Is In-kind Kinder than Cash? 
The Impact of Money vs. Food Aid on Social Emotions and Aid Take-up

One-sentence summary: Food insecure individuals are less (more) likely to accept—and feel relatively worse (better) when offered—monetary (in-kind food) aid.

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Abstract
There has been widespread endorsement from the academic and philanthropic communities on the new model of giving cash to the poor. Yet, an important perspective remains relatively untouched: the recipient’s perspective. The present research explores how individuals feel and respond when offered either monetary aid or the aid that money has been replacing: in-kind donations. Specifically, we explore whether food insecure individuals are more likely to accept money vs. in-kind food aid. Results from five pre-registered experiments—a field experiment in Kenya and four online experiments in the U.S.—suggest that individuals are less likely to take-up monetary (vs. food) aid because these aid-types elicit distinct relational models and psychological reactions.
(Words: 111).

Introduction
Food insecurity is one of the world’s largest social problems. One-in-four people globally—1.9 billion individuals—are moderately or severely food insecure (1). Even in the U.S., one of the wealthiest countries in the world, about one-in-ten households were food insecure in 2020 (2). Finding and funding effective poverty and food insecurity alleviation programs has recently become even more pressing after, for the first time in almost 25 years, the number of people living in extreme poverty—and, hence, falling into severe food insecurity—began to rise as a consequence of the COVID-19 crisis (3). Experts estimate that both the pandemic and the war in Ukraine will cause an additional 75 to 95 million people to fall into extreme poverty in 2022 (3).

Historically, the most prevalent way to help people struggling with food insecurity was by helping them in-kind (i.e., giving food aid). However, over the past decade, there has been a push for a new aid alternative: direct cash transfers. GiveDirectly, a pioneer of this form of aid delivery, has been delivering cash transfers to families living in extreme poverty in East Africa and the U.S. since 2008. Since then, they have successfully transferred over 500 million USD to extremely poor families. These aid interventions have been widely successful. There have been 15 positive, independent evaluations of GiveDirectly’s economic impacts to date (4) and the cash transfer method, broadly, is one of the most widely studied poverty intervention in low- and middle-income countries (5, 6). Systematic reviews and meta-analyses on cash transfer randomized controlled trials (RCTs) have found that cash transfers, compared to no cash transfer, significantly decrease material poverty (7), child labor (7), and intimate partner violence (8, 9), as well as increase human capital (10, 11), social capital (12), health (13-15), labor supply (16), and mental health (5). All of this evidence has led leaders of the effective altruism movement—a social movement founded by philosophers and philanthropists who aim to use careful logic and reason to do the most good with the resources they have (17)—to call...
direct cash transfers, “a benchmark for comparing the value of different causes and for deciding whether to fund certain charities” (18, 19).

Although there has been widespread endorsement from the philanthropic and academic communities on this new model of giving cash to the poor, one perspective remains relatively untouched: the recipient’s perspective. There has been little to no research on the recipients’ psychological experiences when receiving cash to meet a need in comparison to the in-kind equivalent the cash replaces (e.g., providing money vs. food aid to help those struggling with food insecurity). Additionally, although there have been many reports of take-up neglect of government and non-government aid (20-22), including stimulus checks and COVID-19 funds (23), scholars have overlooked the impact of aid-type on take-up neglect. The limited scholarship from economics comparing the delivery of money for food vs. food aid or food vouchers documents comparable improvements in food security (i.e., quantity and quality of food consumption) and overall economic benefits (24, 25). These scholars collaborated with local governments in Columbia and Yemen, respectively, and did not explore recipients’ psychological experiences when offered the different forms of aid nor did their interventions allow for the investigation of differences in take-up.

So how do food insecure individuals feel when offered money versus food aid to meet their hunger and nutritional needs? How willing are they to accept money versus food aid (holding constant the way the aid is delivered and the objective value of the aid)? Since money offers individuals a greater sense of autonomy and agency, one might expect food insecure individuals will feel better and have higher take-up rates when offered money (vs. food aid). Indeed, money gives recipients the power to decide what, where, when, and how much to purchase, even within a single need-state. Money also is fungible and can be used flexibly based on the recipients’ specific needs and preferences. Nevertheless, we expect that food insecure individuals will be more likely to take-up food aid (vs. money for food) and recommend such organizations to other food insecure individuals. Specifically, we hypothesize that food aid and monetary aid trigger increases in different relational models (communal belonging and market-pricing, respectively), and that these relational models lead to distinct psychological reactions to the aid (26).

Social relations theory, developed by anthropologist Alan Fiske (26), suggests that there are four cross-cultural elementary forms of social relationships, two of which are communal sharing and market pricing. Fiske (26) theorizes that different objects act as symbols of these different social relationships, and he argues that money is both the common currency and symbol of market pricing relationships, whereas in-kind gifts (such as food aid) more so symbolize communal sharing relationships. In fact, food-sharing has historical ties to communal sharing relationships; for example, among Ache foragers in Paraguay, hunters only received a small portion of their kill and families who couldn’t hunt were provided for (27, 28). We extend upon this theory by positing that the aid object a charity offers can trigger relative differences in what kind of relationship recipients think they are in with the charity. Specifically, we expect that offering money makes potential recipients feel more like they are in a market-pricing relationship with the charity, whereas offering food aid makes potential recipients feel more like they are in a communal sharing relationship with the charity.

Importantly, these social relationships carry with them unique expectations and norms. If help is given within a communal relationship, norms dictate that aid should be given freely when needs arise and based on authentic concern for fellow community-members (29). Communal-based giving is also guided by a powerful sense of unity (26), and resources are given freely
amongst group members (30). Since we hypothesize that receiving food aid makes individuals feel more like they are in a communal sharing relationship, potential recipients should subsequently feel a heightened sense of belongingness and, hence, positive social emotions (such as feeling cared about and valued), when offered food (vs. monetary) aid from a charity. Such feelings of belongingness and resulting positive social emotions are ubiquitously desirable (31, 32). Hence, we expect that this relative boost in belongingness-derived positive social emotions—sometimes referred to as kama muta (33)—will make food insecure individuals more likely to take-up food (vs. monetary) aid.

Though, we not only expect food aid to be relatively more positive for recipients than monetary aid because of the social relationship food triggers (communal belonging)—we also expect that monetary aid (relative to food aid) triggers more harmful psychologies because of the social relationship money triggers (market-pricing). Fiske’s (26) social relations theory posits that a fundamental norm in market-pricing relationships is the requirement of merit for reward: no one should receive something for nothing. Since charity recipients fail to uphold the basic tenants of a market-pricing relationship (i.e., exchange), receiving charity while in a market pricing relationship should elicit recipient stigmatization, a form of social sanctioning that aims to eliminate undesirable behavior (i.e., failure to exchange). In fact, results from Pilot Study 1 (see Section D-I of the Online Supplement for full details) suggest that observers do assign more of a poverty stigma to recipients of monetary (vs. food) aid. We anticipate that recipients have likely internalized this stigma such that they feel like they are more of a poor and needy person when offered monetary (vs. food) aid.

To this day, stigma has been linked to negative inter- and intra-personal consequences, such as social rejection, dehumanization, discrimination, decreases in well-being (34-36), and is even said to yield a “spoiled social identity” (37). Previous scholars have identified cultural stigmas attached to people living in poverty (38, 39), to people who participate in poverty alleviation programs (40-44), and recent work suggests that recipients can feel ‘looked down upon’ when receiving monetary assistance (45). We expect that heightened stigma increases negative social emotions (such as shame and self-consciousness), emotions that motivate an avoidance response (i.e., aid take-up neglect) (46). Recent research documenting a link between financial hardship and shame supports our predicted link between poverty and negative social emotions (47). Moreover, only recently have scholars documented the impact of lowering internalized stigma when receiving aid on the take-up of aid (48). These scholars find that a simple change of messaging to decrease the stigma of receiving government assistance in the U.S. increases applications to the government aid by about 40%. Here, we explore one potential antecedent to feeling stigmatized as poor and needy person when receiving aid: aid-type.

Altogether, we expect that the aid object charities choose to offer can act not only as a symbol of different social relationships, but can actually influence the degree to which recipients feel like they are in these different types of relationships with the charity. Specifically, we theorize that monetary aid triggers more of a market-price relationship and food aid triggers more of a communal sharing relationship. Because of the nature of these social relationships, we predict that food (vs. monetary) aid elicits relatively more positive psychological responses (belongingness and resulting positive social emotions). At the same time, we also expect that monetary (vs. food) aid elicits relatively more negative psychological responses (stigma and resulting negative social emotions). The additive effect of food (vs. monetary) aid eliciting relatively more positive and relatively less negative social emotions—where these positive and
negative emotions act as unique psychological constructs that follow distinct psychological mechanisms (49)—should explain our predicted effect of aid-type on take-up.

Experiments.

To test these hypotheses, we ran a preregistered field experiment with food insecure individuals in Kenya (N = 500) and three preregistered online experiments in the U.S. (N = 1,846). Experiment 1 was run in collaboration with the Busara Center for Economics in Kenya, with poor and food insecure participants living in Kibera. Here, we randomly assigned participants to receive an opportunity to pick-up either food or cash. We held constant the way aid was delivered and the objective value of aid (i.e., 600 KES or 600 KES worth of grocery staples). Experiments 2-4 were run in the U.S. and test our prediction that individuals offered monetary (food) aid experience a greater poverty stigma (feeling of belonging), which in turn increases negative (positive) social emotions and decreases (increases) the likelihood of taking-up the aid.

