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 2-5

I. *Table S1.* Thought experiment and manipulation wording in Experiments 2-4

Need-state Thought Experiment	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.**
Description of Aid Opportunity & Aid-type Manipulation	*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]`."`**

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 2021 through fall of 2022), and we wrote the need-state thought experiment to reflect the times.

II. *Table S2.* Thought experiment and manipulation wording in Experiment 5

Need-state Thought Experiment	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. **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.**
Description of Aid Opportunity & Experimental Manipulations	*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 an opportunity to receive [**groceries / money**] from [**a charity / the U.S. government**]. On the flyer, you learn the following information:* `"The COVID-19 crisis has given us plenty of cause for concern. Our country's economy has been suffering ever since the COVID-19 shutdown. We created a COVID-19 relief program to help Americans 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]."`**

Notes. Participants were randomly assigned to either read that the either a charity or the U.S. government offers groceries or money. The aid-entity manipulation is in **bolded blue font** and the aid-type manipulation is in **bolded red font** for emphasis, the manipulation text was not in blue or red in the experiments. Experiment 5 was run after the height of the COVID-19 pandemic (in October of 2022), and we wrote the need-state thought experiment to reflect the times.

B. Experiment 1 Methods and Supplemental Analyses

I. Detailed Experimental Methods. 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 sex, 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) (*52*). Specifically, we asked participants if, because of lack of money or other resources: (i) one or 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).

In Part 2, participants were exposed to our experimental manipulation, which contained one of the following two manipulations. 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: $M = 18.47$, $SD = 8.00$; $F(1,489) = 0.97$, $p = .755$).

Lastly, in Part 4, we conducted a follow-up phone survey. In this phone survey, 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 the exit survey, participants also responded to the following measures: 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 (*53, 54*). 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.

II. Willingness to Recommend the Busara Center to Others. 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, $p = .299$).

III. 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.

IV. 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 as directionally, 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. Both the median and mode item value was Ksh 600. Further, the average estimated item value was M = Ksh 682.7, SD = Ksh 237.1. A one-sample t-test comparing the estimated average monetary value of the food aid to its objective value (Ksh 600) revealed a significant difference between the two numbers ($t(210) = 5.07$, $p < .001$). 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) likely influence aid value perceptions. In fact, the new *Aid Utility Theory* (Kassirer & Kouchaki, 2023) supports this prediction, as they posit that aid value is made up of both resource utility (i.e., the (dis)utility of the aid itself) and identity utility (i.e., the (dis)utility derived from being a person receiving this aid). Since this paper suggests that individuals feel comparatively more PSEs and fewer NSEs when receiving food (vs. cash), we expect that this could have influenced felt identity utility, and subsequently, reported value of the aid. However, these predictions are exploratory and require further investigation. Further, 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.

V. 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.

VI. Using ChatGPT 4 to Check PSE Coding. To double check our coding choices for PSEs in the exploratory, qualitative text analysis reported in the main paper, we uploaded an excel file that contains the text responses to ChatGPT 4 and fed the following paragraph into ChatGPT:

> "I would like you to come up with a list of positive social emotions that are used in the "self-reflection" column. Make sure that the words are positive "interpersonal" emotions (i.e., emotions that are social in nature, rather than ambiguously positive, ambiguously social, or self-esteem focused). For example, do not include any gratitude or happiness language, since these are ambiguously positive. Further, do not include words like important or valuable in the analysis, since these could be construed as self-esteem focused. Moreover, do not include words like remembered or acknowledged, since these are social but not clearly positive. Rather, focus on words that likely followed from heightened social connection and belonging, such as loved, adored, cared for, valued,

respected, etc. Please be comprehensive, and only work off of the list of words used in the "self-reflection" column of the excel file."

ChatGPT included the following words in their analysis: *cared, loved, adored, encouraged, respected, supported, and valued*. This was nearly identical to our coding, except we did not include *encouraged* originally. The inclusion of encouraged would be unlikely to change our results, since the word appeared 5 times in the food condition and 4 times in the money condition. Further, we chose to include *recognized* and *favored* in our analysis, as we believed that they were both social in nature and clearly positive. Altogether, these ChatGPT results provide general justification of our original coding choices.

VII. Additional Exploratory Analyses. To verify that randomization was successful, we compared the average age, daily, income, education level, and food insecurity level of our two treatment groups. Results show no differences in these variables across conditions (Table S2 displays the results). We also ran a logit testing the effect of aid-type on take-up rates, controlling for a series eight variables (gender, age, head of household, number of children, daily income, education level, food insecurity level, and walking distance to the pick-up site). Results reveal that the effect of aid-type on take-up hold when controlling for each of these variables.

Table S2. Randomization Check in Experiment 1

	Cash Condition		**Food Condition**		
	M	*SD*	*M*	*SD*	*p*-value
Age	36.15	7.60	35.39	8.06	$F(1,497) = 1.19, p = .276$
Daily Income (KES)	301.57	149.58	303.46	136.00	$F(1,497) = 0.02, p = .882$
Education Level	11.50	3.77	11.70	3.45	$F(1,497) = 0.36, p = .549$
Food Insecurity	3.26	1.34	3.41	1.33	$F(1,497) = 1.51, p = .220$

Notes. Results come from conducting a one-way ANOVA with aid-type as the independent variable. Education level average is between Form 2 (ages 13-14) and Form 3 (ages 14-15). Food insecurity (FEIS Scale, Items 4-8) is a total of the number of questions (out of 5) participants answered yes to: 1. You had to skip a meal? 2. You ate less than you thought you should? 3. Your household ran out of food? 4. You were hungry but did not eat? 5. You went without eating for a while day?

Table S3 displays the results.

Table S3. Effect of Aid-type on Take-up in Experiment 1 Controlling for Demographics, Income, Education-level, Food Insecurity, & Walking Distance.

