Online Altruism: What it is and how it Differs from Other Kinds of Altruism

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Abstract

Altruism is a well-studied phenomenon in the social sciences, but online altruism has received relatively little attention. In this article, we examine several cases of online altruism, and analyse the key characteristics of the phenomenon, in particular comparing and contrasting it against models of traditional donor behaviour. We suggest a novel definition of online altruism, and provide an in-depth, mixed-method study of a significant case, represented by the r/Assistance subreddit. We argue that online altruism can be characterized by its differing experiences compared to traditional giving, from a giver's point of view, and unique mechanisms and actions made possible by the internet. These findings explain why people give to anonymous strangers online and provide a new perspective on altruism that is important in building a more altruistic internet and society.

1 Introduction

Social science disciplines traditionally focus more on negative phenomena, often neglecting the study of the positive (Sorokin, 1966). The same is true for internet scholarship: while there is significant research on internet harms, few studies focus on healthy and societally beneficial effects of the online world. This article analyses forms of online altruism, partly through an in-depth study of the r/Assistance subreddit, to contribute to this significant gap in internet scholarship. Altruism is fundamental to the flourishing of human societies, as recently witnessed during crises like

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the COVID-19 pandemic (Gualda, 2022). Understanding the opportunities that the internet uniquely creates for altruism is crucial to building the future of the internet and society and supporting better strategies to foster it.

At first glance, much existing work suggests altruism is unlikely to be sustained online, especially within anonymous groups that lack a strong sense of community. Laboratory experiments have shown that face-to-face interaction increases cooperation, specifically when compared with communication through computers (Ostrom, 2000). Other studies suggest that online anonymity and remote distance may deindividualize people and hide important physical cues, leading to bystander apathy and social loafing (i.e., less frequent helping behaviour) (Christopherson, 2007). Lack of trust has also been cited as a particular hindrance to cooperation online, for example, in the context of e-commerce transactions (Wang & Emurian, 2005). However, in this article, we argue that altruism exists on the internet, not just *despite* the technology, but also *because* of it. People online have found ways to leverage opportunities and overcome many obstacles that impede altruism online. Through an analysis of the characteristics and mechanisms of giving on the internet, compared to traditional models of donor behaviour, we explain why people give to anonymous internet strangers and offer new insights on novel approaches to fostering altruism online.

The article is structured in the following sections. In sect. 2, we provide a very short introduction to altruism and its different kinds; we justify our choice to focus only on forms of altruism made possible by the internet; and then suggest a novel definition, consisting of four categories of attributions. In sect. 3, we illustrate the analysis by looking at three significant cases. In sect. 4, we offer a case-based analysis of Reddit and r/Assistance to ground our work empirically. In sects. 5 and 6, we further expand the analysis by discussing traditional models of donor behaviour, comparing online altruism against offline donor behaviour, and reconstructing the characteristics of altruistic activities online in terms of givers' online experiences (e.g., beliefs and emotions). In sect. 7, we address the last topic which is the mechanisms of online giving that enable and shape these experiences. In sect. 8 we draw the previous lines of analysis together and compare online altruism and Bekkers and Wiepking's model for donor behaviour, indicating similarities and differences. We synthesis some final conclusions in sect. 9.

2 Online Altruism: an Analytic Framework

Altruism has been extensively theorized, debated, and discussed among many disciplines. Philosophical literature defines altruism broadly to include any act that either does good to others, or prevents others from harm. This also includes actions undertaken towards these effects that stem from multiple motives, some altruistic and some self-serving. Thus, in order to differentiate among this broader set of altruistic actions, whether or not the act involves self-sacrifice divides altruism in the strong sense (with self-sacrifice) and altruism in the weak sense (without self-sacrifice) (Kraut, 2020). However, *online* altruism has not received adequate attention and it is not properly defined. In this section, we offer a novel definition for the phenomenon, which includes criteria and examples of what may be best described as altruism.

However, in order to offer a more focused analysis we do not examine the entire universe of altruism online, but direct our attention towards forms of altruism that are enabled *because* of the internet. In this way, our study diverges from other cases discussed in the literature such as crowdfunding associated with rewards, broader prosocial behaviour online, such as timebanks, and online activities of existing in-person communities. Before proceeding, this exclusion needs to be justified.

Crowdfunding and crowdfunding platforms (CFPs) are often defined as a broad category of activities, including lending, investments, and donations (Belleflamme et al., 2015). While donation platforms that do not reward the donor may be relevant to online altruism[1], most platforms discussed in the literature reward the contributor, so the analyses focus on platform economics, rather than altruism. Occasionally, giving communities on Reddit are discussed, but generally only in terms of mechanisms and narratives used by requestors to convince others to give, rather than the altruistic activity in the first place (Althoff et al., 2014; Majumdar & Bose, 2018).

As for prosocial behaviour online more broadly, Wang and Wang (2008) analyse it in online multiplayer games, an environment often cited in this type of literature (Nicola, 2020). Besides online games, other studies consider the effectiveness of charity websites on giving (Slattery et al., 2021). In this context, Floridi (2013) approaches prosocial behaviour as facilitated through the internet in terms of "distributed morality". He discusses how new information communication technologies could allow many "small morally-neutral or morally-negligible interactions" (729) to sum up into larger (positive) morally meaningful impacts. This builds on explorations of open-source communities such as Linux or Wikipedia by Benkler (2006), who theorized commons-based peer production, in which many people can work collaboratively to create enormous value, without capitalistic incentives. In fact, we shall see that much of Benkler's analysis on how the internet enables new incentives for people to contribute to open-source projects resonates with the results of this article (see sects. 6 and 7). Still, the kinds of online altruism explored in this article add to the cited literature by considering *stronger altruistic behaviours* that are significantly costly to the giver (Kraut, 2020). Specifically, in many examples of online altruism (see below), while there may certainly be a large group of participants, each giver's contribution is more significant in and of itself than in cases examined by Floridi and Benkler. It is this stronger, internet-enable kind of altruism that we analyse in the rest of this article. For this reason, we shall also exclude from our analysis two other cases of what may seem altruism. One is timebanks, such as hOurworld. These may not be considered part of online altruism because each action to help another person results in a gain in time deposited to the giver. The other is represented by platforms that activate *existing* local communities. For example, even if there is coordination for altruistic activities on the neighbourhood platform Nextdoor, the participants are already part of an existing offline community. The same applies to Facebook Groups associated with college classes and other offline cohorts.

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[1] Such as GoFundMe, discussed in sect. 3.1.

Given the lack of focus on *strong* forms of online altruism, that is, altruistic acts associated with a high cost to the giver, in the remainder of this section we offer a novel definition, based on four conditions: *strong* (henceforth we shall omit such characterisation) online altruism is altruism made possible by a platform, through coordination, addressed to strangers, and involving significant cost or self-sacrifice on the giver's side. This definition will be the basis for analysis and discussion of the phenomenon in the rest of the article.

