 1

The first study explores whether participants donate more on average to a charity with more existing support than that with less existing support.

Method

Participants.

156 students were recruited from the University of Nottingham through convenience sampling. Four cases were dropped due to invalid responses (i.e. allocating more money to charity than their endowment) and one further case was dropped due to technical problems. The final sample of 151 students consisted of 61 males (40.4%), 89 females (58.9%) and one who wished not to disclose (0.7%). Participants completed the study in groups of between four and ten ($M = 6.63$, $SD = 1.63$), with each group being randomly assigned to conditions. Remuneration for the study was the amount participants earned minus the amount they chose to give to charity. The sample size, gender composition, average earnings and average donations are reported in

Table 1.

[Insert

Table 1]

Design.

The study was a 2 (Observability: Private vs Public) by 3 (Degree of Support: 50:50 vs 20:80 vs 80:20) by 2 (the Distribution of Resources across 80:20 and 50:50) mixed design. Observability and Degree of Support are between subjects factors and the Distribution of Resources is a within-subjects factor. Following Ariely, Bracha, and Meier (2009) and Kataria and Regner, (2014) *observability* was manipulated by informing participants in the *public condition* that they would be asked to read out their donation decisions at the end of the experiment to the rest of the participants in their group once everyone in their group had completed the study. Participants in the *private condition* were informed that their decisions

would remain private and anonymous. *Degree of support* was manipulated via a screen entitled ‘Donations made by participants so far’. On the screen, there were two clear perspex jars filled with money. Each was labeled with the name of a charity (British Heart Foundation: BHF or Cancer Research UK: CRUK). The degrees of support in the jars varied across three conditions: 1) BHF is 80% full and CRUK is 20% full, 2) BHF is 20% full and CRUK is 80% full and 3) BHF is 50% full and CRUK is 50% full (see Figure 1). The 50:50 condition was included to check whether one charity was preferred over another. *Distribution of Resources* is the amount of money in the jars within each of the three conditions (20%:80%, 80%:20%, 50%:50%).

[Insert Figure 1 Here]

Procedure.

The study was conducted in three sequential stages: (1) a money earning task, (2) a charity dictator game and (3) an online questionnaire. In the *money earning task*, participants pressed the ‘z’ then ‘x’ key in that sequence for a period of five minutes (following Ariely, Bracha, & Meier, 2007). Participants had been told that to earn £4 they must make 200 ‘zx’ responses, which all the participants did (zx responses: $M = 962.62$, $SD = 247.49$). The next screen informed the participants whether their donation would be *public or private*.

Participants then saw a screen showing “Donations made by participants so far”. Depending upon the condition they were in, the jars were either 80-20%, 50-50% or 20-80% full of coins. The donation screen displayed three slider scales. Each slider scale went from 0 pence to 400 pence with the slider moving in single penny increments. The three slider scales were labeled: “The British Heart Foundation”, “Cancer Research UK”, or “Self”. Participants could donate as much or as little as they liked to BHF, CRUK or keep for themselves as long as total money allocated equaled 400 pence. This page also contained the pictures of the jars as a visual reminder. If participants were in the *public condition*, once everyone had

completed the study, they each read out their donation decisions to the rest of the participants. The questionnaire collected data on gender, course of study, current level of study and two questionnaires: Moral Foundation Questionnaire (MFQ) and Reluctant Altruism scale. The MFQ and reluctant altruism scale are not of current interest so are not discussed further. Participants were reimbursed with any money they chose to keep and all charitable donations were given to the relevant charities.

Results & Discussion

The donations in the charity dictator game were not normally distributed (Skewness and Kurtosis test: $\chi^2 = 992.86$, $p < .001$) therefore non-parametric methods were used (D'Agostino, Belanger, & D'Agostino Jr, 1990).

Charity Preference

The 50:50 conditions were included to identify any preference bias for donating to either the BHF or CRUK. There was no significant difference in either the *amount* donated to the BHF ($M = £0.81$, $SD = £0.84$) or CRUK ($M = £0.86$, $SD = £0.75$; Wilcoxon Signed Rank test: $z = -1.26$, $p = .21$) or in terms of the frequency of donations to the BHF (Number Donated = 13) or CRUK (Number Donated = 16; Chi-Square Goodness of Fit test $\chi^2 = 0.31$., $p = .58$). There was also no difference in the average amount donated between the 20-80% condition and 80-20% charity conditions (Wilcoxon Rank Sum test: $z = -1.42$, $p = .15$).

