Look to Others before You Leap:
A Systematic Literature Review of Social Information Effects on Charitable Giving

Claire van Teunenbroek\textsuperscript{a1}, René Bekkers\textsuperscript{a}, Bianca Beersma\textsuperscript{b}

\textsuperscript{a}VU University, Center for Philanthropic Studies, de Boelelaan 1081, 1081 HV Amsterdam, the Netherlands
\textsuperscript{b}VU University, Organization Sciences, de Boelelaan 1081, 1081 HV Amsterdam, the Netherlands

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Abstract

People are influenced by information about other people’s behavior, i.e. social information, which is frequently used by practitioners to increase charitable giving. Although researchers have suggested that social information is an effective stimulant of donation behavior, the precise mechanisms through which social information works are unknown. Our review, based on 31 studies, shows that this body of literature lacks consensus on when and how social information affects donation behavior. We show that several studies report no or even negative effects and that this field has been predominantly data driven with insufficient theoretical support to justify conclusions. We integrate the empirical findings in the wider fields of social psychology and behavioral economics, and propose a theoretical model which specifies that the effects of social information on donation behavior are context specific.

Keywords: charitable giving, social norms, social influence, social information, systematic literature review

\textsuperscript{1}Contact author. Peggy Sue Claire van Teunenbroek, Center for Philanthropic Studies, Faculty of Social Sciences, VU University Amsterdam. De Boelelaan 1081, 1081 HV Amsterdam, the Netherlands. E-mail: p.s.c.van.teunenbroek@vu.nl

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1. Using social information to increase charitable giving?

Contemporary philanthropic organizations face important challenges. They have witnessed a sharp decrease in government spending (de Wit & Bekkers, 2016), and the public has not filled the gap in financing this has created (Bekkers, Schuyt, & Gouwenberg, 2017). Therefore, there is an increasing need to understand what tools can help to increase charitable giving. A tool frequently used by practitioners to increase charitable giving is to expose people to other people’s behavior, also known as social information (Shang & Croson, 2009). For example, several funding campaigns mention the number of donors, and glass boxes displaying previous donations are clearly visible for donations in stores and airports. Studies have suggested that social information could increase charitable giving (e.g., Alpizar, Carlsson, & Johansson-Stenman, 2008a, 2008b; Croson & Shang, 2008; Hysenbelli, Rubaltelli, & Rumiani, 2013; Jacob, Guéguen, & Boulbry, 2017; R. Martin & Randal, 2008; Shang & Croson, 2009; van Teunenbroek, 2016; Vesterlund, 2003).

If we take a closer look at the literature on the effects of social information on charitable giving, however, this shows that there appears to be a lack of consensus on when and how social information affects charitable giving. Some studies reported no effects (Catt & Benson, 1977; Kubo, Shoji, Tsuge, & Kuriyama, 2018; Murphy, Batmunkh, Nilsson, & Ray, 2015; Shang & Croson, 2009) or even negative effects, meaning that social information decreased rather than increased charitable giving (Croson & Shang, 2008, 2013; Meyer & Yang, 2015). The use of social information, therefore, instead of increasing donations, could prove to be costly for practitioners.

Despite these inconsistencies in the literature, the frequent use of social information by practitioners requires us to achieve a deeper understanding of the effects of social information on charitable giving. It is essential, therefore, that knowledge of this topic should be integrated into one overarching framework so that, on the basis of this framework,
practitioners can then make informed decisions on when and how to provide social
information to potential donors. The central research question we formulated is: “When and
why does social information increase charitable giving?”

To answer this question, we conducted a systematic literature review of 31 studies on
the effects of social information on charitable giving published between 1955 and 2017.
We identified several contextual influences that can increase or decrease the effectiveness of
social information, suggesting that the effects of social information are more complex than
they might appear to be at first glance. The literature on social information shows a strong
increase in the number of ways in which social information is manipulated in empirical
studies; many different ways of providing social information have been developed and
examined. The development of a theory that can explain the effects of these different
operationalization’s of social information, at the same time, has not kept pace with this,
which has left the field of social information research as a series of empirical accounts
without a clear theoretical background.

Given the confusion in the literature and the lack of an overarching theoretical
framework, we should construct a theoretical framework that can guide future research and
practitioners and that will enable more a progressive theory to develop and social information
to be more effectively implemented in donation campaigns. To this end, we have combined
insights from classic psychological theories on charitable giving and behavioral economic
theories on public goods in an integrated theory to propose a theoretical model with six
mediating variables in the relationship between social information and charitable giving (see
Figure 1).

Specifically, we have included four mediating variables with a positive effect and two
mediating variables with a negative effect. First, as previously seen information can influence
subsequent decisions, social information creates a reference point. Second, social information
creates social norms: because other people are donating, it is apparently common to do so. Third, social information increases an awareness of need: because other people are donating, there is apparently a real need for help. Fourth, social information increases the perceived quality of a project: if other people are donating, they must perceive this project as being a good-quality project. The remaining two are negative mediators. Fifth, social information can lower the perceived impact of a donation: if other people are donating, my donation will not make a big difference and I might as well refrain. Finally, social information increases diffusion of responsibility: if other people are donating, I feel less responsible for making a donation.

In addition, we propose three important moderators that are expected to influence the mediated effects: 1. who provides the information (e.g., is it a source with whom we identify or not); 2. what is the content of the information (e.g., is the donation amount high or low), and 3. where the donation is made (e.g., in public or anonymously). So while the mediators specify why there is an effect, the moderators specify when certain variables have a stronger effect.