2.1 The Platform

The activities of online altruism we wish to analyse are those that happen on-platform. This means it is *not* the case that givers have the intention to participate in a specific act of giving and then use an online platform to do so, but rather that the act of giving originates and is directly enabled by a platform. The platforms in question can be purpose-built to make possible and facilitate giving, as in the case of GoFundMe or DonorsChoose, but they can also be general-purpose, as in the case of Facebook, Twitter, or Reddit, or even be purpose-built platforms for non-giving activities that are repurposed, such as Google Workspace apps. In short, altruistic activities do not have to be an intended use of the platform. Actually, they often are not. But the kind of altruism we are analysing is the one that needs a platform to be exercised. Different platforms provide different affordances that (sometimes with a bit of creativity) allow for various forms of online altruism. At the basic level, these affordances must enable interaction between multiple participants. Beyond this, affordances may drastically vary, as we shall see.

2.2 The Coordination

The second requirement for online is coordination. While affordances relate to the feature set of a particular platform, coordination refers to the human actions needed to enable altruistic activities on the platform. These actions are often performed by relatively few individuals compared to broader participants on the platform. For example, moderators and admins[2] can set up their giving groups by posting rules and tending to potentially rule-breaking behaviour. They may manually flag participants as either bad actors or trusted members. These moderators can also set up mechanisms, such as bots that automatically ban known scammers, or an auxiliary group where names of known scammers can be published (common on platforms where bots are not technically feasible). Human coordinators may also liaise with other agents, such as moderators of other groups or the host platform company. Similar

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[2] Different platforms use different terms for coordinators. For clarity, we try to use site-specific terms whenever possible, but we use moderator, admin, coordinator, organizer, etc. interchangeably to mean the volunteer coordinators who perform actions to coordinate their giving community. We refer to all paid employees of platforms as 'platform companies' or 'platform employees.' For example, even though Reddit refers to its employees as admins, we always use 'admin' to mean volunteer coordinators and not platform employees.

coordinators do not always hold official positions. While some forms of online altruism may involve such formal coordination, coordination can also be decentralized and/or emerge organically, but it is required in some form. Often, a secondary role of coordination is to scope the giving community. Note that coordination does not necessarily gatekeep or insulate communities. It creates a boundary between participants and non-participants.

2.3 The Internet Strangers

Platform and Coordination are two necessary features but do not yet make the online form of altruism novel, compared to traditional altruism. After all, offline altruism also happens in a setting, e.g., a church instead of Facebook, and has elements of coordination, e.g., an NGO-hired volunteer coordinator instead of a moderator. It is the nature of the participants that makes the crucial difference between online and offline altruism. First, coordinators do not necessarily need credibility, whether from organizations, e.g., through working for a reputable non-profit, or connections, e.g., through being known as a community leader. Indeed, while coordinators have significant powers and perform vital tasks that enable online altruism, their identities are often unknown. Particularly on anonymous platforms like Reddit, moderators may be anonymous, and in fact, individual moderators are often hidden under the collective label of "the moderators" in correspondences and actions. Of course, this does not mean that coordinators' powers are not entirely unchecked; platform companies may overrule coordinators, and participants in an online community may seek change or simply choose to form new communities if unhappy with the existing coordinators.

Besides the moderator, at a minimum, other participants need to take on the roles of givers and requesters. As in any form of altruism, givers perform an altruistic action towards requesters. However, in online altruism, the specific dynamics and order of operations are much more fluid. One person may occupy both roles, either simultaneously or sequentially. A single giver may give to multiple requesters, and a single requester may receive help from multiple givers, whether within a single request or across multiple requests. The action may also be started by the requester posting a request, or by the giver posting an offer. Much of these dynamics are determined by the platform and coordination performed. They are not impossible offline, but they are significantly easier online, and the internet enables different dynamics in potentially simultaneous and multi-role formats.

Often, there are also large distances between these participants. This is typical of the online experience, where geographical location is almost irrelevant. At the extreme end, participants are anonymous strangers who do not know each other (a high degree of emotional and relational distance) and may be spread across the globe (a high degree of geographic distance). However, there can also be communities where, although real names are used, the participants only know each other exclusively through the giving community. Nevertheless, all these variations contrast with existing local communities who know each other offline, whether or not they use the internet as a tool for altruistic activities. This also notably differs from

philanthropy, which usually refers to giving towards a collective entity, and giving towards family and friends.

In addition to distance, online altruism often happens on a large scale. A person may meet a stranger on a dating app or other chat application and decide to help the stranger through a monetary transfer. However, this does not fit the definition of online altruism: the interaction uses technology and the internet as a communication tool, but does not enable novel kinds of altruistic activities that would have been improbable otherwise. Thus, online altruism usually involves many participants, who are at the very least aware of other participants who are also engaging in the same or similar altruistic activity, even if a single participant only interacts with a few others.

2.4 The Giving

Finally, of course, there must be giving in online altruism. As stated previously, we are interested in a stronger online altruism, which requires acts of giving that involve a significant cost or self-sacrifice on the giver's side[3]Kraut (2020) Monetary transfers are one example, but other forms of giving can be significant gifts of one's time and/or expertise. The giving outputs generally originate on the platform and can be completed on the platform too, particularly on purpose-built platforms like GoFundMe. However, in many other cases, the output does not necessarily have to be entirely on-platform and instead can be facilitated through other platforms or offline methods (as we shall see).

To summarise, strong online altruism can be defined as any kind of altruism that is made possible by a platform, through coordination, towards receiving strangers, with some costs incurred by the giving party.

3 Online Altruism: Three Illustrative Cases

So far, we have analysed the necessary and sufficient features characterising online altruism. In this section, we present some significant cases that clarify that analysis. This overview is based on a systematic analysis of relevant literature. We report empirical data and findings in our analysis of the r/Assistance case.[4]

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[3] Certainly, this self-sacrifice could be to prevent others from potential harms (rather than improving another's well-being); however, such cases are more difficult to ascertain, thus for this article we focus on clear acts of giving.

[4] Besides the r/Assistance subreddit, we do not write the names of specific communities, which we we use as examples, out of caution, as many of these groups are wary of any potential increased publicity that may increase the chance of bad actors.

3.1 GoFundMe

GoFundMe is a crowdfunding platform for personal needs. As opposed to other crowdfunding platforms such as Kickstarter, donors on GoFundMe do not receive any reward for their giving, thus it is clearer that the contribution is a self-sacrifice. Most campaigns on GoFundMe are for a specific purpose with a specific one-time fundraising goal, as opposed to donating to a charity without knowing exactly where one's donation will go. These campaigns may be started by individuals (e.g., friends and family of the requester) or charities, often to help the requester in a time of need. GoFundMe, a venture-backed for-profit company, facilitates payments on-platform and usually takes a percentage of the donation as their fee. Therefore, as Belleflamme et al. (2015) observed, especially for charities, there must be some value that the platform GoFundMe provides to justify paying the platform usage fee over fundraising through other charity-owned channels. This value could be in access to new donors, similar to an advertising campaign, or, for existing donors, in a better match between the "funder's taste and the campaigns' characteristics" (9).