Preference Based on Distribution of Resources

As the 50:50 condition showed no charity preference effect, we compared the amount donated when a jar was 20% full compared to when a jar was 80% full regardless of charity. These analyses were run on the data from 105 participants in the 80:20 and 20:80 trials with those in the 50:50 trials removed. The charity with the least distribution of resources (20%) received more money ($M = £1.64$, $SD = £1.08$.) than the charity with a greater distribution of

resources (80%) ($M = £1.34$, $SD = £.98$) (Wilcoxon Signed Rank test $z = 2.89$, $p < .01$; see Table 2). Over the course of the study, the charity with the least distribution of resources received an additional £30.12 (see Table 2).

Effects of Observability

There was no significant effect of observability between donations in the public ($M = £1.78$, $SD = £1.54$) and private conditions ($M = £2.02$, $SD = £1.59$; Wilcoxon Rank Sum test: $z = 0.79$, $p = .43$).

Thus, the overall results showed a preference to donate to the least supported charity compared to the more supported charity and no effect of observability on donations.

Study 2

This study aims to replicate the findings of study 1 regarding preference for the charity with least support (with three design changes). First, to check that the lack of an observability effect was not due to a relatively small sample size, a large number of participants were recruited. Second, we reduce the amount earned in the earning task to £3. Third, we did not include the 50:50 condition because study 1 showed no charity preference bias.

Method

Participants.

132 students from the University of Nottingham were recruited, via convenience sampling. Eight cases were dropped due to invalid responses (i.e., allocating more money than they earned) leaving a final sample of 124 students which contained 55 males (44.4%), 67 females (54%) and two who wished not to disclose (1.6%). Participants completed the study in groups of between three and ten ($M = 6.66$, $SD = 1.88$), with each group being randomly allocated to a condition.

Design.

The study used a similar design to study 1 with a 2 (Observability: Public vs Private) by 2 (Degree of Support: 20:80 vs 80:20) by 2 (Distribution of Resources across 80:20) mixed design. The study consisted of three sequential stages: (1) money earning task, (2) charity dictator game (same as study 1) and (3) an online questionnaire. The questionnaire collected gender, educational attainment, past charitable behavior, level of risk, level of trust and the reluctant altruism scale. The present research does not focus on these measures and they are not discussed further.

Procedure.

First, participants completed the money earning task where they were told that to earn £3 they must make 200 'zx' responses (zx responses: $M = 966.14$, $SD = 241.7$). All participants had over 200 zx responses and earned £3. The rest of the procedure is identical to study 1.

Results

Donations in the charity dictator game were not normally distributed (Skewness and Kurtosis test: $\chi^2 = 27.46$, $p < .001$) so nonparametric methods were used.

Charity preference.

There was no significant difference in either the *amount* donated to the BHF ($M = £0.99$, $SD = £0.83$) or CRUK ($M = £1.00$, $SD = £0.84$); Wilcoxon Signed Rank test, $z = 0.01$, $p = .99$) or in terms of the frequency of donations to the BHF (Number Donated = 30) or CRUK (Number Donated = 33; Chi Square Goodness of Fit test, $\chi^2 = 1.8$, $p = .18$). There was also no difference in the average amount donated between the 20-80% and 80-20% charity conditions (Wilcoxon Rank Sum test, $z = -1.12$, $p = .26$).

Preference Based on Distribution of Resources

Table 2 shows that the charity with the least distribution of resources received significantly higher average donations ($M = £1.25$ $SD = £0.91$) than the charity with the greater distribution of resources ($M = £0.75$ $SD = £0.72$) (Wilcoxon Signed Rank test, $z = 4.76$, $p < 0.001$). The charity with the least distribution of resources received £56.20 more than the charity with the greater distribution of resources.

Effects of Observability.

As in study 1, there was no effect of observability on average amounts donated ($z = 0.11$, $p = .91$) (private $M = £2.01$, $SD = £1.08$ vs public $M = £1.97$, $SD = £1.11$).

[Insert Table 2 Here]

Combined Analysis of Study 1 and Study 2.

