Title
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Abstract

This study explored the influence of various socio-affective factors on charitable giving, using an online task in which participants could choose to exert time and effort that was subsequently translated into monetary donations. Participants had the option of making *Public Donations*, associated with the possibility of having one's name displayed on a "Donors of the Week" webpage; *Anonymous Donations*, associated with the possibility of the experimenters doubling the donated amount; or *No Donations*. Moreover, some participants were given Social Information (SI) regarding the percentage of Public vs. Anonymous donations obtained in a pilot study. We found that the proportion of *Public Donations* increased with greater scores on the Narcissistic Entitlement & Exploitativeness scale (NPI EE), but only in the SI group. Conversely, the proportion of *Anonymous Donations* decreased with greater NPI EE scores, in the No Social Information group (NSI). In the absence of Social Information, Simulated Compassion scores (SCS), indicative of social approval seeking, decreased the proportion of *No Donation* decisions as well as the average amount donated. Finally, Social Information modulated the proportion of Public, but not Anonymous, donations. The role of self-serving motivators in prosocial behavior is discussed.

Keywords: charitable giving; simulated compassion; social anxiety; narcissism; social information

Background

Several socio-affective factors can motivate the decision to engage in charitable behavior. In this study we focused on motivations that are self-serving, in the sense that the main goal behind an individual's act of compassion is their own wants and needs vs. the wants and needs of others. Specifically, we assess how social approval seeking and narcissism shape decisions to donate publicly vs. anonymously, and how information about others' donation decisions modulate those relationships.

Simulated Compassion

Genuine compassion has been defined as "the feeling that arises in witnessing another's suffering and that motivates a subsequent desire to help" (Goetz, Keltner, & Simon-Thomas, 2010). It involves both caring for the other and a wish to improve the other's wellbeing (Singer & Klimecki, 2014). In contrast, Catarino, Gilbert, Mcewan, & Baião (2014) defines submissive (henceforth *simulated*) compassion as caring that serves "self-advancing or protective needs, such as wanting to please others, to be liked or thought well of, and to avoid rejection". They found that caring shame – the fear of being criticized for not being caring enough – and self-image goals predicted simulated compassion. Moreover, simulated compassion was highly correlated with caring guilt – focused on regret and a sense of responsibility –, submissive behavior, anxiety, and stress.

Social Anxiety

Social anxiety involves a fear of being evaluated by others, and it can occur either when someone is currently being evaluated or when there is a possibility of being evaluated (Leary & Kowalski, 1997). Łakuta (2018) identifies five dimensions of social anxiety, namely: negative view of the self as a social object, self-focused attention (e.g., constant thinking about how you look or sound to others), safety behaviors, somatic and cognitive symptoms (e.g., sweating and mental blanks), and anticipatory and post-event rumination. Weisman, Aderka, Marom, Hermesh, & Gilboa-Schechtman (2011) found social anxiety to be related to behaving submissively as well as perceiving oneself as having low social rank.

Narcissism

Narcissism can be divided into two broad categories: grandiose and vulnerable. Grandiose narcissism includes traits such as self-enhancement, entitlement, and dominance; while vulnerable narcissism includes entitlement, distrust of others, and defensive grandiosity to obscure feelings of inadequacy (Miller, Gentile, Wilson, & Campbell, 2013; Miller, Lynam, Hyatt, & Campbell, 2017). While the first is associated with an inflated self-esteem, the latter is associated with a fragile self-esteem (Ackerman, Witt, Donnellan, Trzesniewski, Robins, & Kashy, 2011). The factors we were interested in studying included Grandiose/Exhibitionism (GE) and Entitlement/Exploitativeness (EE). GE captures self-absorption, vanity, superiority, and exhibitionistic tendencies; this factor relates mostly to grandiose narcissism. EE captures entitled beliefs and behaviors in interpersonal contexts, including a willingness to manipulate others; this factor relates to both grandiose and vulnerable narcissism (Ackerman et al., 2011; Gentile, Miller, Hoffman, Reidy, Zeichner, & Campbell, 2013).