3.2 Google Workspace Mutual Aid

As the name suggests, Google Workspace's suite of apps is made for corporate productivity. However, Google Sheets and Google Forms have been widely used during the COVID-19 pandemic for mutual aid efforts (Knearem et al., 2021). Community organizers may create Google Forms for those who need or want to give aid. Then, the responses to these forms are collected in a public or private Google Sheet and are used to coordinate aid efforts. While many of these mutual aid communities also use a Facebook Group as an additional coordination tool (often with pinned links to the associated Forms), the use of Google Workspace is not always linked to other platforms.

3.3 Facebook Groups

Like Google Workspace, mutual aid Facebook Groups surged during the onset of the COVID-19 pandemic, slowing down after the initial waves (Ntontis et al., 2022). During the pandemic, directories of local mutual aid Facebook Groups emerged. Participants could join a group with their Facebook account (sometimes requiring the moderators' approval) and request or offer assistance. At times during the pandemic, offers exceeded the number of requests. A large portion of the assistance requested and provided related to grocery shopping, but other forms of monetary, material, informational, and emotional assistance were also sought and given. However, not all mutual aid groups on Facebook are situated within a particular locality or are directly related to the impacts of COVID-19. For example, one mutual aid group among marijuana users sought to donate towards the small wants of other users, usually through money transfers using Cash App or Paypal. The requestors may ask for help paying for gas, miscellaneous items, and marijuana. Users in the group are encouraged to "bump" others' posts by commenting, to boost the visibility

of unfulfilled requests (Knearem et al., 2021). In this particular, mutual aid group, donations and requests both require proof in the public feed of the group itself. Besides this rule, another mechanism used to prevent bad actors by many Facebook mutual aid groups is a separate Facebook Group shared among multiple Groups, for the explicit purpose of posting names of known scammers.

4 Online Altruism: an Empirical Analysis of Reddit and r/Assistance

Each of the previous three cases represents an interesting illustration of online altruism. In this section, we provide a detailed, empirical analysis of another case, represented by r/Assistance subreddit. We choose this instead of the other three because it is an exemplary instance of online altruism. The subreddit uses unique mechanisms that are only possible online, such as semi-automated moderating; its participants fit the definition of online altruism well; the assistance provided is at a substantial cost to the giver without providing obvious benefit.

The subreddit has been continuously active since 2010, a decade before the COVID-19 pandemic. While mutual aid has existed for most of human history (Spade, 2020), specific mutual aid communities, both online and offline, tend to increase and decrease in activity in sync with significant crises. r/Assistance did indeed experience a spike in activity during the early months of the pandemic, but the subreddit has stood the test of time and continues to grow.

The subreddit consists of a large group of international anonymous users, although its user base is concentrated within the United Kingdom, the United States, and Canada. In 2021, the subreddit surpassed two hundred thousand subscribers and experienced 50–100 valid posts per day. While exact statistics are difficult to discern, a large percentage of requests for assistance are fulfilled, in the range of 20–60%.[5] All users, including moderators, requesters, and givers are known by a screen name and no personally identifiable information is allowed. There are also no explicit reputation mechanisms, such as badges, rewards or leaderboards. Requestors need to be regular Reddit users, with activity on non-giving subreddits for the past 60 days and a total of 400 karma points.[6] This requirement has been adjusted and debated throughout the subreddit's history. Compared to other giving subreddits, these criteria rank on the lower end; many other giving subreddits require a higher number of karma points earned. Requestors on r/Assistance also need to fill out a form, which prompts for more information on the requestor's circumstances, although it does not ask for personal information or evidence. The responses to the form are only visible to the team of nine moderators. Givers, and occasionally moderators, are allowed to ask requesters for proof (e.g., receipt of purchase), but it is not a requirement of the subreddit. Givers may create posts offering assistance, but much more often simply

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[5] This is a large range due to disagreement between various sources, including a manual data scrape of the subreddit and interview participants. The reasons for this disagreement may be due to inconsistencies from month to month and differing definitions of a valid request.

[6] Users receive karma points on Reddit when their posts and comments get upvoted.

browses the subreddit and provide help to request posts, either directly through a private message to the requester, or by first commenting on the post. Private messaging interactions between the giver and the requester are almost always brief and focussed on the altruistic transaction.

Assistance may be provided for various reasons, but requests are mainly for basic needs, such as food, transportation, bills, and pet supplies. Where possible, requesters are encouraged to create Amazon Wishlists, and givers may purchase items directly from the Wishlist. Other common methods of giving are cash payments through online monetary transfer services such as Paypal, Venmo, Zelle, and Cash App. Less frequent methods of giving are through crowdfunding websites such as GoFundMe, material giving (e.g., shipping a physical item), traditional bank transfers, and direct payments to billing companies. The giving on the subreddit is usually less than one hundred United States Dollars. To make this description more concrete, here is an actual example of giving r/Assistance:[7]

On February 14, 2022, u/Radish41 posted on the r/Assistance subreddit, 'I lost my job, can anyone help,' with the flair—the Reddit term for tag—"REQUEST." The first reply, which came immediately, was a bot—automated user-created scripts that perform helpful functions. The bot reminded Redditors to read the rules before participating. On desktop, the sidebar is always in view, noting 12 rules (including "12. Read our full rules page"). A few minutes later, u/Glaze35 explained that if u/Radish41 wanted groceries, they could make an Amazon Wishlist, one of the preferred methods of giving on the subreddit. The subreddit wiki even has lists of suggested items that can be added to Amazon Wishlists, ranging from pasta to tampons. u/Glaze35 also offered to send a $25 grocery gift card. u/Radish41 created an Amazon Wishlist, including common pantry items. One and a half hours after the original post, u/Gleba59 replied that they had purchased some items from u/Radish41's Wishlist. 2 days later, seven out of the eleven items on the list have been purchased at least once.

In our empirical research, we used a mixed methods approach, including interviews and analyses of the textual components of the subreddit, detailed in Appendix A, to describe the activities and participants on r/Assistance in full.

5 Traditional Models of Donor Behaviour

Traditional studies of offline giving focus on philanthropy, that is, private entities giving monetary gifts to collective entities for the public good (Barman, 2017). While the cases of online altruism examined in this paper are not precisely philanthropy, understanding philanthropy and offline donor behaviour help compare giving on the internet to traditional gifts towards non-profits.

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[7] Usernames have been anonymized. Single quotes indicate paraphrased texts to prevent re-identification through a search engine.