In addition, we report the results from three supplemental, preregistered online experiments run in the U.S. (total N = 2,228) in Section E of the Online Supplement. Whereas lab Experiments 2-4 compare money (framed unconditionally) to food aid, Supplemental Experiment 1 compares money specifically framed as for food to food aid. Supplemental Experiments 2 and 3 explore potential boundary conditions, testing the effect of aid-type in contexts where food insecurity is new (vs. pre-existing) and when aid is solicited (vs. unsolicited), respectively. Together, these three supplemental experiments document the generalizability of our effect and provide further support for our theory.

Field Experiment in Kenya.

Experiment 1 (N = 500; Described in ‘Experiment 1’ in the Methods) was designed to test whether poor individuals in Kenya are more willing to accept monetary or food aid offered to them. Participants received an opportunity to pick-up either a food basket worth 600 KES (about $5 USD) or 600 KES cash (framed to be used to purchase food). Although, participants were not told the value of the aid being offered prior to the pick-up day: all participants learned was that food staples (maize flour, sugar, and cooking oil) or money to help purchase food staples would be made available that weekend. Using interview data, Experiment 1 also tested the exploratory prediction that individuals receiving monetary (vs. food) aid would feel relatively fewer positive social emotions and more negative social emotions. Section B of the Online Supplement includes additional, exploratory measures.

First, immediately after participants received the text-message notifying them that they qualified to receive either food or money (depending on condition) from the Busara Center, we asked participants to text us back if they wanted the aid. 241 out of 250 (96.4%) of participants in the food condition texted back that they wanted food, whereas 234 out of 250 (93.6%) of participants in the money condition texted back that they wanted money (X^2 (1,500) = 2.06, p = .151). This directional differences in take-up became significant when looking at recipients’ actual behavior. We found that 219 out of 250 (87.6%) of participants in the food condition picked up their aid, whereas 199 out of 250 (79.6%) of participants on the money condition picked up their money (X^2 (1,500) = 5.84, p = .016). Visualized results of take-up behavior are displayed in Figure 1.
In line with our findings on take-up behavior, participants who took our exit survey (\(N = 481\)) reported significant differences in satisfaction (1=0% satisfied, 11=100% satisfied). Specifically, participants who were offered food aid (\(M = 9.64, SD = 1.93\)) were more satisfied with their aid experience than participants who were offered money (\(M = 9.09, SD = 2.44; F(1,479) = 4.86, p = .006\)). Analyses excluding responses from participants who failed to take-up the aid revealed that this effect persisted (though it was weaker) even solely amongst individuals who chose to pick-up the aid (Food: \(M = 9.69, SD = 1.75\); Money: \(M = 9.35, SD = 2.00; F(1,407) = 3.44, p = .064\)).

Participants were also asked to share with us the first 10 words that came to mind when thinking about how being offered food or money (depending on condition) from Busara made them feel about themselves. We coded these open-ended self-reflection responses for the presence of positive social emotion words PSEs (i.e., loved, adored, cared for, respected, valued, favored, supported, recognized; see ‘Experiment 1’ in the Methods for more details on the coding scheme). First, looking at the percentage of participants who mentioned any positive social emotions (vs. did not mention any positive social emotions; where 1= mentioned one or more PSEs and 0 = didn’t mention any PSEs), significantly more individuals mentioned positive social emotions in the food (141/238; 56.2%) vs. money condition (120/243; 49.4%; \(\chi^2(1,481) = 4.71, p = .030\)). Additionally, when looking at the total number of positive social emotions shared (i.e., a continuous measure recording the total number of PSEs mentioned per participant), the results again reveal that significantly more positive social emotions were mentioned overall in the food (\(M = 0.93, SD = 0.98\)) vs. money condition (\(M = 0.73, SD = .90; F(1,479) = 5.71, p = .017\)). Even after excluding participants who failed to take-up the aid, the effect of aid-type on presence vs. absence of positive social emotions (48.2% vs. 57.5%; \(\chi^2(1,409) = 3.56, p = .059\)) and frequency of positive social emotions (Food: \(M = 0.92, SD = 0.99\); Money: \(M = 0.69, SD = 0.85; F(1,408) = 6.61, p = .011\)) largely persisted.

We also coded their open-ended self-reflection responses for the presence of NSEs (i.e., shame, ashamed, embarrassed, humiliated, guilty, culpable, remorseful, insecure, vulnerable, self-conscious; see ‘Experiment 1’ in the Methods for more details on the coding scheme). Only

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**Figure 1. Percentage of Participants Who Picked-up the Aid in Experiment 1**

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\(p = .016\)
one participant in the food condition (1 out of 238; 0.4%) mentioned one or more of these NSE words in their open-ended response to our self-reflection measure, a handful of participants in the money condition expressed having NSEs (6 out of 237; 2.5%; \(X^2 (1,481) = 3.52, p = .061\)). Analyses excluding participants who failed to take-up the aid revealed a directional effect on open-ended NSEs (Food: 1 out of 212 (0.5%) participants who picked-up the food aid mentioned NSEs; Money: 4 out of 197 (2.0%) participants who picked-up the monetary aid mentioned NSEs; \(X^2 (1,409) = 2.06, p = .152\).

Taken together, the results from Experiment 1 suggest that individuals with the same need (food insecurity) are significantly more likely to take-up aid when it is offered in-kind (i.e., food items) vs. when they are offered cash to meet that need (i.e., money for food). Additionally, individuals who were offered food (vs. money) were significantly more satisfied with the overall aid opportunity (even amongst those who ultimately chose to take-up the aid). Finally, we found some support for our hypotheses that receiving food feels more “kind” (i.e., participants feel relatively more positive social emotions and fewer negative social emotions) than receiving money.

**Lab Experiments in the U.S.**

Experiments 2-4 (\(N_{E2} = 588, N_{E3} = 687\), and \(N_{E4} = 571\)) provide additional support for our hypothesis that individuals are more willing to take-up food aid (vs. monetary) aid and further unpack the process behind why aid-type impacts aid take-up.

As proposed earlier, we expect that the effect of aid-type on take-up is driven by different degrees of positive social emotions (PSEs) and negative social emotions (NSEs) associated with being a recipient of food or monetary aid. In Experiment 2 (Described in ‘Experiment 2’ in the Methods), we again found that participants were more likely to take-up the aid when offered food (\(M = 5.94, SD = 1.50\)) compared to money (\(M = 5.10, SD = 1.92; F(1,586) = 35.19, p < .001\)). Participants also reported feeling relatively less NSEs when offered food aid (\(M = 3.58, SD = 1.52\)) than when offered monetary aid (\(M = 3.92, SD = 1.55; F(1,586) = 7.44, p = .007\)), and relatively more PSEs when offered food aid (\(M = 4.84, SD = 1.04\)) compared to monetary aid (\(M = 4.53, SD = 1.29; F(1,586) = 10.51, p = .001\)). Next, we ran pre-registered serial mediation analyses using Hayes’ PROCESS (Model 4) to test the effect of X (aid-type: food vs. money) on Y (take-up intentions) with NSEs and PSEs as simultaneous mediators (Ms). We found a significant indirect effects of aid-type on take-up intentions through both NSEs (\(b = .10, SE = .04, 95\% CI [.027, .181]\)) and PSEs (\(b = .13, SE = .05, 95\% CI [.048, .236]\)). Figure 2 displays the full results.

*Figure 2.* Serial Mediation through Belonging and Positive Social Emotions (PSEs) on Take-up Intentions from Experiment 3.
Next, Experiment 3 (Described in ‘Experiment 3’ in the Methods) tests the proposed antecedent to the effect of aid-type on PSEs: increased feelings of belongingness when offered food (vs. monetary) aid. As proposed earlier, we expect that food (vs. monetary) aid produces relatively more PSEs because potential recipients feel more like they are in more of a communal sharing relationship with the charity, which should lead to relatively higher feelings of belongingness. First, participants who were offered food aid ($M = 5.72, SD = 1.63$) were once again more likely to take-up the aid than participants who were offered monetary aid ($M = 5.16, SD = 1.92; F(1,685) = 17.07, p < .001$). Moreover, and in line with our predictions, participants offered food (vs. monetary) aid reported feeling more belonging ($F(1,685) = 4.92, SD = 1.27$; Money: $M = 4.68, SD = 1.42$; $F(1,685) = 5.36, p = .021$) and marginally more PSEs (Food: $M = 4.94, SD = 1.06$; Money: $M = 4.78, SD = 1.17$; $F(1,685) = 3.15, p = .077$). Next, we ran pre-registered serial mediation analyses using Hayes’ PROCESS (Model 6) to test the effect of X (aid-type: food vs. money) on Y (take-up intentions) with belonging and PSEs as serial mediators (Ms). We found a significant serial indirect effects of aid-type on take-up intentions through belonging and PSEs ($a_1 \times d \times b_2 = .04, SE = .02, 95\% CI [.003, .085]$). Figure 3 displays the full results.