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Social Conformity

In a field experiment, Alpizar, Carlsson, & Johansson-Stenman (2008) investigated the effect of providing information about the typical dollar amount ($2, $5, or $10) contribution made by others, and found that in all cases the most common contribution aligned with the one provided as reference. Similarly, assesing the impact of multiple earlier donations on the donation of a subsequent donor, Sasaki (2019) found that the greater the number of similar donations among earlier donations, the greater the likelihood that a donor would match that modal donation. Here, we assessed whether social conformity might sway individuals to make a public vs. anonymous donation.

Methods

Participants

Two hundred and ten undergraduates (182 female, mean age 20.9 ± 3.22) at the University of California, Irvine (UCI) participated in the study for extra course credit. The study was posted to a cloud-based participant pool management system where any UCI student enrolled in a course that allows extra credit to be earned via research participation could sign up. The sample size was based on Gilbert, Catarino, Sousa, Ceresatto, Moore, & Basran (2017). Participants were compensated with course credit for the thirty minutes it took to complete the main tasks but were not compensated for the time they decided to donate to gain money for a charity. All participants gave informed consent, and the Institutional Review Board of the institution approved the study. Participants that did not follow instructions in at least eighty percent of the rounds of the main tasks were removed from analysis. Data analysis was performed on the remaining one hundred and eighty participants (157 female, mean age 20.8 ± 2.94).

Tasks

Charity Ratings Task Participants were presented with sixty real world charities, one at a time. For each charity, they were shown its name, a picture — taken from the charity's website —, and its mission. They had to rate each charity by how deserving of assistance they believed it to be (*deservingness*) and how likely it was that they or someone they knew would directly benefit from its mission (*closeness*). Both ratings were given on a 7-point Likert scale ranging from "Not at all deserving" to "Extremely deserving" and "Not at all likely" to "Extremely likely", respectively. This task was based on Hare, Camerer, Knoepfle, O'Doherty, and Rangel (2010). A screen from the task is illustrated in Figure 1.

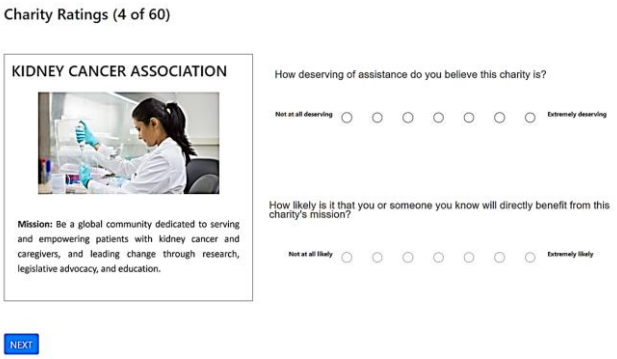

Figure 1: A round of the Charity Ratings Task. On the left side of the screen participants saw the charity's name, picture, and mission. On the right side of the screen, participants had to respond: (i) "How deserving of assistance do you believe this charity is?" (ii) "How likely is it that you or someone you know will directly benefit from this charity's mission?"

Donations Decisions Task Participants were presented with the same sixty charities, one at a time, and asked to submit a donation decision for each of them. They knew that one of those sixty donation decisions would be randomly selected for implementation. The donation decision consisted of (1) the number of Slider Tasks they committed to perform for the charity and (2) whether they wanted the donation to be Anonymous or Public. For each Slider Task they committed to performing they could earn $1 for the respective charity, they could commit to performing any number of Slider Tasks between 0 (No donation) and 20. Each potential (positive) donation could be either Anonymous or Public. Anonymous donations would not be associated with the participant's name but had a 50% chance of being doubled by the researchers. Public donations had no possibility of being doubled but, if large enough,[1] the participant's name would be included on a "Donors of the Week" list on a public website created for the study. [2] The link to the website was available to any student in the participant pool management system and was also emailed to all participants that completed this study. For each positive donation decision (1 to 20 Slider Tasks) participants had to select Anonymous or Public; when the donation decision was 0 Slider Tasks they were instructed to select "N/A" (Not Applicable).

To assess susceptibility to social norms, participants were randomly assigned to a "Social Information" group (n = 87), in which, for each donation decision, information was provided regarding what percentage of donations to that charity were Public vs. Anonymous in a pilot study. Critically, Public donations were much less frequent than Anonymous donations, so that, if susceptible to the donation decisions of their peers, participants should reduce their Public donations. A screen from the task is illustrated in Figure 2.