In their famous study, Bekkers and Pamala (2010) identified eight mechanisms that drive charitable giving: awareness of need, solicitation, costs and benefits, altruism, reputation, psychological benefits, values, and efficacy. As a prerequisite for giving, the potential giver has to be *aware of a need* for their support, whatever the need and the type of support is. Then, the giver must be *solicited* to help. How givers are solicited is important and yields differing responses—for example, via mail vs. TV advertisements (Sargeant, 1999). Then, donors weigh the *costs and benefits* of providing support. For example, givers may consider tax benefits, obstacles (including physical comforts, such as the weather), the size of the ask, or fringe benefits. The authors use *altruism* in an economic sense to mean care about the ultimate result[8] of providing assistance. Specifically, economists note a theoretical 'crowding out' effect—a donor's knowledge about others' giving towards the same ends causing a decrease in support from themselves—that is often not perfectly exemplified in practice (Kingma, 1989). *Reputation* relates to the social consequences of giving for the donor. At its simplest, generally prosocial behaviour improves one's reputation, and not participating in such acts when they are expected may lead to social punishment. Sociologists also discuss norms and relations within societies that set expected behaviour, sometimes enforced through punishing offenders (Simpson & Willer, 2015). Giving not only results in social consequences but also *psychological benefits*. It is well-established that giving makes the donor 'feel good'. However, the specific underlying mechanism is debated (Batson, 2010; Eisenberg & Miller, 1987). While it is unlikely that entire personalities are more or less altruistic, *values* held by individuals, i.e., 'feelings of moral obligations' (Schwartz, 1977) impact whether or not they may give, and to whom. Finally, *efficacy* is the giver's own perception that their assistance, if given, will ultimately make a difference.

6 Characteristics of Online Altruism: Experiences

To compare online altruism against offline donor behaviour, it is necessary to outline the characteristics of altruistic activities online. Thus, in this section, we briefly analyse givers' online *experiences* (e.g., beliefs and emotions), mainly through our empirical analysis of r/Assistance. In the next section, we shall turn to the *mechanisms* of online giving that enable and shape these experiences.

It seems obvious that online altruism is good. What is not obvious is just how good participants perceive these communities to be. One participant on r/Assistance described the users as "overwhelmingly positive" and "awesome" and told us how excited they were to be part "of this thing that's like doing so much good." With only one exception, participants characterized the subreddit, the users on the subreddit, and the moderation team as good, not just analogous to offline giving, but sometimes in contrast to traditional charities. While most people interviewed still give to

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[8] This is notably different from how this paper approaches altruism. This paper explores online *behaviour* that benefits others at a permanent cost to the giver, rather than the *results* of altruistic activities online. See Clavien and Chapuisat (2013) for a review of definitions of altruism across disciplines.

charities and non-profits, one participant lamented, "but I mean if you look at their financials, the amount that goes to administration and advertising—it's crazy," and others spoke similarly of corruption and waste within collective entities. In contrast, they lauded the goodness associated with direct giving on r/Assistance and other giving platforms they were a part of. This is despite many participants reporting that they had been scammed on online giving platforms in the past, or that they suspected they had likely given to bad actors who had lied about their circumstances and reasons for needing assistance. These scams, combined with the lack of economies of scale that many non-profits use to increase efficiency, make online altruism unlikely to be actually more efficient and effective, yet online altruism can be experienced to be 'more good' than giving to organizations. Two explanations seem plausible. Online altruism is seen as more inclusive: anyone can ask for assistance on these platforms, even if they do not qualify or do not know whether they qualify for help from charities or governmental assistance. Additionally, the emotional experience of giving online is heightened, compared to giving offline, an important characteristic to which we shall return.

Another way that the perceived goodness of online altruism manifested in our research was participants' reluctance to share experiences that may taint this virtue. For example, participants were often hesitant to indicate that they even enjoy participating on the platform. One giver described, "I mean, it's selfish, but [giving on r/Assistance] makes me feel good. I don't want to say a high, but something similar to that where like I feel giddy for a little while afterwards." When questioned further, they stated:

> *I guess I feel selfish because I feel like I shouldn't be getting anything out of [giving.] I feel like if it was truly charitable, I would give and never think about it again. But I give and then I think about, oh, I really hope this person is happy here. I really hope I helped them. And so I feel like I'm taking the wholesomeness away from it.*

In fact, many participants were unwilling to accept a small gift card as compensation for their participation in our research, perhaps not wanting to ruin the goodness associated with the subreddit and this research. In these ways, online altruism is characterized by people who believe in the good of online altruism and so will manifest it. In addition to this general experience, we found five dimensions that together tell the story of what it is like to participate in online altruism.

6.1 Internet Strangers are not Scary Anymore

There is ample social science literature comparing offline and online social relationships and interactions. Such literature is generally optimistic about the possibility of trust online. As Taddeo (2009) described, "e-trust" clearly exists and thus implies trust need not direct physical interaction, but rather can arise "merely from the information that the trustor holds about other agents and about context" (20). Beyond trust, other scholars have argued that meaningful relationships online contribute significant positive influences on people's lives (McKenna & Bargh, 1999), although

with caveats that offline relationships remain important (Helliwell & Huang, 2013). In line with these views, many participants of online altruism we interviewed experience and believe in the genuine quality of online interactions. There are two main aspects of this experience: generational differences in perceptions of internet strangers, and an expanded circle of care. Despite the subreddit being composed of anonymous strangers, the younger participants of online altruism described a sense of responsibility and care towards the individuals behind the computer screens.

When asked whether the r/Assistance subreddit feels like a community or a group of strangers, while some who have been on the subreddit longer answered the former, most described the latter. Common across both answers, they all made it clear that the requesters being helped were anonymous strangers, and interactions via direct message to provide assistance were very brief and focussed exclusively on logistics. Some more frequent givers notice the usernames of other frequent givers, for example, "[the subreddit] seems to mostly be individuals. But I am getting to know a few of the regulars and a couple of the mods." Others indicated that they do not feel like there is any community at all and instead it's just purely strangers helping other strangers: "I feel like it's a collection of individuals," and "if I posted or commented, no one would recognize me."

We did not ask for the age of participants, nor did participants indicate their age on online giving platforms. However, many interview participants mentioned that they were a part of the millennial generation. Those interview participants compared themselves to their parents and older generations, and felt differently about the internet and people on the internet, anonymous or not. One participant explained,

Our grandparents… would have gone against getting in a [rideshare] car with a stranger. It's a little different now and [less of] that wariness since we grew up with [trusting digital strangers], we're so used to it there, we're less likely to be worried.

It seems that it is not solely online friendships that have become more normal, but also a general trust and familiarity with meeting people through apps and the internet.

