Journal of Research in Personality 109 (2024) 104476

Contents lists available at ScienceDirect

Journal of Research in Personality

journal homepage: www.elsevier.com/locate/jrp

Full Length Article

Who helps whom in times of crisis? An investigation of actual donations to two groups of earthquake victims

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ARTICLE INFO

Keywords:
Donation behavior
Natural disaster
Personality
Selective donations
HEXACO

ABSTRACT

This pre-registered study assessed actual donations to two groups of victims of the earthquake in Turkey and Syria in February 2023 while considering various theoretically-relevant contextual and personality factors as determinants of donations. In a diverse German online sample ($N = 496$), most participants (62.9 %) donated something, and only few (24.0 %) were selective in their donations, donating more to one group of victims than to the other. Dispositional honesty-humility added to the prediction of donation behavior beyond contextual factors. Selective donations, however, were largely driven by (contextual) perceptions of need. Overall, our findings provide novel insights into donation behavior and highlight the importance of personality in understanding individual differences in donations.

1. Introduction

Monetary donations provide vital support to people in need, being one of the fastest ways to help victims in times of crisis. In January 2010, for instance, a massive earthquake hit Haiti, leaving countless people homeless and in hardship. Fortunately, people all around the world donated, big and small, to charitable organizations, such as the American Red Cross which collected close to US $255 million within the first month after the catastrophe (Zhuang et al., 2014). Critically, however, factors of the given context, such as the perceived need of recipients, influence whether individuals choose to donate or not (Bekkers & Wiepking, 2011), and evidence also shows that there are stable individual differences in donation behavior, in the sense that only some individuals are willing to donate whereas others are less giving (Chapman et al., 2022). Despite these apparent individual differences, prior research has primarily looked into various contextual factors underlying donations, while placing less emphasis on relatively stable person characteristics. Moreover, context and person factors have usually been considered in isolation. Here, we integrate multiple theoretically-relevant contextual factors[1] and personality traits to investigate their unique importance in accounting for donation behavior in times of crisis, specifically, the devastating earthquake in Turkey and Syria in early 2023.

1.1. Prior research on donations

The vast research concerning contextual factors driving donations consistently shows that individuals donate more to organizations that appear trustworthy and effective (e.g., Bekkers & Wiepking, 2011; Cheung & Chan, 2000; Gorczyca & Hartman, 2017). Individuals also donate differently depending on who the recipient is: They rather donate to those they perceive as more needy (Cheung & Chan, 2000) and less responsible for their suffering (Zagefka et al., 2011). Moreover, individuals favor those in their donations who are more similar to themselves (i.e., in-group victims and causes; Micklewright & Schnepf, 2009; Robson & Hart, 2021) and physically closer (e.g., preferring local charities over international charities; Knowles & Sullivan, 2017; Müller & Lindenmeier, 2022), which echoes findings from the group dynamics literature showing that individuals prioritize helping in-group members over out-group members (Tajfel, 1981; Levine & Thompson, 2004).

Concerning person factors driving donations, prior research has mostly focused on sociodemographic variables such as gender, age, and household income. Findings show that women, older individuals, and those with a higher income tend to donate more, although effect sizes

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[1] By contextual factors, we mean factors that are relevant for the particular context of the donation (e.g., attitudes towards specific recipients) as opposed to factors that represent core individual differences which should be relevant across contexts (i.e., personality traits).

https://doi.org/10.1016/j.jrp.2024.104476
Received 8 November 2023; Received in revised form 5 February 2024; Accepted 23 February 2024
Available online 24 February 2024

vary across methods and samples used (Bekkers & Wiepking, 2011; Wiepking & Bekkers, 2012). Very little attention has, by contrast, been directed to personality traits, that is, individuals' relatively stable patterns of affect, motivation, cognition, and behavior. This is surprising given that personality is a powerful predictor of prosocial behavior more generally (Thielmann et al., 2020; Zhao & Smillie, 2015). In the area of donations, however, only a few trait-like concepts have been considered to account for individual differences in donations, including empathic concern (Bekkers & Ottoni-Wilhelm, 2016; Verhaert & van den Poel, 2011), general trust in others (Chapman et al., 2021), and moral concerns (Nilsson et al., 2020; Bekkers & Ottoni-Wilhelm, 2016), all yielding relatively small positive associations with donations. Strikingly, one of the most powerful trait predictors of prosocial behavior – HEXACO honesty-humility (Thielmann et al., 2020), the tendency to be fair and genuine towards others (Ashton & Lee, 2007) – has been entirely neglected in explaining the apparent individual differences in donation behavior. Overall, evidence on the relation between personality and donation behavior is scarce, preventing a systematic understanding of individual differences in donations.

1.2. The current study

To sum up, prior research on the drivers of donation behavior is limited in at least two regards, including (i) the neglect of personality traits and (ii) the tendency to investigate context and person factors in isolation. With the current investigation, we aimed to overcome these limitations by studying the relation of various personality *and* contextual factors to donations in the context of a real natural disaster: the devastating earthquake in Turkey and Syria in February 2023. Furthermore, in contrast to prior research which often relied on hypothetical decisions or self-reported donations, we used a behavioral donation paradigm in which participants' donation decisions had real consequences for their own study payoff as well as the ultimate amount donated to the charities at hand.

On February 6, an earthquake with a magnitude of 7.8 hit two countries, Turkey and Syria, killing more than 52,000 people and leaving more than 100,000 injured and countless others in need of help. Three weeks after the earthquake, when many victims were still in need of help, we measured donation behavior to two charity organizations (one Turkish and one Syrian) among individuals from an unaffected country (i.e., Germany). Our main goal was to test the personality and contextual factors related to amount donated to the two organizations (i.e., overall donations).

