

Others are doing it too

Understanding social information effects on donor's behavior and mood

Claire van Teunenbroek^a, René Bekkers^a, Bianca Beersma^b

^aCenter for Philanthropic studies, Vrije Universiteit Amsterdam, De Boelelaan 1081, 1081 HV Amsterdam, The Netherlands

^bDepartment of organization Sciences, Vrije Universiteit Amsterdam, De Boelelaan 1081, 1081 HV Amsterdam, The Netherlands

Abstract

If donors are donating a certain amount, will others do it too? The literature suggests that mentioning the donation amount of previous donors, which is social information, positively affects the individual donation amount. Fundraisers depend on the working of social information, while the knowledge surrounding the working of social information is limited. We conducted a randomized control experiment among British citizens ($n = 1,029$), to explore how and why social information affects giving. We manipulated different forms of social norms to test how social information effects differ as a function of their presentation. The effect of social information depends on the type of norm stated. The appropriate, rather than the actual, donation amount of others is most effective in increasing the donation amounts (10%) and donor's moods (11%). We found no evidence that social information affects giving behavior or mood by affecting the perceived social norms.

Keywords

Donation behavior, mood, survey experiment, social information, social norms

Introduction

Why is one small piece of information enough to influence donor's decision-making? A mechanism often applied in an online donation context is providing potential donors with the donation amount of earlier donors, which is social information. Influencing decision making with a discrete suggestion, 'nudging' (see Thaler & Sunstein, 2008), is increasingly popular. A nudge uses the human tendency to be influenced by ways in which information is presented and choices are constructed (Thaler & Sunstein, 2008). Fundraisers depend on this human tendency by implementing social information in their fundraising campaigns, hoping to stimulate giving behavior. This despite the fact that the literature reporting on social information effects is restricted: (1) the knowledge surrounding the working of the effect is limited, and (2) social information implemented as a stimulant for charitable giving could have no even or even a negative effect. From the current literature on social information effects, we cannot conclude to what extent social information affects donation amounts. Therefore, our central research question is: "Why and how does social information increase charitable giving?"

The first problem refers to the scientific relevance of this article. Van Teunenbroek, Bekkers & Beersma (2019) conclude their review of 35 studies reporting on social information effects, that the field represents a vibrant area for theoretical development. The researchers propose a model with mediators that influence the relationship between social information and donation behavior. However, the model is only partially supported by empirical accounts, since few studies focusing on social information effects focused on examining explanations behind the effect. Thus, more research is needed to test the proposed framework.

The second problem refers to the practical relevance of this article. Despite the positive effects of social information that have been found in most of the studies (see van Teunenbroek et al., 2019 for an overview), there is also a sizable number of studies that found either no effects (Catt & Benson, 1977; Kubo, Shoji, Tsuge, & Kuriyama, 2018; Murphy, Batmunkh, Nilsson, & Ray, 2015; Shang & Croson, 2009), or even negative effects of social information (Croson & Shang, 2008; Meyer & Yang, 2016). In addition, the strength of the positive effects' alone ranges from 10% (Bekkers, 2012), 17% (van Teunenbroek & Bekkers, in press) 35% (van Teunenbroek, 2016), 43% (Croson and Shang, 2013), to even 66% (Hysenbelli, Rubaltelli, & Rumiati, 2013).

The combination of the lacking theoretical framework and incoherent view of social information makes it difficult for practitioners to safely apply social information as a stimulant for donation behavior. For the scientific field focused on social information effects to mature and for practitioners to advance using social information, there needs to be clarity about the working of the mechanism. To achieve this, the following article aims to explore (1) a probable explanation behind the direct effect: social norms, and (2) a new outcome variable: mood.

First, we aim to test the proposed idea that social information effects are mediated by perceived social norms (Bicchieri & Xiao, 2009; Croson et al., 2009; Goeschl, Kettner, Lohse & Schwieren, 2018; van Teunenbroek & Bekkers, in press). For instance, social information can provide people with a descriptive social norm: how others are behaving. Next to this, social information can also provide people with an injunctive social norm: how others should be behaving. Earlier studies suggest that social information affects giving by affecting the perceived descriptive norm – i.e., the perception of the donation behavior of other donors as well as the injunctive norm, i.e., the perception of the injunctive norm (Bicchieri et al., 2009). The researchers also found that people do not distinguish between the two norms: both stating social information in the form of a descriptive norm (others donated \$5) and in the form of an injunctive social norm (others said you should donate \$5), influenced the perceived descriptive and injunctive social norm.

However, the evidence linking the use of social information, its effect on the perception of social norms and the effect on charitable giving is confined to a very small set of studies (Goeschl et al., 2018). In addition, Bicchieri et al. (2009) and Goeschl et al. (2018) examined social information effects where it is expected to be effective, since a dictator game creates a situation where participants depend on each other. Presenting a norm represents a preference for giving, since norm deviance is often penalized (Hechter & Opp, 2011; Horne, 2009; Schachter, 1951). We will further explore how social information changes charitable behavior by affecting the perception of social norms. We will test if stating social information affects social norms and therefore donation behavior in a context where they are expected to be less effective, namely in a context without direct contact between the participants. Thence we test the mediation effect of perceived social norms, also reviewing how different forms of social norms (i.e. descriptive and/or injunctive norms) affect giving.

Second, we aim to explore whether social information affects not just the donation behavior but also people's mood. A common criticism of the use of social information and nudges in general is that it comes at a price: people generally dislike being 'nudged' because it reduces their freedom (Hagman, Reese, Seewalk & Loeschinger, 2015; Brehm & Brehm, 1981). In addition, people try to avoid being asked to give to charity (Andreoni, Rao & Trachtman, 2017; van Pancer, McMullen, Kabatoff, Johnson, & Pond, 1979; Dellavigna, List & Malmendier, 2012). While the overwhelming effect of being asked on donations shows that people do respond behaviorally, the field experiments reveal an aversion to being asked indicating that people in fact dislike social pressure. These results may be reconciled by the assumption that social pressure and lack of control lowers donor's mood (Dunn, Akinin & Norton, 2014). We assume that the presence of social information increases the social pressure to donate, since norm defiance is often penalized (Hechter & Opp, 2011; Horne, 2009; Schachter, 1951), therefore decreasing the perceived control. As a result, we expect social information to decrease people's mood and possibly resulting in a long-term negative effect of social information. A positive mood is an important prerequisite for donating (O'Malley & Andrews, 1983). In addition, a decrease in the donor's mood as the result of social information could result in a negative view of donating (that is aversion). Thus, if social information decreases people's moods, it could result in a long-term negative effect. To the best of our knowledge, there is currently no known research on the effects of social information on people's moods. This research seeks to fill this gap.