Besides familiarity with online strangers, those who give on r/Assistance also have an expanded circle of care. One giver stated: "I realized that this is kind of the way forward, we can't just isolate and say take care of your own, we kind of have to help everybody out if we can." Many folks explained that giving on online platforms is only one part of their altruistic activities.

6.2 Individual Impact is Fulfilling and Fun

The most consistent experience among givers on Reddit r/Assistance is that online altruism is more fulfilling than other forms of giving because they can see their individual impact. Their giving is not pooled with many other donors to be used towards abstract causes. Instead, they are singlehandedly saving someone's day and they can "see" the impact they are making and how they are helping others. This is another contrast to traditional giving. As one interviewee put it, "it feels good to be able to

help someone directly. The majority of my charitable giving goes to efficient non-profit… but despite being less efficient, it is nice to help an actual person on r/Assistance." Another participant said

I've made donations to charities and things like that, but it sort of feels like you're just a drop in the bucket, you know, it's a lot different when you can help someone and go, okay, I know that this is going to you personally, you know, you feel like you're making a bigger impact on an individual.

Some even try to increase their impact further by giving to requesters who may be less attractive to other givers. For example, one giver on the subreddit explained, "I'm looking at [the subreddit] every day and most posts are filled up pretty quickly. So, I wait until it seems obvious that a post is not going to get fulfilled. And then I read it."

Others focussed on the ability to solve a problem completely through online altruism. For example, fulfilling an individual's request for a week's worth of groceries before their first paycheck solves a problem for the individual. In contrast, donating to a food bank helps, but does not solve a problem completely, as the same need for food will exist week after week. One participant we interviewed succinctly summed it up, "it's not open-ended, you know for sure that they got whatever they asked for, whether it was groceries, whether it was gas… it was achieved, one and done kind of thing." Finally, some described the size and depth of the impact of their giving, despite the benefactor just being one person. That is, for the same amount of money, making an enormous impact on one person, instead of small impacts on lots of people in traditional giving: "with just a few mouse clicks, I could erase all the horribleness of that day for someone."

These experiences are consistent with the types of giving that occur. While giving towards other people's wants does happen, many platforms, such as r/Assistance, focus on basic needs, like food and transportation. The most quickly fulfilled requests on r/Assistance are Amazon Wishlists for food items. Givers can click on the requestor's Wishlist and directly order food items to be delivered to the requestor. These kinds of requests are almost always fulfilled within minutes, and many veteran users of the subreddit will encourage new requestors to create such Wishlists. This makes sense as food items have a high impact on an individual who is hungry, and have the added bonus of allowing the giver to purchase specific food items requested, directly increasing the tangibility of the giving.

Further to a sense of fulfilment, online altruism appears to be fun. Fun is an uncomfortable descriptor for online altruism and something many participants shied away from expressing, as it appears to go against the purely altruistic 'goodness' of online altruism. However, it remains an apt descriptor. Many successful examples of online altruism had an element of fun, even if the fun came at a slight expense of the effectiveness of the altruistic act. r/Assistance is general-purpose, but many other communities are not. Popular forms of online altruism on multiple platforms focus on pizzas—the request is always for a pizza, and the giver always purchases pizza (either through delivery or a gift card). Other communities are centred around holidays, such as allowing givers to purchase Christmas presents for children who would otherwise not receive a gift, complete with required verification in the form

of a photo of the children receiving the present. It is hard to describe the draw of these communities without using the word "fun". Typically, fun may be thought about in terms of gamification (Hamari et al., 2014), such as reputation systems, badges, awards, etc. However, none of the forms of online altruism we encountered exhibited any of these elements. Instead, the fun came from the actual act of giving, as opposed to auxiliary effects. Despite the difference in endeavour between helping another Redditor put food on the table and contributing to an open-source operating system, this quality of online altruism is analogous to the types of psychological motivations described by Benkler (2006) to explain participation in large-scale open-source projects, and how these motivations substitute monetary incentives to allow new kinds of internet-enabled behaviours.

6.3 Paying it Forward

In our analysis of r/Assistance over two months, we found very few examples of participants both requesting and giving assistance. However, through speaking with the subreddit moderators and participants, we learned that, in the long-term, some participants do 'pay it forward' by assisting when they can, perhaps many months after requesting assistance themselves. Much more common in giving communities is a more general version of paying it forward. For example, one participant said that they helped someone requesting assistance with transportation because "they were trying to get to their job, but their car broke down… and I've been there before like I've definitely been there before." Even though it was not Reddit that helped them when their car broke down, they felt compelled to help because of the similar circumstance experienced by the requestor. Another participant put it even more generally, "when you have it you help and when you don't, sometimes some people help you."

6.4 "It's Just What You do"

While paying it forward describes reasons for giving related to some generalized form of reciprocity, we also encountered a few participants who described giving, especially through the internet, as something ordinary that 'everyone does.' One person we interviewed gave an example of their experiences on Twitter,

> I've had mutual [followers] who were like I'm feeling so down or like I'm broke or oh I want this for dinner, but I have to wait until I'm paid in 3 days… and if you search and you look for their Cash App… I've sent people gift cards, like Buffalo Wild Wings, and stuff like that. And then I've had people like one time I was like I will hunt for food, but I don't want to cook and boom, there's like, you know $20 in my Cash App… it's just random.

In this way, online altruism becomes a natural and normal activity on the internet. Others described giving in general as something they 'just do', and helping others through online platforms as a natural part of altruism.

6.5 Less Embarrassment, More Convenience

Finally, many participants explained that giving online is much easier and more convenient than other giving methods. This is because the physical actions are simple, and the social interaction is less complicated. Online altruism is easier for many participants, particularly through the COVID-19 pandemic and an increasingly online world. As one participant indicated: "it's also far more convenient to give online since I can do it without having to go anywhere." Nevertheless, for many, the convenience of giving to others goes beyond physical aspects. Many interviewed givers explained that online altruism has less shame associated. They suggested that some may even request assistance online before asking friends and family because it is less embarrassing. Givers also described their giving online as a way to help without putting requestors in an embarrassing situation:

> I think it's easy with anonymity, it's less embarrassing… People will tell [requestors], oh, go to churches or go check out this charity. I think that's a lot harder for people, it would be harder for me to go physically to some place and [ask for help]. I think it's a lot easier to type it all down.

As an example, this participant shared their experiences trying to help their sister, recalling that "we try our best to avoid giving to my sister face to face because it's awkward and she feels bad," and reflected on how the internet solves this problem.

7 Characteristics of Online Altruism: Mechanisms

The experiences just analysed are facilitated by several "mechanisms". Five seem more important and are worth describing in some detail.