Survey	**Variables**	**B (SE), p-value**
	Aid-type *(1=food, 0=money)*	.61 (.26), $p = .017$

Entry (T1)	Gender *(1=female, 0=male)*	.17 (.33), *p* = .611
Entry (T1)	Age *(18-55)*	.02 (.02), *p* = .205
Entry (T1)	Head of Household *(1=yes, 0=no)*	-.09 (.37), *p* = .811
Entry (T1)	Number of Children	-.02 (.07), *p* = .806
Entry (T1)	Daily Income *(0-500 KES)*	.00 (.00), *p* = .547
Entry (T1)	Education Level	.00 (.04), *p* = .989
Entry (T1)	Food Insecurity (FI; *1=moderate, 5=very high)*	.21 (.09), *p* = .025
Follow-up (T3)	Walking Distance to Pick-up Site *(in minutes)*	-.31 (1.01), *p* = .757

Notes. Results come from a logit testing the effect of aid-type on take-up rates, controlling for a series eight variables. The food insecurity (FI) measure represents the total number of FI questions (questions 4-8 of FEIS) the participant answered yes=1 vs. no=0 to.

C. Experiment 2 Supplemental Analyses

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. Experiment 5 Supplemental Analyses

I. Perceived Relational Mode: Communal Sharing and Market-pricing. At the end of our survey, participants responded to measures capturing the perceived relational mode. Participants first read about the two focal relational models: communal sharing and market-pricing. To capture perceptions of the social relational mode, participants first read the following message:

> "Every day, people around the world interact with each other and have to navigate these different social interactions. The expectations we have about how we and others should interact are, in part, informed by the kind of relationship we are in. We have very different relationships with our partners, family members, local shopkeepers, and government officials. In this next part of the survey, we will share with you information about two different types of relationships: communal relationships and exchange relationships. We will ask you to read some information about these two relationships and then answer a few questions about them."

Next, participants read the communal sharing and market-pricing relational modes. Participants read the following about communal sharing relationships:

> "DESCRIPTION OF COMMUNAL RELATIONSHIPS. We live in communities. The sizes of these communities range from small (family) to mid-size (neighborhood/city) and large (country). We share many resources with others who live in our community. Sharing resources with them creates a communal relationship and strengthens the community. The wellbeing of a community depends on the wellbeing of each individual member. Thus, when one community member has an issue, it concerns all members of the community, and they will work together to help to resolve the issue. In short: a communal relationship represents a relationship where all individuals support each other because they feel unity with one another."

Further, they read the following about market-pricing relationships:

> "DESCRIPTION OF EXCHANGE RELATIONSHIPS. We live in a market economy. The size of these exchange markets range from small (landlord-tenant relationships) to mid-size (Facebook marketplace/Craigslist) to large (national economies). We exchange (i.e., buy and sell) many resources with others on a daily basis. The wellbeing of an exchange-based relationship depends on everyone offering something of value in exchange for the resource(s) they take. Thus, cost-benefit analysis is at the core of exchange relationships. In short: an exchange relationship represents a relationship where individuals offer objects or benefits in exchange for some resource they value."

After reading about the two relational modes, participants were again shown the "flyer" we shared with them earlier in the study, from the charity or government (depending on condition). We then told them that we wanted them to share with us the kind of relationship they would feel like they were in with the charity or government. Specifically, for our measure of the communal sharing relational mode, we asked: "To what extent would you feel like you were in a communal relationship with [this charity / the government]? Reminder: a communal relationship represents a relationship where all individuals support each other because they feel unity with one another" (1=not at all, 7=completely). For our measure of the market-pricing relational mode, we asked: "To what extent would you feel like you were in an exchange relationship with [this charity / the government]? Reminder: an exchange relationship represents a relationship where individuals offer objects or benefits in exchange for some resource they value" (1=not at all, 7=completely). Figure S1 contains the results.

Figure S1. The Effect of Aid-type and Aid-entity on Perceived Relational Mode from Experiment 5.
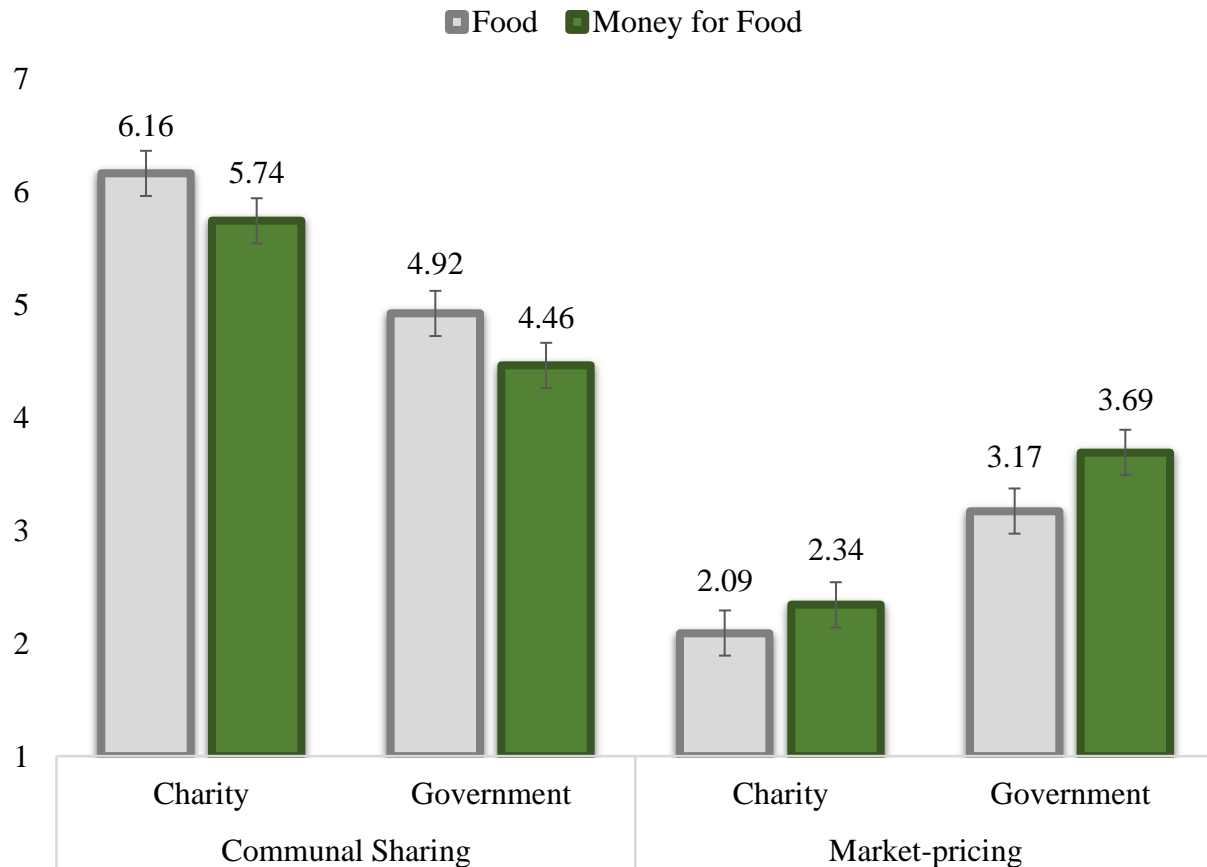
Note. Error bars indicate standard errors.