In the present study, we make a further attempt to clarify the effect of social information on people in a charitable context, both on their decision to donate, donation amount and mood. We conducted an online experiment with British subjects from Prolific. We used a semi-hypothetical donation context where we randomly assigned participants (n = 1,029) over one of four conditions. We manipulate different forms of social norms to test how social information effects differ as a function of their presentation, alongside testing if perceived social norms are an explanation behind social information effects. The study included three treatment conditions where we divided participants over one of the three different framings of social information. In the descriptive social information condition, we referred to the actual behavior by stating: "Did you know that other participants gave £5". In the injunctive norm condition, we referred to the expected behavior by stating: "Did you know that other participants said that participants such as yourself should give £5". In the combination condition, we combined both norms by stating both the expected and actual amount. The control condition included no social information. Choosing from a list of charities, participants could indicate if and how much they wanted to donate. In addition, we measured their current mood and their perception of the social norm.

Theoretical framework and hypotheses

Social information effects on the decision to donate

Researchers interested in the effects of social information have until now focused on exploring the effects on the donation amounts, disregarding that people must first decide to donate. The few studies reporting social information effects on the decision to donate found no effect of social information on the participation rate (Goeschl, 2018; Klinowski, 2015; Murphy et al., 2015; Reingen, 1982; van Teunenbroek & Bekkers, in press). Financial resources are expected to play a less decisive role in the decision whether one should donate or not (Petrovski, 2017). Therefore, we do not expect that people's decision to donate is affected by information about the financial charitable donation of others. We will test whether this holds in our experiment with the following hypothesis:

Hypothesis 1: The donation amount is affected by social information, but the decision to donate is similar among participants that received social information and participants that received no social information.

Social information effects on the amount donated

For the people who decide to donate, a second stage becomes relevant: the decision of how much one should give (Petrovski, 2017). Field and lab experiments exploring the effect of social information demonstrate that providing people with information about the charitable contribution of others increases their donation amount (Van Teunenbroek, Bekkers & Beersma, 2019). Two types of social norms exist (Cialdini, Reno & Kallgren, 1991) and both are applied by practitioners while presenting social information. Social information can be presented

in the form of a descriptive social norm: others say that have donated 5 pounds. In addition, social information can be presented as an injunctive social norm: others say that the appropriate donation amount is 5 pounds. Social information based on descriptive (e.g. Van Teunenbroek & Bekkers, in press; Sasaki 2019; Kawamura, Ida & Ogawa, 2019) and injunctive (Bicchieri & Xiao, 2009) have been shown to increase the donation amounts. In accordance, we propose that:

Hypothesis 2a: Descriptive social norms increase a donor's donation amount.

Hypothesis 2b: Injunctive social norms increase a donor's donation amount.

The two types of norms do not always influence behavior in the same extent (Cialdini, Kallgren & Reno, 1991; Schultz et. al., 2018). Bicchieri & Xiao (2009) found that participants in a dictator game are more likely to follow social information based on the descriptive than the injunctive norm, if both are present. The researchers explain their finding by stating that while people are expected to follow both type of norms, repercussions are less likely to occur when a large group is not following the norm. In other words, misconduct might be only weakly sanctioned when the behavior is common. We examine how adjusting the donation amount to social information varies as a function of the type of social norm tied to the information. In doing so, we will answer the following hypotheses:

Hypothesis 2c: Descriptive social norms increase a donor's donation amount more so than injunctive social norms.

In our next hypothesis, we test whether combining both the descriptive and injunctive norm results in a stronger effect than stating either one of them. We expect that social information based on both norm types, descriptive- and injunctive social norm, is more effective than information based on one of these norms. More recent work on charitable behavior recognizes that a large percentage of donors donate while they prefer not to (that is reluctant giving, DellaVigna et al., 2012; Andreoni, et. al., 2017). We argue that some people excuse themselves from following social information based on a descriptive social norm by telling themselves that they follow the injunctive norm instead: 'other donors might donate that amount but they don't have to'. The other way around is also possible, a donor could ignore an injunctive social norm and instead follows the descriptive norm: 'I might have to donate that amount, but others are not doing it either'. In both cases, a donor develops an excuse not to conform and save money. However, if both norms are presented no such excuses can be made, and it becomes harder to ignore the information. We examine if combining both norms results in a stronger effect of social information, therefore, we will answer the following hypotheses:

Hypothesis 2d: Stating both descriptive and injunctive social norms result in an interaction effect where the individual donation amount is increased more so than stating either the descriptive or injunctive social norm.

The perception of social information as a social norm

Several researchers have suggested that presenting information in the form of a social norm, influences the perception of social norms and therefore behavior (Blake et al., 1955; Bøg et al., 2012; Croson et al., 2009; Croson & Shang, 2008, 2013; Edwards & List, 2013; Meyer & Yang, 2015; Murphy et al., 2015; Sasaki, 2019; Smith et al., 2015). However, the articles reporting on these effects are few (Bicchieri et al., 2009; Croson, Handy & Shang, 2009; Goeschl et al. 2018; Sasaki, 2019; Smith, Windmeijer & Wright, 2015; van Teunenbroek & Bekkers, in press) and only three of these studies included an explicit test of participants' perception of social norms (Bicchieri et al., 2009; Croson et al. 2009; Goeschl et al. 2018).