*Figure 3. Serial Mediation through Belonging and Positive Social Emotions (PSEs) on Take-up Intentions from Experiment 3.*

Notes. Figure 3 displays the results from a serial mediation analysis using Hayes’ PROCESS (Model 6) from Experiment 3, where $a_1$ = the effect of condition on the first mediator, $a_2$ = the effect of condition (where money = 0 and groceries = 1) on the second mediator, $b_1$ = the effect of the first mediator on the outcome variable, $b_2$ = the effect of the second mediator on the outcome variable, $d$ = the effect of the first mediator on the second mediator, and $c'$ = the direct effect of condition on the outcome variable. *$p < .05$, **$p < .01$, ***$p < .001$*

Finally, Experiment 4 (Described in ‘Experiment 4’ in the Methods) tests the proposed antecedent to the effect of aid-type on NSEs: stigma. As proposed earlier, we expect that monetary (vs. food) aid produces relatively more NSEs because potential recipients feel more like they are in more of a market-pricing relationship with the charity, which we theorize should
lead to relatively higher feelings of poverty stigma (i.e., identifying more so as someone who is a poor and needy person). First, participants were again significantly more likely to take-up food aid ($M = 5.68, SD = 1.71$) than monetary aid ($M = 5.24, SD = 1.79$; $F(1,569) = 9.11$, $p = .003$). Moreover, participants who were offered food (vs. monetary) aid reported feeling less of a poverty stigma (Food: $M = 5.27, SD = 1.41$; Money: $M = 5.53, SD = 1.26$; $F(1,569) = 5.42$, $p = .020$) and less NSEs (Food: $M = 3.99, SD = 1.54$; Money: $M = 4.26, SD = 1.46$; $F(1,569) = 4.47$, $p = .035$). Next, we ran pre-registered serial mediation analyses using Hayes’ PROCESS (Model 6) to test the effect of X (aid-type: food vs. money) on Y (take-up intentions) with poverty stigma and NSEs as serial mediators (Ms). We found a significant serial indirect effect of aid-type on take-up intentions through stigma and NSEs ($a_1 \times d \times b_2 = .06, SE = .03, 95\% CI [.010, .115]$). Figures 4 displays the full results.

**Figure 4.** Serial Mediation through Poverty Stigma and Negative Social Emotions (NSEs) on Take-up Intentions from Experiment 4.

![Diagram of serial mediation](image)

**Notes.** Figure 4 displays the results from a serial mediation analysis using Hayes’ PROCESS (Model 6) from Experiment 4, where $a_1$ = the effect of condition on the first mediator, $a_2$ = the effect of condition (where money = 0 and groceries = 1) on the second mediator, $b_1$ = the effect of the first mediator on the outcome variable, $b_2$ = the effect of the second mediator on the outcome variable, $d$ = the effect of the first mediator on the second mediator, and $c'$ = the direct effect of condition on the outcome variable. *$p < .05$, **$p < .01$, ***$p < .001$

Taken together, all three laboratory experiments replicate the main effect of aid-type on willingness to take-up that we observed in the field. Since all three U.S. experiments included the same measure of take-up intentions, we pooled data across these six experiments and conducted an internal meta-analysis using R package *meta* and a random-effects model by using inverse variance method (cumulative $N = 1,846$; Figure 5 displays the results). The tests of heterogeneity on take-up intentions ($Q(5) = .008, p = .120$) revealed a good homogeneity suggesting that the three experiments were consistent. The estimation of the cumulative effect size\(^1\) revealed a significant condition effect on take-up intentions ($d = .35, 95\% CI [0.22, 0.49], p < .001$), such that participants were more likely to take-up food (vs. monetary) aid from a charity. We also ran a similar internal meta-analysis that includes Experiments 2-4 and our three supplemental experiments; the effect of aid-type on take-up remains significant and qualitatively similar ($d = .27, 95\% CI [0.18, 0.37], p < .001$; see Section F of the Online Supplement for details).

\(^1\) We report the raw mean difference $d$, since all of the studies in the meta-analysis use the same scale to assess the outcome measure\(^46\).
**General Discussion**

The present research aims to uncover how food insecure individuals feel and respond when offered money or food from a charity to help meet their needs. We theorize that because food and money elicit different social relationships (communal sharing vs. market-pricing, respectively), receiving money is more likely to elicit feelings of poverty stigma and negative social emotions (such as shame), whereas receiving food is more likely to elicit feelings of belongingness and positive social emotions (such as feeling cared for). In line with our theory, five preregistered experiments—a field experiment with food insecure participants in Kenya and three U.S.-based online experiments—reveal that recipients are significantly more likely to take-up food than money. These results suggest that difference in willingness to take-up the aid stem from both (i) monetary aid holding a relatively greater poverty stigma and negative social emotions and (ii) food aid eliciting relatively greater feelings of belonging and positive social emotions.

Cash transfers have some clear advantages to in-kind aid. Physical, in-kind asset transfers are generally more expensive to distribute than cash, and there have been observed ‘leakages’ in the distribution of goods (i.e., some of the goods never reach recipients), whereas cash transfers can go directly to recipients’ bank accounts disallowing for any such leakages (16. Cash transfers are also one of the most well-researched poverty interventions in low- and middle-income
countries, and are often held up as the bar in which to measure all other poverty interventions against. The present research is in no way challenging the assumption that large-scale cash transfer efforts cause massive benefits for recipients, their social network, and local economies. We are simply asking: are we factoring in the recipients’ perspective in the way we research and deliver aid? Are we factoring in the recipient’s perspective—their psychological responses and desire to take-up the help—in our calculations of aid effectiveness in general?

Further, if cash is only compared to the absence of any aid—as is common in randomized controlled trials (RCTs)—we are perhaps missing an incredibly valuable comparison point: the aid that cash is attempting to replace (i.e., in-kind asset transfers). It is important to not only test interventions against a neutral control (i.e., cash vs. no cash transfer), but to also test interventions against other promising interventions in the same domain of need. Moreover, if we do not explore recipient take-up rates and psychological experiences receiving help across these different aid interventions, we may be missing incredibly important barriers to the long-term effectiveness of aid interventions. In addition to finding a main effect of aid-type on take-up, supplemental analyses also suggest that individuals are less willing to recommend charities that offer monetary (vs. food) aid to other food insecure individuals (see Section F of the Online Supplement for details). Since lack of knowledge spread is one of the biggest barriers to aid take-up (20), these results suggest that recipients’ psychological responses to aid opportunities not only impact take-up today, but might also impact take-up rates at a more macro level. In an ideal world, our most effective poverty interventions not only optimize economic outcomes for recipients, but also psychological outcomes (e.g., feeling loved, respected, supported, valued, but not stigmatized nor ashamed). Although it still may be the case that, after factoring in the comparative take-up rates and comparative psychological reactions (such as stigma versus belonging and stigma vs. feeling cared for) when receiving monetary (vs. food) aid, cash transfers may still be the more effective poverty alleviation intervention. But this remains an open question that, we believe, is begging to be studied.

In order for aid to be maximally effective, we need givers’ support and researchers’ help to put a quality service (i.e., effective aid interventions) out into the world, and we need the client (i.e., the potential aid recipients) to actually take-up and use the service. Although prior research supports the claim that cash-transfers are widely effective when used, the present research suggests that recipients are less willing to accept monetary (vs. food) aid. Ultimately, we hope that this research acts as one of the first steps in a research agenda that explores how recipient psychology influences the effectiveness of different aid efforts, globally.

Online content

Any methods, source data, extended data, supplementary information, preregistration documents, and statements of data and code availability are available at OSF (https://tinyurl.com/ReceivingMoneyvsFood).

Methods

We preregistered our hypotheses, study designs, and planned analyses. We report all experiments, conditions, measures, and data exclusions. Section G of the Online Supplement provides detailed dropout and exclusion information for all studies. Research protocols were approved by the Institutional Review Board (IRB) at Northwestern University and the Kenyan IRB for our experiment with the Busara Center (Experiment 1). Participants consented to participate in all studies. No deception was used.
Sample size determination and randomization

For all of our experiments, sample sizes were preregistered and predetermined (i.e., no data were collected for any experiment after analysis began). For Experiment 1, sample size was predetermined to attain around 250 participants per condition based on the funds available to use. The Busara Center used a random number generator in Excel to randomize participants into one of our two conditions. For all U.S. experiments, sample size was pre-determined to target a sample of 300 participants per condition. Moreover, we aimed to recruit participants from separate samples using appropriate identifiers (for example, participant identification number or IP address) to avoid duplicated responses. The U.S. experiments used the randomization feature present in the survey software of Qualtrics. We ran the U.S. experiments on Prolific (Experiment Supplemental Experiment 1 and Pilot 2) and Amazon’s Mechanical Turk (MTurk) using the CloudResearch platform (Experiment 2, Experiment 3, Experiments 4, Pilot Experiment 1, and Supplemental Experiments 2 and 3).

Data analysis and reporting

Data analysis was conducted in R and SPSS (v.28). All reported p-values are two-sided, all measures for each experiment were taken from distinct samples, and all analyses were run without the inclusion of covariates.

Experimental samples and procedures

Experiment 1. In collaboration with the Busara Center, we recruited 500 (M_{age} = 35.8, S{age} = 7.84; 50% female; 77.6% head of household; M_{income} = 302.7 KES daily, S{income} = 142.7 KES daily) food insecure participants living in Kibera, a low-income slum outside of Nairobi, Kenya. Participants received 600 KES (about twice their daily income) worth of cash or food (maize flour, sugar, and cooking oil) aid and no participant payment.

Experiment 1 included a total of four parts and followed a between-subjects experiment design with two conditions: food aid vs. money for food. Specifically, we randomly assigned participants to receive an aid opportunity where they could pick-up 600 KES (about $5 USD) or 600 KES worth of food items (i.e., maize flour, sugar, and cooking oil)².

In Part 1, Kenyan individuals provided consent for receiving basic life necessities (broadly defined) and surveys from the Busara Center, and answered a series of demographic questions. Specifically, all participants reported their location, marital status, number of children, whether they were the head of household, their income, education, whether they cook at home, what home appliances they have (to verify that they can cook at home), whether they regularly use maize flour, sugar, and cooking oil (the food aid half of participants will be randomly assigned to receive), their gender, age, general days/times they are available during the week for errands, and our five-item food insecurity measure. For this measure, we used an adapted version of the Food Insecurity Experience Scale Survey Module (FIES-SM, FAO, 2013) (51).