1.2.1. Personality and contextual factors of overall donations

Considering our interest in both individual differences (i.e., personality) and contextual factors of overall donations, we tested two sets of pre-registered hypotheses. The first set of hypotheses addressed the so far understudied personality factors related to donation behavior. We hypothesized the traits honesty-humility (H1a) and empathy (H1b) to positively relate to overall donations. This was based on evidence showing positive associations of these traits with prosocial behavior in economic games (Thielmann et al., 2020) as well as with organ donations (Rhoads et al., 2023). The second set of hypotheses concerned contextual factors. Based on previous findings (e.g., Bekkers & Wiepking, 2011), we expected positive perceptions towards the charity organizations (H2a) and favorable attitudes towards the two groups of victims (H2b) to be associated with higher overall donations. In addition to testing these hypotheses, we also explored whether the personality factors under scrutiny explained incremental variance in overall donations above and beyond contextual factors.

1.2.2. Selectivity in donations

Besides studying overall donation behavior, the fact that the earthquake affected two different victim groups – Turkish and Syrian inhabitants – created the unique circumstance to investigate whether some individuals donate more to one victim group than the other, rather than donating to both groups equally. Prior research had only studied such *selectivity* in donations in relation to charities differing in their supported causes (religious, environmental, etc.; Robson & Hart, 2021). Here, we could test whether individuals favor one victim group over the other (versus treating both groups equally) while both groups were affected by the *same* natural disaster.

We did not postulate a hypothesis about which victim group may be favored in terms of donations. Instead, we focused on the broader question of which individuals are selective in who they donate to by giving more to one victim group than the other in the context of the same misfortune. Thus, in line with our main interest in individual differences in donations, a secondary goal of the study was to examine whether there are systematic individual differences in such donation selectivity, which could be expected based on prior work suggesting that people differ in how selective they are in their prosocial behavior (Corr et al., 2015). We pre-registered a final set of hypotheses concerning such individual differences in donation selectivity.[2] We expected higher levels of social dominance orientation (SDO; H3a) and right-wing authoritarianism (RWA; H3b) to be associated with more selectivity in donations (i.e., greater difference in amount donated to the two organizations). SDO describes the tendency to favor hierarchy within and between groups and RWA denotes individual differences in intolerance toward deviant groups. Correspondingly, both have been shown to negatively relate to discrimination (Sibley & Duckitt, 2008; Stathi et al., 2021), which entails treating some recipients more favorably than others. Moreover, there is evidence for individual differences in SDO and RWA to relate to negative attitudes concerning different out-groups (Duckitt, 2006; Asbrock et al., 2010). In addition to that, we expected fairness concerns to be associated with less selectivity in donations (H3c). This is to be expected because, by definition, fairness concerns capture the tendency to treat everyone according to notions of equality and justice (Ruch et al., 2010).

1.2.3. Overview of hypotheses

Personality and amount donated. The first set of hypotheses focuses on the personality factors that drive donations: (H1a) honesty-humility will positively relate to overall amount donated, and (H1b) empathy will positively relate to overall amount donated.

Context and amount donated. The second set of hypotheses focuses on the contextual factors that drive donations: (H2a) positive perceptions towards the organizations will positively relate to amount donated (to the organization) and, (H2b) favorable attitudes towards the victims will positively relate to amount donated (to the victim group).

Personality and selectivity in donations. Finally, the third set of hypotheses focuses on the personality factors that drive selectivity in donations: (H3a) SDO will positively relate to selectivity in donations, (H3b) RWA will positively relate to selectivity in donations, and (H3c) fairness concerns will negatively relate to selectivity in donations.

2. Method

2.1. Procedure

The study was conducted online with 496 participants recruited via Prolific approximately three weeks after the earthquake occurred. Participants were invited to take part in a study on decision-making that would earn them 1.15€ base fee, plus up to 2.00€ bonus payment depending on their decisions in the study.

[2] We initially pre-registered additional hypotheses regarding number of Turkish and Syrian friends among participants and prior knowledge of the earthquake and organizations (see https://osf.io/c73k6/). However, we were not able to test these due to very low variance and highly skewed distributions in responses.

After providing informed consent, participants reported demographic information. Thereafter, they completed several personality measures in line with our hypotheses (i.e., honesty-humility, empathy, fairness concerns, SDO, and RWA), which were presented in random order and included two embedded attention check items (e.g., 'Please select strongly agree.'). Next, participants received detailed information on the earthquake in Turkey and Syria, including when it occurred, its severity, and current death count. Thereafter, participants received a 2.00€ bonus of which they could donate any amount to the earthquake victims. To this end, participants received information on two charitable organizations, one focusing on affected areas in Turkey (i.e., Ahbap organization) and the other focusing on affected areas in Syria (i.e., Molham organization). The descriptions of both organizations were identical, except for information on when, where, and by whom they were founded and, most importantly, which affected region they focused on helping (i.e., Turkey vs. Syria). Participants were then asked 'Would you like to donate a portion of your bonus [€2.00] to one or both organizations?'. If participants chose 'yes', they were presented with two text-input boxes where they could specify how much (in increments of 10 cents, ranging from 0 to 200 cents) they would like to donate to each organization. To get a sense of why individuals may have donated more to one organization compared to the other, we also asked participants about the reasons for their decision in an open-ended question. Finally, participants filled in contextual measures assessing their perceptions of the organizations, attitudes towards the victims, and perceived need of the victims. Participants received a 1.15€ base payment for participating in the study and up to 2.00€ bonus payment, depending on how much they decided not to donate. The study was pre-registered (https://osf.io/c73k6/) and all materials, data, analyses, and supplementary materials are available on the Open Science Framework (https://osf.io/sjb9c/).

2.2. Materials

2.2.1. Dependent variables

Willingness to donate. The binary choice of whether participants donated part (or all) of their bonus payment to any of the two organizations (0 = no, 1 = yes) served as a measure of willingness to donate.

Amount donated. To measure the overall amount donated we computed the sum of amount donated to the two organizations (between 0 and 200 cents).

Willingness to donate selectively. The willingness to donate selectively was measured using the binary outcome of whether participants donated more to one of the two organizations than the other (0 = no, 1 = yes).