By bridging fields and disciplines and theory and application, we aim to propose a theoretical model that is usable for testing in future research. As we only partially based our results on empirical papers and updated this with theories from other fields, future investigation is necessary to test our proposed model and further map the effects of social information. This is in the interest of scholars who aim to help this scientific field to become more mature and of practitioners who wish to implement social information as an effective and efficient stimulant for individual donations.

2. Methods
The core of our review is 31 empirical papers reporting social information effects, a body of literature deriving from two research fields, namely research based on classic psychological theories on charitable giving and research based on classic economic theories on public goods. The study of social information originated in the field of economics. While economists are still dominating the field of social information, they have expanded their model with social incentives studied by social psychologists. In this paper, we will explain social information effects from a unifying perspective, emphasizing the interplay between economic and social psychology concepts.

To review the literature systematically, we used several inclusion criteria to refine our search. First, we included only papers that contained analyses of charitable giving. Studies researching social information effects on consumer behavior, therefore, were excluded as the key goal of philanthropy is to make a contribution for the benefit of the public good (Payton, 1988) whereas consumers buy products for themselves or others.

Multiple types of social information exist, have been researched, and could provide insight into the effect of using information on other people’s behavior on giving. Among the multiple types of social information, we focused our review solely on social information in the form of “the previous donation amount of an individual or group.” Mentioning the number of donors could increase the participation rate by convincing someone to participate, but it does not provide information about what amount someone should donate. Therefore, mentioning the number of donors is unlikely to influence both the participation rate and an individual’s donation amount. On the other hand, it has been found that mentioning a suggestion amount increases both the participation rate and the donation amount (Adena, Huck, & Rasul, 2014). Thus, mentioning the suggestion amount, instead of the number of donors, is expected to be a more effective stimulant. Thus, practitioners would benefit more from the development of a clear theoretical rationale for mentioning a suggestion amount.
than the number of donors. We specified the dependent variable as the amount of money donated.

The included papers were published in academic – but not necessarily peer-reviewed – journals, books, or working papers made publically available before September 2017. We searched (1) academic databases (PsychInfo, PubMed); (2) Google Scholar; and (3) references cited in the articles found. We used the following keywords: social information, peer effects, suggestion amount, conformity, charitable contribution, giving, social influence, and previous donation amount. We searched for studies with these keywords in their title, keywords, or abstract, or that used a pair of possible formulations of the independent and dependent variables in their title, keywords, or abstract. This process resulted in 31 empirical papers. For each paper, we coded the research context, i.e. whether it was a lab experiment, a field experiment, or a survey. An overview is presented in Appendix A.

3. General overview

Several studies reported positive effects of social information on the amount donated in laboratory experiments (Blake, Rosenbaum, & Duryea, 1955; Cialdini & Schroeder, 1976; Hysenbelli et al., 2013; Jones & McKee, 2004; Klinowski, 2015; Reingen, 1982; Sell & Wilson, 1991; Vesterlund, 2003) and field experiments (Alpizar et al., 2008a, 2008b; Bøg, Harmgart, Huck, & Jeffers, 2012; Croson, Handy, & Shang, 2009, 2010; Jacob et al., 2017; R. Martin & Randal, 2008; Sasaki, 2015; Shang & Croson, 2006; Shang, Reed, & Croson, 2008; Silverman, Robertson, Middlebrook, & Drabman, 1984; Smith, Windmeijer, & Wright, 2015; van Teunenbroek, 2016). The strength of the effect on the individual donation amount varied: Alpizar (2008a;2008b), for instance, noted that the positive effect found was rather small: e.g., 12% (Croson & Shang, 2013; Shang & Croson, 2009; van Teunenbroek, 2016; Bekkers, 2012), 14% (Shang & Croson, 2006), 18% (Alpizar et al., 2008a;2008b). While
Shang and Croson (2009) found that donors to a US radio campaign donated more after they had heard previous donors’ donation amounts, Murphy and colleagues (2015) could not replicate their findings using a similar experiment with donors to a radio campaign in Alaska: social information did not increase charitable giving behavior.

Even if social information in general appears to increase individual donation amounts, it does not always enhance people’s decision to donate (Klinowski, 2015; Murphy et al., 2015; Reingen, 1982). Reingen (1982), for example, conducted a laboratory experiment in which he informed the participants about the previous participants’ contributions. Results showed that although social information did increase the amount people donated, it did not increase the number of donors. Other researchers found that the implementation of social information increased the number of donors but lowered the amount donated; this was observed, for example, in a field experiment in which national park tourists were informed about previous donors’ contributions (Alpizar et al., 2008a).

Other studies found a positive effect of social information on both on the amount donated and the number of donors (Edwards & List, 2013; Jacob et al., 2017; R. Martin & Randal, 2008; van Teunenbroek, 2016). Van Teunenbroek (2016) conducted a semi-hypothetical classroom experiment with students. All students received a written scenario about an online charity campaign and were told that there was a 10% chance that their hypothetical donation would actually be donated to the campaign. Some students received social information which mentioned the previous students’ average donation amount. Students who received social information were more likely to donate (94%) than students who received no extra information (81%). Edwards and List (2013) conducted a field experiment with university students and found that providing social information virtually doubled the number of donors. R. Martin and Randal (2008) conducted a field experiment at an art gallery and exposed visitors to a transparent donation box containing coins, bills, a combination of these two, or
no suggested donation amount. Similar to their design, Jacob et al. (2017) used a transparent donation box with customers to a store. Both studies found that social information increased the individual donation amount and the number of donors.