Data from studies 1 and 2 ($N = 266$) were combined to see if a larger sample size could help identify the observability effect and to control for demographic variables (gender and past level of helping¹) that may be affecting charitable donations. First, a multilevel negative binomial regression was performed to see if the distribution of resources and observability predicted the amount donated to charity. The multilevel model allowed us to account for the within-subject component of the design (participant can distribute their money across the 20% and 80% full jars). A negative binomial link was specified to account for the overdispersion present in the data (Conditional overdispersion = 2.49). Table 3 shows significantly higher donations went to the least supported charity (IRR = 0.68, SE = 0.1, $p < .01$) and no effect of observability was found (IRR = 1.00, SE = 0.15, $p = .97$). A multilevel logistic regression was conducted to explore if the distribution of resources and observability predicted the frequency of donations to charity. Table 4 shows significantly more people

donated to the least supported charity (OR = 0.47, SE = 0.13, $p < .01$) whilst no effect of observability was found (OR = 1.23, SE = 0.13, $p = .62$).

[Insert Table 3 Here]

[Insert Table 4 Here]

Discussion

Both study 1 and study 2 extended the previous literature by showing that in a more naturalistic setting for crowd-sourcing where prior charitable donations are simultaneously observable, participants preference is to donate to the charity with the least prior support. Previous work by Borgloh et al., (2013) showed that when participants could review total annual revenue secured by charities they preferred to give to the poorer charity. Thus, we replicate the preference for a relatively under-resourced charity in a different funding context.

The findings of studies 1 and 2 also suggest that observability did not influence donating to a charity. This is at odds with the majority of the literature (Bereczkei, Birkas, & Kerekes, 2007; Haley & Fessler, 2005). However, the sample sizes were relatively small. As such, we combined the data from studies 1 and 2 giving a total N of 266 which is larger than sample sizes reported in other studies that found observability effects (Ariely et al., 2009, N = 161; Kataria & Regner, 2014, N = 185), however, the non-significant effect remained.

Study 3

Studies 1 and 2 showed that participants gave significantly higher amounts to the charity with the least prior support. It is possible that participants were donating to the less well-supported charity to maximise the impact of their donations, or due to the Underdog Effect. In this study, we try to tease apart these two accounts. To do this, an analog of a threshold public good game is used where the charity will only receive donated money if a specified threshold is achieved (de Hoop, van Kempen, & Fort, 2012). The introduction of

the threshold should only change the behavior of a donor motivated to maximize impact versus support the underdog. Before the presence of a threshold, impact donors should give to the charity that has the least support to maximize any increase in the charity's revenue (Borgloh, Dannenberg, & Aretz, 2013). For an impact donor, when the amount of support already given makes the specified threshold for a charity achievable, their donation will have a greater impact with respect to achieving the goal, than when the amount of support already given means the specified threshold is far from achievable. In contrast, donors motivated to help the underdog should be more likely to donate to the charity with the least prior support, even though their donation is likely to have little impact on the charity achieving its specified threshold. To test this, we set up a study whereby five schools all needed to reach the same specified threshold but varied in how close they are to achieving it. Any donor population will be heterogeneous and made up of both underdog and impact donors, amongst others. We can, therefore, estimate those who are impact donors and those who are underdog donors by identifying those who give the most to the school that is closest to achieving its specified threshold (impact donors) versus those who give to the school that is furthest away from the specified threshold (underdog donors). Thus, we can examine the relative proportion of impact vs underdog donors.

Method

Sample.

206 participants from the University of Nottingham were recruited via convenience sampling to take part in an online study. The final sample was 184 participants, as 22 cases were dropped due to missing data on key items (e.g., discrete choice task). The final sample consisted of 78 males (42.3%), 105 females (57.1%) and one (0.6%) who preferred not to disclose. Remuneration was via a conditional lottery mechanism (see Fischbacher et al., 2001 for details) where participants had a one in ten chance of having their responses to the

decision task remunerated. Participants either earned up to £10 that they could keep or donate (some, none or all) to a local school in the form of book tokens.

Design and Procedure.