Selectivity in donations. As a (continious) measure of selectivity in donations, we used the absolute difference[3] between the amount donated to the two organizations (between 0 and 200 cents).

2.2.2. Personality Traits

Honesty-humility was measured via 10 items from the German 60-item HEXACO Personality Inventory-Revised (HEXACO-60; Ashton & Lee, 2009; Moshagen et al., 2014). An example item is 'Having a lot of money is not especially important to me.' (α = 0.70).

Openness was measured (for exploratory purposes) via the 10 respective items from the German HEXACO-60 (Ashton & Lee, 2009; Moshagen et al., 2014), which include statements such as 'I like people who have unconventional views.' (α = 0.78).

Empathy was measured with the 14 items from the German version of the Interpersonal Reactivity Index (Davis, 1983; Paulus, 2009). An example item is 'I often have tender, concerned feelings for people less fortunate than me.' (α = 0.82).

SDO was measured via a German translation of the 8-item Social Dominance Orientation Scale (SDO7; Ho et al., 2015), including items like 'Some groups of people are simply inferior to other groups' (α = 0.86).

RWA was measured using a German translation of the 6-item Authoritarian Submissiveness subscale of the Right-Wing Authoritarianism Scale (Duckitt et al., 2010), with items such as 'Our country will be great if we show respect for authority and obey our leaders' (α = 0.82).

Fairness concerns were measured with the German version of the 5-item Fairness Concerns subscale from the Values in Action Inventory of Strengths (Peterson et al., 2005; Ruch et al., 2010). An example item is: 'I treat all people equally regardless of who they might be' (α = 0.73).

All items were answered on a 5-point Likert-type scale ranging from 1 (*strongly disagree*) to 5 = (*strongly agree*).

2.2.3. Contextual factors

Organization perceptions. To measure perceptions of the charitable organizations, we used two items (i.e., 'The organization is trustworthy' and 'The organization pursues valuable goals'). Participants answered these questions separately for each organization on a scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

Attitudes towards Turkish and Syrian individuals. To measure attitudes towards Turkish and Syrian individuals, we asked the following question: 'How negative or positive is your impression of people from [*country*]?' (*country* was replaced by Turkey or Syria, respectively). Participants rated the statements for each country on a scale ranging from 1 (*very negative*) to 5 (*very positive*).

Perceived need of Turkey and Syria. To measure perceived need of Turkish and Syrian individuals, we asked: 'How much help do the victims of [country] need?'. Participants rated this statement, separately for each country, on a scale ranging from 1 (*very little*) to 5 (*a lot*).

Perceived monetary value of 1€ in Turkey and Syria. To assess whether participants perceived the monetary value of their bonus payment to be similar in the two countries, we asked them: 'How much is 1€ worth in [country]?'. Participants rated this statement, separately for each country, on a scale ranging from 1 (*very little*) to 5 (*a lot*).

In addition to these variables, we also measured the number of Turkish and Syrian friends among participants, prior knowledge of the earthquake and prior knowledge of the organizations (see the pre-registration for corresponding hypotheses;https://osf.io/c73k6/). However, responses on these variables either suffered from very low variance (i.e., almost everyone knew of the earthquake whereas almost no one knew of the two organizations) or from highly skewed distributions (i.e., number of friends). Therefore, we refrained from including the respective predictions and results in the manuscript and only report them in the online supplemental materials (https://osf.io/6c452/).

2.3. Participants

To determine the required sample size, we conducted a priori power analyses for all pre-registered hypotheses using G*Power (Faul et al., 2009). To ensure satisfactory power for all hypothesis tests, we based the sample size on the most conservative estimate, namely, the hypotheses concerning willingness to donate selectively (yes vs. no) to be tested in a logistic regression analysis. Opting for satisfactory power of 80 %, setting an alpha level of 5 %, and assuming a small to medium-sized effect (Odds Ratio = 1.5), this yielded a required sample of $N = 308$ participants who donated. Based on meta-analytic evidence suggesting that around 64 % of participants typically share some money in a donation-like economic game, the dictator game (Engel, 2011), we expected approximately 60 % of participants to donate something. Thus, we recruited a total of 500 German participants via Prolific. Of these, four participants were excluded for failing our two attention checks, leaving a final sample of 496 participants. As anticipated, almost two

[3] We chose to compute the absolute differences because our main interest was in the overall extent of selectivity rather than a specific direction of selectivity (and we also had no a priori expectations regarding a direction).

thirds of participants (i.e., 62 %; $N = 312$) donated something, meaning there was sufficient power to test all hypotheses. The mean age of participants was 31.2 years ($SD = 10.0$); 60.1 % were men, 38.7 % were women, and 1.2 % defined themselves as 'other'. Further, 43 % of participants had a high school diploma, 53 % a university diploma, and 4 % a PhD.

3. Results

3.1. Descriptive Statistics

Most participants (62.9 %) donated a part of their 200 cents bonus to the organizations ($M = 93.8$, $SD = 89.8$) and, out of these, most (75.3 %) gave equally to the two organizations. Among those who donated, the Syrian organization ($M = 88.9$, $SD = 41.1$) received significantly more donations than the Turkish organization ($M = 71.1$, $SD = 39.5$), $t(311) = 5.49$, $p < .001$, Cohen's $d = 0.44$, 95 % CI [0.30, 0.59] (Fig. 1), and the monetary value of 1.00€ was perceived to be higher for Syria ($M = 3.7$, $SD = 1.2$) compared to Turkey ($M = 3.2$, $SD = 1.0$), Cohen's $d = 0.43$, 95 % CI [0.35, 0.52]. Interestingly, Syrian people were also perceived as more in need ($M = 4.7$, $SD = 0.6$) compared to Turkish people ($M = 4.4$, $SD = 0.7$), $t(311) = 8.43$, $p < .001$, Cohen's $d = 0.47$, 95 % CI [0.37, 0.58]. However, there were no significant differences in attitudes towards Syrian ($M = 3.7$, $SD = 0.9$) and Turkish ($M = 3.7$, $SD = 0.9$) people, $t(311) = 1.37$, $p = .173$, Cohen's $d = 0.04$, 95 % CI [-0.02, 0.09] and no significant differences in perceptions of the Syrian ($M = 3.7$, $SD = 0.6$) and Turkish ($M = 3.7$, $SD = 0.7$) organizations, $t(311) = 1.01$, $p = .313$, Cohen's $d = 0.03$, 95 % CI [-0.03, 0.07].