7.1 Storytelling

One commonality among most platforms is the ability for requestors to share a story explaining why they are asking for assistance. This kind of personal appeal contrasts with more abstract data-driven appeals (e.g., statistics about food insecurity in the United Kingdom), but is not unique to online altruism. Sometimes these narratives strike a chord with a particular giver, for example, as one giver said, "I just bought someone cat food and litter this morning. I always have a special place in my heart for those struggling to feed their animals." However, often these narratives do not have to appeal to people with particular interests. Instead, they just need to be compelling. Studies on these kinds of narratives on giving subreddits found that clearly communicating some need is most important, and elements of gratitude, evidence, and reciprocity also increase the likelihood of the appeal's success (Althoff et al., 2014; Majumdar & Bose, 2018).

7.2 Online Payment

Around half of all fulfilled requests on r/Assistance we observed were direct money transfers. However, some participants said they were only comfortable assisting via Amazon Wishlist, online bill payment portals, or electronic grocery gift cards. In any case, almost all of the giving we observed was made much easier through the internet. Among cash transfers, most are facilitated through online payment apps. These apps, such as Venmo and Cash App in the United States, or Paypal in the UK and Europe, enable cash transfers over large distances very easily, cheaply, and quickly. Some participants stated that it is these payment apps that remove significant friction in online altruism: "the way we have Cash App at our fingertips now and Venmo and Zelle and all these things that make it easier to get direct money rather than sending it via Western Union."

7.3 Rules and Moderation

Rules and moderation are essential to the subreddit. On the one hand, none of the participants interviewed or observed was unaware of the possibility of scammers and bad actors, that is, those without a real need for assistance who simply wish to take advantage of givers' generosity. However, there was a range of opinions on the appropriateness of counteracting measures. As one moderator of r/Assistance explained, the rules are a tricky balance between lowering barriers for legitimate users and filtering out these bad actors. Reflecting on the unfortunate necessity of this imperfect balance, they stated that "there are going to be some honest people that get turned away, but the number of dishonest people that get turned away is so much larger." Thus, the rules and moderation styles are often debated. Some givers felt that the rules and moderation are highly successful, for example,

> *At the end of the day, it's not worth stressing about since I'm not giving away thousands to a single person. If I lose a few tens of dollars, it's not relevant if on the whole I'm helping people who actually are in need. The rules and moderation are also great and help keep things relatively safe.*

While other givers would like to see even stricter rules,

> *The registration process could be a lot better… [Other giving subreddits] have very strict registration processes that involve taking photos of the kids holding the username, upload of a utility bill, and wish lists are vetted before they are allowed to publish them. And, they have very very strict karma and account age/activity requirements.*

These rules are very dynamic, frequently changing based on circumstances and the make-up of the community and the moderation team.

The r/Assistance moderator we interviewed also highlighted the importance of automation in enabling the enforcement of the rules at scale. The ability to

enforce relatively complex rules across hundreds of posts a day with a volunteer moderation team hinges on routine tasks being automated away. Before each post requesting assistance becomes live on the subreddit, various automated checks are performed to ensure that the requestor is eligible to request assistance and that the post's content is appropriate.

Frequent participants on the platform often help the moderation team by advising requestors, including on how to follow the rules and norms of the subreddit more successfully and how to report rule-breaking behaviour to the moderators. In fact, the interviewed moderator was one of these frequent participants before being asked to join the moderation team.

7.4 User Profiles and Giver Vetting

Traditional non-profits gain legitimacy through legal requirements and financial reports. These kinds of legitimacy do not generally apply in online giving. Instead, many givers (actually all interviewed givers who participated on r/Assistance) perform their own vetting and diligence by looking through the requestor's user profile. Some simply look for signs of a genuine user, such as normal social media usage and an account that has not been recently created. For example, one participant explained "I do some diligence by going through a poster's history and looking for any inconsistencies." Another said, "I look at their post history and comments and see what kinds of things they say. If they seem genuine, I'm more likely to help them out." Others dig further and look for the existence or exclusion of particular attributes. For example, one giver commented about their criteria for a requestor they might give towards:

I look at the requester's post history to see if they act like a jerk online or seem to spend their money on drugs, alcohol, gadgets, or other unnecessary things… looking at someone's post history is very informative.

Most of the people who do this kind of in-depth vetting indicated that they try not to be swayed by unrelated content in a requestor's profile and keep an open mind, even if there are moments when they do make judgements. One giver reflected, "I felt really bad for [not providing assistance to] this guy because he's cheating on his wife because honestly, it's none of my business." Others note that vetting someone through their online profile is nicer than vetting someone in real life because,

There is something nice about the anonymity because we're faceless, and racism doesn't get brought up into it. People's backgrounds don't get really brought up into it, nobody is going to judge you based on what you look like, or what you sound like, because it's all really about your online persona and whatever you want to share and don't want to share.

Regardless of the degree, the ability to look through a requestor's post history, Twitter feed, or Facebook profile helps givers feel more confident about the authenticity of the requestor andbetter empathize or affiliate with them.

7.5 Integration

Finally, while there are purpose-built platforms like GoFundMe, most examples of online altruism are integrated within platforms that participants use in their daily lives, for reasons other than giving. In this way, online altruism is often strongly integrated into its participant's online life. Many participants said that they browse r/Assistance every day, partly because it shows up in their Reddit newsfeed and they are already on Reddit. However, it was clear that this integration does not mean givers on Reddit (for example) are only willing to give to other Redditors. Many indicated that they give on other platforms too and stated explicitly that it does not matter whether the requestor is also a Redditor. However, some did reflect that participation in r/Assistance requires some familiarity with Reddit, in terms of its mechanisms and vocabulary, and additionally an implicit understanding of the humans behind anonymous Reddit usernames.

Generally, the relationship between giving communities and the broader platform ecosystem that hosts them is positive, although sometimes it can be tenuous. For example, a moderator of r/Assistance shared that:

> *There have definitely been times where Reddit [platform employees] have asked if they could highlight the sub or promote the sub in some way that we've honestly said no because all that does is bring this huge influx of users that may not be there for completely honest purposes or frankly are just trolls.*

Despite these challenges, the advantages of integration keep giving communities on-platform, even if they try to maintain a lower profile.

8 Comparison Against Offline Altruism

Despite anonymity and both physical and relational distance between givers and requesters, online empathy for the requestor clearly exists and contributes to altruistic behaviour. This was demonstrated by consensus among interviewed givers that the ability to see their individual impact is what makes online altruism compelling. This is not entirely new. James Andreoni's (1990) seminal article on a "warm-glow" as motivation for giving, an element of impure altruism, lays the groundwork for this effect in traditional giving. The difference online is that not only do these kinds of psychological benefits exist despite the virtuality of the internet, but that online altruism allows for *increased* benefits over traditional giving to charities. The strong sense of fulfilment felt by the givers, and the descriptions of online altruism platforms, suggest that online altruism activities are a combination of egoistic and altruistic motivations, a form of impure altruism, and provide significant psychological rewards. However, beyond a warm glow, online altruism is fun, analogous to fundraising events that combine a fun activity with giving, except that, in online altruism, the giving itself is fun, instead of being ancillary to the activity. After all, many givers on r/Assistance stated that they check the subreddit frequently, even daily. As previously discussed, these psychological motivations extend upon Benkler's (2006) work on motivations and mechanisms in online open-source projects towards

stronger forms of altruism, in which givers make costlier contributions that directly impact the real-world well-being of strangers. The case of r/Assistance shows that many of the same motivations that allow digital projects to flourish allow even stronger forms of altruism.