Participants were shown a hypothetical crowd fundraising profile describing five schools' fundraising efforts to raise £130 to buy ten fruit trees to plant on its school grounds (based on a real-life campaign²). Participants were informed that five schools were running exactly the same campaign but had raised different amounts of money, and at that point, all schools had only two weeks left to raise the remaining amount (see Table 5). One school (School B) had the least previous support (£10) and was the furthest from the specified threshold of £130, meaning no single donor could help them achieve it. One school (school C) was £10 away from the specified threshold, meaning one donor could make up the difference. Thus, contributions to schools B and C are key to establishing the relative proportion of the underdog and impact donors. Participants were informed that if a school did not raise the required £130 within a two-week period, they would not be able to buy the ten fruit trees. From the presentation of stimuli, there is no reason to believe that one school is less deserving of a donation than another. For example, participants were informed that the participating schools were identical in size, Ofsted reports³ and academic attainment. From this crowd funding project, participants had to a) decide whether they would be willing to donate to one of the five schools (a discrete choice task) and if they decided to donate to one of the schools, then b) decide how much of a £10 endowment they would like to give or keep for themselves.

[Insert Table 5 Here]

Results

91 participants out of the 166 participants who donated to a school chose to donate (54.82%; see Table 6 and Figure 2 *Figure 1*) to the school with the least previous support and furthest away from the threshold. A chi-square goodness of fit test, comparing the frequency of donations across the five schools against an expected frequency of chance (20%), indicated significant differences between the schools ($\chi^2(4) = 144.81, p < .01$). The school that had the least support, and was furthest from the specified threshold (School B), received a significantly higher number of donations than the school just below the threshold (School C, $z = 8.18, p < .001$) and all other schools (Bonferroni corrections were applied) (School A $z = 12.96, p < .001$; School D $z = 6.75, p < .001, p < .001$; School E $z = 11.39, p < .001$) (Sharpe, 2015). The total donated to the school that had raised the least (School B) was £688, which is more than double any other school (see Table 6 and *Figure 1*). However, this school also had the second to the lowest mean amount donated ($M = £7.64, SD = £3.07$), although a Kruskal-Wallis test showed there was no significant difference in the average levels of giving across the five schools ($H(4) = 6.06, p = .20$).

[Insert Table 6 Here]

[Insert Figure 2 Here]

Discussion

The introduction of the threshold indicated that most donors had a preference to contribute to the school with the least previous support and furthest away from the specified threshold. These are underdog donors. A smaller proportion donated to the school nearest the threshold and these are impact donors. However, while this effect was found for the frequency of donations it was not found for the average amount donated. We offer two explanations of why this was the case. First, this study uses ‘house money’ rather than earned

endowment leading to higher donations overall. Second, donors who want to maximize their impact must give £10 to push School C to the threshold, whilst donors wishing to support the least supported school cannot push it over the threshold with their contribution, hence they have more choice about the amount to donate.

Study 4

Study 3 provides some evidence that the preference for the least supported charity is due to the Underdog Effect. However, the Underdog Effect implies that there is an assumption that other potential donors are less willing generally to donate to the underdog. Thus, this study presents exactly the same scenario used in study 3 but as well as asking participants which school they would choose and how much they would donate, we ask participants which school they believe others would choose, and how much they expect others would be willing to donate. Open-ended free-response questions were also asked to assess why the participant chose to donate to the school they selected and why they expected other people to donate to the school they selected. If the Underdog Effect drives the preference for the least supported school, the open responses should include terms referring to its relative disadvantage (i.e. “has the least”) (Vandello, Goldschmied, & Richards, 2007) whereas, if donations are due to impact donating, responses should include making a difference (e.g. “biggest impact”) (Duncan, 2004). We choose a free-response format to avoid creating any demand characteristics and constraining participants within theoretical frameworks.

Method

Sample.

Sixty Nottingham University students were recruited through convenience sampling.

Design and Procedure.

Participants were asked to read the same crowd fundraising scenario used in study 3. They were then asked to answer the following six questions: i) “what school do you think most people would give to?”, ii) “how much do you think others would give?”, iii) “why do you think most people would give to that school?” iv) “what school would you give to?”, v) “how much would you give?” and vi) “why would you give to this school?”.

Results

Four participants did not respond to either: “what school do you think most people would give to?” ($N = 1$) or “how much do you think others would give?” ($N = 3$) therefore, they were excluded from those analyses. Inter-rater reliability for the deductive content analysis on the qualitative responses was moderate ($\kappa = .58$, $z = 8.26$, $p < .001$) between the two raters. All disagreements were discussed between the two raters until an agreement was reached.

School Preference.