4. Mediators

We propose six mediators to facilitate a better understanding of the relationship between social information and charitable giving (see Figure 1). The mediators do not exclude each other: donating more after exposure to social information because it is perceived as a social norm, does not mean it cannot also infer a quality signal. The model presented in Figure 1 is an integrative model of several ways in which social information could affect donation behavior.

[Figure 1 Here]

Reference point

People tend to value prior information and use this information as a reference point for behavioral adjustments, which is also known as anchoring (Hammond, Keeney, & Raiffa, 1998). Anchoring is a robust cognitive bias that has been found to influence decision-making in laboratory and field experiments (Furnham & Boo, 2011). In these studies, researchers usually show or mention a number to participants before asking them an unrelated question, and the unrelated number biases participants' answers. Presenting random numbers from a spinning board, for instance, was shown to influence participants' estimates of the percentage of African countries in the United Nations (Tversky & Kahneman, 1974), with higher numbers on the spinning board leading to higher estimates.
Social information could function as such an anchor by establishing a reference point on which later donations are based, but this idea has never been tested; Martin and Randal (2008) suggested this possibility but did not test it. Likewise, Hysenbelli et al. (2013) perceive social information as an anchor that affects individual behavior. The researchers informed students about either an average donation amount of €10, €90 or gave no extra information, and found that an anchor of €90 was most effective. While the researchers used “anchoring” to explain the social information effect, they did not measure why people adjusted their donation amount. Therefore, it is still unclear whether social information functions as an anchor by providing a reference point or by setting a social norm, as described in more detail below.

**Perceived social norms**

In addition to the cognitive anchoring effect, social information may also affect social norms on charitable giving. Human decision-making is largely influenced by social norms as they provide cues about how to behave in a given situation (i.e. descriptive social norm), including charitable donations (Cialdini, Reno, & Kallgren, 1990). “Conforming,” a term often connected with social norms, refers to social comparison stimulated by a desire to blend in, resulting in behavior adjustment: it is a social phenomenon whereby people perceive other people’s behavior as cues for acceptable behavior and adjust accordingly (Meyer & Yang, 2015). Human behavior is strongly influenced by a desire to conform to social norms (Bernheim, 1994; Festinger, 1954).

Social norms have been connected with donation behavior (Bekkers & Wiepking, 2011). By making social information available, researchers try to influence the decisions of potential donors by hinting at an answer to the fundamental question: what does a person like
me do in this situation? Donors who desire to conform are likely to try to target the modal donation amount as a reference for the acceptable donation amount (Bernheim, 1994).

Croson et al. (2009) conducted a laboratory experiment with a low ($10) and a high ($50) social information condition with undergraduate students. The participants read a scenario mentioning that they donated $25 to a radio campaign; during a conversation with a solicitor, they were told that another member donated $10 or $50. After that, the participants indicated how much they thought the average radio listener would donate (i.e. hypothetical donation context). The researchers found a direct effect of social information on hypothetical charitable giving ($z = 2.319, p = 0.022), which decreased but did not disappear ($z = 1.048, p = 0.297) after controlling for social norms (i.e. mediating variable). Social information has an effect on social norms ($z = 3.791, p < 0.001) and social norms on hypothetical giving ($z = 4.364, p < 0.001). The researchers reported that social norms fully mediate the influence of social information on hypothetical giving. We disagree with this conclusion, maintaining that, while the strength of the relation between social information and hypothetical giving is reduced by including social norms as a mediator, the mediating variable only explains part of the relation. Social norms, therefore, may partially explain the relationship between social information and charitable giving.

In conclusion, social information can change the perceived social norm, which may then change the donation behavior. While such mediation is suggested by researchers focusing on social information effects, the effect remains unclear as previous studies have not measured it properly.

**Awareness of need**

Next to setting a reference point and influencing social norms, social information may also affect people’s awareness of need. Countless studies have shown that people want to help
other people in need and care about the effect of their donation for charities, i.e. altruism drives donations (Bekkers & Wiepking, 2011). Before they can do so, however, they must be aware of there being a need for help (Bekkers & Wiepking, 2011), which is also referred to as awareness of need. Several field studies demonstrated that the degree of need for help increases the likelihood of helping (Levitt & Kornhaber, 1977; Schwartz, 1974; Staub & Baer, 1974). One study specifically investigated the effect of need for help on giving behavior (Wagner & Wheeler, 1969) and found that giving behavior is positively influenced by awareness of need.

Awareness of need can be increased if beneficiaries communicate this need to potential donors (Bekkers & Wiepking, 2011). Applying this knowledge to our specific context, we would expect that the implementation of social information could increase awareness of need by communicating this need to donors: “If people are willing to donate large amounts of money, there must really be a need for help and I should also make a contribution.”

In conclusion, social information could increase awareness of need by showing that other people donate. Awareness of need, however, has not received any attention from scholars examining effects of social information.

**Expected project quality**

It is a classic assumption in economics that people are rational and aim to increase their gains as much as possible. Based on this assumption, we would expect people to prefer projects of a proper quality, as low-quality projects are less likely to provide people with gains. Several authors argue that people find it hard to judge the quality of philanthropic projects (Handy, 1995; Rose-Ackerman, 1980, 1981) possibly because there are so many charities, and proper quality signals are either lacking (Vesterlund, 2003) or hard to interpret. Perhaps social
information informs people about a project’s quality: "If other people are donating large amounts of money, they probably think this is a high-quality project.”