Studies report that regardless of presenting social information in the form of the descriptive or injunctive norm, both the perceived descriptive (Bicchieri et al., 2009; Croson et al., 2009; Goeschl et al., 2018) and injunctive norm (Bicchieri et al., 2009) are affected. In addition, the perceived norms are affected equally by both forms of social information (Bicchieri et al., 2009). Thus, donors do not distinguish between the actual or appropriate donation amount and are influenced by both forms of social information. Bicchieri et al. (2009) base their findings on results of a dictator game where they allowed for direct contact between the participants. Therefore, increasing the working of social norms, since norms are often more profound in a public context where behavior can be observed and judged (Rege & Telle, 2004). We will test if stating social norms in a context where they are expected to be less effective, namely in a context without direct contact between the participants. In accordance, we propose that:

Hypothesis 3: The relationship between social information and donation behavior is mediated by perceived social norms. Descriptive or injunctive social norms increase both the perceived descriptive norm and injunctive social norm in an equal manner, with the same direction and strength.

The role of social information on mood

Studies on helping behavior show that donors experience a positive mood change because of donating (Andreoni, 1990), also referred to as joy of giving (Steinberg, 1987). Yet the positive effect depends on people's perception of autonomy: a positive mood is more likely to occur when people feel like they had a choice to give (Dunn, Aknin & Norton, 2014). We argue that social information decreases feelings of autonomy, which in turn decreases people's moods. When provided with social information about the donation behavior of others, people must decide if they want to follow or ignore the information. We propose the following hypothesis:

Hypothesis 4a: People report happier moods than those who did not donate, especially if they were not confronted with social information.

It is possible, that some people do not donate, because they do not expect a positive change in their mood after donating. To examine this, we propose the following hypothesis:

Hypothesis 4b: Amongst the people who do not donate, the expectancy that 'donating will increase people's mood' is lower, compared to the donors.

Among those who donate, we propose that social information affects people's moods. When social norms favor giving, refraining could result in social sanctions, since norm deviance is often penalized (Hechter & Opp, 2011; Horne, 2009; Schachter, 1951). The decreasing perception of control negatively affects the donor's mood (Brehm & Brehm, 1981), since human wellbeing partially depends on the feeling of autonomy (Weinstein & Ryan, 2010). Donors experience happier moods when they give more money away, but only if donors have a choice about how much to donate (Weinstein & Ryan, 2010). We argue that stating social information might increase donation amounts, but at the same time decrease donor moods. To examine this, we propose the following moods hypotheses:

Hypothesis 4c: Descriptive social norms decrease the donor's moods.

Hypothesis 4d: Injunctive social norms decrease the donor's moods.

Since the existing research suggests that descriptive social norms affect behavior more strongly than injunctive social norms (Bicchieri & Xiao, 2009; Ravis & Sheeran, 2003), we expect that descriptive social norms have a stronger negative effect on mood than injunctive social norms. To examine this, we propose the following hypothesis:

Hypothesis 4e: Descriptive social norms decrease donor's moods more so than injunctive social norms.

We expect that presenting both forms of social information decrease the perception of control more so than presenting either one of forms of social information. Freedom of choice is an important aspect for happiness, which can be decreased by subtle information sources that undermine the autonomy (Weinstein & Ryan, 2010). Based on this we expect that information based on both norms decrease the feeling of autonomy more than information based on one of these norms. In accordance, we propose that:

Hypothesis 4f: Stating both descriptive and injunctive social norms result in an interaction effect where the donor's mood is decreased more so than stating either the descriptive or injunctive social norm.

In addition, we will test whether the relationship of social information on mood is mediated by the perceived social norm, as suggested by the literature focused on social information effects on donation amounts (Bicchieri et al., 2009; Croson et al. 2009; Goeschl et al. 2018; Sasaki, 2019; Smith et al., 2015; van Teunenbroek & Bekkers, in press).

Hypothesis 4g: The relationship between social information and mood is mediated by perceived social norms. Descriptive or injunctive social norms increase both the perceived descriptive norm and injunctive social norm in an equal manner, with the same direction and strength.

Methods

To test the hypotheses, we conducted an online survey experiment at the British platform Prolific. Prolific enables researchers to find participants to collect reliable and high-quality data. The data for this study was collected between thirteenth of March 2019 and nineteenth of March 2019, resulting in a sample of 1,029 participants. We invited only participants of British nationality for the experiment. No other requirements were set. The participants were paid for their participation per minute (£8.58/hr.). We preregistered the experiment at Aspredicted.org (see <https://aspredicted.org/vz83y.pdf>).

Participants

The sample characteristics of the participants are outlined in Table 1, which reveals that 63.7% of the participants identified themselves as women. The average age was 38 years ($SD = 12.51$). The largest share of participants donated regularly: (37.0%) gave bi-annually and 30.8% gave bi-monthly. Only 4.3% indicated that they gave rarely and none of the participants indicated that they never donated on a yearly basis.

Table 1. Data description of the participants by condition.

	Control	Descriptive	Injunctive	Both	All
Number of participants	257	256	256	260	1,029
Number of donors	157	152	164	176	649
Female	63.0%	64.15%	64.1%	63.5%	63.7%
Average age**	39.32 ($SD = 13.10$)	37.36 ($SD = 11.77$)	39.22 ($SD = 12.95$)	37.82 ($SD = 12.13$)	38.43 ($SD = 12.51$)
Student status yes	11.7%	14.5%	10.5%	11.9%	12.1%
Employment yes	78.6%	88.7%	83.6%	84.6%	83.8%
Average satisfaction with income**	5.01 ($SD = 2.44$)	5.21 ($SD = 2.41$)	5.18 ($SD = 2.36$)	5.18 ($SD = 2.52$)	5.14 ($SD = 2.43$)
Average giving	3.26 ($SD = 1.21$)	3.30 ($SD = 1.19$)	3.29 ($SD = 1.23$)	3.19 ($SD = 1.24$)	3.26 ($SD = 1.21$)
Average vocabulary test score**	5.59 ($SD = 1.49$)	5.99 ($SD = 1.52$)	6.05 ($SD = 1.41$)	5.85 ($SD = 1.52$)	5.95 ($SD = 1.49$)

** $p < .01$

We checked if the covariates differed between the conditions. Age ($t = 97.27$, $n = 1002$, $p < .001$), the vocabulary test ($t = 128.33$, $n = 1,029$, $p < .001$), and satisfaction with income ($t = 67.87$, $n = 1,029$, $p < .001$) significantly differed between conditions. Participants in the descriptive condition were younger than participants in the control group (difference of 5.25 %). Participants in the injunctive condition received the highest scores on the vocabulary test and the lowest in the control condition (difference of 8.23%) Participants in the treatment conditions reported higher levels of satisfaction with their income, stating the descriptive social norm resulted in the highest level and the control condition in the lowest (difference of 4.00%).