II. Exploratory Measure: Psychological Ownership. After responding to our focal outcome variables (take-up and recommendation intentions, PSEs, and NSEs), but prior to responding to our measure of perceived relational mode, participants were asked to respond to an exploratory, supplemental measure of psychological ownership (*23*). This measure was nearly identical to that from Experiment 2, with the additional randomization of aid-entity. A two-way ANOVA on psychological ownership with aid-type (food, money) and aid-entity (charity, government) as the independent variables revealed two main effects and a significant interaction. Specifically, participants were overall more likely to feel psychological ownership of food ($M = 5.58$, $SD = 1.34$) versus monetary aid ($M = 5.01$, $SD = 1.72$; $F(1,760) = 22.83$, $p < .001$). We also observed a main effect of aid-entity, such that participants felt more psychological ownership of government ($M = 5.61$, $SD = 1.44$) versus charity aid ($M = 4.98$, $SD = 1.63$; $F(1,760) = 29.75$, $p < .001$). Further, a significant interaction between aid-type and aid-entity emerged ($F(1,760) = 8.48$, $p = .004$). Paired condition comparisons revealed that the effect of aid-type on psychological ownership was driven by the charity conditions (Food: $M = 5.43$, $SD = 1.39$; Money: $M = 4.59$, $SD = 1.72$; $F(1,760) = 29.33$, $p < .001$) and turned off in the government conditions (Food: $M = 5.79$, $SD = 1.29$; Money: $M = 5.50$, $SD = 1.58$; $F(1,760) = 1.76$, $p = .186$).

E. 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. 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: Impact of Aid-type on Perceived Relational Mode

With Pilot Experiment 2, we explored whether offering individual money or food impacts the relational mode they expect they and the charity would use with each other when interacting. Specifically, we explore whether aid-type (money vs. food) leads to significant relative differences between the extent to which participants would use more of a communal sharing versus more of a market-pricing relational mode.

Method

Participants. We recruited 514 participants on Cloud Research ($M_{age} = 40.11$, $SD_{age} = 11.95$; 58.4% female; 78.0% Caucasian) in exchange for a set payment of $0.75.

Materials and procedure. Participants were randomly assigned to one of two between-subjects conditions, where participants were randomly assigned to read about a charity offering them either money or groceries. Pilot Experiment 2 was preregistered. The experimental design was nearly identical to Experiments 2-4, with the addition of the social relations descriptions. Specifically, participants read the following (descriptions were adapted from Haslam & Fiske, 1991):

> "Every day, people around the world interact with each other and have to navigate different social interactions. The expectations we have about how we and others should interact are, in part, informed by the kind of relationship mode or modes we are using. We use different relationship modes with each of our relationship partners (e.g., family, friends, shopkeepers, teachers, government officials, charities, etc.), and can switch the type of relationship mode we are in with the same relationship partner, depending on the situation. For example, selling a friend our old computer, planning a trip with that friend, or cooking a meal with that friend all trigger different relationship modes. In this next part of the survey, we will share with you information about two different types of relationship modes: Mode 1 and Mode 2. We will ask you to read some information about these two relationship modes and then answer a few questions about them.
>
> *Below are descriptions of the two social relationship modes. Please read this information carefully, as we will ask you questions about these relationships on the next few pages.*
>
> Description of Social Relationship Mode 1
> They take a "one for all and all for one" approach in their relationship with you. They feel that "what's mine is yours" and that what happens to you is nearly as important as what happens to them. Thus, genuine concern and a feeling of belonging with the relationship partner is at the core of this relational mode. **In short: Mode 1 represents a relationship where individuals offer objects or benefits because they feel unity with one another.**
>
> Description of Social Relationship Mode 2
> You both feel entitled to a fair rate of return, in return for what you put into the

interaction. You each keep track of the ratio of your "costs" (in terms of money, time, effort, or aggravation) in relation to your "benefits." Thus, cost-benefit analysis and proportionality is at the core of this relational mode. **In short: Mode 2 represents a relationship where individuals offer objects or benefits in exchange for some proportional resource they value."**

We masked the name of the social relationship mode to not bias participants, and let the description of the mode inform their perceptions of it. Participants were then asked to report the extent to which they would use more of Mode 1 or Mode 2 when interacting with close family members and with their bank. These were comprehension checks, to make sure participants understood the relational mode descriptions. Hence, if participants did understand the descriptions, they would report using significantly more of Mode 1 (i.e., the communal sharing mode) when interacting with close family members and significantly more of Mode 2 (i.e., the market-pricing mode) when interacting with their bank. Next, participants read the same hardship thought experiment and charity information as used in Experiments 2-4.