Specifically, we asked participants if, because of lack of money or other resources: (i) one or

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² To determine which food items to offer participants, we interviewed researchers at the Busara Centre to determine which food items would be valuable to the average individual in Kibera, Kenya. Additionally, we reviewed prior data we collected with the Busara Center on a sample of low-income Kenyan participants to determine which food items they tended to purchase with cash transfers.
more people in their household regularly skip meals, (ii) one or more people in their household regularly eat less than they think they should, (iii) their household regularly runs out of food, (iv) people in their household often feel hungry but do not eat, and (v) people in their household often go without eating for a whole day.

In order to qualify for the experiment, all participants had to: (i) live in Kibera (ii) have not participated in Busara Experiments that provide food or money in the past, (iii) be low-income, (iv) have a working phone to receive messages, (v) have the ability to read in the local language, (vi) be parents with at least one child, (vii) have the ability to cook in their home, (viii) regularly use maize flour, sugar, and cooking oil (i.e., the food aid we will provide in one of our conditions), and (ix) qualify as food insecure (i.e., they answered yes to at least one of our 5 food insecurity questions). Food insecurity rates were high in this sample: 63.6% of participants reported having to skip meals, 76.3% reported having to eat less than they thought they should, 67.6% reported that their household has run out of food, 72.4% reported that they have been hungry but haven’t eaten due to lack of food access, and 51.7% reported that they’ve had to go a whole day without food.

In Part 2, we sent the 500 qualifying participants’ a notification that they qualified to receive aid, and provided them with aid delivery details for where to pick up their aid (money for food or food) in Kibera. Our key manipulation occurred at this point: upon receiving the pick-up details, participants learned that the aid they were offered was either food aid or money for food (between-subjects). Specifically, participants in the money condition saw the following message (translated from Swahili): “Hello! We are contacting you to let you know that the Busara Center has deemed you as qualified to receive money for food (to purchase items such as maize, sugar, and cooking oil). The money for food will be available on Friday and Saturday at Kibera Town Center from 9 AM to 5 PM in the evening.” Participants in the food aid condition saw the following text message: “Hello! We are contacting you to let you know that the Busara Center has deemed you as qualified to receive food (maize, sugar, and cooking oil). The food will be available on Friday and Saturday at Foundation of Hope from 9 AM to 5 PM in the evening.”

Right after receiving the message, all participants were immediately asked to share their take-up and recommendation intentions. Specifically, for our measure of take-up intentions, participants read and were asked to respond to the following text-message: “To confirm that you received this message and to let us know whether you plan to pick up the [food/money] on Friday or Saturday, please text back “I WANT [FOOD/MONEY]” or “I DON’T WANT [FOOD/MONEY]”. For our measure of recommendation intentions, participants were sent the following text-message: “Given your experience with The Busara Center, how many people would you recommend The Busara Center to (if you don’t want to recommend The Busara Center to anyone, type "0")”.

In Part 3, research assistants kept track of which participants did vs. did not come to pick-up their aid (either money for food or food, depending on condition) on the specified days (Friday and Saturday). Aid was made available at two different pick-up locations in Kibera, where one location offered food aid and one offered money for food, to prevent recipients from learning about the alternative aid-type. Kibera is a small, densely populated area with well-known social halls that are easily accessible. The location sites were selected to be equidistant from participants in our sample (the two pick-up locations were about one kilometer apart in well-known social halls, or a 10-minute walk from each other). After the experiment, we followed up with participants and asked them how long it took to walk to the pick-up location they were assigned to. Participants reported that it took on average 18-19 minutes to walk to the
pick-up location across both conditions (Money: $M = 18.70, SD = 8.36$; Food: $M = 18.47, SD = 8.00$; $F(1,489) = 0.97, p = .755$).

Finally, in Part 4, we followed-up with all qualifying participants (i.e., those who did and who did not take-up the aid in Part 3) via a 5-minute phone survey starting the Monday after the take-up days. In this phone survey, most importantly, participants were asked if they would recommend the aid organization. Specifically, research assistants at the Busara Center read the following to participants: “We are gathering testimonials from individuals who have been offered [money for food / food] from the Busara Center, to share their experience with others. Are you willing to provide us with a brief testimonial on how being offered [money for food / food] from Busara has impacted your life?” For participants who said yes, research assistants transcribed participant testimonials word-for-word.

In addition to this actual recommendation behavior measure, we also asked participants to respond to a series of exploratory measures in the exit survey: their satisfaction with the experience (how satisfied they were with their experience being offered aid from 0% - 100% satisfied), their return intentions (both whether they would return for the same aid and how often they would like to receive the same aid per month), and two measures of shame.

For our measures of shame, we first asked participants to share with us the extent to which they experienced any of the following emotions when offered help from Busara: ashamed, embarrassed, humiliated, guilty, culpable, remorseful, insecure, vulnerable, self-conscious (1= did not experience these emotions at all, 5 = completely experienced these emotions). Additionally, we asked participants an open-ended question to learn how receiving help made them feel about themselves. Specifically, participants were asked the following: “We would like to learn more about how being offered [food/money for food] from Busara made you feel about yourself. Different experiences and interactions can influence how people see themselves, as a person. Please share with us the first 10 words that come to mind, when thinking about how being offered [food/money for food] from charity makes you feel about yourself." We then coded for the presence vs. absence of both negative (i.e., ashamed, embarrassed, humiliated, guilty, culpable, remorseful, insecure, vulnerable, self-conscious) and positive social emotions (i.e., respected, loved, cared for, adored, favored, supported, recognized, valued) in their response. The nine negative social emotions were selected based on prior scales on shame and self-consciousness (52, 53). The selection of the eight positive social emotions were decided by the experimental team after going through each word used by participants in this sample. These eight items were the only ones that we both clearly positively valanced and were positive because of recipients’ meta-perceptions (i.e., recipients’ beliefs of what others think of them) as a result of receiving the aid.

Finally, we asked a series of checks, including how difficult it was for them to get to the pick-up location, how valuable they perceived the [money for food /food] to be, the estimated value of the foodstuff (in the food aid condition), how they spent or planned to spend the 600 KES (in the money condition), and, for those who did not pick-up the aid, we asked them to share with us why they chose not to pick-up the aid. We include the materials and results for these exploratory measures and checks in Sections B-II and B-III of the Online Supplement.

**U.S. Experiments.** All U.S. experiments were very similar in design. Participants were randomly assigned to one of two conditions (aid-type: food vs. money) in a between-subject design. Across all experiments, we induced the experience of food insecurity by asking participants to imagine being in a difficult financial situation brought on by COVID-19, where
they became at risk of going hungry, and to take a few moments to reflect on what this
experience of food insecurity would be like for them. After writing about what this financial
hardship would be like for them, participants in all our experiments read about a charity, and
were randomly assigned to further read that the charity gives away (i) food or (ii) money to
anyone who needs it. Section A of the Online Supplement displays the wording of the need-state
thought experiment and the aid-type manipulation.

To verify that food insecurity is a predominant need amongst online survey participants
in the U.S. (via Prolific), we ran a pilot experiment (“Pilot Experiment 2”, N = 104) during
COVID-19 (October 7, 2020) and right before collecting the data for all three Supplemental
Experiments. In Pilot Experiment 2, we asked participants to share with us what they are
currently struggling or are unable to pay for, and how critical the need is. In this pilot, we found
that 54.8% of our participants (about five times higher than the national average) reported
struggling to pay for food (i.e., they either were having to skip meals or were having to primarily
eat cheap fast-food or bulk foods), and rated the inability to pay for food as a somewhat critical
need (M = 3.15, SD = 1.98, where 1=not at all critical, 4=somewhat critical, and 7=extremely
critical). Thus, these results revealed food insecurity to be a highly prevalent and somewhat
critical need in the online participant community during the first year of COVID-19 pandemic,
while we collected our data (Section D-II of the Online Supplement includes the materials and
full results from this pilot).

Moreover, to make sure that participants in our U.S. Experiments (Experiments 2-4, and
Supplemental Experiments 1-3) could simulate the food insecurity thought experiment and put
themselves into a recipient mindset, we asked participants at the end of each experiment whether
(i) they thought a situation like the one they read in the experiment could happen to them and (ii)
if they were able to see themselves in this situation. Across all U.S. experiments, between 61.9%
- 77.0% of participants in each sample reported that they could see themselves in the situation
described and 64.9%-91.8% believed the situation described could happen to them. Additionally,
16.9% - 32.7% of participants in each sample reported that they have experienced a similar
situation of food insecurity in their own life.

Experiment 2. For Experiment 2, we recruited 604 participants on Cloud Research in
exchange for a set payment of $0.75. Though, we only include a final sample of 588 participants
(Mage = 40.6, SDage = 13.1; 59.1% female) in our analyses for Experiment 2 based on our pre-
registration, since 16 participants did not pass our simple manipulation check at the end of the
survey (i.e., they did not accurately write that the charity offered them food or money, depending
on condition). Participants were asked to report their willingness to accept the aid and
recommend the aid organization (r = .59), negative social emotions (NSEs; 9-item α = .94), and
positive social emotions (PSEs; 8-item α = .90). The NSE and PSE items were the same as those
from Experiment 1. Finally, participants also responded to a two-item measure of psychological
ownership (r = .81) (23), which we describe and report in Section C of the Online Supplement.