Research design and procedure

The study consisted out of five parts: introduction, vocabulary test, donation task, survey, and debriefing (see Figure 1). The donation task was conducted with Windfall money in the form of a £10 gift card, which participants could win after successfully conducting the vocabulary test.

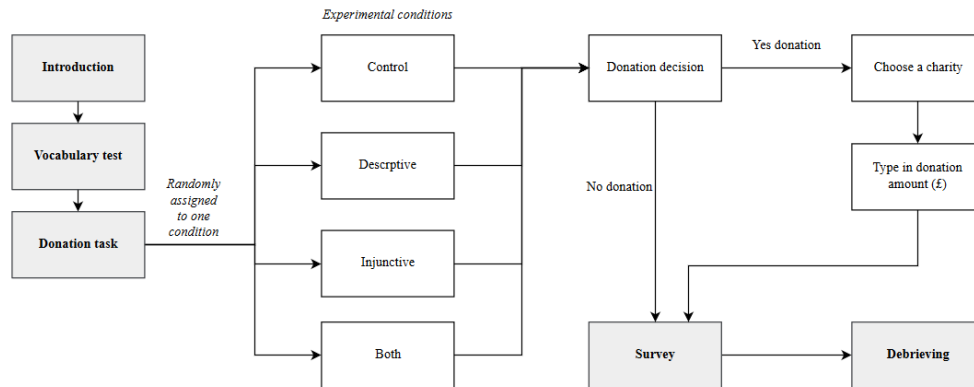


Figure 1. Flowchart of the research design and procedure

At the beginning of the study, we informed the participants that the study was part of a series of studies, and that this was a follow up. Participants read that we might show them information about the behavior of participants in earlier studies, and that their own behavior and choices might be shown to other participants (in later studies). In addition, we explained that we would raffle several £10 gift cards among those who successfully completed the vocabulary test.

We included the vocabulary test to ensure that participants had the feeling that they earned the £10 gift card (if they won). We used the ‘Wordsum’ vocabulary test from the General Social Survey in the United States (Malhotra, Krosnick & Haertel, 2007). We did not clearly define a criterion for ‘success’ in our study. No matter the performance, all participants were included in the lottery: we informed all participants that they performed good enough to participate in the lottery. After the lottery we measured the dependent variables ‘decision to donate’ and ‘amount donated’ asked participants if they wanted to keep the money, if they won, or if they wanted to donate a part of the £10 earnings to a charity of their choosing .

To assess how people adjust their donation behavior to social information as a function of the type of social norm tied to the information, in the donation task we employed a 2 (social information based on a descriptive norm: yes vs. no) x 2 (social information based on an injunctive norm: yes vs. no) design (see table 2). A chi-square test confirmed that participants were randomly assigned to one of the conditions ($\chi^2 = 4.23, n = 1,029, p = .219$).

Table II. Schematic overview of the four conditions in a two by two design. Participants are randomly distributed over one of the four conditions.

		Descriptive social norm	
		No	Yes
Injunctive social norm	No	Control: -	Descriptive: <i>Did you know that other participants gave £5?</i>
	Yes	Injunctive: <i>Did you know that other participants said that participants such as yourself should give £5?</i>	Both: <i>Did you know that other participants gave £5 and they said that participants such as yourself should give £5?</i>

The donation task was followed by a series of questions. For instance, to measure the dependent variable ‘mood’ we asked participants one question, derived from Whillians, Dunn, Smeets, Bekkers & Norton (2017): “How are you feeling at this moment?” Response options ranged from 1 (‘Very bad’) to 10 (‘Very good’). Next, we asked participants if they expected a positive effect on their mood because of donating by providing them with the following statement: ‘Donating makes me feel happier’. Response options ranged from 1 (strongly disagree) to 7 (strongly agree). To measure the mediator ‘perceived descriptive norms’, participants were also asked to indicate how much they thought others had donated (Goeschl et al., 2018): “On average, how much (of the £10 gift card) do you think other participants donated? Please indicate the amount”. Participants could type an amount ranging from £0.01 to £10. To measure the mediator ‘injunctive social norm’, we asked participants to indicate how much they thought others should have donated: “what amount do you think other participants

should have donated?" Participants could type an amount ranging from £0.01 to £10. In addition, we added items to check whether the participants saw the information and perceived it as reliable.

Manipulation check

To verify that participants perceived the manipulation (i.e. manipulation check perception), we asked participants in the treatment conditions if they saw any information about the behavior of other participants. Most of the participants (84%) indicated that they saw the information.

Next, we asked the participants that saw the information ($n = 647$) to describe the information in one or two sentences (i.e. manipulation check social information). We coded the answers as follows: we assigned an '1' if participants mentioned that the information stated that others had donated, a '2' if they indicated the amount by describing either £5, 50%, half, 50/50 or 1:2, a '3' if they mention that others had donated and the amount (£5, 50%, half, 50/50 or 1:2), or a '0' if none of these conditions applied. Among those who saw the information, most could accurately describe both the amount and that it was the donation amount of others (69%). Still, some donors could not describe the information, did not understand the question, or provided an inaccurate description (18.7%). Interestingly, a small group (11.0%) described that we informed them about the participation of others without mentioning the donation amount: 'that a lot of the participants donated a proportion to charity'. Few donors (1%) could only remember the mentioned number: 'something to do with £5'. A chi-square test indicated that there was a significant difference between the conditions in how the participants described the information, $\chi^2 = 12.96, n = 647, p = .044$. Stating the descriptive social norm resulted in the highest (72%) level of accurate descriptions, second the condition where both norms were displayed (71%) and finally the injunctive condition (65%).