After the aid-type manipulation, participants reported their acceptance and return intentions, followed by the relational mode they expect they would use with the charity. Specifically, participants were asked the following: "Please think back to the two social relationship modes you read about at the beginning of this survey and answer the following question considering those relationship modes. *Note: the descriptions of the two social relationship modes are repeated below, for your reference.* When the charity offered you [money / groceries], does this indicate that you and the charity would be relatively more likely to use social relationship Mode 1 or Mode 2 when interacting with each other? (1=only Mode 1, 4= An Equal Mix of Mode 1 and Mode 2, 7=Only Mode 2). Finally, participants responded to a series of demographic questions.

Results

First, results on the family ($M = 2.46$, $SD = 1.24$) and bank ($M = 6.25$, $SD = 1.30$) comprehension checks suggest that participants did understand the relational model descriptions, since lower numbers indicate using more of a communal sharing relational mode and higher numbers indicate using more of a market-pricing relational mode.

Next, replicating our main effects from the main paper, participants reported being significantly more likely to accept food ($M = 5.50$, $SD = 1.71$) versus monetary aid ($M = 4.99$, $SD = 1.91$; $F(1,479) = 9.36$, $p = .002$). Next, in line with our theorizing, participants who were randomly assigned to read that the charity offered them groceries ($M = 2.54$, $SD = 1.28$) reported that they would use significantly more of the communal sharing mode than participants assigned to read that the charity offered them money ($M = 2.84$, $SD = 1.62$; $F(1,479) = 4.57$, $p = .033$).

Finally, mediation analyses using Hayes' PROCESS (Model 4), testing the effect of aid-type (X) on acceptance intentions (Y) with charity relational mode as mediator (M) reveal a significant indirect effect through the charity relational mode ($b = .05$, $SE = .03$, 95% CI [.002, .122]). Figure S2 displays the full results.

Figure S2. Mediation through Charity Relational Mode on Take-up Intentions from Pilot Experiment 2.
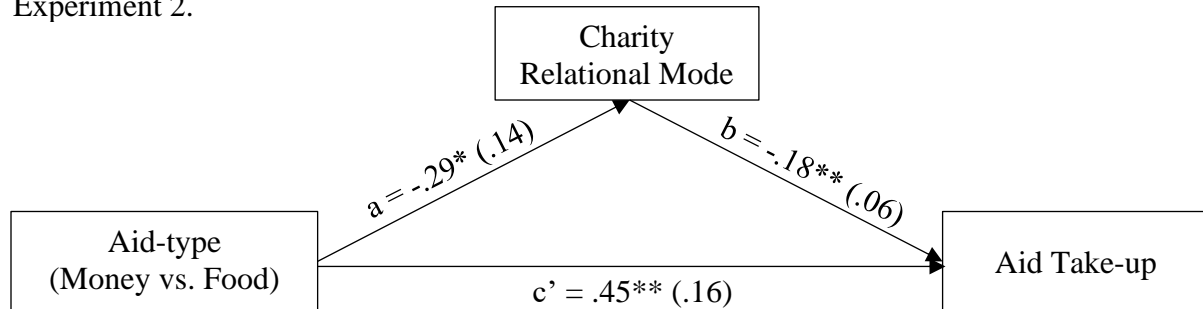
*Note*s. Figure S1 displays the results from a mediation analysis using Hayes' PROCESS (Model 4) from Pilot Experiment 1 (money = 0 and groceries = 1), where a = the effect of condition on the mediator, b = the effect of the mediator on the outcome variable, and c' = the direct effect of condition on the outcome variable with the mediator in the model. Parentheticals indicate standard errors. $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$

Discussion

This pilot experiment provides support for our prediction that the aid object offered can significantly impact the relational mode recipients use when interacting with the charity.

III. Pilot Experiment 3: Impact of Aid-type & Aid-entity on Perceived Relational Mode

With Pilot Experiment 3, explored whether recipients expect to operate in different relational modes with charities and the government.

Method

Participants. We recruited 605 participants on Cloud Research ($M_{age} = 41.56$, $SD_{age} = 11.74$; 45.8% female) in exchange for a set payment of $0.80.

Materials and procedure. Participants were randomly assigned to one of four between-subjects conditions. Specifically, participants were asked to respond to the extent to which they would feel like they were in each of the four relational modes with a series of different entities (charity—both small, local and large, international, government—both federal and international, close friends and family, and neighbors), and they were assigned to read that the entities either: (1) offered them groceries, (2) offered them money, (3) offered them aid in general ("support during your hard time"), or (4) a neutral control where no aid is offered or mentioned. Pilot Experiment 3 was not preregistered. Participants read the following (descriptions were adapted from Haslam & Fiske, 1991):

> "**Every day, people around the world interact with each other and have to navigate these different social interactions. The expectations we have about how we and others should interact are, in part, informed by the kind of relationship we are in. We have very different relationships with our partners, family members, local shopkeepers, and government officials.**
>
> In today's survey, we would like you to tell us what kind of relationship you have with different individuals and organizations. There are four basic kinds of relationships: Communal Sharing, Authority Ranking, Equality Matching, and Market Pricing.

On the next page, we will share with you some information about each of the four basic kinds of relationships."

"Below are descriptions of the four basic social relationships. Please read this information carefully, as we will ask you questions about these relationships on the next few pages.

Communal sharing. They take a "one for all and all for one" approach in their relationship with you. They feel that "what's mine is yours" and that what happens to you is nearly as important as what happens to them. If you needed their help, they would help you—out of genuine care for you—and you would do the same for them.

Authority ranking. They tend to "call the shots" and take the initiative in this relationship and you tend to follow along. They make most of the decisions and you go along with their choices. They are in charge and usually get their way and take responsibility for things. You are a follower in this relationship and back them up, knowing that you can depend on them to lead and protect you when it is needed.

Equality matching. Your relationship is structured on a 50: 50 basis. If they do something for you, you will try to do the same thing in return for them sometime. As a way of keeping things balanced, you more or less keep track of favors and obligations. And you get irritated when you feel that they are taking more than they are giving (and vice versa). What you each want is equal treatment and equal shares.