One study specifically mentioned that social information works as a quality signal (Vesterlund, 2003): If potential donors are uncertain about the merits of a project, they use the suggested donation amount to determine a project’s quality. Smith et al. (2015) provided an indirect empirical test if social information functions as a quality signal. The researchers used conventional by-proxy reasoning to determine if social information influenced the perceived quality of a project. The researchers based their approach on the assumption that the content of social information would be more important for “unknown” charities that were characterized by being start-ups, small-sized, involving young people, and based overseas (Heutel, 2014). These types of charities were more likely to require a quality signal, as charities about which donors know little are probably more in need of additional information (Heutel, 2014). Social information, therefore, should have a stronger effect (Smith et al., 2015). However, Smith et al. (2015) found that the effects of social information were actually stronger for larger and older charities and that there were no effects of geography.

The reasoning of Smith et al. (2015) was based on the untested assumption that small, young, and overseas charities are perceived as a “risky investment.” With recent scandals relating to some of the bigger and better known charities, however, donors might be more skeptical about the quality of these bigger and well-known charities, as trust in charitable organizations is prerequisite for charitable giving (Bekkers & Bowman, 2009).

**Diffusion of responsibility**

Social information does not always increase donation behavior and has even been found to decrease donation behavior in some studies, e.g., Croson & Shang, 2008, 2013; Meyer & Yang, 2015. In order to explain this negative effect, we have applied insights from a well-
established theory in social psychology on the bystander effect (Latané & Darley, 1970), which holds that the larger the surrounding group, the less people are likely to help (Fischer et al., 2011). According to Latané and Darley, the larger the group, the lower the responsibility people feel to help, as a larger group makes it easier to feel anonymous (Prentice-Dunn & Rogers, 1982), which has also been described as an increased diffusion of responsibility.

The bystander effect has been specifically demonstrated (Garcia, Weaver, Moskowitz, & Darley, 2002) with hypothetical giving to charities: people who merely imagined the presence of a large group intended to give less to charity. The researchers gave participants a written scenario about a group of either 30 or 10 individuals, before asking them how much they would donate to a charity. Even though the researchers used only a hypothetical context, the important message was that an actual group does not have to be present in order to have a negative effect: if individuals felt the presence of a group, this could already decrease charity giving (Garcia, Weaver, Darley, & Spence, 2009).

In conclusion, if the suggested donation amount gives people the feeling that a group of people is connected with the project, their donation may be perceived as less needed. In other words, social information could result in a bystander effect by decreasing people’s feeling of responsibility. Such diffusion of responsibility has not yet received any attention from scholars researching social information.

**Perceived donation impact**

In addition to diffusion of responsibility, social information may decrease charitable giving by affecting the perceived impact of the donation. Economists describe that donors are influenced by the estimated impact of their donation (Duncan, 2004): “If other people are already donating large amounts of money, my money is less needed to reach the donation
goal, and I could donate a lower amount (or not at all) to save money without appearing less important” The impact philanthropy model claims that donors are stimulated and enjoy personally increasing the output of a good (Duncan, 2004), possibly to appear important. As a result, the attractiveness of giving decreases with each donation as it decreases donation impact (Duncan, 2004). Providing social information, therefore, could be harmful: If other people are already donating, my donation is not really needed. The feeling of making a difference also matters in prosocial behavior (Aknin, Dunn, Whillans, Grant, & Norton, 2013; Bekkers & Wiepking, 2011).

The outcome of a decreasing willingness to donate can be described as “free-riding.” In economics, free-riding occurs when people benefit from resources, goods, or services without paying for them (Duncan, 2004). The suggested donation amount could provide people with an excuse to refrain, telling themselves that their money will not make any difference in assembling the donation amount. Free-riding, therefore, describes the behavior of someone’s adjustment according to a perceived lower donation impact.

In conclusion, both diffusion of responsibility and impact of donation are expected to mediate the relationship between social information and giving. The negative result of diffusion of responsibility on donation behavior is called a bystander effect; the negative result of a lower impact of donation is called free-riding.

5. How the three Ws moderate the mediating variables

Above, we introduced the mediating variables in our model. Below, we will specify the model further (see Figure 2 and Table 1). We argue that there are three important moderators that are expected to influence the mediated effects: who, what, and where.

[Figure 2 Here]
Who

While receiving information, it matters who provides it: people prefer to follow information from similar others (e.g., family and friends, i.e. strong ties; Festinger, 1954) or people with similar attributes (e.g., scholars; Festinger, 1954). If there is a shared sense of social identification (i.e. shared identity), this is particularly influential for someone’s own decision-making (Weber, Kopelman, & Messick, 2004). The bystander effect is also reduced by high group cohesion (Rutkowski, Gruder, & Romer, 1983): a high degree of attraction towards group members (i.e. group cohesion) apparently facilitates helping.

Researchers have identified several ways in which a shared identity can be manipulated to increase the effectiveness of social information on donation behavior. Hysenbelli et al. (2013) conducted a laboratory experiment with Italian students in a hypothetical context: students indicated how much they would donate after reading a scenario mentioning the donation amount of previous Italian (i.e. similar identity) or German donors. The researchers found that a suggestion made from a similar other only resulted in a stronger effect of social information if the suggested donation amount was high (€90), whereas there was no difference in effect between the groups if the suggested donation amount was low (€10).

One study suggested that if donors who make multiple donations (“prior members”) are unaffected by social information, the effect is re-established when the solicitor connects the term “prior members” to social information in their solicitation (Shang & Croson, 2009). We suggest that, by adding the word “prior,” the researchers have increased the focus on similarity in having made a prior donation and have thus increased the sense of shared identity between the source and the target of the social information.
In addition, Jacob et al. (2017) and Croson, Shang & Reed (2008) found that if social information was connected to the same gender as that of the participant, the information had a stronger effect on donations than in the mismatched condition (e.g., showing a female the donation amount of a male). Unfortunately, the researchers did not use a randomized control setting, and we cannot be sure, therefore, whether the increasing participation rate of females solicited by a female was due to gender matching.