Experiment 3. For Experiment 3, we recruited 707 participants on Cloud Research in
exchange for a set payment of $0.75. Though, we only include a final sample of 687 (Mage =
40.6, SDage = 13.1; 59.1% female) participants in our analyses for Experiment 3 based on our
pre-registration, since 20 participants did not pass our simple manipulation check at the end of the
survey (i.e., they did not accurately write that the charity offered them food or money,
depending on condition). Participants were asked to report their willingness to accept the aid and
recommend the aid organization (r = .60), belonging (“If I were to receive [money, groceries]
from the charity this would tell me that I am: (1) socially connected, (2) a valued member of my
community, (3) a person who belongs”; 1=strongly disagree, 7=strongly agree; α = .91) and the same positive social emotions as from Experiment 2 (α = .91).

Experiment 4. For Experiment 4, we recruited 604 participants on Cloud Research in exchange for a set payment of $0.75. Though, we only include a final sample of 571 participants ($M_{\text{age}} = 41.2, S\text{D}_{\text{age}} = 12.3$; 52.1% female) in our analyses for Experiment 4 based on our pre-registration, since 33 participants did not pass our simple manipulation check at the end of the survey (i.e., they did not accurately write that the charity offered them food or money, depending on condition). All participants were asked to report their willingness to accept the aid and recommend the aid organization ($r = .57$), poverty stigma (“If I were to receive [money (for groceries) / groceries] from the charity, I would think that: (1) I am a poor person, (2) I am a needy person, (3) I am currently struggling with poverty, (4) I do not have enough resources to get by,” 1=strongly disagree, 7=strongly agree; α = .86), and the same negative social emotions as from Experiment 2 (α = .94).

Data availability
All data, materials, and preregistration files can be found on the Open Science Framework at [https://tinyurl.com/ReceivingMoneyvsFood](https://tinyurl.com/ReceivingMoneyvsFood). Certain open-ended responses from Experiment 1 are available from the authors upon reasonable request and with permission from the Busara Center.

Competing interests. The authors declare no competing interests.

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Author contribution. All authors contributed to the experiment idea and methodological designs. The first and second authors performed testing and data collection. The first author designed and coordinated the field experiment. The second and third authors provided critical feedback to the field experiment design. The first author drafted the manuscript. The second and third authors provided critical revisions. All authors approved the final version of the manuscript for submission.

18. Cash transfers. *EA Forum* (available at [https://forum.effectivealtruism.org/topics/cash-transfers#fn2yh747rj623](https://forum.effectivealtruism.org/topics/cash-transfers#fn2yh747rj623)).


Is In-kind Kinder Than Cash?
The Impact of Money vs. Food Aid on Social Emotions and Aid Take-up
Online Supplement

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A. Thought-experiment and Manipulation Wording from U.S. Experiments

I. Table S1. Thought-experiment and manipulation wording in U.S. Experiments

<table>
<thead>
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<th>Description of Aid Opportunity &amp; Aid-type Manipulation</th>
<th>Experiments 2, 3, &amp; 4</th>
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<tr>
<td>Need-state Thought Experiment</td>
<td>Imagine that, due to the economic crisis brought on by COVID-19 and the dramatic rise in prices of basic life necessities (e.g., groceries and gas), you have not been able to buy fresh groceries, and you have been living off of mostly cheap fast food for months. If this situation continues, you will have to face skipping meals or going hungry. Below, please take a moment to reflect on what this would be like for you before proceeding to the next page to answer a few questions.</td>
</tr>
<tr>
<td>Please read the following information carefully. You will be asked to answer a few questions about this information later on in the survey. Now, further imagine that after living without any source of income for the past few months, and mostly living off of cheap fast food, you saw a flyer posted near your street about a charity organization. On the flyer, you learn the following information: “The COVID-19 crisis has given us plenty of cause for concern, but there’s also a lot to be optimistic about. Communities around the world have been uniting via mutual aid networks—grassroots, volunteer-run local initiatives—to connect those who can help with those who need help. Our community’s economy has been suffering during the COVID-19 shutdown and we created a mutual aid network to help our neighbors in need during these uncertain times. We are currently giving away [groceries / money] to anyone who needs it. If you are struggling and need a helping hand, sign up today and we will send you [groceries / money].”</td>
<td></td>
</tr>
</tbody>
</table>

Notes. Participants were randomly assigned to either read that the charity offers groceries or money [for groceries]. The manipulation is in bolded red font for emphasis, the manipulation text was not in red in the experiments. Experiments 2-4 were run after the height of the COVID-19 pandemic (the summer of 2022 through fall of 2022), and we wrote the need-state thought experiment to reflect the times.
B. Experiment 1 Supplemental Analyses

I. Willingness to Recommend the Busara Center to Others. For our measure of recommendation intentions, immediately after receiving a text notifying them that they qualified to receive either money or food aid, all participants were also asked to text back the number of people they would recommend to receive aid from Busara Center. 232 out of 250 (92.8%) of participants texted back a number in the food condition, whereas only 201 out of 250 (80.4%) participants texted back their recommendation intentions in the money condition ($X^2(1,500) = 16.56, p < .001$). Though, among those who did text back, we did see that participants in the food condition reported that they intended to recommend the aid organization to fewer people (Food: $M_{\log} = 0.67, SD_{\log} = 0.36$; Money: $M_{\log} = 0.90, SD_{\log} = 0.46$; $F(1,431) = 35.79, p < .001$). It is important to note that, among those who selected to text us back, 10 participants in the money condition texted back numbers of 100+ people (up to 1,000 people), which likely was not feasible for a single individual. Thus, we should be cautious in interpreting the differences in these numbers.

However, for actual recommendation behavior—where we asked participants in the exit survey whether they would be willing to provide a testimonial about their experience with Busara—we found that 216 out of 238 (90.8%) participants who took our exit survey in the food condition agreed to provide a recommendation via sharing a testimonial. In comparison, only 208 out of 243 (85.6%) participants who took our exit survey in the money condition agreed to provide a recommendation via sharing a testimonial ($X^2 (1,481) = 3.06, p = .080$). Since we contacted all 500 participants for the exit survey and nearly all participants participated in the survey (481; 96.2%), we re-ran this same analysis excluding responses from participants who failed to take-up the aid. Almost everyone who accepted the aid chose to provide a testimonial in the exit survey (Food: 100%; Money: 99.5%; $X^2 (1,409) = 1.08, p = .299$).
II. Exploratory Check: Perceived Difficulty and Distance for Picking-up the Aid. To verify that location effects did not explain the effect of aid-type on pick-up, we also asked participants at the end of the experiment how easy or difficult was it for them to get to the pick-up location (1= Very Difficult, 5 = Very Easy). Interestingly, participants reported that the money pick-up location \((M = 4.09, SD = 1.42)\) was significantly more convenient than the food pick-up location \((M = 3.69, SD = 1.43, F(1,479) 9.79, p = .002)\). Since we contacted all 500 participants for the exit survey and nearly all participants participated in the survey \((481; 96.2\%)\), we re-ran these same analysis excluding responses from participants who failed to take-up the aid. Among participants who accepted their aid, we still found that those who received money \((M = 4.53, SD = 0.99)\) saw the pick-up location as easier to get to than those who received food aid \((M = 3.79, SD = 1.37; F(1,407) = 39.36, p < .001)\), even though the two locations were objectively the same distance from the average participants’ home. Participants reported that it took on average 18-19 minutes to walk to the pick-up location across both conditions (Money: \(M = 18.70, SD = 8.36\); Food: \(M = 18.47, SD = 8.00; F(1,489) = 0.97, p = .755\)). This convenience question was measured at the follow-up interview, so the differences should be taken lightly since perceptions of ease could have been influenced by factors other than objective distance, such as the weight of the aid-object.

III. Exploratory Check: Perceived Value of the Aid. Although participants were unaware of how much the food and money was valued at prior to take-up—in the text messages alerting them to the aid opportunity, we just said “food (maize flour, cooking oil, and sugar)” or “money for food (to purchase items such as maize flour, cooking oil, and sugar)” would be available—in the exit
survey (after take-up occurred) we asked participants to share with us the extent to which they valued the aid they were offered (1=not at all valuable, 5=extremely valuable). Amongst participants who did pick-up the aid, they reported valuing the food slightly (but not significantly) more than the cash, even though both were of objectively equivalent value (Food: $M = 4.50, SD = 0.69$; Money: $M = 4.36, SD = 0.78$; $F(1,407) = 3.71, p = .055$). Amongst participants who did not pick-up the aid, the two aid objects were expected to be equally valuable (Food: $M = 3.04, SD = 1.76$; Money: $M = 2.89, SD = 1.51$; $F(1,70) = 0.14, p = .709$).

Finally, participants who picked-up the food aid were asked to estimate the monetary value of the aid they were given. A one-sample t-test comparing the perceived monetary value of the food aid ($M = 682.7$ KES, $SD = 237.1$ KES) to its objective value (600 KES) revealed that participants believed the food aid was significantly more valuable than its objective value ($t(210) = 5.07, p < .001$). It is important to note that the monetary value questions were asked after participants picked up the aid, so psychological factors (such as feeling more or less positive social emotions as a result of receiving the aid) could influence aid value perceptions. We do not anticipate that the aid value has any effect on our main dependent variable (i.e., pickup decision) given that participants did not receive any information about the amount of aid before the pickup. So, the decision to show up for the aid collection should be predominantly based on the aid-type.