3.2. Prediction of Amount Donated

3.2.1. Personality and Amount Donated

Confirmatory analyses (H1a and H1b). As hypothesized, honesty-humility was positively related to the overall amount donated, $r = 0.26$, 95 % CI [0.18, 0.34], $p < .001$, as was empathy, $r = 0.25$, 95 % CI [0.17, 0.33], $p < .001$ (Table 1). Of note, the observed effect sizes are comparable to meta-analytic estimates of the associations of both these traits with prosocial behavior in the dictator game (Thielmann et al., 2020), which is structurally similar to a donation decision where another unknown participant is the recipient. A similar pattern of results occurred for the binary decision of willingness to donate (yes/no) and computed odds ratios (see online supplemental materials;https://osf.io/6c452). Thus, our hypotheses that honesty-humility and empathy will be associated with donation behavior were supported.

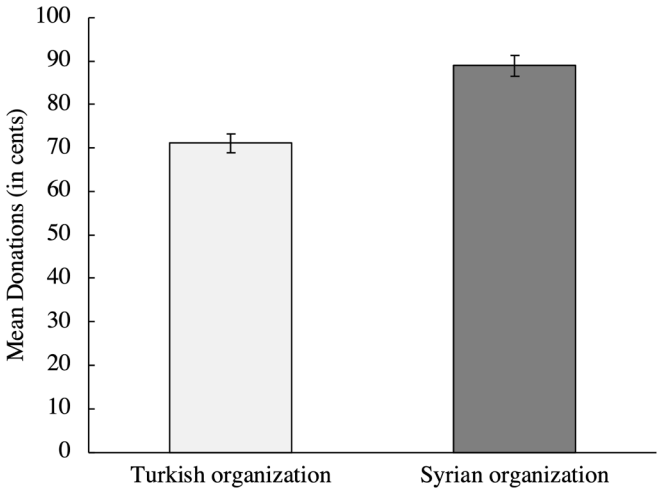

Fig. 1. *Mean donations to the Turkish and Syrian organizations. Note.* $N = 312$ donating something. Error bars represent standard errors.

Exploratory analyses. In addition to these hypothesized relations, we found a small positive relation with amount donated for openness, $r = 0.14$, 95 % CI [0.05, 0.22], $p = .002$, and small to medium-sized negative relations for SDO, $r = -0.28$, 95 % CI [-0.36, -0.20], $p < .001$, and RWA, $r = -0.22$, 95 % CI [-0.30, -0.13], $p < .001$. Thus, we also found some unexpected relations between donation behavior and other traits. Finally, we exploratively ran a multiple regression with all traits entered simultaneously as predictors of amount donated (see online supplemental materials; https://osf.io/6c452). Doing so revealed honesty-humility, empathy, SDO, and fairness concerns as significant predictors of amount donated, suggesting that all of these account for unique variance in donations.

3.2.2. Context and Amount Donated

Confirmatory analyses (H2a and H2b). As predicted, more positive perceptions of the Turkish organization and more positive attitudes towards Turkish people were associated with higher amounts donated to the Turkish organization, $r = 0.24$, 95 % CI [0.15, 0.32], $p < .001$, and $r = 0.18$, 95 % CI [0.09, 0.26], $p < .001$, respectively (Table 2). Likewise, more positive perceptions of the Syrian organization and more positive attitudes towards Syrian people were associated with higher amounts donated to the Syrian organization, $r = 0.30$, 95 % CI [0.22, 0.38], $p < .001$, and $r = 0.23$, 95 % CI [0.15, 0.31], $p < .001$, respectively (Table 3). Overall, these results replicate previous findings highlighting the importance of organization perceptions and attitudes towards recipients for donations (Bekkers & Wiepking, 2011).

Exploratory analyses. In addition to our hypotheses, higher perceived need of Turkish individuals was associated with higher amounts donated to the Turkish organization, $r = 0.28$, 95 % CI [0.20, 0.36], $p < .001$ (Table 2), and, similarly, higher perceived need of Syrian individuals was associated with higher amounts donated to the Syrian organization, $r = 0.27$, 95 % CI [0.18, 0.35], $p < .001$ (Table 3). This complements previous findings showing that perceived need is associated with donations (Bekkers & Wiepking, 2011; Cheung & Chan, 2000). Finally, even though the perceived monetary value of 1.00€ was perceived to be higher in Syria compared to Turkey (see above), it was not significantly associated with amounts donated, yielding $r = -0.06$, 95 % CI [-0.14, 0.03], $p = .213$, for the Turkish organization (Table 2) and $r = -0.07$, 95 % CI [-0.16, 0.02], $p = .113$, for the Syrian organization (Table 3), respectively.