When asked about which school they believe others would choose and which school they would choose themselves, the largest group of participants (28 out of 59) showed a preference for the school with the least support and furthest from the threshold (see Table 7). A Chi-square goodness of fit tests on the frequency of choices in terms of the school they believe others would choose ($\chi^2(4) = 38.37$, $p < .01$) and for which school they would choose themselves ($\chi^2(4) = 49.67$, $p < .01$) was significant. A comparison across schools showed that more participants donated to the least supported school (School B) compared to the school just below the threshold (School C) ($z = 4.42$, $p < .05$), and more participants expected that others would also donate to the least supported school compared to the school just below threshold ($z = 4.73$, $p < .05$). Furthermore, participants donated more to the least supported school than any other school (School A $z = 5.67$, $p < .05$; School D $z = 6.35$, $p < .05$; School

E $z = 7.13, p < .01$) and expected others to do the same (School A $z = 3.65, p < .05$; School D $z = 5.69, p < .05$; School E $z = 6.05, p < .05$) These results replicate study 3 and indicate that the effect has a normative component.

[Insert Table 7 Here]

Qualitative Analyses of Relatively Poor School Preference.

Responses to ‘why do you think most people would give?’

Of those who gave to the most supported school (School A: already over the threshold), the majority (8 out of 12; 67%) focused on the fact that it had raised the most money (see Table 8). Whereas those who donated to the least supported school (School B) were concerned most with the relative disadvantage the school was at (24 out of 30; 80%). For example, one respondent wrote, "It is furthest away from the target." Those who donated to the school just below the threshold (School C) did so to a) make a difference (2 out of 8; 25%) and b) to help it reach its target (8 out of 8; 100%). One participant wrote, "by donating the final £10 I feel like I am making a difference."

Responses to: ‘why you gave to this school?’

Choosing the most supported school (School A) was partly explained by quality signaling, with 2 out of 7 (29%) focusing on the fact that it had raised the most. The dominant response for giving to the least supported school (School B) was due to its relative disadvantage (22 out of 33; 67%). For example, one respondent said, "They are furthest away from the total so I would want to help them more." Other motives for giving to the least supported school were a desire to make things equal (4 out of 33; 12 %) and wanting to make a difference (1 out of 33; 3%). The main reason for donating to the school just below the threshold (School C) was the ease with which it could reach its target (10 out of 12; 83%). Only one respondent mentioned the desire to make an impact (1 out of 12; 8.33%).

[Insert Table 8 here]

Discussion

These results replicated the effects found in study 3, that most people choose to donate to the least supported school compared to any other school. The open responses provide support for the idea that participants gave to the least supported school because they were the underdog at a relative disadvantage. A small number of participants (4 out of 33; 12%) in response to why they, not most others, would give to the least supported school suggested they were motivated by equality so were donating to school B to reduce its shortfall in donations. This indicates that there are competing explanations for supporting the least supported school with the dominant motive being the Underdog Effect. An unusual finding in this data concerns the donations made to school A, which has already reached its target. Participants' qualitative responses revealed that people took the amount that 'school A' had already raised as a sign of its quality. This motivation is consistent with Vesterlund's, (2003) idea that contributions to charity can be perceived by potential donors as a sign of the charity's quality and thus make it appear more attractive for them to donate to. One caveat to the findings of the qualitative analysis is that self-report responses are subject to bias (i.e., demand characteristics). However, the strength of study 4 is that it allows us to move beyond inferring donor motivations from behavioral decisions alone, to directly recording motivations. Indeed, the results of the choice task replicate the results of study 3, thus we can have some confidence in the validity of the motivations reported.

General Discussion

In the absence of any specified threshold or when a threshold is a long way from being achieved the charity with least support benefits by receiving a higher level of average donations or a higher frequency of donations. This leads to the least supported charity receiving a nontrivial increase in total donations compared to the better-supported charity.

This is important as many online fundraising campaigns set a threshold to be attained. Two possible explanations for the preference of selecting the charity/organization with the least support have been suggested (i.e. 'Impact Model' and the 'Underdog Effect'). The results provide support for the heterogeneity of preferences, with the Underdog Effect being the most likely explanation for giving to a charity with least support.