What

Classic economic theories argue that people will decrease costs (money, in this case) at all times (Sargeant & Jay, 2004). This effect can also be found in philanthropy: when the costs of giving are lowered, donations increase (Eckel & Grossman, 2003; Eckel, Tech, & Grossman, 2004). If a suggested donation amount is too high, people may perceive the amount as unfair or excessive, which decreases charitable giving (Hysenbelli et al., 2013). This would lead us to expect that a suggested donation amount that is perceived as too high is less effective in influencing giving.

There are some studies that support this line of reasoning: social information based on the 99th percentile is no longer effective in increasing the individual donation amount (Croson & Shang, 2013; Shang & Croson, 2006). While a high donation amount might not increase the individual donation amount, Smith et al. (2015) found that a large donation (at least ten or more times the average donation) does increase the number of donors. Apart from using amounts that are too high, mentioning an amount that is too low can decrease the individual donation amount (Croson & Shang, 2008; Meyer & Yang, 2015). In a laboratory experiment with students, other studies found that suggesting a high donation amount (€90) is actually more effective than suggesting a low donation amount (€10) to increase hypothetical giving (Hysenbelli et al., 2013). Unfortunately, it is unclear why exactly donors do not respond to
information that is too high, nor when exactly the information is perceived as too high, but these studies do demonstrate that it matters for the amount to be actually mentioned in the suggested donation amount.

Where

We argue that social information is especially effective in a public and also in an ambiguous context. Charitable givers, for example, are held in high regard, and refraining from giving could damage one’s reputation (Bekkers & Wiepking, 2011). If we apply this to the “perceived social norm” mediator, we would expect that a public donation context increases the effect as people will only benefit from behaving in line with social norms if their behavior is observable. Whereas social information could have a bystander effect by increasing the division of responsibility, the bystander effect also builds on the idea of being anonymous. If people feel identifiable, the bystander effect is no longer found (van Bommel, van Prooijen, Elffers, & Van Lange, 2012). While some people might refrain from giving after seeing social information because it decreases the impact of their donation, therefore, they might still donate if the context is public.

Alpizar et al. (2008a, 2008b) collected field data at a national park and found that tourists who were informed about other people’s typical donation ahead of the solicitation donated 25% higher amounts, but the effect was not significantly different from an anonymous donation context. Unfortunately, social information and anonymity were not manipulated in separate conditions, and the influence of anonymity on the social information effect, therefore, remains unclear.

A second context that could increase the effectiveness of social information on the above-mentioned mediations is an ambiguous context. People have to make a lot of decisions every day, and particularly decisions that are made in an ambiguous context are prone to
anchoring (Kahneman, 2011). If social information affects the perception of a social norm, it is likely to be more effective in an ambiguous context (Crutchfield, 1955; Festinger, 1954), as people are more likely to compare themselves with other people in ambiguous situations (Buunk & Mussweiler, 2001; J. R. Martin & Wheeler, 2002). In an ambiguous context, therefore, social information could function as a social guideline.

For example, new donors to a radio campaign were affected by social information, but renewing donors were not (Murphy et al., 2015; Shang & Croson, 2009). As renewing donors are familiar with the context, it is not an ambiguous context to them, and, as a result, social information has a limited or no influence on this situation (Bekkers, 2012). New donors, on the other hand, are unaware of such a reference amount, and so they are looking for a social signal about the “correct” donation amount.

6. Discussion and conclusion

The literature on social information has yielded several insights, such as empirical evidence for a positive effect and several methods of increasing effectiveness. The diversity in findings apparent in our review shows that more work needs to be done to learn to understand why effects do or do not occur. Building on the broader literature of social psychology and behavior economics, we have sought to contribute to such understanding.

Our review of social information effects reveals that the literature is inconsistent, reporting positive, absent and even negative effects. As social information research has so far been predominantly data driven, this has led to a bewildering array of findings lacking a proper underlying theoretical framework. To make up for this, we have proposed a model with six mediators that impact the relation between social information and donation behavior: reference point, perceived social norms, awareness of need, expected project quality, perceived donation impact, and diffusion of responsibility.
Our model can explain the both the positive and the negative effects of social information on donation behavior that were found earlier. In addition, our review reveals that, as moderating variables, it matters who provides the information, what the content of the information is and where the donor is while receiving the information. We believe this framework increases our understanding of existing research on social information effects and helps chart future research directions that would elaborate and systematize our understanding of social information effects and contribute to the further development of effective solicitation tools to increase charitable giving.

We also make five suggestions for future research. First, as papers presenting significant results are more likely to be published than papers reporting non-significant results (publication bias, Scherer, Langenberg, & von Elm, 2007), we expect that more researchers have found a non-significant effect than we have reported in this literature review. Papers reporting non-significant results, therefore, are more difficult to find. This means that even though more researchers report a positive than no effect, we should not disregard the non-significant findings. Nonetheless, the purpose of our review is to identify mediating and moderating variables that influence social information effects, and we do not expect unpublished papers to add to the model we propose.