3.2.3. Context, Person, and Amount Donated

Exploratory analyses. Beyond studying the zero-order correlations of personality traits and contextual factors with donation behavior, we also explored their unique effects above and beyond each other. We were particularly interested in whether the personality traits have an incremental effect for the prediction of donation behavior above and beyond established contextual factors. Correspondingly, we ran two multiple regression analyses, one for each group of victims, entering the contextual factors perceived need, organization perception, and attitudes towards the respective victim group in the first step and personality traits in the second step. For donations to the Turkish organization: Perceived need of Turkish victims, perception of the Turkish organization, and attitudes towards Turkish people contributed significantly to the prediction in step 1, $F(3, 492) = 20.8$, $p < .001$, explaining 11 % of the variance in amount donated (Table 4). Adding all traits measured to the regression model in step 2 explained an additional 4 % of the variance and this change in R^2 was significant, $F(6, 486) = 4.05$, $p = .001$. The same pattern was apparent for donations to the Syrian organization: Perceived need of Syrian victims, Syrian organization perceptions, and attitudes towards Syrian people contributed significantly to the prediction, $F(3, 492) = 26.45$, $p < .001$, explaining 14 % of the variance in amount donated. Adding the trait measures explained an additional 6 % of the variance and this change in R^2 was again significant, $F(6, 486) = 5.88$, $p < .001$. In the final models, the predictors perceived need, organization perceptions, and honesty-humility all showed significant

Table 1
Descriptive Statistics of and Correlations Between Personality Traits and Donation Behavior.

Variable	Range	*M (SD)*	1	2	3	4	5	6	7	8
1. Amount donated	0–200	93.78 (89.78)	–	[-0.11, 07]	[0.18, 0.34]	[0.17, 0.33]	[-0.04, 0.14]	[0.05, 0.22]	[-0.30, -0.13]	[-0.36, -0.20]
2. Selectivity	0–200	15.80 (44.89)	-0.02	–	[-0.05, 0.17]	[-0.05, 0.17]	[-0.12, 0.10]	[-0.02, 0.22]	[-0.30, -0.08]	[-0.14, 0.08]
3. Honesty-humility	1–5	3.35 (0.59)	0.26***	0.06	–	[0.31, 0.46]	[0.19, 0.35]	[0.08, 0.25]	[-0.19, -0.01]	[-0.39, -0.23]
4. Empathy	1–5	3.67 (0.49)	0.25***	0.06	0.39***	–	[0.34, 0.49]	[0.30, 0.45]	[-0.33, -0.16]	[-0.46, -0.31]
5. Fairness concerns	1–5	4.05 (0.57)	0.05	-0.01	0.27***	0.42***	–	[0.08, 0.25]	[-0.15,0.03]	[-0.36, -0.19]
6. Openness	1–5	3.63 (0.64)	0.14**	0.11	0.16***	0.37***	0.17***	–	[-0.43, -0.27]	[-0.30, -0.13]
7. RWA	1–5	2.11 (0.67)	-0.22***	-0.19**	-0.10***	-0.25***	-0.06	-0.35***	–	[0.45, 0.58]
8. SDO	1–5	2.06 (0.73)	-0.28***	-0.03	-0.31***	-0.39***	-0.28***	-0.22***	0.52***	–

Note. *** $p < .001$, ** $p < .01$, * $p < .05$. SDO = social dominance orientation, RWA = right-wing authoritarianism. Values below the diagonal represent correlation coefficients (Pearson's *r*) and values above the diagonal represent 95 % CI's. All correlations with selectivity are based on $N = 312$, all other correlations are based on $N = 496$.

effects of similar magnitude on amount donated,[4] ranging between $0.12 \leq \beta \leq 18$ for amount donated to the Turkish organization and $0.13 \leq \beta \leq 0.19$ for amount donated to the Syrian organization.

3.3. Prediction of Selectivity in Donations

3.3.1. Personality and Selectivity in Donations

Confirmatory analyses (H3a, H3b, and H3c). We hypothesized that SDO and RWA will be positively related to selectivity in donations and fairness concerns will be negatively related to selectivity in donations. Unlike expected, SDO and fairness concerns showed approx. zero correlations with selectivity, $r = -0.03$, 95 % CI [-0.14, 0.08], $p = .581$, and $r = -0.01$, 95 % CI [-0.12, 0.10], $p = .876$, respectively (Table 1), and RWA showed a *negative* correlation with selectivity, $r = -0.19$, 95 % CI [-0.30, −0.08], $p = .001$. That is, higher scores on RWA were associated with being *less* selective and thus with greater equality in donations to the two organizations.

Exploratory analyses. We also inspected whether any of the other personality traits were significantly associated with selectivity, which was not the case (Table 1). Findings were essentially the same for the binary decision of willingness to donate selectively (yes/no), except for the relation between selectivity and openness, whose positive relation turned out significant (OR = 1.58, $p = .042$; see online supplement; https://osf.io/6c452).

3.3.2. Context and Selectivity in Donations

Exploratory analyses. For the contextual factors, only perceptions towards the Syrian organization showed a positive association with selectivity, $r = 0.15$, 95 % CI [0.04, 0.26], $p = .007$. Apart from that, we found no associations between contextual factors and selectivity (Tables 2 and 3). Further, as reported above, Syrian victims were perceived as more in need than Turkish victims. Thus, we explored whether the extent to which individuals perceived the two victim groups to differ in need may have influenced selectivity in donations. We operationalized difference in perceived need by subtracting perceived need of Turkish victims from perceived need of Syrian victims, representing to what extent Syrian victims were perceived as more needy than Turkish victims. Indeed, the difference in perceived need was positively correlated with selectivity, $r = 0.16$, 95 % CI [0.05, 0.26], $p = .005$. The more in need people perceived Syrian victims to be compared to Turkish victims, the more selective they were in donations.

4. Discussion

In times of urgent need, such as following a devastating natural disaster, donations can be a great channel of support for victims. On an even broader level, donations represent a prime example of human prosocial behavior, which greatly contributes to societal functioning in general. Research on the psychological determinants of donations, however, suffers from various limitations, such as the measurement of hypothetical behavior or behavioral intentions rather than *actual* behavior. Moreover, there is an overall disregard of individual differences (i.e., personality) in donation behavior. With the current study, we aimed to overcome these limitations. Using a German online sample ($N = 496$), we investigated actual donation behavior towards two distinct groups of recipients, Turkish and Syrian inhabitants, who became victims of the massive earthquake in February 2023. First, we examined the role of various theoretically-relevant personality traits for donations, alongside various established contextual factors. Second, the natural presence of two victim groups (Turkish and Syrian inhabitants) provided a unique circumstance to examine selectivity in donations, that is, whether (some) individuals favored one group of victims over the other. As such, this study integrates research on the contextual drivers of donation behavior (e.g., Chapman et al., 2021; Cheung & Chan, 2000) with research on individual differences in prosocial behavior (Thielmann et al., 2020), thereby providing novel insights into the driving forces of monetary donations.