However, other studies find that the charity with greater support is preferred. Why is this? Studies that find a preference for giving to the more supported charity have focused on charity campaigns that may have an immediate benefit to the donors. The Frey and Meier (2004) study focused on students contributing to a student welfare scheme, the Shang and Croson (2009) study examined contributions from supporters/listeners to a local public radio station and Martin and Randal (2008) explored support to an art gallery by visitors. In all these examples the donor could immediately benefit and as such may be more inclined to help when they see others contributing as ultimately this will help them (i.e. they receive the hardship payments, their public radio station stays open, and their gallery stays open). In contrast, our study and the Borgloh et al. (2013) study do not have this immediate benefit to the donor. In the Borgloh et al. (2013) study, the charities were described in terms of general categories (e.g. medical research etc.) and as such, the participants would be less likely to know if they could personally benefit. In our studies, the charities were either specific medical charities (Cancer or Heart Disease), that young students are unlikely to have any immediate benefit from. Similarly, in the school's crowdsourcing study, the participants will have no immediate benefit from donating to the schools. So it may be the case that conditional cooperation operates when there is an immediate personal benefit favoring the better-supported charity and the 'Underdog Effect' is observed when there is no immediate personal benefit (Kim et al., 2008). Therefore, we hypothesize that a charity based 'Underdog Effect' will be maximal when (1) there is no threshold/ or a threshold that is

unattainable by a single donation and (2) when donors do not directly benefit from their donations. This will be the case for a charity that is seen as deserving but disadvantaged with respect to resources.

Implications

This paper is important because it shows that when people have social information of the levels of support a charity receives and can compare this information across multiple charities they prefer to donate to the least supported charity. This suggests that fundraisers should take care to present their campaigns in real world and online contexts where their charity will appear less supported compared to their competitors. Conversely, if a charity is well supported and cannot change the real world or online contexts in which it presents itself, it might benefit from highlighting aspects of its current situation that make it appear at an undeserved disadvantage relative to some of its competitors. One way this could be achieved is by developing an underdog biography (Nagar, 2017). The work of Paharia, Keinan, Avery, and Schor, (2011) shows that businesses that managed to develop an underdog biography enjoyed increased consumer purchasing and greater brand loyalty. Theoretically, this paper demonstrates that the underdog effect is an important and underexplored motivation that charities could target to increase support and enhance their revenues.

Conclusions

The current study shows that when people are given the choice between a charity with substantial prior support compared to one with relatively little prior support, they prefer to donate to the charity with the least prior support. The main motivating factor behind this finding is the ‘Underdog Effect’ where people have a preference for the charity at an undeserved disadvantage. However, the ‘Underdog Effect’, as a motivating factor, driving charitable decisions may be limited to contexts where charities are easily comparable and

equally deserving. Further work is needed to explore how factors that are known to influence donation decisions like charities effective use of resources, charities impact on the cause, perceived worthiness and their reputation moderate the ‘Underdog Effect’ (Bekkers & Wiepking, 2010). In particular, Michniewicz and Vandello (2013) showed that unfairly disadvantaged job applicants were rated by participants as attractive, compared to fairly disadvantaged job applications. Future work could examine the additional impact of the fairness of the disadvantage in accentuating the ‘Underdog Effect’.

End Notes

¹ Past level of helping behavior is a composite sum score measure of six yes/no items designed to measure charitable activity. For example, “Have you ever taken part in any of these charitable activities: Fundraising events, donating blood, helping in old folks home, helping in children home, donating money, and helping in a hospital”)

² The crowdfunding pages were from a project called Fruitshare which was a TV Campaign launched by Hugh Fearnely Whittingstall to get children growing fruit trees at schools across Britain. The campaign raised £13,790 with a total of 97 projects (CrowdFunder, 2013).

³Ofsted is an acronym well known in these samples for the ‘Office for Standards in Education, Children’s Services and Skills’. They inspect schools assessing the quality of education provision provided (see www.gov.uk/government/organisations/ofsted).

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Table 1

Comparison of sample size, gender composition, average endowment and earnings across all four studies.

	Study 1	Study 2	Study 3	Study 4
Initial Sample size	156	132	206	60
Gender composition (% female)	58.9%	54%	57.1%	Not collected
Endowment per person.	£3	£4	£ 10*	No Endowment
Mean Earnings per person (SD).	£2.09 (1.56)	£1.01 (£1.09)	£2.82 (£3.61)*	No Earnings
Mean amount donated per person (SD).	£1.90 (£1.56)	£1.98 (£1.09)	£7.22 (£3.58)	£10.49 (£10.91)
Proportion of donations (% of donors vs total potential donors)	76.67%	87.9%	89.83%	100%

Note 1. Numbers in Brackets are SD. * A Conditional lottery was used in Study 3 so one in ten participants had their decisions remunerated.