Market pricing. You interact with them in a purely rational, businesslike way. You both feel entitled to a fair rate of return, in return for what you put into the interaction. What you get out of your dealings with them depends on precisely what you put in. So you each keep track of the ratio of your "costs" (in terms of money, time, effort, or aggravation) in relation to your "benefits." The interaction basically comes down to practical matters like these."

All participants were then asked to report the extent to which they would feel like they were in each of the four social relationships with (i) charity—both small, local and large, international, (ii) government—both federal and international, (iii) close friends and family, and (iv) neighbors. Finally, participants responded to a series of demographic questions.

Results

To examine the perceived relational modes of the four different entity categories (close friends and family, neighbors, charity, and government), we report the descriptive statistics for each entity, separated by condition, in Figure S3.

Figure S3. Perceived Relational Mode by Aid-entity and Aid-type from Pilot Experiment 3.

Close Friends and Family

	Communal Sharing	Market-pricing	Equality Matching	Authority Ranking
Food Aid	5.61	2.31	4.26	2.53
Cash Aid	5.40	2.19	4.24	2.39
Ambiguous Aid	5.54	2.28	4.30	2.35
No Aid Control	5.52	2.00	4.08	2.35

Close Friends and Family

☐ Food Aid ■ Cash Aid ■ Ambiguous Aid ☐ No Aid Control

Neighbors

	Communal Sharing	Market-pricing	Equality Matching	Authority Ranking
Food Aid	4.45	2.79	4.42	2.52
Cash Aid	4.03	2.95	4.49	2.34
Ambiguous Aid	4.08	2.99	4.39	2.18
No Aid Control	3.57	2.86	3.90	2.03

Neighbors

☐ Food Aid ■ Cash Aid ■ Ambiguous Aid ☐ No Aid Control

Charity

	Communal Sharing	Market-pricing	Equality Matching	Authority Ranking
Food Aid	3.79	3.27	3.08	3.43
Cash Aid	3.46	3.07	2.81	3.21
Ambiguous Aid	3.58	3.21	2.81	3.23
No Aid Control	3.07	3.26	2.56	2.48

Charity

☐ Food Aid ■ Cash Aid ■ Ambiguous Aid ☐ No Aid Control

Government

Note. The close friends and family measure is a composite of the friends and family measures. The charity measure is a composite of the "small, local charities" and "large, international charities" measures. The government measure is a composite of the "U.S. government" and "International Government (e.g., the United Nations (UN))" measures. Responses are on a 1=not at all, 4=somewhat, 7=completely likert scale. Error bars indicate standard errors.

Discussion

These results help to shed light on the perceived social relational modes people expect to be in with a variety of different entities, in contexts where those entities are and are not providing aid, and when the aid-type is in-kind, cash, or ambiguous. Overall, participants report feeling like they are in comparatively more of a communal sharing relationship with charities (vs. government) and comparatively more of a market-pricing relationship with government (vs. charities).

IV. Pilot Experiment 4: Needs of Online Participants During COVID-19

With Pilot Experiment 4, explored the different needs amongst online survey participants in the US during COVID-19.

Method

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., shower & 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).

Discussion

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.

F. 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 S4. 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[1], poverty stigma (α = .82), and negative social emotions (α = .93). These measures were the same as those used in Experiment 4.

Table S4. Thought-experiment and manipulation wording in Supplemental Experiment S1

Supplemental Experiment S1
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.   **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.**
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 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).

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[1] For supplemental experiments S1-S3, we report the results on a composite measure of take-up and recommendations. The correlation between the two measures are moderate-to-high and the results look qualitatively similar when looking at take-up and recommendation intentions separately.

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% CI [.001, .048]). Figures S4 displays the full results.

Figure S4. Serial Mediation through Poverty Stigma and Negative Social Emotions (NSEs) on Take-up & Recommendation Intentions from Supplemental Experiment S1.
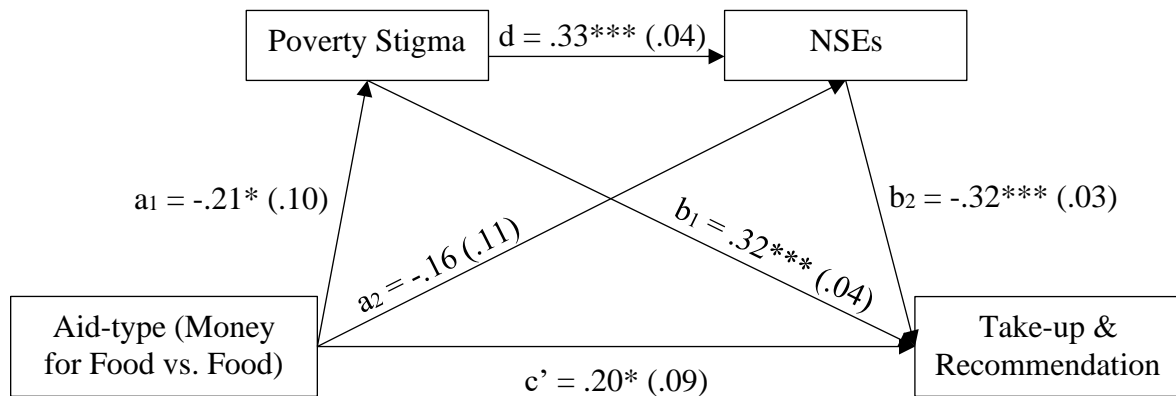
Notes. This figure displays the results from a serial mediation analysis using Hayes' PROCESS (Model 6) from Experiment S1, where a_1 = the effect of condition on the first mediator, a_2 = the effect of condition (where money for groceries = 0 and groceries = 1) on the second mediator, b_1 = the effect 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. Parentheticals indicate standard errors. $^*p < .05$, $^{**}p < .01$, $^{***}p < .001$

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: 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 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 S5, below.