Descriptive statistics and treatment of the data

Table 3 shows the correlations between variables. As can be seen, our manipulation of social information correlated with the two social information manipulation checks, but not with the realism check. The outcome variables were intercorrelated with each other. The perceived injunctive social norm was correlated with the outcome variables, but not with social information. The descriptive social norm was only correlated with the individual donation amount and the decision to donate, not with donor's mood or social information.

Table III. Correlation table of the main variables

	1	2	3	4	5	6	7	8
1. Amount	-	-	-	-	-	-	-	-
2. Decision to donate	.79**	-	-	-	-	-	-	-
3. Mood	.14**	1.34**	-	-	-	-	-	-
4. Social information	.04	.06	.05	-	-	-	-	-
5. Manipulation perception check	-.09**	-.02	-.05	-.19**	-	-	-	-
6. Manipulation check social information	-.10**	.01	-.03	.41**	.36**	-	-	-
7. Perceived descriptive norm	.30**	.08**	.03	-.03	-.08*	-.16**	-	-
8. Perceived injunctive norm	.55**	.36**	.09**	-.03	-.11*	-.20**	.52**	-

** $p < .01$ * $p < .05$,

As the histograms in Figure 2 show, the amounts donated are not normally distributed. In addition, regardless of the treatment they receive, a minority of participants in giving experiments donate their complete endowment. In our case, social information has no effect on the number of donors giving £10. While the social norm gives them an excuse to give £5 and save money, this group of people was expected to give their complete endowment, indicating that the social information we provided did not affect them. Indeed, some people are unaffected by social information, namely the group that gave £10. The percentage of participants donating £10 was similar across different conditions (see Table 3). Therefore, we exclude this group of donors in our analysis.

Table III. Correlation table of the main variables

Donation amount	Control	Descriptive	Injunctive	Both	Total
< £5*	52.9%	51.6%	46.9%	44.2%	48.9%
£5**	26.1%	31.6%	33.6%	37.3%	32.3%
£6-£9	2.3%	1.6%	2.7%	0.8%	1.8%
£10	18.7%	15.2%	16.8%	17.7%	17.1%

** $p < .01$, * $p .05$

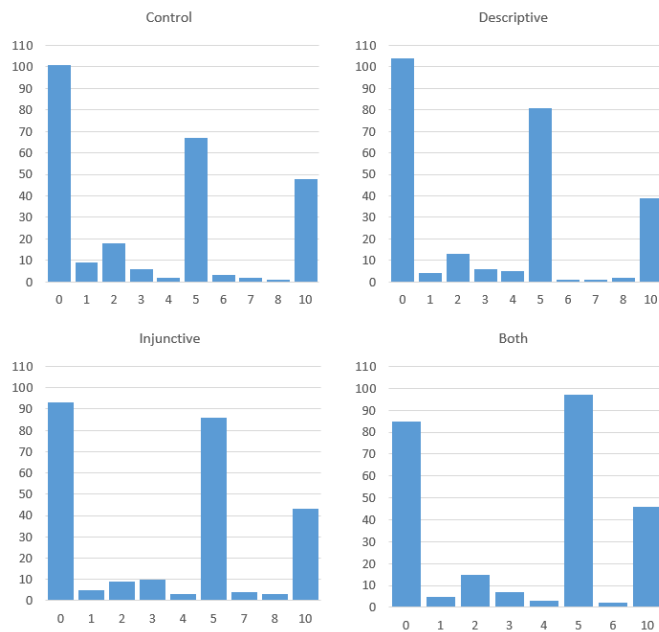


Figure 2. Histogram of the amounts donated by condition.

To test the effects of social information on donation amounts we conducted a multiple regression, in which we regress the amount donated (among donors only) on a set of 0-1 indicators for each condition, with participants of the control group in the (omitted) reference category.

Results

Social information did not significantly increase the decision to donate

We expected no effect of social information on the decision to donate, see hypothesis 1. Indeed, none of the conditions significantly increased the number of donors (see Table 4). A chi-square test shows that stating the descriptive norm left the number of donors unaffected, $\chi^2 < .01$, $n = 426$, $p = .987$. Stating the injunctive norm increased donations with 9%, but not significantly so ($\chi^2 = .92$, $n = 422$, $p = .337$). Stating both norms resulted in the highest increase (16%), but the difference was only marginally significant ($\chi^2 = 3.18$, $n = 423$, $p = .075$). The results support Hypothesis 1; social information did not affect the decision to donate.

Table IV. Descriptive statistics by condition

	Control	Descriptive	Injunctive	Both	All
Number of participants	209	217	213	214	853
Percentage that gave	52.2%	52.1%	56.8%	60.7% ^(*)	55.5%
Average donation amount (£)	4.10 (SD = 1.62)	4.45 ^(*) (SD = 1.31) ^(**)	4.53 [*] (SD = 1.43)	4.35 (SD = 1.28)	4.36 (SD = 1.42)
Mood	6.39 (SD = 1.87)	6.72 (SD = 1.78)	7.02 [*] (SD = 2.03)	6.78 (SD = 1.85)	6.78 (SD = 1.85)

*significant at a .05 level

(*)significant at a .10 level

Social information increased donation amounts

To test how the effect of social information on the donor's ($n = 473$) donation amounts varies as a function of the type of social norm, we tested several hypotheses using a range of multiple regression with dummy variables for condition. We hypothesized a positive effect of all three forms of social information (Hypotheses 2a, 2b, 2d). However, our data only supports Hypothesis 2b; we found a positive effect of social information in the form of an injunctive norm. Participants who were informed about the injunctive norm gave 10% (see Figure 3) higher amounts ($M = 4.53$, $SD = 1.43$) than participants who received no social information ($M = 4.10$, $SD = 1.62$), $b = .43$, $n = 473$ $p = .022$.