An essential prerequisite for why online altruism can solicit psychological benefits is a trust that the requestor, at least on average, is genuine. While similarity and other measures of closeness did not seem as relevant to givers, participants explained that one way this trust is formed might be generational and related to familiarity with the internet platforms used. Givers trusted internet strangers more than older generations, and in the case of r/Assistance, they suggested that familiarity with Reddit and Redditors in general helps with trusting the intentions of other Redditors. This supports existing themes in scholarship on young adult friendships that suggest their relationships are overwhelmingly mediated through the internet, and that online social interactions are important and meaningful (Scott et al., 2022). Additionally, the ability for requestors to tell their story and reasons for needing assistance in their own words—combined with the ability for givers to fit this narrative into a requestor's broader and much longer participation record on Reddit—build confidence in the giver that the requestor truly needs help, even if no hard evidence is provided in ways of documentation and applications. In this way, the social dynamics online allow potential givers to connect on a personal level more easily.

This directness of giving also increases the perceived efficacy of online altruism. All the intermediaries, whether charities, governments, or other organizations, are cut out. Moreover, although online altruism may not be the most efficient form of altruism on a societal level (Caviola et al., 2021), it directs most of an individual giver's money towards helping others. For example, even if a food bank takes only a tiny percentage of donations towards administration fees, from the individual perspective, a greater percentage of their donation is used to help others when the individual purchases a meal themselves. There are two implicit extra donations in online altruism: the time used and the work done by givers to identify and vet the more deserving receivers. The fact that this is perceived as part of the satisfying feature of the process does not mean that the in-kind cost is reduced. The overheads of any organisation are internalised by the givers.

There is another aspect of efficiency that seems to be higher in online altruism. In economics, the crowding-out hypothesis states that a £1 increase in government funding should directly result in a £1 decrease in private donations (or, more broadly, that donors consider the number of other resources going towards the same goal). This hypothesis assumes that giving is purely driven by care about the end result. In practice, there is a lack of empirical evidence for this hypothesis, even in the case of pure altruism. However, it is generally assumed that impure altruism would have less of a crowding-out effect (see de Wit and Bekkers (2017), with some disagreement (Kotchen & Wagner, 2019)). We have already discussed that online altruism is often impure, yet we do observe the crowding-out effect. In general, despite other motivations, givers care about the results of their giving and what other resources are going towards the need. Usually, when a particular person's request is fulfilled, others do not continue to give. Also, many givers intentionally choose to give to

requests that have received less, or no help, than requests that either are partially fulfilled or will likely be fulfilled quickly. In this way, online altruism may actually be a comparably more efficient form of impure altruism.

Online giving can also be less costly to the giver. First, there are much fewer obstacles. Potential givers do not have to leave their houses or even find a charity website. Instead, online altruism often occurs on platforms the giver routinely frequents—requests for assistance are often integrated into social media newsfeeds. The solicitation for assistance is much more organically blended into the giver's online participation more broadly. Transactions can then be completed through mobile payment apps quickly and easily. However, it is not just the ease of actions related to online altruism that matters. Online altruism can also decrease awkwardness and embarrassment for both givers and requestors, compared to offline interactions.

All the mechanisms described above make it easier for online altruism to happen. They also mean that fewer personal and social benefits are required. For example, assistance provided over the internet does not have tax benefits. And while personal values of giving play a role in online altruism just like in traditional altruism, expectations of social benefits are less clear. Especially on Reddit, where all users are anonymous, reputation is not as salient, and especially not a kind of reputation that translates to the offline or even the broader Reddit platform. However, other norms and relations may play important roles.

Norms and norm enforcement are most clearly demonstrated by frequently updated rules, written and unwritten, and their enforcement through the moderation team. What makes online altruism somewhat strange is that it often only loosely fits into the description of the kinds of groups where norms may emerge. Norms emerge when a group has a clearly defined boundary to determine who is a part of the in-group and who is not (Simpson & Willer, 2015). However, in online altruism, the boundary between who is part of the group and who is not is often fuzzy, especially as participants on r/Assistance indicated that they do not care whether the requestor is a Redditor and demonstrated this by talking about their giving on other similar non-Reddit communities. Additionally, as many participants did not feel a strong sense of community or group identity, it is unclear how much an average giver values the group—both in terms of cooperating with and avoiding punishments. One way to reconcile this disconnect is that the shaping and enforcement of norms need to be led by a smaller group of frequent givers who are very invested in a particular giving community.

Generalized reciprocity, another social phenomenon related to reputation, also occurs in online altruism. Assistance provided through online altruism fits well into traditional conceptions of general exchange. Reciprocity, that is, A gives to B, and then B reciprocates by giving to A, is common. However, generalized reciprocity, that is, A gives to B, and then C gives to A, in this article referred to as "paying it forward," is also well-described in literature (Takahashi, 2000). Individuals who gave support online sometimes expressed expectations that others would also help them if they needed assistance, whether online or offline, and sometimes had experiences of themselves being the recipient of help that they cited as motivations for helping others. See Table 1 for a summary comparing characteristics of online altruism and Bekkers and Wiepking's model for donor behaviour.

Table 1 A summary comparing characteristics of online altruism and Bekkers and Wiepking's model for donor behaviour

Bekkers and Wiepking's Mechanisms	Importance in Online Altruism	Relevant Online Experience(s); Mechanism(s)
Awareness of need	Similar importance.	Internet Strangers aren't Scary Anymore; Storytelling
Solicitation	Solicitation becomes less important, instead of appealing to potential donors using TV ads or mailed flyers, online altruism is often integrated into the givers' online activity and so becomes a natural part of their social activities.	Internet Strangers aren't Scary Anymore; Integration
Costs and Benefits	While online altruism often brings fewer benefits, e.g., no tax benefit, it also has fewer costs, e.g., easy to participate on a phone using familiar tools and platforms.	Less Embarrassment, More Convenience; Online Payment
Altruism (economic)	While there are still other considerations, participants care strongly about the ultimate result of their giving and there is a stronger crowding-out effect, despite evidence of impure altruism, e.g., givers will try to help those who have not received assistance yet.	Individual Impact is Fulfilling and Fun
Reputation	While some long-time participants build a reputation, in general, reputation and other social consequences of giving are less significant. Givers use pseudonyms that are difficult to link to physical world identities and not tracked on-platform.	Paying it Forward
Psychological benefits	Online altruism has much greater psychological benefits, exemplified by the fulfilment givers described, sometimes in contrast to traditional giving.	Individual Impact is Fulfilling and Fun
Values	Similar importance.	Paying it Forward; It's Just What You Do
Efficacy	Whether or not online altruism is overall more effective, individuals certainly perceive that their gifts will make a significant difference. The increased importance of efficacy is also shown in the diligence that participants conduct prior to giving.	Individual Impact is Fulfilling and Fun; Rules and Moderation; User Profiles and Giver Vetting