**IV. Exploratory LIWC Analyses on Recipient Self-perception Responses.** Additionally, we ran exploratory text-analyses on this open-ended response using LIWC text-analysis software. These analyses revealed that participants in the food condition used marginally more achievement (Food: $M = 0.28, SD = 1.92$; Money: $M = 0.04, SD = 0.64$; $F(1,479) = 3.36, p = .068$) and power (Food: $M = 1.10, SD = 7.74$; Money: $M = 0.19, SD = 1.88$; $F(1,479) = 3.15, p = .077$) words,
suggesting a stronger perception of the self in the food (vs. money) condition. Analyses excluding participants who failed to take-up the aid revealed that these effects were also largely driven by the participants who failed to take-up the aid, as the effects of conditions on achievement (Food: $M = 0.05$, $SD = 0.71$; Money: $M = 0.25$, $SD = 1.79$; $F(1,407) = 2.05$, $p = .153$) and power (Food: $M = 1.12$, $SD = 8.03$; Money: $M = 0.24$, $SD = 2.09$; $F(1,407) = 2.23$, $p = .137$) language became directional when only including individuals who chose to take-up the aid.
C. Experiment 2 Supplemental Analyses

I. Exploratory Measure: Psychological Ownership. After responding to our focal outcome variables (take-up and recommendation intentions, PSEs, and NSEs), participants were asked to respond to an exploratory, supplemental measure of psychological ownership. Specifically, participants responded to the following two-item measure: “If I were to receive [groceries, money] from the charity, [these groceries, this money] would… (1) feel like my [groceries, money], (2) belong to me” (1=strongly disagree, 7=strongly agree) (23). A one-way ANOVA on psychological ownership with aid-type (food, money) as the independent variable revealed a significant effect of aid-type ($F(1,586) = 48.02, p < .001$), such that participants who were offered groceries ($M = 5.39, SD = 1.40$) felt more ownership over the aid than participants who were offered money ($M = 4.50, SD = 1.73$).

It is possible that the effect of aid-type on psychological ownership is a consequence of differences in the physical features of the aid objects (e.g., money is more abstract, whereas food is more concrete; money is possessed for a short period of time, whereas food is possessed for the remainder of the food’s lifecycle; food will require more investment of the self via cooking, whereas money requires less investment of the self). Alternatively, the effect of aid-type on psychological ownership could be a feature of the elementary social relationships elicited by the different aid-objects (such that monetary aid elicits more of a market-pricing relationship, and in-kind food aid elicits more of a communal sharing relationship). Since communal sharing relationships deem resources to be “ours” (i.e., goods that are shared by the group), it is possible that this relational model also elicits higher psychological ownership of resources coming from one’s community. Future research should explore the link between different aid objects and psychological ownership.
D. Pilot Experiments

I. Pilot Experiment 1: Observed Stigma When Recipients Receive Money vs. Food

With Pilot Experiment 1, we explored whether there was in fact a difference in assigned stigma towards individuals who received money for food vs. food.

Method

Participants. We recruited 417 participants on Prolific (\(M_{age} = 40.86, SD_{age} = 12.41\); 48.5% female; 75.8% Caucasian) in exchange for a set payment of $0.85.

Materials and procedure. Participants were randomly assigned to one of two between-subjects conditions, where they either read about someone who received food or someone who received money for food to help meet their food insecurity needs. All Pilot Experiment 1 was preregistered.

Participants were first asked to read the following information carefully, and were told that they would be asked to answer a few questions about this information later on in the survey:

John recently lost his job and has been unable to find a new job. After living without any source of income for a few months, and mostly living off of cheap fast food, John saw a flyer posted near his home about a charity organization. On the flyer, he learns the following information: "The COVID-19 crisis has given us plenty of cause for concern, but there's also a lot to be optimistic about. Communities around the world have been uniting via mutual aid networks—grassroots, volunteer-run local initiatives—to connect those who can help with those who need help. Our community's economy has been suffering during the COVID-19 shutdown and we created a mutual aid network to help our neighbors in need during these uncertain times. We are currently giving away [groceries / money for groceries] to anyone who needs it. If you are struggling and need a helping hand, sign up today and we will send you [groceries / money for groceries]." Shortly after reading this flier, John decides to go to the charity's center to see if he could get some [groceries / money for groceries].

Thus, this was our primary manipulation of aid-type, such that participants imagined John received either groceries or money for groceries. Participants then were asked to think about this
scenario and indicated the degree to which they agree or disagree with the following statements: (1=strongly disagree, 7=strongly agree): (1) John is a poor person, (2) John is a needy person, (3) John is currently struggling with poverty, (4) John does not have enough resources to get by. In addition to this key outcome variable of observed poverty stigma, we also included two additional, exploratory measures that asked about (i) whether they expect the recipient felt ashamed when receiving the aid and (ii) different poverty stereotypes (e.g., whether they saw the recipient as uneducated, unintelligent, lazy, and irresponsible). Since these measures were not focal to our pilot experiment we do not include them here, but the data and syntax files are available on OSF for interested readers.

**Results**

Participants were more likely to stigmatize John when they imagined that he received money for food ($M = 5.53, SD = 0.95$) vs. food aid ($M = 5.37, SD = 0.93$; $F(1,415) = 3.36, p = .068$).

**Discussion**

This pilot experiment provides preliminary support for the hypothesized poverty stigma associated with receiving money (vs. food aid).

**II. Pilot Experiment 2: Needs of Online Participants During COVID-19**

With Pilot Experiment 2, explored the different needs amongst online survey participants in the US during COVID-19.

**Participants.** We recruited 104 participants who reported losing their job during the COVID-19 pandemic on Prolific ($M_{age} = 28.46, SD_{age} = 10.19$; 49.5% female; 72.1% Caucasian) in exchange for a set payment of $0.65.
Materials and procedure. All participants saw the same questions in the same order. First participants were asked to take a moment to tell us a little about how they have been negatively impacted by COVID-19 via an open-ended text box. After spending 30 seconds on this page, participants were then asked to participate in a thought-listing task where they could tell us a bit more about how losing their job during the COVID-19 pandemic impacted their life. Specifically, participants read and responded to the following prompt:

We are interested in learning more about how losing your job during the COVID-19 pandemic has impacted your life, and what areas of your life you could use help with. For example, are you struggling to afford fresh groceries, unable to pay for child care, worried about making rent, unable to see a doctor if you lost your health insurance? **Please list any needs you currently have or areas of your life that you could use help with. Please list only one need in each box.** The needs do not have to be detailed, but they can be if you want.

Finally, participants were shown a list of 16 different needs and were asked to check all that apply to them (i.e., which needs they were struggling with at that time), and for the needs they checked they reported how critical the need was for them (1=not at all critical, 4=somewhat critical, 7=extremely critical). Specifically, participants were asked to review the 16 need-areas that many people have and to share if they were struggling to meet any of these needs, or were unable to meet any of these needs at that time. Participants responded whether they were struggling to pay for (or are unable to pay for) 1. food in general (i.e., having to skip meals), 2. fresh groceries and produce (only eating cheap fast-food, ramen, cheap bulk foods, etc.), 3. occasional meals at restaurants, 4. doctors visits (e.g., dentists, therapists, optometrists, gynecologists, etc.), 5. current medical bills, 6. personal hygiene products (e.g., show & bath products, feminine hygiene products, toothpaste, deodorant, etc.), 7. medication for chronic health conditions or health needs, 8. birthday, wedding, or holiday celebrations (e.g., presents,
special meals, etc.), 9. public transportation fares (e.g., train or bus passes, uber or lyft fare, etc.), 10. utility bills (e.g., wifi, heat & a/c, electric, sewage, etc.), 11. car payments for existing lease or purchased vehicle, 12. rent or mortgage payments, 13. clothing and accessories (e.g., winter clothes, new shoes, masks, etc.), 14. tuition or student loans, 15. school or office supplies, 16. child care. Finally, participants responded to a series of demographic measures.

Results

The goal of this pilot experiment wasn’t to establish food insecurity as the primary need or compare food insecurity to other needs. We simply aimed to determine whether a large percentage of participants on Prolific selected options 1 and 2 (i.e., the inability to meet one’s food and nutritional needs) as needs they were struggling with at that time. Thus, we reported the results on prevalence and criticalness of food insecurity here. We have made our data and syntax available on OSF so that interested readers can explore the different needs of online participants during COVID-19.

In this pilot, we found that 54.8% of our participants (about five times higher than the national average) reported that were struggling to pay for food (i.e., they either were having to skip meals or were having to primarily eat cheap fast-food or bulk foods), and rated the inability to pay for food as a somewhat critical need ($M = 3.15$, $SD = 1.98$, where 1=not at all critical, 4=somewhat critical, and 7=extremely critical).

These results revealed food insecurity to be a highly prevalent and somewhat critical need in the online participant community during the first year of COVID-19 pandemic, while we collected our data.
E. Supplemental Experiments

I. Supplemental Experiment 1: Testing the Effect of Money for Food vs. Food Aid

Method

Participants. We recruited 611 participants on Prolific ($M_{age} = 34.9, SD_{age} = 12.0; 45.3\%$ female) in exchange for a set payment of $0.64. We did not exclude any participants from Supplemental Experiment 1.

Materials and procedure. Supplemental Experiment 1 was very similar in design to Experiments 2-4 in the main paper. The key difference was that Experiment S1 compared food aid to money that was specifically framed as money for food (similar to our manipulation in Experiment 1), whereas Experiments 2-4 compared food aid to money that was specifically framed as an unconditional cash transfer. Hence, participants were randomly assigned to one of two conditions of a 2 (aid-type: food, money for food) between-subject design. Additionally, the thought experiment and scenario we used in Experiment S1 slightly differed from prior U.S. experiments. We display the text in Table S2. After reading this thought experiment and an aid opportunity description, participants were asked to report their willingness to accept the aid and recommend the aid organization, poverty stigma ($\alpha = .82$), and negative social emotions ($\alpha = .93$). These measures were the same as those used in Experiment 4.