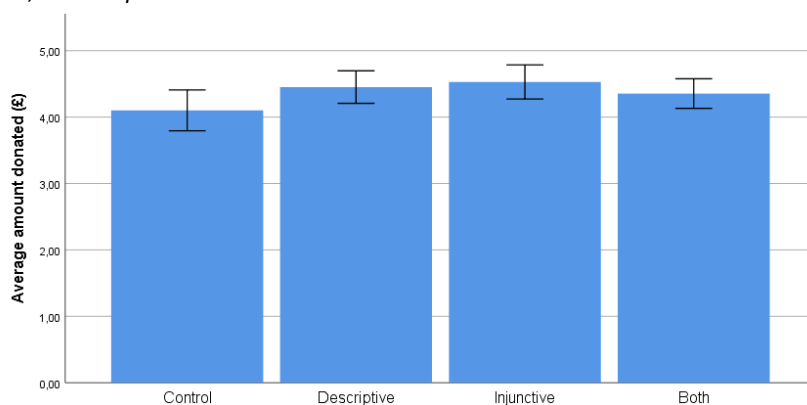


Figure 3. Individual donation amount as a function of social information with a 95% confidence interval.

We found no support for Hypothesis 2a where we stated a positive effect of social information in the form of a descriptive social norm. While participants confronted with descriptive norms donated 9% higher amounts than participants who received no social information, the difference was not significant ($b = .35$, $n = 473$ $p = .065$). In addition, we found no support for Hypothesis 2d, where we stated that presenting both norms would affect donation amounts. Participants confronted with both norms at the same time donated 6% higher amounts than those who received no social information, but the effect was not significant ($b = .25$, $n = 473$, $p = .168$).

In addition, we found no support for Hypothesis 2c where we stated that the descriptive social norm would result in a stronger effect than the injunctive social norm. To test this we conducted a multiple regression. The first model employs a variable for information, where 1 represents that a donor received information and 0 represents that a donor did not receive information. This model offers an initial understanding of providing information, regardless of which type of social information, affects the donation amount. As can be seen in Table 5, the effect of providing information on donation amounts was significant.

Table V. Results of regression analyses demonstrating the absence of a moderation effect of the type of social information on the effect of information on donation amounts.

Dependent variable: donation amount		<i>b</i>	<i>P</i> value
Model I			
	Information	.39	.021
Model II			
	Information	.97	.027
	Information x descriptive norm	.94	.684

To take into consideration that the effect of providing information depends on the type of information provided, in model 2 we included the descriptive norm condition as a moderator. Table 5 shows that there was a negative but non-significant moderating effect of the type of social information on relationship of information on donation amounts. Contrary to our expectations, stating injunctive norms resulted in an 11% higher donation amount, while stating descriptive norms resulted in an 8% increase.

Social information effects are not mediated by perceived social norms

We hypothesized (H3) that among donors, the effect of social information on donation amounts was mediated by the perception of social norms. We expected that both the perceived descriptive and injunctive social norm were affected equally regardless of the form of social information presented. To test this mediation model, we followed the procedure described by Hayes (2017). Figure 4 shows how the two mediators operate in parallel. This demonstrates that (a) the effect of social information on the individual donation amount was not mediated by the perceived descriptive nor the injunctive social norm, (b) the perceived descriptive and injunctive social norms did both have a direct effect on the individual donation amount, and (c) social information did not affect the perceived descriptive and injunctive social norms.

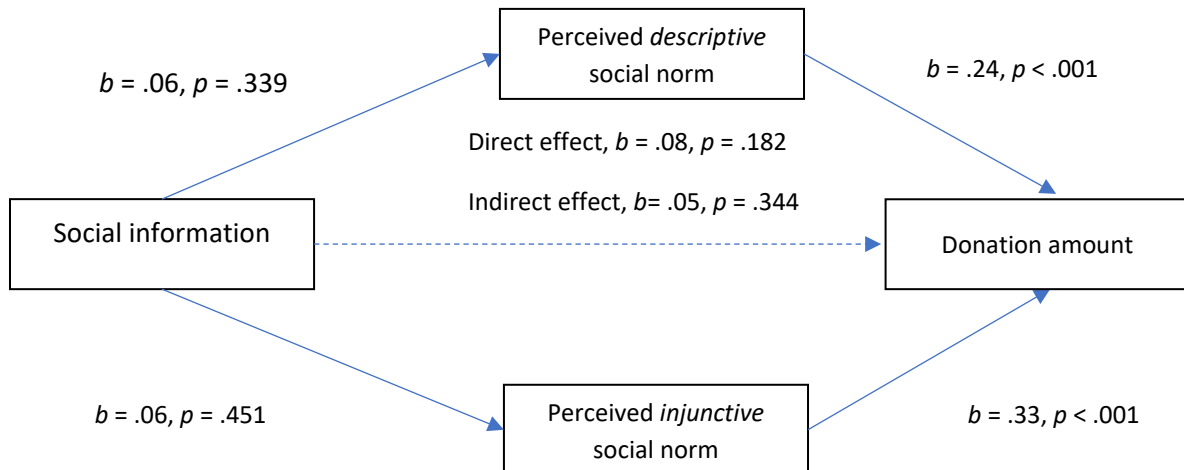


Figure 4. Social information effects on the donation amount are not mediated by the perceived social norms.

These results did not support Hypothesis 3. The results indicate that individual donation amounts are affected by perceived social norms, but the perceptions of these norms are not affected by our manipulation (i.e. social information).

3.4.2 Social information increases donor's moods

In our 4a hypothesis, we stated that the positive effect of the decision to donate was stronger among participants confronted with social information. As expected, a regression showed that donors reported happier moods (9%) than participants who decided not to donate, $b = .57, n = 853, p < .001$. However, the relationship of the decision to donate was not moderated by social information, $b = .12, n = 853, p = .347$. Therefore, we found no support for Hypothesis 4a.

In addition, we hypothesized (4b) that donors would expect that their mood would improve as the result of donating more so than non-donors. However, contrary to our expectation, donors did not expect that their moods would improve because of donating. A regression showed a negative relationship between a decision to donate and the expected happiness, $b = -1.12, n = 853, p < .001$. These effects did not support Hypothesis 4b.