Our second suggestion refers to an important empirical question that remains unanswered: the relative influence of each of the mediators – whether social information primarily affects donation behavior because it influences the reference point, perceived social norms, awareness of need, or expected project quality – is still unclear at this point. Multiple mediators are likely to operate simultaneously in our model, and their combinations are likely to differ across time, contexts, and donors. There are also likely to be interaction effects: awareness of need will be higher if donors find perceived social norms important. It is likely, moreover, that there are several three-way interactions between mediators and moderators.
The same social information could also result in two effects that cancel each other out. For instance, social information could increase awareness of need and, therefore, have a positive effect, but at the same time decrease perceived donation impact, resulting in a negative effect. In sum, there are probably several complex interactions between the factors mentioned in our model, and whether social information increases, decreases or does not affect donation behavior depends on contextual and personal features. We believe that, next to testing the proposed theoretical model, identifying systematic patterns in the effects of moderators, mediators and their interactions is an important task for future research.

Third, in addition to characteristics such as gender, personal characteristics of potential donors, such as personality traits and socioeconomic characteristics, are likely to influence social information effects. Individual characteristics, however, can only be measured but not manipulated, unlike contextual factors. Practitioners could adjust contextual factors, but not the individual characteristics of their donors. It would be fruitful, nonetheless, to research the influence of individual characteristics. A challenge for future research is to research how the model works with different donors, by dividing donors, for instance, on the basis of common characteristics (such as shared needs, personality traits, and socioeconomic status) to identify “high yield segments”: What group of donors would profit most from using social information?

Fourth, our model includes mediators that are based both on a cognitive (e.g., reference point) and on a normative process (e.g., perceived social norms) but does not specify the strength of the mediation. A question to be answered in empirical studies is whether social information functions mainly as a cognitive or as a normative process.

Finally, we suggest that it would be fruitful to redirect efforts from combining social information with several other mechanisms to increase donation behavior as much as possible
and develop “the most effective stimulant” to a focus on “clean” manipulations with proper explanations behind the present or absent effect.

A definite strength of our model is that it offers not just a description of the literature but that it can be used in practice. Practitioners can use the model to develop social information campaigns and enhance their effects by asking themselves how the manipulation affects each of the mediators or which moderators are at work in their campaign and by trying to avoid negative mediators and moderators and including positive ones. The model can also be used as a checklist to predict if using social information would be beneficial. If a campaign is likely to attract people with similar backgrounds, practitioners would benefit from identifying their target audience to specify social information: if the target group consists mainly of art lovers, for example, this identity can be connected with a suggested donation amount: “Did you know that most art lovers donate XX?.”

Social information could have a positive effect on charitable giving, but – and this is important – researchers have mainly focused on demonstrating and reporting positive social information effects rather than pay attention to the development of a proper theory to support the effects. In this paper, therefore, we have taken the first steps towards a theoretical framework by developing a model that highlights the restrictions and possibilities of social information in affecting donation behavior. The field of social information, in conclusion, represents a vibrant area for theoretical development.
References


Appendix A

Table 1. Schematic overview of the found articles reporting social information (SI) effects in relation with donation behavior. The studies are presented in ascending order of year and last name. The independent variable (IV) is operationalized and depicted in the table below in four ways: (1) mentioning or showing one amount, such as ‘a previous donor donated XX’, represented by ‘I’, (2) mentioning or showing the average of previous donors, such as ‘most donors donate XX’, represented by ‘A’, which refers to the average, (3) mentioning or showing several individual donation amounts, such as ‘the last three donors donated XX, YY and ZZ’, represented by ‘S’ which refers to ‘several’. Or (4) mentioning or showing the total amount raised by an earlier group or day, represented by ‘T’. The dependent variable (DV) is operationalized in three ways: (1) individual donation amount, represented by ‘I’, (2) number of donors, represented by ‘N’, or (3) total donation amount, represented by ‘T’. This appendix also provides an overview of the public goods presented as the donation benefit in the different studies, for example a public radio campaign, an art gallery, the London marathon. Finally, it contains the sample country alongside other methodological characteristics of the studies, since there are cross-national differences in giving (Wiepking & Handy, 2015).