Table 2

Average and total donations to Well and Poorly supported Charities in Study 1 and Study 2

		Mean (SD)	Sum
Study 1	Least supported Charity (20%)	£1.64 (£1.08)	£120.31
	Well supported Charity (80%)	£1.34 (£0.98)	£90.19
Study 2	Least supported Charity (20%)	£1.25 (£0.91)	£151.45
	Well supported Charity (80%)	£0.75 (£0.72)	£95.25

Table 3

A multilevel negative binomial regression model exploring the effect that the Underdog Effect has on donations made to charity during studies 1 and 2.

	Model 1	Model 2	Model 3
	IRR (SE)	IRR (SE)	IRR (SE)
20% vs 80% Charity (0 = 20%, 1 = 80%)	0.68 (0.1)**	0.68 (0.1)**	0.68 (0.1)**
Observability (0 = Private, 1= Public)		1.00 (0.15)	1.00 (0.15)
Gender (0 = Male, 1 = Female)			1.08 (0.16)
Past level of Helping Study 1 or Study 2 (0 = Study 1, 1 = Study 2)			0.97 (0.06) 1.28 (0.19)

*Note 2.*IRR = Incident Rate Ratio's, SE = Standard Error, * = p < .05, ** = p < .01 .Model 1 $\chi^2(1) = 7.02, p < .01$, Model 2 $\chi^2(2) = 7.02, p < .05$, Model 3 $\chi^2(4) = 7.66, p = 060$. N = 235.

Table 4

A multilevel logistic regression model exploring the effect that the Underdog Effect has on the frequency of donations to charity during studies 1 and 2.

	Model 1	Model 2	Model 3
	OR (SE)	OR (SE)	OR (SE)
20% vs 80% Charity (0 = 20%, 1 = 80%)	0.47 (0.13)**	0.47 (0.13)**	0.47 (0.13)**
Observability (0 = Private, 1= Public)		1.14 (0.47)	1.23 (0.51)
Gender (0 = Male, 1 = Female)			1.92 (0.79)
Past level of Helping Study 1 or Study 2 (0 = Study 1, 1 = Study 2)			0.94 (0.15) 1.71 (0.71)

*Note 3.*OR = Incident Rate Ratio's, SE = Standard Error, * = p < .05, ** = p < .01 .Model 1 $\chi^2(1) = 7.17$, p < .01, Model 2 $\chi^2(2) = 7.26$, p < .05, Model 3 $\chi^2(5) = 10.87$, p = .054. N = 235.

Table 5

The amount raised by the five different schools over the first week of the campaign.

The amount raised so far by the different schools

are:

School A has raised £136.50

School B has raised £10.00

School C has raised £120.00

School D has raised £65.00

School E has raised £110.00

Table 6

Average and Total donations to the five schools.

Schools Target (£130.00)	Number who donated	Mean (SD)	Total Donations
School A (£136.50)	4	£9.63 (£0.75)	£38.50
School B (£10.00)	91	£7.64 (£3.07)	£688.00
School C (£120.00)	26	£8.69 (£2.20)	£226.00
School D (£65.00)	35	£8.34 (£2.63)	£292.00
School E (£110.00)	10	£6.60 (£3.31)	£66.00

Table 7

Average and total donations to the five schools across what most people would do and what the participant would do.

Schools Target (£130.00)	What would most people do?			What would you do?		
	No. who donated	Mean (SD) (£58.40)	Total Donations	No. who donated	Mean (SD) (£5.53)	Total Donations
School A	11	£24.18 (£58.40)	£266.00	7	£8.71 (£5.53)	£61.00
School B	28	£15.16 (£19.88)	£424.50	33	£11.23 (£9.99)	£370.50
School C	8	£9.19 (£4.24)	£73.50	12	£7.58 (£3.65)	£91.00
School D	5	£16.40 (£27.42)	£82.00	5	£15.40 (£27.76)	£77.00
School E	4	£12.50 (£8.66)	£50.00	3	£10.00 (£8.66)	£30.00

Table 8

Number and percentage of donors whose qualitative responses indicated Underdog, Impact donor or Equality motivations driving their choice of school.