As hypothesized, honesty-humility and empathy significantly predicted the overall amount donated. In addition to our hypotheses, we found openness, SDO, and RWA to significantly correlate with amount donated. From a theoretical perspective, these findings support the idea that, in the aftermath of a natural disaster, there is a distinct affordance to help, which prosocial people – most prominently those high in honesty-humility – take up on in particular (Columbus et al., 2019). Empathy, in turn, should foster perceiving others' need and putting oneself in the victims' shoes, whereas the negative relations of SDO and RWA to donations may be attributable to higher levels on these traits being associated with perceiving people from other countries as out-groups, given that our sample consisted of German participants. All that said, however, it should be noted that only honesty-humility remained as a significant predictor of amount donated once the influence of contextual factors (i.e., organization perceptions, attitudes towards Turkish/Syrian people, and perceived need) was taken into account. Future research is needed to examine the specific mechanisms involved in linking personality traits to donation behavior and to also assess whether the same traits account for donations in other contexts (e.g., when donating to in-group members).

Concerning our question of whether individuals donate selectively, we found that only a quarter of participants who donated something discriminated between the two groups of victims, giving one group more than the other. In turn, unlike expected, no interpretable relations emerged between any of the personality traits considered and selectivity in donations. Of note, however, the data contradicted our main underlying assumption that the two victim groups would be perceived to be in the same situation, that is, equally in need of help. Instead, Syrian victims were perceived to be in more need than Turkish victims. We

[4] Fairness concerns also emerged as a significant predictor of amount donated to the Turkish and Syrian organizations (Table 4), however due to the previously found lack of zero-order correlation with amount donated (Table 1) we disregard this finding.

Table 2
Descriptive Statistics of and Correlations Between Contextual Factors, Personality Factors and Donation Behavior for Turkey.

Variable	Range	*M* (*SD*)	1	2	3	4	5	6	7	8	9	10	11	12
1.Amount donated to Turkish organization	0–200	44.73 (46.48)	–	[-0.50, -0.32]	[0.15, 32]	[0.09, 0.26]	[0.20, 36]	[-0.14, 0.03]	[0.11, 0.28]	[0.14, 0.30]	[-0.06, 0.12]	[0.00, 0.18]	[-0.23, -0.06]	[-0.32, -0.16]
2.Selectivity	0–200	15.80 (44.89)	-0.41***	–	[-0.06, 0.17]	[-0.03, 0.19]	[-21, 01]	[-0.06, 0.16]	[-0.05, 0.17]	[-0.05, 0.17]	[-0.12, 0.10]	[-0.02, 0.22]	[-0.30, -0.08]	[-0.14, 0.08]
3.Turkish organization perceptions	1–5	3.53 (0.68)	0.24***	0.06	–	[0.23, 0.39]	[0.18, 0.34]	[0.02, 0.20]	[0.00, 0.18]	[0.14, 0.31]	[0.06, 0.23]	[0.01, 0.18]	[-0.26, -0.09]	[-0.26, -0.09]
4.Attitudes towards Turkish people	1–5	3.55 (0.92)	0.18***	0.08	0.31***	–	[0.17, 0.34]	[0.06, 0.23]	[0.04, 0.21]	[0.22, 0.38]	[0.14, 0.30]	[0.06, 0.23]	[-0.19, -0.02]	[-0.19, -0.02]
5.Perceived need of Turkish victims	1–5	4.24 (0.83)	0.28***	-0.10	0.26***	0.26***	–	[0.01, 0.19]	[0.08, 0.25]	[0.22, 0.38]	[0.08, 0.25]	[0.03, 0.20]	[-0.32, -0.15]	[-0.32, -0.15]
6.Monetary value of 1.00€ in Turkey	1–5	3.25 (1.06)	-0.06	0.05	0.11*	0.15**	0.10*	–	[-0.13, 0.05]	[-0.02, 0.15]	[0.05, 0.22]	[-0.12, 0.05]	[-0.03, 0.15]	[-0.03, 0.06]
7. Honesty-humility	1–5	3.35 (0.59)	0.20***	0.06	0.09*	0.13**	0.17**	-0.04	–	[0.31, 0.46]	[0.19, 0.35]	[0.08, 0.25]	[-0.19, -0.01]	[-0.39, -0.23]
8. Empathy	1–5	3.67 (0.49)	0.22***	0.06	0.22**	0.30***	0.30***	0.07	0.39***	–	[0.34, 0.49]	[0.30, 0.45]	[-0.33, -0.16]	[-0.46, -0.31]
9. Fairness concerns	1–5	4.05 (0.57)	0.03	-0.01	0.15**	0.23***	0.16***	0.14**	0.27***	0.42***	–	[0.08, 0.25]	[-0.15,0.03]	[-0.36, -0.19]
10. Openness	1–5	3.63 (0.64)	0.09*	0.11	0.09*	0.14**	0.12**	-0.04	0.16***	0.37***	0.17***	–	[-0.43, -0.27]	[-0.30, -0.13]
11. RWA	1–5	2.11 (0.67)	-0.15**	-0.19**	-0.17**	-0.10*	-0.24***	0.06	-0.10*	-0.25***	-0.06	-0.35***	–	[0.45, 0.58]
12. SDO	1–5	2.06 (0.73)	-0.24***	-0.03	-0.24**	-0.26***	-0.34***	-0.01	-0.31***	-0.39***	-0.28***	-0.22***	0.52***	–

Note. *** $p < .001$, ** $p < .01$, * $p < .05$. Values below the diagonal represent correlation coefficients (Pearson's *r*); values above the diagonal represent 95 % CI's. All correlations with selectivity are based on $N = 312$, all other correlations are based on $N = 496$.