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 ($M = 4.06$, $SD = 1.70$) than did participants in the food condition ($M = 3.61$, $SD = 1.77$). There was no

statistically significant main effect of need-state ($F(1,802) = 1.01$, $p = .316$) 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)[2] 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 [.047, .165]). We display the full results in Figure S5.

Figure S5. Mediation through Negative Social Emotions (NSEs) on Take-up & Recommendation Intentions from Experiment S2.
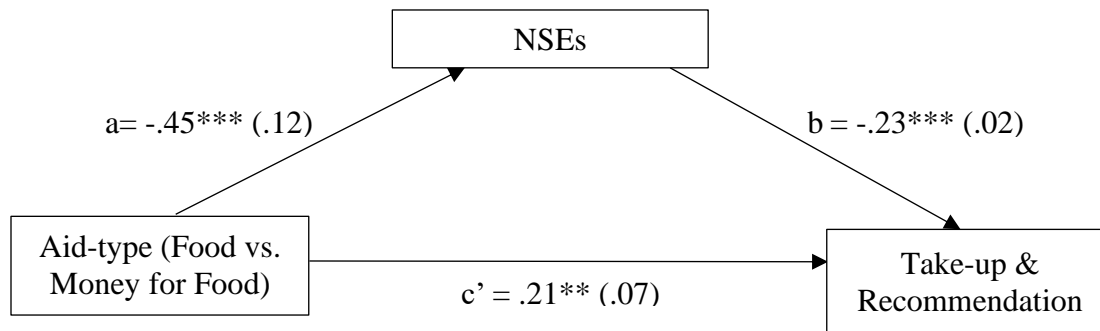
Note. This figure displays the results from a mediation analysis using Hayes' PROCESS (Model 4), where a = the effect of condition (where 0 = money for groceries and 1 = groceries) on the mediator, b = the effect of the mediator on the outcome variable, and c' = the direct effect of condition on the outcome variable. Parentheticals indicate standard errors. $^*p < .05$, $^{**}p < .01$, $^{***}p < .001$

Table S5. Additional, Exploratory Results by Aid-Type & Need-Type for Supplemental Study S2

	Food		Money		Main Effect of Aid-type			Main Effect of Need-Type		Giver Aid-Type x Need-Type
	M	SD	M	SD						
Dependency										
All Data	4.13	1.51	3.88	1.43	$F(1,802) = 6.15, p = .013$	All Data		$F(1,802) = 0.20, p = .656$		$F(1,802) = 1.22, p = .269$
New Need	4.24	1.54	3.86	1.44	$F(1,802) = 6.37, p = .012$	Food		$F(1,802) = 1.24, p = .266$		
Old Need	4.04	1.49	3.96	1.36	$F(1,802) = 0.95, p = .329$	Money		$F(1,802) = 0.21, p = .645$		
Self-Efficacy										
All Data	4.57	1.49	4.42	1.40	$F(1,802) = 2.00, p = .158$	All Data		$F(1,802) = 1.24, p = .265$		$F(1,802) = 3.30, p = .070$
New Need	4.53	1.58	4.57	1.40	$F(1,802) = 0.08, p = .777$	Food		$F(1,802) = 0.25, p = .616$		
Old Need	4.60	1.39	4.27	1.38	$F(1,802) = 5.26, p = .022$	Money		$F(1,802) = 4.18, p = .041$		
Helpfulness										
All Data	6.33	0.79	6.21	0.92	$F(1,802) = 3.87, p = .049$	All Data		$F(1,802) = 0.86, p = .354$		$F(1,802) = 0.35, p = .555$
New Need	6.37	0.74	6.22	0.87	$F(1,802) = 3.24, p = .072$	Food		$F(1,802) = 1.18, p = .277$		
Old Need	6.28	0.82	6.20	0.97	$F(1,802) = 0.96, p = .328$	Money		$F(1,802) = 0.06, p = .814$		

Notes. The results for Supplemental Study S2 come from conducting two-way ANOVAs with Aid-Type and Need-Type as the independent variables. These data are presented with no exclusions

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[2] 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.

Discussion

The results from Supplemental Experiment 2 further supports 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 (ashamed, embarrassed, humiliated, guilty, culpable, remorseful, self-conscious, insecure, vulnerable, α = .941) (*52, 53*) if they were to receive food or money for food (depending on aid-type condition). Next, participants were asked whether they would return[3] 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

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[3] 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).

helplessness. These exploratory measures were not focal to our research questions. We report the results in Table S6, below.
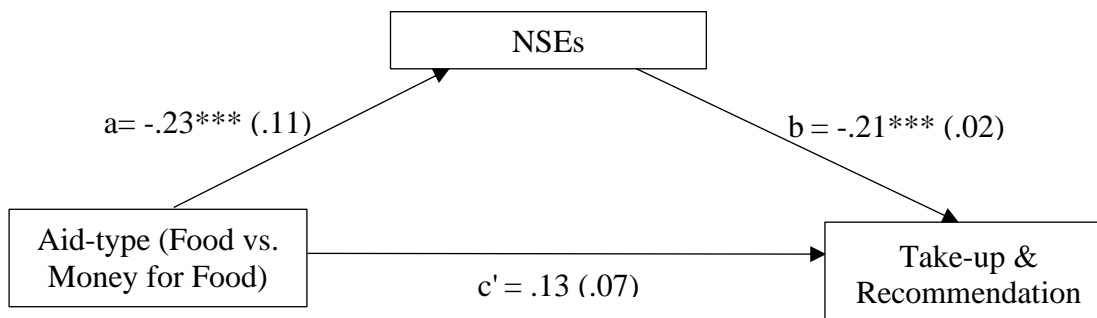
Results

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 ($F(1,808) = 0.08$, $p = .779$).

Mediation by NSEs on Return & Recommendation Intentions. We ran a mediation analysis using Hayes' PROCESS (Model 4)[4] 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 S6 displays the full results.

Figure S6. Mediation through Negative Social Emotions (NSEs) on Take-up & Recommendation Intentions from Supplemental Experiment 2.