Table S2. Thought-experiment and manipulation wording in Supplemental Experiment S1

<table>
<thead>
<tr>
<th>Supplemental Experiment S1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imagine that, during the economic crisis brought on by COVID-19, you lost your job and have been unable to find a new job. Because of this, you have not been able to buy fresh groceries, and you have been living off of mostly cheap fast food for months. If this situation continues, you will have to face skipping meals or going hungry.</td>
</tr>
<tr>
<td>Below, please take a moment to think about what this would be like for you before proceeding to the next page to answer a few questions.</td>
</tr>
<tr>
<td>Please read the following information carefully. You will be asked to answer a few questions about this information later on in the survey.</td>
</tr>
</tbody>
</table>
Now, further imagine that after living without any source of income for the past few months, and mostly living off of cheap fast food, you saw a flyer posted near your street about a charity organization. On the flyer, you learn the following information:

"The COVID-19 crisis has given us plenty of cause for concern, but there’s also a lot to be optimistic about. Communities around the world have been uniting via mutual aid networks—grassroots, volunteer-run local initiatives—to connect those who can help with those who need help. Our community's economy has been suffering during the COVID-19 shutdown and we created a mutual aid network to help our neighbors in need during these uncertain times. **We are currently giving away [groceries / money for groceries] to anyone who needs it. If you are struggling and need a helping hand, sign up today and we will send you [groceries / money for groceries].**"

**Results**

*Take-up & Recommendation Intentions.* Replicating our results from the main paper, in Experiment S1, participants were more likely to take-up and recommend food (vs. monetary) aid (Food: $M = 6.00, SD = 1.15$; Money: $M = 5.80, SD = 1.20$; $F(1,606) = 4.28, p = .030$).

*Poverty Stigma and Negative Social Emotions (NSEs).* Moreover, participants who were offered food (vs. monetary) aid reported feeling less of a poverty stigma (Food: $M = 5.03, SD = 1.34$; Money: $M = 5.26, SD = 1.25$; $F(1,609) = 4.62, p = .032$) and less NSEs (Food: $M = 3.90, SD = 1.36$; Money: $M = 4.13, SD = 1.38$; $F(1,606) = 4.28, p = .039$).

*Serial Mediation through Stigma and NSEs on Take-up & Recommendation Intentions.* Finally, we ran pre-registered serial mediation analyses using Hayes’ PROCESS (Model 6) to test the effect of X (aid-type: food vs. money for food) on Y (take-up & recommendation intentions) with poverty stigma and NSEs as serial mediators (Ms). We again found significant serial indirect effects of aid-type on take-up & recommendation intentions through stigma and NSEs ($a_1 \times d \times b_2 = .022, SE = .01, 95\% \text{ CI } [.001, .048]$). Figures S1 displays the full results.
Figure S1. Serial Mediation through Poverty Stigma and Negative Social Emotions (NSEs) on Take-up & Recommendation Intentions from Supplemental Experiment S1.

Notes. This figure displays the results from a serial mediation analysis using Hayes’ PROCESS (Model 6) from Experiment S1, where $a_1 =$ the effect of condition on the first mediator, $a_2 =$ the effect of condition (where money for groceries = 0 and groceries = 1) on the second mediator, $b_1 =$ the effect of the first mediator on the outcome variable, $b_2 =$ the effect of the second mediator on the outcome variable, $d =$ the effect of the first mediator on the second mediator, and $c' =$ the direct effect of condition on the outcome variable.

$* p < .05, ** p < .01, *** p < .001$

Discussion

The results from Supplemental Experiment S1 provide additional support for both the main effect of aid-type on take-up, even when money is specifically framed as for food (vs. unconditional). Moreover, this supplemental experiment replicates the predicted serial mediation pathway through poverty stigma and NSEs documented in Experiment 4.

II. Supplemental Experiment 2: Testing the Effect of Aid-type Across New & Old Need-states

Method

Participants. We recruited 806 participants on MTurk ($M_{age} = 40.4, SD_{age} = 13.0$; 55.9% female; 78.5% Caucasian) in exchange for a set payment of $0.50.
Materials and procedure. With Supplemental Experiment 2, we explored a potential boundary condition to our proposed effect of aid-type on negative social emotions and take-up: how long individuals have been food insecure. Hence, participants were randomly assigned to one of four conditions of a 2 (need-state: new, old) x 2 (aid-type: food, money for food) between-subject design. It is possible that individuals who have experienced food insecurity in the past will behave differently than individuals who are only now experiencing food insecurity for the first time. For example, perhaps individuals who are new to experiencing food insecurity are able to separate their self-identity from being a poor and needy person (i.e., poverty stigma), whereas individuals who have experienced food insecurity for a longer period of time may be more sensitive to experiences that make them feel like a poor, needy person. In fact, recent research on disaster victims suggests that repeated exposure to a hardship makes coping with that hardship more difficult (54). It is, in turn, possible that being offered money for food (vs. food aid) may be particularly harmful to individuals who have experienced food insecurity for a longer (vs. shorter) period of time.

Upon entering the experiment, we had participants imagine being in a difficult financial situation brought on by COVID-19, where they became at risk of going hungry. Further, participants were either asked to imagine that (i) this would be the first time they were at risk of going hungry (the new need-state condition) or (ii) they had faced hunger in the past due to joblessness (the old need-state condition). Participants then took a moment to write about what this situation would be like for them.

After participants spent a few moments reflecting on the need-state, we introduced our key manipulation of aid-type. Specifically, participants next read about a Mutual Aid Network and were randomly assigned to read that the aid network either gives away (i) food or (ii) money
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for food to anyone who needed it. After reading the scenario, participants indicated the extent to which they would feel negative social emotions (NSEs; shameful, embarrassed, uncomfortable, and self-conscious; \( \alpha = .95 \)) if they were to receive aid (food or money for food, depending on aid-type condition) from this Mutual Aid Network (1=strongly disagree, 7=strongly agree). Additionally, participants shared their take-up and recommendation intentions by indicating whether they would sign up to accept the aid from this Mutual Aid Network and whether they would recommend this Mutual Aid Network to other community-members struggling to afford groceries (1=absolutely not, 7=absolutely yes). The NSEs and take-up measures were displayed in counterbalanced order. In addition to these two key measures, we also collected exploratory measures of felt dependency, self-efficacy, and how helpful the aid was to them. These exploratory measures were not focal to our research questions. We present these results in Table S3.

Results

Take-up & Recommendation Intentions. A two-way ANOVA on take-up and recommendation intentions with aid-type and need-state as the independent variables yielded a statistically significant main effect of aid-type (\( F(1,802) = 18.93, p < .001 \)). Participants in the money condition were less likely to take-up and recommend the Mutual Aid Network (\( M = 6.02, SD = 1.17 \)) than were participants in the food condition (\( M = 6.34, SD = 0.89 \)). There was no statistically significant main effect of need-state (\( F(1,802) = 1.14, p = .286 \)) nor a statistically significant interaction of aid-type and need-state (\( F(1,802) = 0.06, p = .801 \)).

Negative Social Emotions (NSEs). A two-way ANOVA on NSEs with aid-type and need-state as the independent variables yielded a statistically significant main effect of aid-type (\( F(1,802) = 13.77, p < .001 \)). Participants in the money condition felt more NSEs (\( M = 4.06, SD = 0.89 \)).
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\[ M = 3.61, SD = 1.77 \] than did participants in the food condition \((F(1,802) = 1.01, p = .316)\) nor a statistically significant interaction of aid-type and need-state \((F(1,802) = 0.00, p = .982)\).

**Mediation by NSEs on Take-up & Recommendation Intentions.** We next ran a mediation analysis using Hayes’ PROCESS (Model 4)\(^3\) to test the effect of X (aid-type: food, money for food) on Y (take-up & recommendation intentions), with NSEs as mediator (M). We found a significant indirect effect of aid-type on take-up & recommendation intentions through NSEs \((b = -.105, SE = .030, 95\% CI [-.164, -.049])\). We display the full results in Figure S2.

\[ a = .45^{***} (.12) \quad b = -.23^{***} (.02) \]

\[ c' = -.21^{**} (.07) \]

**Note:** Figure S2 displays the results from a mediation analysis using Hayes’ PROCESS (Model 4), where \(a\) = the effect of condition on the mediator, \(b\) = the effect of the mediator on the outcome variable, and \(c'\) = the direct effect of condition on the outcome variable. \(* p < .05, ** p < .01, *** p < .001\)

---

\(^3\) Since we did not find statistically significant main effects of need-state on shame nor on take-up & recommendation intentions, we did not include need-state in the mediation analysis.
The results from Supplemental Experiment 2 further support our hypothesis that recipients are significantly more likely to take-up food (vs. money for food) and documents the effect amongst online participants in the US. Moreover, we find that receiving money for food (vs. food) feels more shameful for recipients. This experiment also provides mechanistic evidence, revealing that differences in shame explain the effect of aid-type (food vs. money for food) on take-up and recommendation intentions. Finally, these results suggest that the effect of aid-type on recipient psychology and behavior is not impacted by whether food insecurity is a new or old need-state.