[1] Participants were not specified what a 'large enough' donation was. Internally, 'large enough' was a donation of $10 or larger.

[2] https://sites.google.com/view/thecharityproject/home

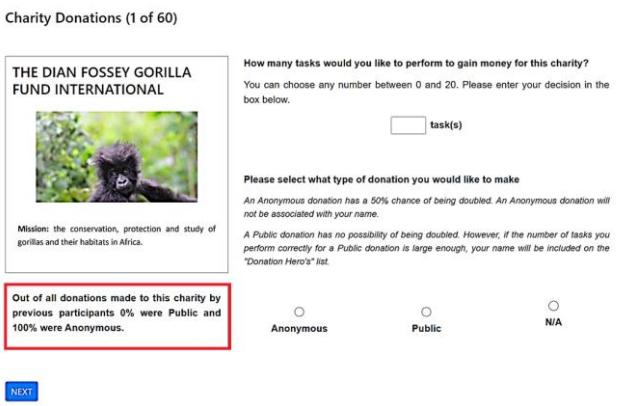

Figure 2: A round of the Donation Decisions Task. On the left side of the screen participants saw the charity's name, picture, and mission. Participants in the Social Information Group were also shown a box (here outlined in red) stating what percentage, out of all donations made to the charity by previous participants, were Public and what (complementary) percentage were Anonymous. On the right side of the screen, participants had to respond: (i) How many tasks they would like to perform to gain money for that specific charity by entering a number between 0 and 20 in the box, (ii) What type of donation they would like to make by selecting Public, Anonymous, or N/A – if choosing No donation –. They were reminded of what Anonymous and Public donations meant in the context of the study. The order of the radio buttons was random on each trial.

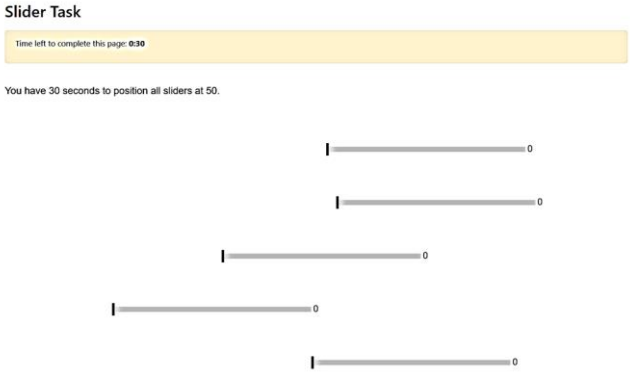

Figure 3: A Slider Task. In a Slider Task, participants were presented with five sliders randomly positioned across the screen and had 30 seconds to change all slider values from 0 to 50. Participants could choose to complete any number of Slider Tasks between 0 and 20 for each charity (knowing that only one of those decisions would be chosen to be performed). All Slider Tasks had the same instructions, but the position in which the sliders appeared on the screen was random every time. Each Slider Task gave the participants the opportunity to gain $1 for a charity.

Slider Tasks Each task consisted of five sliders randomly distributed across the screen. The five sliders began positioned at 0 and participants had thirty seconds to position them at 50. If all five sliders were positioned at 50 when the 30-second timer ran out, participants gained $1 for the selected charity. Participants could decide to complete up to twenty Slider Tasks, gaining $1 for each Slider Task completed correctly. A screen from a Slider Task is illustrated in Figure 3.

Self-Report Measures

Submissive (*Simulated*) Compassion Scale (Catarino et al., 2014) (SCS) This scale assesses the extent to which an individual's compassionate acts are guided by simulated compassion. The scale consists of 10 statements regarding reasons for being caring, and participants responded on a five-point scale ranging from "Not at all like me" to "Extremely like me".

Social Anxiety Questionnaire (Łakuta, 2018) (SAQ) This scale measures social anxiety defined as "a marked and persistent fear of negative evaluation in social situations". The scale consists of 10 statements and participants responded on a five-point scale ranging from "Strongly Disagree" to "Strongly Agree".