Next, we tested how donor's moods were affected by social information. To test how the effect of social information on donor's mood varies as a function of the type of social norm, we tested several hypotheses using a range of multiple regression with dummy variables for condition. We hypothesized a negative effect of all three forms of social information on the donor's mood. We found similar effects as with the amount donated, solely stating the injunctive norm resulted in a significant effect and that being a positive effect. Contrary to our expectation of a negative effect, donors informed about the injunctive norm reported significantly higher levels of happiness of 10% than participants in the control condition, ($b = .64, n = 473, p = .011$), see Figure 5. The effect of social information on donor's moods (10%) is in line with the effect on the amount donated (10%).

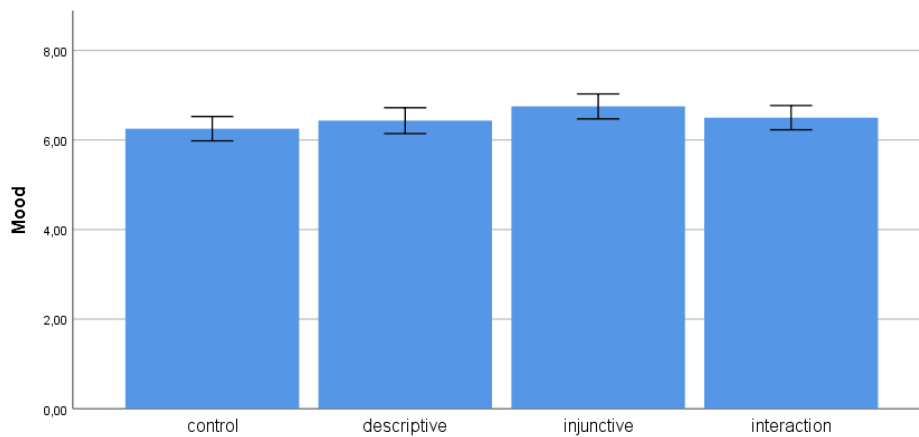


Figure 5. Reported mood as a function of social information with a 95% confidence interval.

Again, stating the descriptive norm had no effect on donor's moods (Hypothesis 4c). While a regression analysis shows that participants confronted with the descriptive norm reported higher levels of happiness (5%) than participants who received no social information, but the effect was not significant ($b = .34, n = 473, p = .179$). This result did not support Hypothesis 4c. Again, stating both norms at the same time did not significantly affect the mood, like with the amount donated. While donors confronted with both norms reported 6% higher moods than those who received no social information, the effect was not significant, $b = .39, n = 473, p = .110$. This result did not support Hypothesis 4f.

In addition, we tested whether the effect of social information on donor's mood was mediated by their donation amount. Figure 6 reports a significant indirect effect of social information on mood through individual donation amounts, $b = .025, \text{BCa CI } [0.007, 0.053]$.

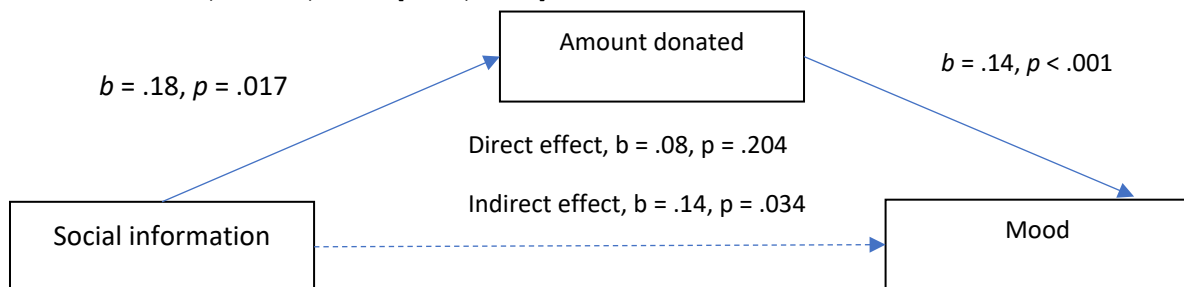


Figure 6. Model of social information as a predictor of mood, mediated by the amount donated.

In addition, we hypothesized that descriptive norms would result in a stronger effect than injunctive norms (Hypothesis 4e). To test if the effect of providing information about the behavior of others on donor's moods was stronger when stating the descriptive norm or the injunctive norm, we conducted a multiple regression like the one conducted to test Hypothesis 4e. The first model offers an initial understanding of providing information, regardless of which type of social information, affects the donation amount (see Table 6). We observe a positive and significant effect.

Table VI. Results of regression analyses demonstrating the absence of a moderation effect of the type of social information on the effect of information on donor moods.

Dependent variable: mood		<i>b</i>	<i>P</i> value
Model I			
Information		.46	.027
Model II			
Information		.51	.019
Information x descriptive norm		-.17	.425

In model 2 we included the condition where donors saw the descriptive norm as a moderator. Table 6 shows

that there was a negative but non-significant moderating effect of the type of social information on relationship of information on donation amounts. Contrary to our expectations, injunctive norms resulted in a stronger effect. These results did not support Hypothesis 4e, since we expected that stating the donation amounts of others would increase donor's moods more so than stating the injunctive norm.

As a final step, we tested whether the effect of social information on donation amounts was mediated by perceived norms. However, like the effect on the amount donated, the relationship between social information and mood was not mediated by perceived social norms. Figure 7 shows how the two mediators operate in parallel which demonstrate that (a) the effect of social information on donor's moods was not mediated by the perceived descriptive nor the injunctive social norm, (b) the perceived descriptive and injunctive social norms did not affect donor's moods. These results did not support Hypothesis 4g.