Note: This figure displays the results from a mediation analysis using Hayes' PROCESS (Model 4), where a = the effect of condition (where 0 = money for groceries and 1 = groceries) on the mediator, b = the effect of the mediator on the outcome variable, and c' = the direct effect of condition on the outcome variable. Parentheticals indicate standard errors. $^*p < .05$, $^{**}p < .01$, $^{***}p < .001$

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[4] 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.

Table S6. Additional, Exploratory Results by Aid-Type & Solicitation for Supplemental Study S3

	Food		Money		Main Effect of Aid-type		Main Effect of Solicitation		Giver Aid-Type x Solicitation
	M	**SD**	**M**	**SD**					
Self-Sufficiency									
All Data	5.64	1.26	5.40	1.36	$F(1,804)=6.792, p=.009$	*All Data*	$F(1,804)=0.02, p=.883$	$F(1,804)=0.00, p=.987$
Unsolicited	5.63	1.21	5.39	1.29	$F(1,804)=3.35, p=.068$	*Food*	$F(1,804)=0.01, p=.926$	
Solicited	5.65	1.32	5.40	1.42	$F(1,804)=3.44, p=.064$	*Money*	$F(1,804)=0.01, p=.908$	
Self-Esteem									
All Data	3.36	1.63	3.47	1.58	$F(1,803)=1.01, p=.315$	*All Data*	$F(1,803)=1.18, p=.277$	$F(1,803)=0.08, p=.776$
Unsolicited	3.40	1.62	3.55	1.51	$F(1,803)=0.83, p=.362$	*Food*	$F(1,803)=0.32, p=.572$	
Solicited	3.31	1.64	3.39	1.64	$F(1,803)=0.26, p=.610$	*Money*	$F(1,803)=0.95, p=.329$	
Competence Meta-Perception									
All Data	3.79	1.59	3.60	1.57	$F(1,803)=2.84, p=.092$	*All Data*	$F(1,803)=0.00, p=.949$	$F(1,803)=2.20, p=.139$
Unsolicited	3.87	1.62	3.52	1.57	$F(1,803)=5.01, p=.025$	*Food*	$F(1,803)=1.18, p=.277$	
Solicited	3.70	1.55	3.67	1.57	$F(1,803)=0.02, p=.886$	*Money*	$F(1,803)=1.01, p=.314$	
Warmth Morality Meta-Perception									
All Data	4.73	1.29	4.55	1.31	$F(1,803)=3.70, p=.055$	*All Data*	$F(1,803)=1.86, p=.173$	$F(1,803)=4.42, p=.036$
Unsolicited	4.88	1.22	4.51	1.40	$F(1,803)=8.10, p=.005$	*Food*	$F(1,803)=5.95, p=.015$	
Solicited	4.56	1.35	4.58	1.22	$F(1,803)=0.02, p=.900$	*Money*	$F(1,803)=0.28, p=.600$	
Helpfulness									
All Data	6.34	0.93	6.26	0.86	$F(1,801)=1.90, p=.168$	*All Data*	$F(1,801)=1.01, p=.315$	$F(1,801)=0.77, p=.379$
Unsolicited	6.34	0.92	6.19	0.94	$F(1,801)=2.55, p=.111$	*Food*	$F(1,801)=0.01, p=.929$	
Solicited	6.35	0.94	6.31	0.78	$F(1,801)=0.13, p=.724$	*Money*	$F(1,801)=1.80, p=.180$	
Self-Dehumanization									
All Data	5.94	1.04	6.02	1.04	$F(1,803)=1.06, p=.304$	*All Data*	$F(1,803)=0.66, p=.418$	$F(1,803)=0.61, p=.437$
Unsolicited	5.94	0.97	5.96	1.03	$F(1,803)=0.03, p=.860$	*Food*	$F(1,803)=0.00, p=.982$	
Solicited	5.94	1.12	6.07	1.05	$F(1,803)=1.63, p=.202$	*Money*	$F(1,803)=1.28, p=.259$	

Notes. The results for Supplemental Study S3 come from conducting two-way ANOVAs with Aid-Type and Solicitation as the independent variables. These data are presented with no exclusions.

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.

G. Additional Internal Meta-Analyses

Figure S7. Forest plot of the Effect of Aid-type (Food vs. Monetary Aid) on Take-up Intentions from an Internal Meta-analysis of Experiments 2-5 and Supplemental Experiments S1-S3

Study	Total	Mean	SD	Total	Mean	SD	Difference	SMD	95%-CI	(common)	(random)
Experiment 2	305	5.94	1.5040	283	5.10	1.9240		0.49	[0.33; 0.65]	12.9%	13.8%
Experiment 3	352	5.72	1.6310	335	5.16	1.9210		0.32	[0.16; 0.47]	15.4%	14.9%
Experiment 4	293	5.68	1.7080	278	5.24	1.7890		0.25	[0.09; 0.42]	12.8%	13.8%
Experiment 5	182	5.93	1.3460	212	5.23	1.9000		0.42	[0.22; 0.62]	8.7%	11.3%
Supplemental Experiment 1	301	5.75	1.5130	310	5.51	1.5720		0.15	[-0.00; 0.31]	13.8%	14.3%
Supplemental Experiment 2	414	6.12	1.2310	392	5.73	1.5300		0.28	[0.14; 0.42]	18.1%	15.9%
Supplemental Experiment 3	402	5.86	1.3590	409	5.63	1.4800		0.16	[0.02; 0.30]	18.3%	16.0%
Common effect model	**2249**			**2219**				**0.28**	**[0.22; 0.34]**	**100.0%**	**--**
Random effects model								**0.29**	**[0.20; 0.38]**	**--**	**100.0%**