Narcissistic Personality Inventory – 13 (Gentile, Miller, Hoffman, Reidy, Zeichner, and Campbell, 2013) (NPI) This scale is a brief measure of narcissism that provided a total score and three subscale scores. The scale consists of 13 pairs of attributes, for each pair participants had to choose the one that they most agreed with. We were interested in the subscale scores of Grandiose/Exhibitionism (NPI GE) and Entitlement/Exploitativeness (NPI EE).

Procedure

At the start of the experiment participants were instructed that the study had two phases. They needed to complete phase one to be compensated with extra course credit. Phase two was optional, they would not receive compensation for completing phase two, instead, they would be donating their time and effort to gain money for a charity. During phase one participants completed the Charity Rating Task, the Donation Decisions Task, and the three self-report measures. Before making their donations decisions participants did a trial round of a Slider Task to get a sense of how much time and effort it demanded it. At the end of phase one participants were told which donation decision was chosen to be performed. During phase two, participants were asked to complete their donation decision, that is, the Slider Tasks they had committed to. The total amount of money gained for the charity was determined by the number of Slider Tasks they completed correctly in phase two, with a fifty percent chance of doubling the total if the donation decision was Anonymous. All donations were real.

Statistical Analyses

We assessed the effects of the relevant socio-affective constructs using linear regressions and adding average deservingness and closeness ratings as covariates due to their possible influence on donation decisions (Hare et al., 2010). To avoid multicollinearity, we assessed correlations between all predictor variables before running the regressions. We used Pearson's r>0.25 as a criterion for assessing predictor variables in separate regressions. To investigate the effect of social information in the proportion of Public and Anonymous donations, independent samples two-tailed t-test were performed with either proportion of Public or proportion of Anonymous donations as dependent variable and Social Information as grouping variable. Statistical analyses were implemented in JASP and MATLAB.

Results

On average, participants completed 88.61% and 89.21% of the donations they committed to, in the NSI and SI groups, respectively.

No Social Information Group (n=93)

Correlation Analysis The only significant correlation above the threshold was between SCS and SAQ (*Pearson's r*=0.516, *p-value*<0.001). Therefore, we ran two separate regressions for each dependent variable. One had SCS, NPI GE, NPI EE, deservingness and closeness as independent variables (SCS reg), while the other replaced SCS with SAQ (SAQ reg).

Regressions The SCS reg with proportion of Public donations as dependent variable was not significant (F(5, 87)=1.829, *p-value*=0.115). However, looking at the individual variables' p-values, closeness was significant (*p-value*=0.021). We repeated the regression with only closeness as an independent variable and our model became significant, suggesting that it is a better predictor of proportion of Public donations than the mean proportion (*adj* R^2=0.051, F(1, 91)=5.933, *p-value*=0.017, β=0.041). The SAQ reg was also not significant (F(5, 87)=1.787, *p-value*=0.124), while closeness was still significant (*p-value*=0.011).

The SCS reg with proportion of Anonymous donations as dependent variable was not significant (F(5, 87)=1.925, *p-value*=0.098). The SAQ reg was also not significant (F(5, 87)=1.762, *p-value*=0.129). Looking at the individual variables' p-values, in both regressions no variables reached significant levels, however, NPI EE was the only variable with a p-value<0.1 (*p-value*=0.085 and 0.081, respectively). We, therefore, ran a regression with only NPI EE as an independent variable and the model became significant (*adj* R^2=0.039, F(1, 91)=4.752, *p-value*=0.032, β= -0.059).

The SCS reg with proportion of No donations as dependent variable was not significant (F(5, 87)=1.946, *p-value*=0.095). However, looking at the individual variables' p-values, SCS was close to significance (*p-value*=0.058). We repeated the regression with only SCS as an independent variable and our model became significant (*adj* R^2=0.037, F(1, 91)=4.528, *p-value*=0.036, β= -0.008). The SAQ reg was not significant (F(5, 87)=1.262, *p-value*=0.288) and no individual variable had a p-value<0.1.