<table>
<thead>
<tr>
<th>Study</th>
<th>Sample</th>
<th>Country setting</th>
<th>Study design</th>
<th>Actual donation</th>
<th>Source of donation</th>
<th>Benefit</th>
<th>IV</th>
<th>Additional variables</th>
<th>DV</th>
<th>Main findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kubo et al. (2018)</td>
<td>Tourists</td>
<td>Japan</td>
<td>Field</td>
<td>Yes</td>
<td>Earnings</td>
<td>Daisetsuzan National Park</td>
<td>T</td>
<td>Government funds</td>
<td>I, N</td>
<td>SI results in significantly lower contributions, but more donors. Announcing SI is less effective than providing information about government funds</td>
</tr>
<tr>
<td>Jacob et al. (2017)</td>
<td>Customer bakery &amp; household members</td>
<td>France</td>
<td>Field</td>
<td>Yes</td>
<td>Earnings</td>
<td>Several humanitarian projects</td>
<td>A</td>
<td>Gender</td>
<td>I, N</td>
<td>SI presented in a visual manner (donations in a glass box) results in significantly higher contributions and more donors.</td>
</tr>
<tr>
<td>Van Teunenbroek (2016)</td>
<td>Students</td>
<td>The Netherlands</td>
<td>Lab</td>
<td>No</td>
<td>Hypothetical</td>
<td>Pifworld crowdfunding</td>
<td>I</td>
<td></td>
<td>I, N, T</td>
<td>+ Written SI increased the individual donation amount, number of donors and realized total amount. The effectiveness of SI depends on how easily participants can refrain from giving at the time they receive SI. If reluctant donors see a chance to refrain without damaging their reputation they will.</td>
</tr>
<tr>
<td>Klinowski et al. (2015)</td>
<td>Students</td>
<td>United States</td>
<td>Lab</td>
<td>Yes</td>
<td>Windfall</td>
<td>Pittsburgh Cares</td>
<td>I</td>
<td>Info before or after intention to donate</td>
<td>I, N, T</td>
<td>+</td>
</tr>
<tr>
<td>Authors</td>
<td>Groups</td>
<td>Country</td>
<td>Method</td>
<td>Goal</td>
<td>Information Provided</td>
<td>SI Type</td>
<td>SI Impact</td>
<td>Notes</td>
<td></td>
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</tr>
<tr>
<td>Meyer et al. (2015)</td>
<td>Students</td>
<td>United States</td>
<td>Survey</td>
<td>Earnings</td>
<td>Green fee university</td>
<td>A</td>
<td>I</td>
<td>SI that is lower than the intended donation amount lowers the donation amount</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murphy et al. (2015)</td>
<td>Radio listeners</td>
<td>United States</td>
<td>Field</td>
<td>Earnings</td>
<td>Alaska Public Media</td>
<td>I</td>
<td>N, T</td>
<td>Most of the donors were renewing donors, this group seems unaffected by SI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sasaki (2015)</td>
<td>Online donors</td>
<td>Japan</td>
<td>Field</td>
<td>Earnings</td>
<td>Justgiving projects</td>
<td>S</td>
<td>I</td>
<td>The range of previous donation amounts has an influence on the strength of SI effect; when more of the previous donation amounts are identical, later donors are more likely to mirror this amount resulting in a donor conformity effect</td>
<td></td>
<td></td>
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<tr>
<td>Smith et al. (2015)</td>
<td>Online donors</td>
<td>United Kingdom</td>
<td>Field</td>
<td>Earnings</td>
<td>Justgiving projects</td>
<td>I</td>
<td>I</td>
<td>Higher average donations results in donors donating higher amount</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adena et al. (2014)</td>
<td>Opera visitors</td>
<td>Germany</td>
<td>Field</td>
<td>Earnings</td>
<td>Social youth project</td>
<td>A</td>
<td>I, N, T</td>
<td>If SI is perceived as too high it decreased the individual donation amount.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Croson et al. (2013)</td>
<td>Radio listeners</td>
<td>United States</td>
<td>Field</td>
<td>Earnings</td>
<td>Station’s on-air fund drive</td>
<td>I</td>
<td>I</td>
<td>If SI is high (€200) it decreases the participation rate but increases the donation amount, compared to a low suggestion amount (€100).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Edwards et al. (2013)</td>
<td>Students</td>
<td>United States</td>
<td>Field</td>
<td>Earnings</td>
<td>UW Steven’s Point’s Annual Campaign</td>
<td>I</td>
<td>I, N</td>
<td>Donors tend to give an amount close to the suggested amount. Connecting social information to a personal number had no effect.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hysenbelli et al. (2013)</td>
<td>Students</td>
<td>Italy</td>
<td>Lab, survey</td>
<td>Hypothetical</td>
<td>Child with brain damage</td>
<td>A</td>
<td>I</td>
<td>A higher suggestion amount is more effective than a low suggestion amount. High suggestions can be made more effective by connecting it to in-group members.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bekkers (2012)</td>
<td>Dutch population</td>
<td>The Netherlands</td>
<td>Field, survey</td>
<td>Windfall</td>
<td>Several charities</td>
<td>A</td>
<td>I, N</td>
<td>SI results in significantly more donors. The modal amount was not the same as the suggestion amount. Instead the modal amount was twice the suggestion amount. SI effect seems stronger among people who find social norms important.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bog et al. (2012)</td>
<td>Online donors</td>
<td>United Kingdom</td>
<td>Field</td>
<td>Earnings</td>
<td>Justgiving projects with</td>
<td>I</td>
<td>I</td>
<td>The effect of SI is strengthened when multiple donors donate the same amount. Large</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year</td>
<td>Study Type</td>
<td>Location</td>
<td>Sample Description</td>
<td>Study Type</td>
<td>Treatment</td>
<td>Experimental Design</td>
<td>Hypothesis</td>
<td>Description</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Croson et al. (2010)</td>
<td>Radio listeners and students</td>
<td>United States</td>
<td>Lab survey</td>
<td>Yes/no</td>
<td>Earnings and windfall</td>
<td>Station’s on-air fund drive</td>
<td>I</td>
<td>Gender matching</td>
<td>Matched genders between the source and recipient increased the effectiveness of SI. A second experiment with students revealed that the increased effect of gender matching was even stronger if the individual scored high on a collective-identity esteem and when the attention is focused on others.</td>
<td></td>
</tr>
<tr>
<td>Croson et al. (2009)</td>
<td>Radio listeners</td>
<td>United States</td>
<td>Field</td>
<td>No</td>
<td>Hypothetical</td>
<td>Station’s on-air fund drive</td>
<td>I</td>
<td>Social norm</td>
<td>Perceived descriptive norm partially mediates the relation of SI on donation behavior.</td>
<td></td>
</tr>
<tr>
<td>Shang et al. (2009)</td>
<td>Radio listeners</td>
<td>United States</td>
<td>Field</td>
<td>Yes</td>
<td>Earnings</td>
<td>Station’s on-air fund drive</td>
<td>I</td>
<td>Long term effect, prior donors.</td>
<td>A high suggestion amount ($300) is more effective than the control or $180 condition in increasing the individual donation amount, but least effective in increasing the number of donors. A low suggestion amount ($180) is most effective in increasing the number of donors. No crowdfunding out next year: social information might increase the renewal rate, but not the individual donation amount. Social information does not have a significant effect on renewing members.</td>
<td></td>
</tr>
<tr>
<td>Alpizar et al. (2008a)</td>
<td>Tourists</td>
<td>Costa Rica</td>
<td>Field</td>
<td>Yes</td>
<td>Earnings</td>
<td>National park Costa Rica</td>
<td>I</td>
<td>High ($10), medium ($5), low ($2) Anonymity</td>
<td>A low suggestion amount increased the number of donors, but decreased the donation amount. A higher suggestion amount was most effective in increasing the total donation amount. Anonymity decreased giving.</td>
<td></td>
</tr>
<tr>
<td>Alpizar et al. (2008b)</td>
<td>Tourists</td>
<td>Costa Rica</td>
<td>Field</td>
<td>Yes/no</td>
<td>Earnings</td>
<td>National park Costa Rica</td>
<td>I</td>
<td>High ($10), medium ($5), low ($2) Hypothetical versus actual donation</td>
<td>A low suggestion amount increased the number of donors, but decreased the total donation amount. The high treatment had a higher donation average but not the highest total donation amount. No difference in contribution between hypothetical and non-hypothetical context</td>
<td></td>
</tr>
</tbody>
</table>