Table 3
Descriptive Statistics of and Correlations Between Contextual Factors, Personality Factors and Donation Behavior for Syria.

Variable	Range	*M* (*SD*)	1	2	3	4	5	6	7	8	9	10	11	12
1. Amount donated to Syrian organization	0–200	55.92 (53.92)	–	[0.45, 0.61]	[0.22, 0.38]	[0.15, 0.31]	[0.18, 0.35]	[-16, 0.02]	[0.17, 0.34]	[0.14, 0.31]	[-0.03, 0.15]	[0.06, 0.23]	[-0.32, -0.15]	[-0.34, -0.17]
2. Selectivity	0–200	15.80 (44.89)	0.54***	–	[0.04, 0.26]	[-0.02, 0.20]	[-0.06, 0.16]	[0.01, 0.23]	[-0.05, 0.17]	[-0.05, 0.17]	[-0.12, 0.10]	[-0.02, 0.22]	[-0.30, -0.08]	[-0.14, 0.08]
3. Syrian organization perceptions	1–5	3.53 (0.66)	0.30***	0.15**	–	[0.25, 0.40]	[0.16, 0.32]	[0.01, 0.18]	[0.02, 0.19]	[0.15, 0.31]	[0.02, 0.20]	[0.03, 0.21]	[-0.31, -0.14]	[-0.32, -0.15]
4. Attitudes towards Syrian people	1–5	3.50 (0.92)	0.23***	0.09	0.33***	–	[0.19, 0.36]	[0.05, 0.23]	[0.06, 0.23]	[0.22, 0.38]	[0.13, 0.30]	[0.08, 0.25]	[-0.28, -0.11]	[-0.36, -0.20]
5. Perceived need of Syrian victims	1–5	4.58 (0.71)	0.27***	0.05	0.24***	0.28***	–	[0.08, 0.25]	[0.08, 0.25]	[0.20, 0.36]	[0.14, 0.30]	[0.05, 0.23]	[-0.36, -0.20]	[-0.43, -0.28]
6. Monetary value of 1.00€ in Syria	1–5	3.75 (1.18)	-0.07	0.12*	0.10*	0.14**	0.17***	–	[-0.14, 0.04]	[-0.07, 0.11]	[0.07, 0.24]	[-0.12, 0.06]	[-0.05, 0.13]	[-0.11, 0.06]
7. Honesty-humility	1–5	3.35 (0.59)	0.26***	0.06	0.10*	0.14**	0.17***	-0.05	–	[0.31, 0.46]	[0.19, 0.35]	[0.08, 0.25]	[-0.19, -0.01]	[-0.39, -0.23]
8. Empathy	1–5	3.67 (0.49)	0.23***	0.06	0.23***	0.30***	0.28***	0.02	0.39***	–	[0.34, 0.49]	[0.30, 0.45]	[-0.33, -0.16]	[-0.46, -0.31]
9. Fairness concerns	1–5	4.05 (0.57)	0.06	-0.01	0.11*	0.22***	0.22***	0.16***	0.27***	0.42***	–	[0.08, 0.25]	[-0.15,0.03]	[-0.36, -0.19]
10. Openness	1–5	3.63 (0.64)	0.15**	0.11	0.12**	0.17***	0.14*	-0.03	0.16***	0.37***	0.17***	–	[-0.43, -0.27]	[-0.30, -0.13]
11. RWA	1–5	2.11 (0.67)	-0.24***	-0.19**	-0.22***	-0.19***	-0.28***	0.04	-0.10*	-0.25***	-0.06	-0.35***	–	[0.45, 0.58]
12. SDO	1–5	2.06 (0.73)	-0.26***	-0.03	-0.24***	-0.28***	-0.36***	-0.02	-0.31***	-0.39***	-0.28***	-0.22***	0.52***	–

Note. *** $p < .001$, ** $p < .01$, * $p < .05$. Values below the diagonal represent correlation coefficients (Pearson's *r*); values above the diagonal represent 95 % CI's. All correlations with selectivity are based on $N = 312$, all other correlations are based on $N = 496$.

Table 4
Multiple Regression with Contextual Factors in Step 1 and Personality in Step 2 Predicting Donation Behavior for Turkey and Syria.

	Amount donated to Turkey								Amount donated to Syria							
Predictors	R^2	ΔR^2	*B*	*SE (B)*	β	*95 % CI*	*F*	*p*	R^2	ΔR^2	*B*	*SE (B)*	β	*95 % CI*	*F*	*p*
Step 1	**0.11**						**20.8**	**<0.001**	**0.14**						**26.5**	**<0.001**
Perceived need			12.67	2.52	0.23*	[0.14, 0.31]					13.93	3.37	0.18*	[0.10, 0.27]		
Attitudes			3.57	2.30	0.07	[-0.02, 0.16]					6.37	2.67	0.11*	[0.02, 0.20]		
Organization perceptions			10.49	3.12	0.15*	[0.06, 0.24]					18.08	3.70	0.22*	[0.13, 0.31]		
Step 2	**0.16**	**0.04**					**4.1**	**0.001**	**0.20**	**0.06**					**5.9**	**<0.001**
Perceived need			9.82	2.62	0.18*	[0.08, 0.27]					9.98	3.47	0.13*	[0.04, 0.22]		
Attitudes			2.50	2.34	0.05	[-0.04, 0.14]					4.67	2.68	0.08	[-0.01, 0.17]		
Organization perceptions			9.39	3.10	0.14*	[0.05, 0.23]					15.63	3.65	0.19*	[0.10, 0.28]		
Honesty-humility			9.58	3.68	0.12*	[0.03, 0.21]					17.16	4.16	0.19*	[0.10, 0.28]		
Empathy			8.67	5.07	0.09	[-0.01, 0.20]					4.97	5.69	0.05	[-0.06, 0.15]		
Fairness concerns			−10.45	3.86	-0.13*	[-0.22, -0.04]					−8.78	4.38	-0.09*	[-0.19, -<0.01]		
Openness			-0.18	3.45	<. 01	[-0.10, 0.10]					1.85	3.90	0.02	[-0.07, 0.11]		
RWA			0.12	3.60	<. 01	[-0.10, 0.10]					−7.17	4.09	-0.09	[-0.19, 0.01]		
SDO			−6.38	3.52	-0.10	[-0.21, 0.01]					−3.02	3.96	-0.04	[-0.15, 0.06]		