The SCS reg with average amount donated as dependent variable was significant (*adj* R^2=0.079, F(5, 87)=2.587, *p-value*=0.031). Looking at the individual variables' p-values, SCS was significant (*p-value*=0.012), and deservingness was marginally significant (*p-value*=0.054). We repeated the regression with only SCS and deservingness as independent variables (*adj* R^2=0.101, F(2, 90)=6.165, *p-value*=0.003). The coefficient for SCS was -0.192 (*p-value*=0.006) and for deservingness 1.2 (*p-value*=0.051). The SAQ reg was not significant (F(5, 87)=1.661, *p-value*=0.153) and looking at the individual variables' p-values deservingness was significant (*p-value*=0.042).

Social Information Group (n=87)

Correlation Analysis We found two significant correlations above the threshold, SCS and SAQ (*Pearson's r*=0.424, *p-value*<0.001), and SAQ and NPI GE (*Pearson's r*= -0.323, *p-value*=0.002). Therefore, we ran two separate regressions for each dependent variable. One had SCS, NPI GE, NPI EE, deservingness and closeness as independent variables (SCS reg), while the other had SAQ, NPI EE, deservingness and closeness (SAQ' reg).

Regressions The SCS reg with proportion of Public donations as dependent variable was significant (*adj* R^2=0.17, F(5, 81)=4.531, *p-value*=0.001). Looking at the individual variables' p-values, closeness was significant (*p-value*=0.004) as well as NPI EE (*p-value*=0.005). We repeated the regression with only closeness and NPI EE as independent variables (*adj* R^2=0.178, F(2, 84)=10.324, *p-value*<0.001). The coefficient for closeness was 0.034 (*p-value*=0.003) and for NPI EE 0.039 (*p-value*=0.005). The SAQ' reg was significant (*adj* R^2=0.181, F(4, 82)=5.757, *p-value*<0.001). Looking at the individual variables' p-values, closeness was significant (*p-value*=0.004) as well as NPI EE (*p-value*=0.006).

The SCS reg with proportion of Anonymous donations as dependent variable was not significant (F(5, 81)=1.403, *p-value*=0.232). Looking at the individual p-values, the only variable with a p-value<0.1 was deservingness (*p-value*=0.069). A regression with only deservingness as independent variable did not reach significance (F(1, 85)=3.421, *p-value*=0.068). The SAQ' reg was significant (*adj* R^2=0.081, F(4, 82)=2.895, *p-value*=0.027). Looking at the individual p-values, the only significant variable was SAQ (*p-value*=0.019). We repeated the regression with only SAQ as independent variable (*adj* R^2=0.042, F(1, 85)=4.744, *p-value*=0.032, β=0.009).

The SCS reg with proportion of No donations as dependent variable was not significant (F(5, 81)=0.76, *p-value*=0.581) and no individual variable had a p-value<0.1. The SAQ' reg

was not significant (F(4, 82)=2.173, *p-value*=0.079). However, looking at the individual variables' p-values, SAQ was significant (*p-value*=0.012). We repeated the regression with only SAQ as independent variable (*adj* R^2=0.07, F(1, 85)=7.462, *p-value*=0.008, β= -0.011).

The SCS reg with average amount donated as dependent variable was not significant (F(5, 79)=1.137, *p-value*=0.348). However, looking at the individual variables' p-values, deservingness was significant (*p-value*=0.045). We repeated the regression with only deservingness as independent variable (*adj* R^2=0.034, F(1, 83)=3.96, *p-value*=0.05, β=1.461). The SAQ' reg was not significant (F(4, 80)=1.144, *p-value*=0.342) and looking at the individual variables' p-values deservingness was close but did not reach significance (*p-value*=0.061).

Independent Samples T-Test

Brown-Forsythe test suggested unequal variance in the proportion of Public donations grouped by Social Information. We, therefore, specified unequal variance when conducting this test. The analysis revealed an effect of Social Information on the proportion of Public donations (t(153)=3.16, *p-value*=0.002, *Cohen's d*=0.464), with a higher proportion in the No Social Information group (0.15 ± 0.024 SEM) than in the Social Information group (0.061 ± 0.015 SEM). Conversely, the t-test with proportion of Anonymous donations as dependent variable suggested no effect of Social Information (t(178)= -1.671, *p-value*=0.096, *Cohen's d*= -0.249).

Discussion

This study explored the influence of various socio-affective factors on charitable giving, using an online task in which participants could choose to exert time and effort that was subsequently translated into monetary donations. Participants had the option of making *Public Donations*, associated with the possibility of having one's name displayed on a "Donors of the Week" webpage; *Anonymous Donations*, associated with the possibility of the experimenters doubling the donated amount; or *No Donations*.