2 The authors used the same database as reported in Croson et al. (2009)
<table>
<thead>
<tr>
<th>Study (Year)</th>
<th>Type</th>
<th>Location</th>
<th>Setting</th>
<th>Field</th>
<th>Hypothetical</th>
<th>Treatment</th>
<th>Condition</th>
<th>Treatment Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Croson et al. (2008)</td>
<td>Radio listeners</td>
<td>United States</td>
<td>Field</td>
<td>Yes</td>
<td>Earnings</td>
<td>Station’s on-air fund drive</td>
<td>I</td>
<td>previous donation amount</td>
</tr>
<tr>
<td>Martin et al. (2008)</td>
<td>Visitors (art gallery)</td>
<td>New Zealand</td>
<td>Field</td>
<td>Yes</td>
<td>Earnings</td>
<td>City gallery</td>
<td>A</td>
<td>I, N, T +</td>
</tr>
<tr>
<td>Shang et al. (2008)</td>
<td>Radio listeners</td>
<td>United States</td>
<td>Field</td>
<td>Yes</td>
<td>Earnings</td>
<td>Station’s on-air fund drive</td>
<td>I</td>
<td>Gender matching</td>
</tr>
<tr>
<td>Shang et al. (2004)</td>
<td>Radio listeners</td>
<td>United States</td>
<td>Field</td>
<td>Yes</td>
<td>Earnings</td>
<td>Station’s on-air fund drive</td>
<td>I</td>
<td>SI presented in a visual manner (donations in a glass box) results in significantly higher contributions, more donors and total donation amount. Overall, the high suggestion condition was most successful in terms of donation realized amount ($316.65).</td>
</tr>
<tr>
<td>Jones et al. (2004)</td>
<td>Students</td>
<td>United States</td>
<td>Lab</td>
<td>No</td>
<td>Hypothetical</td>
<td>Group investment pool</td>
<td>A, I</td>
<td>I, N +</td>
</tr>
<tr>
<td>Vesterlund (2003)</td>
<td>Students</td>
<td>United States</td>
<td>Lab</td>
<td>No</td>
<td>Hypothetical</td>
<td>Public good game</td>
<td>I</td>
<td>I, N, T +</td>
</tr>
<tr>
<td>Sell et al. (1991)</td>
<td>Students</td>
<td>United States</td>
<td>Lab</td>
<td>Yes</td>
<td>Earnings</td>
<td>Group investment pool</td>
<td>A, I</td>
<td>Aggregated suggestion amount</td>
</tr>
<tr>
<td>Silverman et al. (1984)</td>
<td>Viewers (telethon)</td>
<td>United States</td>
<td>Field</td>
<td>Yes</td>
<td>Earnings</td>
<td>United Cerebral Palsy Telethon</td>
<td>A</td>
<td>SI results in significantly higher contributions and more donors</td>
</tr>
<tr>
<td>Reingen (1982)</td>
<td>Students</td>
<td>United States</td>
<td>Lab</td>
<td>No</td>
<td>Hypothetical</td>
<td>The Hearth Association</td>
<td>A</td>
<td>I, N, T +</td>
</tr>
<tr>
<td>Catt et al. (1977)</td>
<td>Household members</td>
<td>United States</td>
<td>Field</td>
<td>Yes</td>
<td>Earnings</td>
<td>United Way annual fund-raising drive</td>
<td>A</td>
<td>I</td>
</tr>
<tr>
<td>Cialdini et al. (1976)</td>
<td>Household members</td>
<td>United States</td>
<td>Field</td>
<td>Yes</td>
<td>Earnings</td>
<td>American Cancer</td>
<td>A</td>
<td>N, T +</td>
</tr>
<tr>
<td>Blake et al. (1955)</td>
<td>Students</td>
<td>United States</td>
<td>Lab</td>
<td>Yes</td>
<td>Earnings</td>
<td>Society Secretary in their department</td>
<td>S</td>
<td>Range of suggestion values</td>
</tr>
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</tr>
</tbody>
</table>

A narrow range of realized amounts does not result in a higher degree of conformity compared to the wider range of variations. Donors donate an amount that closely resembles the social information; the contributions made by others may be set as a standard which could create the pressure to conform.