9 Conclusion

In this article, we discussed online altruism using a mixed methods approach to provide a nuanced understanding and triangulate findings for one particular case of online altruism. We hope future research will examine other cases of online altruism to provide more evidence and refine our current analysis. Additionally, partly due to Reddit norms and partly due to this research's scope, we did not record or analyse micro-level characteristics of online altruism participants. A path of future inquiry may be to focus on how sociodemographic characteristics (e.g., age) could affect participation. Similarly, we selected cases of online altruism in English, and thus particularly skewed towards activities within the United Kingdom, the United States, and Canada. Examining online altruism within other cultures and languages is crucial to understanding the phenomenon in full.

Despite these shortcomings, our findings suggest a new direction for applied research on altruism. Movements such as Effective Altruism that seek to do good more methodically and effectively toward long-term utopian visions (MacAskill, 2016) are important, but should not be the sole direction for the development of altruism. Online altruism often contrasts with the ideals of Effective Altruism. Altruistic acts online are often not particularly planned by the giver in advance, they are not the most effective uses of a certain amount of money, and they definitely do not aim toward a long-term vision that solves humanity's most pressing problems. That is because participants in online altruism tend to focus on the experience and immediate effects on another human being, enabled through online platform mechanisms. This contrasts with participants in Effective Altruism, who are more driven by grander, long-term visions. In fact, Effective Altruism scholars may consider the characteristics of online altruism to be detrimental. Instead of viewing emotionally connecting with a stranger and helping that stranger (who may not be the neediest) as something positive, these scholars may suggest tactics to prevent such a phenomenon. Instead, they presume that society would be better off if givers gave their money to highly effective charities serving the neediest people in the world (Caviola et al., 2021). However, while efficiency and a long-term vision are both laudable goals, it is also important not to lose sight of the present. Popper (1986) warned of the dangers of doing so in favour of utopian visions, "we must not argue that a certain social situation is a mere means to an end on the grounds that it is merely a transient historical situation. For all situations are transient" (8). Indeed, creating a more altruistic society and meeting the needs of people in the present, regardless of whether such altruism is maximally effective or in pursuit of any larger vision, seems just as crucial to be able to build a better world. It is not a bad thing that emotional experiences drive online altruism. This is because the lessons learned from how online altruism can make giving an appealing activity on the internet, not unlike scrolling a social media feed, provide insight into mechanisms that can help empower similar prosocial activities online. Doing so may be essential to building an internet and a society with more care and positive relationships, a goal equally worthy to efficiency. We need to understand online altruism because it is a case where the internet can indeed build meaningful empathetic connections

between strangers. It is complementary to other forms of altruism, not an alternative. It shows us how the internet can provide feelings of being part of something larger and making a real difference in the world, through putting effective solutions onto the real-world doorsteps of those in their time of greatest need.

10 Appendix—Method

Our mixed-method study involved two phases of empirical research. In the first phase, we conducted ten in-depth interviews of approximately 40–60 minutes each.

Participants were recruited through two posts on the Reddit r/Assistance subreddit between February and June 2022. In each post, we sought participants who had given assistance, or had neither given nor received assistance, to fill out a short form. We described our project as a research study conducted by researchers at the University of Oxford. We also told participants that their responses would remain anonymous and no identifiable information would be revealed. In the short form, we asked for each participant's role on the platform (i.e., whether they have given assistance, have received assistance, and/or are a moderator on the platform) and preferred contact information. We also offered participants a small gift card upon completion of each interview, stated in the body sections of the recruitment post and form. Additionally, this study had been approved by a research ethics committee at the University of Oxford and appropriate details and contact information were included in all recruitment materials.

Interviews were conducted in several modes, as preferred by each participant. Most interviews were conducted over the phone or via video, with a few exceptions via Reddit's instant messaging system. Out of the ten interviews, seven had given on the subreddit. Givers we interviewed vary in experience on the subreddit, ranging from dozens of consistent gifts on the subreddit for half a decade to newer givers who had only given once or twice. Additionally, we interviewed two requestors and one of the moderators of the subreddit. We utilized a semi-structured interview guide. First, we started by asking the participant introductory questions, such as how they found out about the r/Assistance subreddit and how often they participate. Then, we asked questions broadly relating to two categories. The first category of questions centred around the participant's own behaviour and experiences on the subreddit. We asked participants to walk through the last time they participated (e.g., gave assistance) and their thought and emotional processes throughout the experience. Towards the end of this section, we also directly asked participants why they participate and whether their expectations were met. The second category of questions relate to the participants' perspectives towards others on the subreddit and the world more broadly. For example, we asked if the participant thought others on the platform give assistance for the same reasons that they do. We also inquired whether the participant's friends and family would give assistance on the platform if they knew about its existence. Finally, we asked questions related to bad actors on the platform and whether the participant feel that the subreddit is a community. During the interview with one of the moderators of the subreddit, the interview guide was supplemented with additional topics related to rules, the subreddit's position

among Reddit and the internet, and observations on broader patterns of behaviours on r/Assistance. Each interview was recorded and subsequently transcribed. Each transcription was then qualitatively coded to create the themes ultimately reported on in this article.

In addition to interviews, we conducted a textual analysis of the recorded elements of the subreddit. This analysis supplemented what we heard from participants to triangulate similarities and differences between heard and observed patterns of behaviour on the subreddit. We scraped all requests and comments on the subreddit created between February and March 2022. Through a semi-manual analysis, we classified posts as either unfulfilled or fulfilled, identified the form of the gift, and recorded which Reddit user requested and fulfilled each request for assistance. There were some unaccounted requests, since not all givers would comment publicly on the requestor's post. This analysis provided general data points on the frequency, type, and (non-)reciprocal nature of altruistic behaviour on the subreddit. After the classification of each post, we completed further analysis by using network analysis tools to identify the similarity between givers and requestors (determined by participation in other subreddits), as well as frequent givers and less frequent givers. This additional analysis proved less fruitful, but confirmed that givers and requestors were generally unknown to each other. On top of these textual analyses of the actual assistance transactions on the platform, we took field notes and qualitatively analysed the rule page, wiki pages, and other text-based pages on the r/Assistance to round out our understanding of the platform.

Declarations

Conflict of Interest The authors declare that they have no conflict of interest.

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