	Theories				
	Underdog	Impact Donor	Equality	Quality Signalling	Quality Signalling
Constructs	Relative Disadvantage	Making a difference	Easy Reach of Target	Equality	Quality Signalling
Examples	Least, Fewer etc.	Difference, Change etc.	Achieve, Closest etc.	Equal, Same etc.	Most raised.
Why would most people give? (N = 59)					
School A N = 12 (n (%))	0 (0%)	0 (0%)	0 (0%)	0 (0%)	8 (67%)
School B N = 30 (n (%))	24 (80%)	0 (0%)	0 (0%)	1 (3.33%)	0 (0%)
School C N = 8 (n (%))	0 (0%)	2 (25%)	8 (100%)	0 (0%)	1 (13%)
School D N = 5 (n (%))	0 (0%)	0 (0%)	3 (60%)	0 (0%)	0 (0%)
School E N = 4 (n (%))	0 (0%)	0 (0%)	1 (25%)	0 (0%)	0 (0%)
Why did you give to this school? (N = 60)					

School A N =7 (n	0 (0%)	0 (0%)	0 (0%)	0 (0%)	2 (29%)
(%))					
School B N = 33	22 (67%)	1(3%)	0 (0%)	4(12%)	0 (0%)
(n (%))					
School C N = 12	0 (0%)	1 (8%)	10 (83%)	0 (0%)	1 (8.33%)
(n (%))					
School D N = 5	0 (0%)	0 (0%)	3 (60%)	0 (0%)	0 (0%)
(n (%))					
School E N = 3	0 (0%)	0 (0%)	1 (33%)	0 (0%)	0 (0%)
(n (%))					

Note 4. Words used to record relative disadvantage were: Least/Fewer/ Lower/ Less/Furthest. The words Difference/Change/ Impact/Worthwhile were used to capture the construct Impact. Ease of target was measured by Achieve/ Closest/ Reach. Equality was captured by equal, same and similar. Quality signaling was captured by the term raised the most.



Figure 1. Example of the 80%, 50% and 20% full jars of coins.

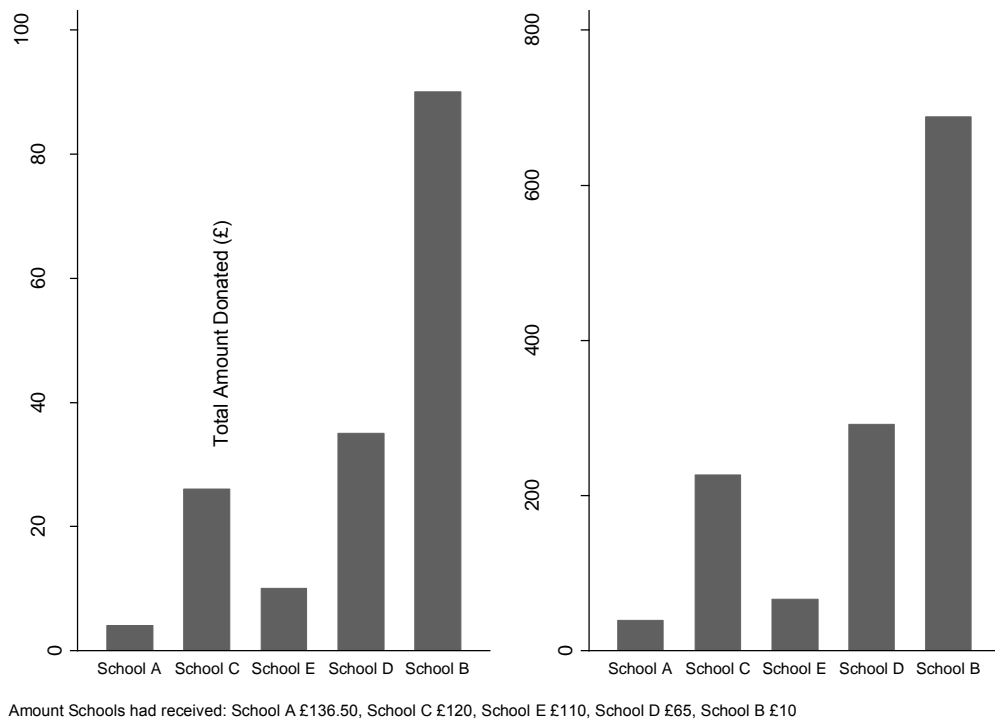


Figure 1. The total frequency and total amount (£) donated to each school.