The proportion of Public donations increased with the average closeness to charities, defined as how likely it was that the participant or someone they knew would directly benefit from the charities mission, in both the NSI and a SI groups. This suggests that if a person is close to the mission of a charity, they might want others to know that they are doing something to help. NPI EE had an impact on the proportion of Public donations for the SI group, where a higher NPI EE score indicated a higher proportion of Public donations. Entitlement involves the expectation of special exemptions from normal social demands, and previous research suggests entitlement is related to interpersonal characteristics of being rebellious and distrustful. What is more, exploitativeness has been shown to have a positive correlation with a tendency to be rebellious and non-conforming (Raskin and Terry, 1988). Thus, it is not surprising that information about other people's behavior, specifically, of the majority not choosing to make Public donations, acts as an incentive for participants with higher NPI EE score to make Public donations.

NPI EE had a negative effect in the proportion of Anonymous donations for the NSI group. Anonymous donations had no direct benefit for the participant, participants with higher NPI EE score may feel more entitled to a benefit for any action they perform, something they would not receive from an Anonymous donation. SAQ had a positive effect in the proportion of Anonymous donations for the SI group. Knowing other people tend to choose Anonymous over Public donations seems to make those with a higher fear of negative evaluations in social situations to increase their proportion of Anonymous donations. The effect of SAQ in the proportion of Anonymous but not Public donations when there is social information, seems to indicate that fear of a negative evaluation has a larger effect of increasing behaviors that others do vs. decreasing behaviors that others do not do.

SCS had a negative effect on the proportion of No donations in the NSI group, that is, a higher SCS score was related to a higher chance of making a donation. SCS is highly positive correlated with caring shame and caring guilt, which involve attribute such as self-criticism for not being caring enough and sense of responsibility (Catarino et al., 2014), which probably drives people with higher SCS to make donations. When there was Social Information available, SAQ became a better predictor of the proportion of No donations than SCS. SAQ had a negative effect on the proportion of No donations while SCS had no effect. A statement that shows people have donated to the charity seems to make people with higher SAQ to increase their probability of making donations.

SCS had a negative effect on the average amount donated in the NSI group. The higher their SCS the lower the amount participants donated. It seems that those who donate because of a genuine concern tend to donate more than those that do it to be liked or avoid rejection. This effect was not seen in the SI group. Deservingness had a positive effect on the average amount donated for both groups. Higher average deservingness scores were associated with higher time and effort participants were willing to donate.

Lastly, there was an effect of Social Information in the proportion of Public donations. In general, participants that were provided with information showing that Public donations were rarely made by previous participants made less Public donations than those that did not receive that information. The general tendency to adjust towards majority decisions may reflect an intrinsic cost of dissent. Mistry & Liljeholm (2018) showed that arbitrary stimuli can acquire negative valence when repeatedly paired with dissent from a unanimous majority. In their study, stimuli associated with consensus did not have a significant increase in likability, but stimuli associated with dissent had a significant decrease in likability, suggesting an intrinsic cost of dissent. The knowledge that the majority of previous participants did not choose to make Public donations (i.e., associating Public

decisions with dissent) might have decreased the likability of that option, and thus reduced the proportion of Public donations. There was no effect of Social Information in the proportion of Anonymous donations. Participants tended to reduce their Public donations, but not necessarily increased their Anonymous donations, instead, some of them decided not to donate at all. Interestingly, those that decided to change their donation from Public to Anonymous might have also modified the amount they were willing to donate. This might be a reason why SCS score is associated with average amount donated for the NSI group, but not for the SI group.

In conclusion, we found that self-serving traits, such as approval seeking and narcissism, shifted the balance between Public and Anonymous donations, and that those relationships depended on information about other's decisions. Limitations include the large proportion of female participants, and the limited dissemination of Public donations. Future work will aim to identify the neural substrates of self-serving prosociality.

Acknowledgments

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All charities selected for this study were highly rated for financial health, accountability, and transparency by Charity Navigator. Charity Navigator is a non-profit organization whose ratings seek to show donors how efficiently a charity will use their support.

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