Note. * p <.05. SDO = social dominance orientation, RWA = right-wing authoritarianism. R^2 = proportion of variance explained in amount donated, ΔR^2 = incremental proportion of variance explained in amount donated, *B* = unstandardized regression coefficient, *SE (B)* = standard error of regression coefficient, β = standardized regression coefficient, *95 % CI* = 95 % confidence intervals for standardized regression coefficients.

speculate that these differences can be explained by the fact that Turkish victims had already received more global attention and aid at the time the study was conducted (Sky News, 2023). By implication, the type of selectivity observed in our study is arguably attributable to the particular context (i.e., differences in perceived need), rather than to stable personality factors of the recipients. Supporting this reasoning, the extent to which individuals perceived Syrian victims to be in greater need of help than Turkish victims was associated with more selectivity in donations favoring Syrian victims. These findings align with previous research showing that individuals donate the most to projects benefitting groups and regions perceived to be most vulnerable and poor (Bachke et al., 2014).

Another point worth mentioning concerns the observed low prevalence of selectivity, that is, the high tendency to treat victims in a fair, non-selective manner. On the one hand, considering the different histories of Turkish and Syrian migrants in Germany, one may have come up with the hypothesis that the two groups should be perceived and donated to differently. Turkish individuals, the 'oldcomers', came to Germany as 'guest workers' more than 50 years ago (Davies, 2023), whereas Syrian individuals, the 'newcomers', came to seek refuge from war primarily since 2014 (Bundesamt für Migration und Flüchtlinge, 2016). Thus, considering that Turkish people have been in Germany for much longer than Syrian people, one may have expected more positive attitudes towards and selectivity in donations in favor of Turkish individuals. In contrast, considering the reasons for immigration (i.e., labour/economy among Turkish people vs. war among Syrian people), one may have expected the opposite pattern. Indeed, evidence suggests that war refugees in general, and Syrian refugees in particular, are rated higher on warmth (e.g., good-natured, likable) compared to economic refugees (Kotzur et al., 2017, 2019). On the other hand, Turkish and Syrian individuals are both out-groups to German individuals; thus, it was also conceivable that donors will not favor one of the two victim groups over the other. In line with this reasoning, prior research reported that German participants rated Turkish immigrants similarly on warmth compared to groups that migrated more recently, including Syrian immigrants (Froehlich & Schulte, 2019). Our findings are compatible with these latter findings, suggesting that Germans hold similar attitudes towards both Turkish and Syrian individuals and, therefore, treated both out-groups in similar ways. To back this interpretation further, future research may compare donations to in-group versus out-group victims of the same misfortune to assess whether selectivity increases under such circumstances.

Relatedly, another important point is that the procedure and findings of this study are specific to the earthquake context in Turkey and Syria. Therefore, our findings may not generalize to donation behavior in other causes (e.g., pro-environmental causes) where immediate need may be less salient. That said, to the best of our knowledge, our study provides the first evidence about how individuals donate to different out-group victims of the same adversity, showing that discrimination is lower than what is found in prior work comparing donation intentions to in-group vs. out-group causes (Micklewright & Schnepf, 2009; Robson & Hart, 2021).

Admittedly, a potential limitation of our study is that the donation behavior observed may not directly transfer to donations in real life. That said, Wang and Navarro-Martinez (2023) recently reported a considerable increase in lab–field correlations as more and more context was introduced into lab experiments. Given that our paradigm involved many contextual elements (e.g., a real-life natural disaster, information about the victims and charitable organizations) and real, monetary outcomes, the observed behavior should arguably be closer to real-life decisions than what is reported in other hypothetical and/or context-free studies. Nonetheless, future research may study actual donation behavior 'in the wild' and also consider more than just two charity organization that people can donate to. Another limitation pertains to the possibility that some participants may have already donated to the earthquake victims before participating in the study and may, therefore,

have been reluctant to do so again. However, this would have only worked against us by reducing effect sizes because individuals donating voluntarily should, for example, arguably be the ones scoring high on honesty-humility. Nonetheless, future research would benefit from assessing prior donations to the same cause, even though such an assessment would again be limited to self-reports.

To conclude, donations are a prime expression of human prosociality offering several positive outcomes, such as contributing to the well-being of others and supporting humanitarian aid following ecological calamities. Thus, it is important to understand who donates, when, and why. The current study highlights the role of personality traits, primarily honesty-humility, in explaining donation behavior. We show that honesty-humility can account for actual donations to victims of a real-life natural disaster, in isolation and above and beyond established contextual drivers of donations. Moreover, in a context with two victim groups, we observe that individuals can be both fair and selective in their donations, with most donating equally to both victim groups and some favoring one over the other based on perceived need. As such, the current study is the first to bridge the gap between the personality and (contextual) donation literature, offering novel insights into the correlates of donation behavior in the context of a real natural disaster.

5. Open Practices

The study was pre-registered (https://osf.io/c73k6/) and all materials, data, analyses, and supplementary materials are available on the Open Science Framework (https://osf.io/sjb9c/).

Funding

This research was funded by a grant to the second author from the German Research Foundation (TH-2318/3–1).

CRediT authorship contribution statement

Büsra Elif Yelbuz: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Writing – original draft. **Isabel Thielmann:** Conceptualization, Funding acquisition, Methodology, Supervision, Writing – review & editing.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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