Heterogeneity: $I^2 = 56\%$, $\tau^2 = 0.0084$, $p = 0.03$

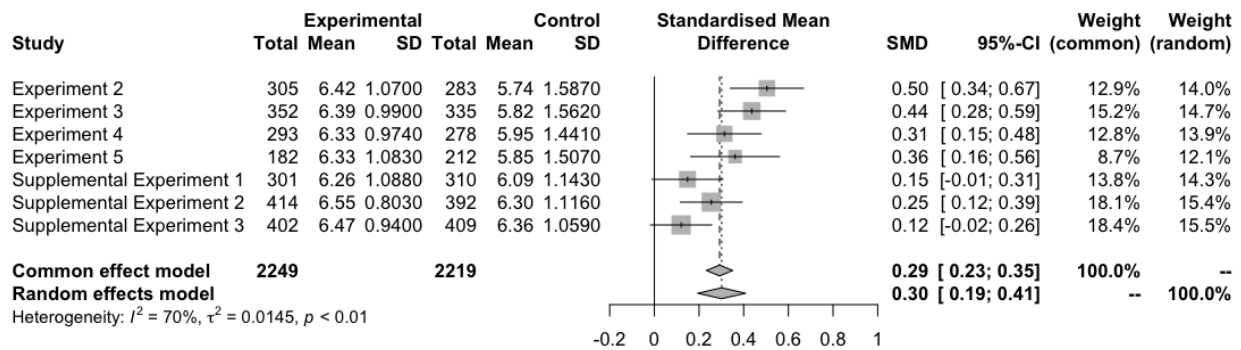-0.2 0 0.2 0.4 0.6 0.8 1
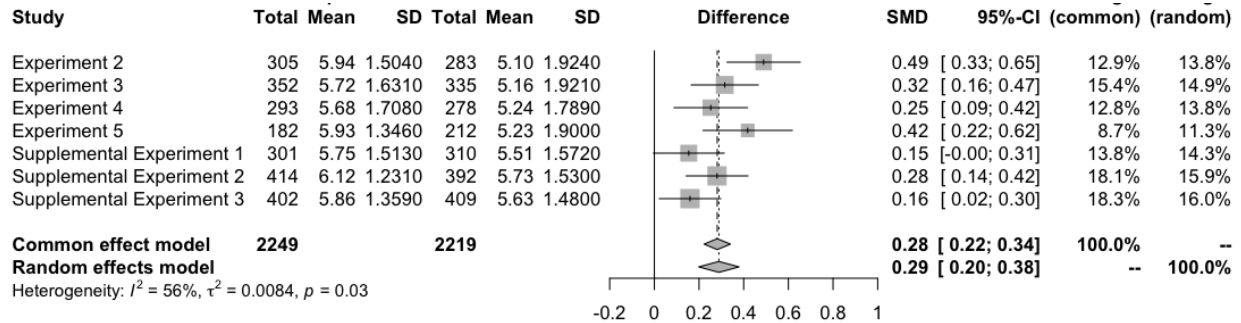
Notes. This figure displays a forest plot documenting the effect size (*d*) with 95% CIs of aid-type on take-up intentions for each individual experiment (effect sizes represented by the squares) and the overall effect (effect size represented by the diamond) across experiments. Results from Experiment 5 include only the charity aid-entity conditions.

Figure S8. Forest plot of the Effect of Aid-type (Food vs. Monetary Aid) on Recommendation Intentions from an Internal Meta-analysis of Experiments 2-5 and Supplemental Experiments S1-S3

Study	Experimental			Control			Standardised Mean Difference	SMD	95%-CI	Weight (common)	Weight (random)
	Total	Mean	SD	Total	Mean	SD					
Experiment 2	305	6.42	1.0700	283	5.74	1.5870		0.50	[0.34; 0.67]	12.9%	14.0%
Experiment 3	352	6.39	0.9900	335	5.82	1.5620		0.44	[0.28; 0.59]	15.2%	14.7%
Experiment 4	293	6.33	0.9740	278	5.95	1.4410		0.31	[0.15; 0.48]	12.8%	13.9%
Experiment 5	182	6.33	1.0830	212	5.85	1.5070		0.36	[0.16; 0.56]	8.7%	12.1%
Supplemental Experiment 1	301	6.26	1.0880	310	6.09	1.1430		0.15	[-0.01; 0.31]	13.8%	14.3%
Supplemental Experiment 2	414	6.55	0.8030	392	6.30	1.1160		0.25	[0.12; 0.39]	18.1%	15.4%
Supplemental Experiment 3	402	6.47	0.9400	409	6.36	1.0590		0.12	[-0.02; 0.26]	18.4%	15.5%
Common effect model	**2249**			**2219**				**0.29**	**[0.23; 0.35]**	**100.0%**	**--**
Random effects model								**0.30**	**[0.19; 0.41]**	**--**	**100.0%**

Heterogeneity: $I^2 = 70\%$, $\tau^2 = 0.0145$, $p < 0.01$

-0.2 0 0.2 0.4 0.6 0.8 1

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. Results from Experiment 5 include only the charity aid-entity conditions.

H. 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, 65 participants exited the survey early and were not exposed to the aid-type manipulation. 4 participants exited the 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 4 participants, two were in the food aid condition and two were in the money condition. 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, 83 participants exited the survey early and were not exposed to the aid-type manipulation. Two participants exited the 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 two participants, one was in the food aid condition and one was in the money condition. 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, 78 participants exited the survey early and were not exposed to the aid-type manipulation. Two participants exited the survey after being exposed to the aid-type manipulation but did not complete any of our focal dependent variables (take-up and recommendation intentions). Both participants were in the food aid condition. 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.

Experiment 5

We aimed to recruit 800 participants from Prolific. 837 workers accessed our survey link. Among these workers, 20 participants exited the survey early and were not exposed to the aid-type manipulation. 1 participant exited the survey after being exposed to the aid-type manipulation but did not complete any of our focal dependent variables (take-up and recommendation intentions). The participant was exposed to the food aid and the U.S. government condition. Hence, $N = 816$ participants were included in our sample.

As preregistered, we excluded 52 participants (6.37% of the sample) who did not complete or pass our aid-type comprehension check at the end of the study (among which 24 were in the food aid condition and 28 were in the money condition; $p = .591$). A final sample of $N = 764$ participants were included in our main analysis.