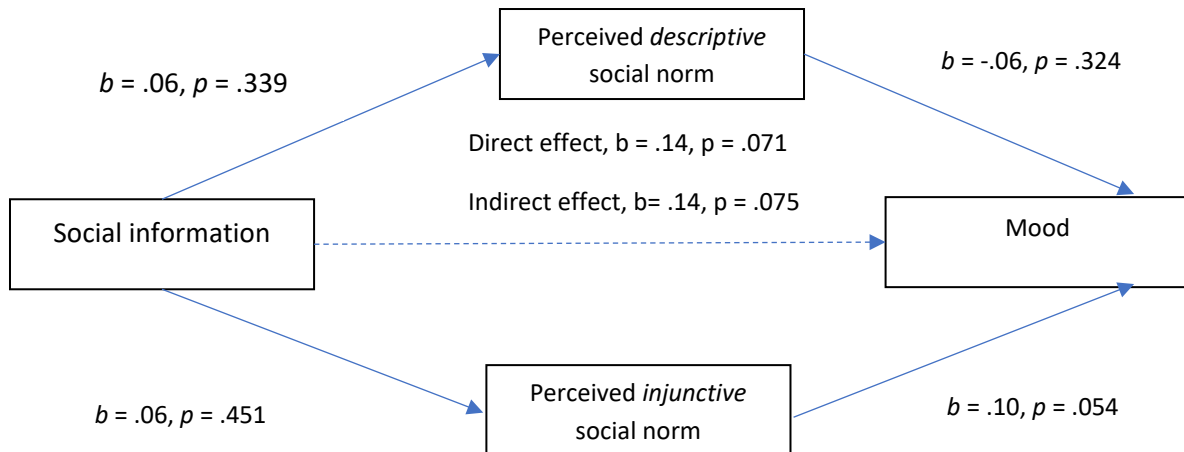


Figure 7. Model of social information as a predictor of donation amounts, mediated by two mediators in parallel: relationship perceived descriptive injunctive social norm.

Conclusion

This study set out to investigate the role of social information on donation behavior and mood. An online survey experiment among British citizens reveals a series of results with important implications for both theory and various actors in practice. First, regarding the decision to donate, we find that the decision to donate was positively affected by social information, but not significantly so. The strength of the effect depends on the norm mentioned. Stating both the descriptive and injunctive social norm at the same time resulted in the highest participation rate. Stating only the descriptive social norm did not affect the decision to donate, which is in line with earlier studies (Goeschl, 2018; Klinowski, 2015; Murphy et al., 2015; Reingen, 1982).

Second, a small difference emerged between the conditions in terms of the individual donation amount, indicating that donors gave slightly higher amounts. However, only mentioning the injunctive social norm resulted in a significant effect of increasing donations with 10%. The effect size is in accordance with several earlier studies focused on mentioning descriptive social norms (Bekkers, 2012; Croson & Shang, 2008; Shang et al., 2012; Shang & Croson, 2009; van Teunenbroek, 2016). Earlier studies mostly focused on providing social information based on descriptive social norms, with the exception of Bicchieri et al. (2008) reporting a positive effect. Hence, our study provides one of the first indication of social information effects based on injunctive social norms.

Contrary to most of the literature reporting on social information effects, stating the descriptive social norm did not significantly increase donation amounts (9%). However, our study is not the first reporting no effect (Catt & Benson, 1977; Kubo et al, 2018; Murphy et al., 2015; Shang & Croson, 2009). We perceive the context as an important factor influencing the effect of social information (Van Teunenbroek et al., 2019). Earlier we described that we perceived that descriptive social norms would be followed because they give donors the idea that a large group is supporting the same behavior, and deviating from this norm might be punished. However, if the behavior is not observed, like in our context, the effect might not occur. On the other hand, injunctive norm are applicable in multiple settings and convey more general rules about what sort of behavior is appropriate

(Reno et al., 1993).

Third, we found no mediation effect of perceived social norms on the relationship of social information on the donation amount or mood. While perceived social norms affect donation amounts, our manipulation did not affect the perceived social norms. The absence of the mediation could be the result of the context: social norms are more profound in a context where there is direct contact between participants. Our context did not allow for any contact between the participants.

Fourth, we found a positive, rather than our expected negative, effect of social information on donor's moods. However, only mentioning the injunctive social norm resulted in a significant effect on mood with 11%. The effect size was similar as the increase in the donation amount. Our results are the first reporting on social information effects on donor's moods. Apparently, social information did not result in a decreasing perception of control, since a positive perception of control is associated with a positive mood effect (Brehm & Brem, 1981). Apparently, donors had the perception of freedom of choice, regardless of our manipulation.

Fifth, our results identify a new group of donors that is unaffected by social information: donors who give away all their money. Donors who intended to give the full amount did not lower their donation amount. Our study shows that the effect of social information is restricted, not everyone is affected. This adds to the finding of Murphy et al. (2015) and Shang et al. (2009) who found that donors who repeatedly donate to the same charity are not affected by social information if that same charity starts to use social information.

Sixth, our findings suggest that injunctive social information mostly increase donations around £5 at the cost of donations below £5. Our preliminary conclusion is that injunctive social information increased donations around the suggested amount (five pounds) by decreasing the number of small donations, without decreasing the number of donations around the maximum. Thus, social information ensures that donors who would have donated lower amounts donate higher amounts (i.e. positive effect, without decreasing the number of high amounts (i.e. negative effect). Hence, we further add to the literature by describing how social information works: the negative effect of social information (increasing the number of low donations) is smaller than the positive effect (increasing the effect of high donations).

Finally, we provide indirect evidence that social information does not function as a mere reference point. Anchoring builds on the human tendency to give an unreasonable weight to a number, which influences their decision-making (Furnham & Boo, 2011). Our social information manipulation check, asking donors to describe the information, provides an interesting addition to the suggestion of Martin and Randal (2008) and Hysenbelli et al. (2013) that social information does not function as a mere reference point on which later donations are based (i.e. anchoring). We found that less than 1% could only remember the number we mentioned. If our manipulation functioned as an anchor, we would expect that more donors could only remember the number than that they could remember that it provided them about information about others (12%).

Implications for practitioners

Social information did not increase the conversion rate in a significant manner, but it did increase the donation amount and donor's mood. The effect does depend on the type of norm stated. Stating the injunctive norm is most effective in increasing both the donation amount (10%) as the donor's mood (11%) but stating both the injunctive and descriptive norm resulted in the highest overall collected amount, mostly by increasing the decision to donate. The positive mood effect indicates that social information does not result in a long-term negative effect by making donors feel forced into giving a certain amount. We found no indication for a negative effect; social information increased the number of donations around the average and slightly above without decreasing the number of high donations, and rather decreasing the number of low donations.

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