III. Supplemental Experiment 3: Testing the Effect of Aid-type When Aid Is (Not) Solicited

Method

Participants. We recruited 811 participants on MTurk ($M_{age} = 39.7, SD_{age} = 11.7$; 50.6% female; 75.2% Caucasian) in exchange for a set payment of $0.75.
**Materials and procedure.** In all prior experiments, participants were always offered either food or money for food, without first requesting any help with their food insecurity (i.e., aid is always unsolicited). It is possible that differences in negative social emotions (such as shame) are more pronounced, and can lead to larger differences in take-up, when a need for aid is assumed rather than asked for. To test whether our effect persists in contexts where help is solicited (i.e., recipients specifically ask for help with food)—where negative social emotions may be less pronounced—we manipulate whether the participants read about receiving solicited vs. unsolicited help in the form of money for food vs. food. Hence, participants were randomly assigned to one of four conditions of a 2 (solicitation: present, absent) x 2 (aid-type: food, money for food) between-subject design.

Similar to previous experiments, we induced the experience of food insecurity by asking participants to imagine being in a difficult financial situation brought on by COVID-19, where they became at risk of going hungry, and to take a few moments to reflect on what this experience of food insecurity would be like for them. After reflecting on what this need would be like for them, participants read about the same Mutual Aid Network and were randomly assigned to learn that the network either gives away (i) food or (ii) money for food. Then, based on their assigned solicitation condition, participants were asked to imagine that either they (i) went to the network and signed up to request help (solicited aid condition) or (ii) two volunteers from the network came to them and offered to help them (unsolicited aid condition).

After reading the scenario, participants reported the degree to which they would experience negative social emotions if they were to receive food or money for food (depending on aid-type condition; ashamed, embarrassed, humiliated, guilty, culpable, remorseful, self-conscious, insecure, vulnerable, $\alpha = .941$) (52, 53). Next, participants were asked whether they
would return^4 to the aid organization for more aid in the future and recommend the aid organization to others experiencing financial hardship. After participants responded to these two key measures, we also asked a series of exploratory measures: feelings of self-sufficiency, self-esteem, meta-perceptions of warmth and competence, felt self-dehumanization, and feelings of helplessness. These exploratory measures were not focal to our research questions. We report the results in Table S4.

Results

Return & Recommendation Intentions. A two-way ANOVA on return and recommendation intentions with aid-type and solicitation as the independent variables yielded a statistically significant main effect of aid-type ($F(1,807) = 5.43, p = .020$). Participants in the money condition were less likely to return and recommend the Mutual Aid Network ($M = 5.99, SD = 1.13$) than were participants in the food condition ($M = 6.17, SD = 0.99$). There was no statistically significant main effect of solicitation ($F(1,807) = 0.02, p = .898$), nor a statistically significant interaction of aid-type and solicitation ($F(1,807) = 0.03, p = .855$).

Negative Social Emotions (NSEs). A two-way ANOVA on shame with aid-type and solicitation as the independent variables yielded a statistically significant main effect of aid-type ($F(1,808) = 4.19, p = .041$). Participants in the money condition felt more shameful ($M = 3.81, SD = 1.53$) than did participants in the food condition ($M = 3.59, SD = 1.62$). There was no statistically significant main effect of solicitation ($F(1,808) = 0.20, p = .658$), nor a statistically significant interaction of aid-type and solicitation ($F(1,808) = 0.08, p = .779$).

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^4 In this experiment, we measure intentions to return to the aid organization—rather than intentions to initially take-up the aid—since our scenario specifies that recipients already received the aid once (which was either solicited or unsolicited assistance).
Mediation by NSEs on Return & Recommendation Intentions. We ran a mediation analysis using Hayes’ PROCESS (Model 4)\textsuperscript{5} to test the effect of \(X\) (aid-type: food, money for food) on \(Y\) (return & recommendation intentions), with NSE as mediator (M). We found a significant indirect effect of aid-type on return & recommendation intentions through NSE (\(b = .047, SE = .024, 95\%\ CI [.002, .096])\). Figure S3 displays the full results.

*Figure S3.* Mediation through Negative Social Emotions (NSEs) on Take-up & Recommendation Intentions from Supplemental Experiment 2.

\[
\begin{align*}
\text{NSEs} & \quad a = -.23^{***} (.11) & b = -.21^{***} (.02) \\
\text{Aid-type (Food vs. Money for Food)} & \quad c' = .13 (.07) & \text{Take-up & Recommendation}
\end{align*}
\]

Note: Figure S3 displays the results from a mediation analysis using Hayes’ PROCESS (Model 4), where \(a\) = the effect of condition on the mediator, \(b\) = the effect of the mediator on the outcome variable, and \(c'\) = the direct effect of condition on the outcome variable.

*\(p < .05, **p < .01, ***p < .001\)

\textsuperscript{5} Since we did not find statistically significant main effects of solicitation on shame nor on return & recommendation intentions, we did not include solicitation in the mediation analysis.
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Discussion

Supplemental Experiment 3 once again supports our core hypotheses: recipients of money for food (vs. food) report feeling more negative social emotions (such as shame) when receiving aid and, consequentially, are less willing to continue to take-up the aid (return intentions) and recommend the aid organization. Additionally, we find no support that receiving solicited aid (vs. unsolicited aid) influences the effect of aid-type on recipients’ take-up and recommendation intentions nor negative social emotions.
F. Additional Internal Meta-Analyses

Figure S4. Forest plot of the Effect of Aid-type (Food vs. Monetary Aid) on Take-up Intentions from an Internal Meta-analysis of Experiments 2-4 and Supplemental Experiments S1-S3

Notes. This figure displays a forest plot documenting the effect size ($d$) with 95% CIs of aid-type on take-up intentions for each individual experiment (effect sizes represented by the squares) and the overall effect (effect size represented by the diamond) across experiments.

Figure S5. Forest plot of the Effect of Aid-type (Food vs. Monetary Aid) on Recommendation Intentions from an Internal Meta-analysis of Experiments 2-4 and Supplemental Experiments S1-S3

Notes. This figure displays a forest plot documenting the effect size ($d$) with 95% CIs of aid-type on take-up intentions for each individual experiment (effect sizes represented by the squares) and the overall effect (effect size represented by the diamond) across experiments.
G. Dropout and Exclusion Information

Experiment 1

We recruited 500 individuals in Kenya through our partnership with the Busara Center. All participants were low-income, had a working phone to receive the cash-transfer and surveys, could read in the local language, and were parents with at least one child, have the ability to cook in their home, regularly use maize flour, sugar, and cooking oil (i.e., the food aid we will provide in one of our conditions), and are considered to be food insecure (i.e., answer yes to at least one of our five questions: Please respond to each question by saying yes or no. Because of lack of money or other resources: 1. Does one or more people in your household regularly skip meals? 2. Does one or more people in your household regularly eat less than you think they should? 3. Does your household regularly run out of food? 4. Do people in your household often feel hungry but do not eat? 5. Do people in your household often go without eating for a whole day?) at the time of the data collection.

As a result, we have a final sample of 500 recruited individuals, and we did not exclude anyone from the analysis. Among the recruited individuals, 19 eventually did not complete the exit survey. Out of 19 who did not complete the exist survey, 12 were offered food aid and 7 were offered money (the non-response rate did not significantly differ across conditions, \( p = .242 \)).

Experiment 2

We aimed to recruit 600 participants from CloudResearch (an online participant-sourcing platform). 673 workers accessed our survey link. Among these workers, 14 participants did not complete or failed the attention check and were not exposed to the aid-type manipulation. 55
participants existed survey after being exposed to the aid-type condition but did not complete any of our focal dependent variables (take-up and recommendation intentions). Among those 55 participants, 20 were in the food aid condition and 35 were in the money condition (the dropout rate differ across conditions significantly, $p = .036$). Hence, $N = 604$ participants were included in our sample.

As preregistered, we excluded 16 participants (2.6% of the sample) who did not complete or pass our aid-type comprehension check at the end of the study (among which 4 were in the food aid condition and 12 were in the money condition; $p = .034$). A final sample of $N = 588$ participants were included in our main analyses.

**Experiment 3**

We aimed to recruit 600 participants from CloudResearch. 792 workers accessed our survey link. Among these workers, 15 participants did not complete or failed the attention check and were not exposed to the aid-type manipulation. 70 participants existed survey after being exposed to the aid-type condition but did not complete any of our focal dependent variables (take-up and recommendation intentions). Among those 70 participants, 34 were in the food aid condition and 36 were in the money condition (the dropout rate did not significantly differ across conditions, $p = .811$). Hence, $N = 707$ participants were included in our sample.

As preregistered, we excluded 20 participants (2.8% of the sample) who did not complete or pass our aid-type comprehension check at the end of the study (among which 2 were in the food aid condition and 18 were in the money condition; $p < .001$). A final sample of $N = 687$ participants were included in our main analyses.
Experiment 4

We aimed to recruit 600 participants from CloudResearch. 684 workers accessed our survey link. Among these workers, 11 participants did not complete or failed the attention check and were not exposed to the aid-type manipulation. 69 participants existed survey after being exposed to the aid-type manipulation but did not complete any of our focal dependent variables (take-up and recommendation intentions). Among those 69 participants, 37 were in the food aid condition and 32 were in the money condition (the dropout rate did not significantly differ across conditions, $p = .517$). Hence, $N = 604$ participants were included in our sample.

As preregistered, we excluded 33 participants (5.5% of the sample) who did not complete or pass our aid-type comprehension check at the end of the study (among which 6 were in the food aid condition and 27 were in the money condition; $p < .001$). A final sample of $N = 571$ participants were included in our main analysis.