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Passing the buck to the wealth*ier*: Reference-dependent standards of generosity☆

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ABSTRACT

Who is expected to donate to charity, and how much should they give? Intuitively, the less financially constrained someone is the more they should give. How then do people evaluate who is constrained and who has money to spare? We argue that perceptions of spare money are reference-dependent with respect to one's current self: those who earn more than oneself are perceived as having an abundance of spare money and thus as ethically obligated to donate. However, those higher earners themselves report having little to spare, and thus apply lower donation standards to themselves. Moreover, a meta-analysis of our file-drawer reveals an asymmetry: individuals overestimate the spare money of higher earners but estimate the scant spare money of lower earners more accurately. Across all incomes assessed, people "pass the buck" to wealthier others (or to their future wealthier selves), who in turn, "pass the buck" to even wealthier others.

1. Introduction

How much money do people think they and others should donate to charity? Existing research typically examines how various contextual factors can motivate or discourage giving in specific, isolated instances (for summaries, see Bekkers & Wiepking, 2011; Slovic, 2007; Small & Cryder, 2016). In contrast, little research has examined judgments about how much different individuals ought to sacrifice in order to help others (cf. LaBarge & Stintson, 2014; Piff, Kraus, Côté, Cheng, & Keltner, 2010; Sussman, Sharma, & Alter, 2015).

This paper investigates individuals' subjective ethical standards of giving for oneself and others across income levels. We expect that people generally agree that the more one earns, the more money they can spare, and therefore the more they ought to donate to charity. This intuition is consistent with the basic principle of diminishing marginal utility from income: gaining (or giving up) an additional dollar matters very little to a rich person, but can dramatically impact the life of a poor person. Poor people who are already struggling to meet their own basic needs cannot help others without substantial self-sacrifice. Meanwhile, the rich can easily afford to give to others without sacrificing nearly as much.

However, subjective assessments of financial well-being often differ markedly from objective reality. One survey found that only 31% of American millionaires consider themselves to be wealthy (UBS Investor Watch, 2013). Other surveys have found similar results for even richer individuals: only 36% of those with $5 million in assets consider themselves "financially secure" (Schervish & Havens, 2001), and only 21% of households with $50 million in assets consider themselves to be "extremely financially secure" (Rooney & Frederick, 2007). In contrast, ethicists have argued that even ordinary individuals in the developed world are quite wealthy by global standards, and thus able to donate a sizable portion of their income without significant self-sacrifice (Singer, 1979, 2009, 2015; MacAskill, 2015). For instance, an individual earning $50,000 in the US ranks within the top 1.5% of income earners

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worldwide, even after accounting for differences in purchasing power.[1]

In this paper, we examine how an individual's own income affects the subjective standards of generosity they apply to themselves and to others. Specifically, we ask people to report how much they believe someone with a specified income should donate to charity each year, and find strong evidence that these evaluations are reference-dependent with respect to the self. Subjective ethical standards of giving not only depend on the target's absolute income, but also on the *evaluator's own income*, and, specifically, on how much more or less the evaluator earns relative to that target. While the principle of diminishing marginal utility is consistent with the basic notion that higher earners should give more than lower earners (because it is less painful for them to do so), it in no way suggests that people's judgments of how much is appropriate to give at each income level should depend on their *own* financial situation. We find that, holding a target's income constant, the less an evaluator earns relative to that target, the more money they believe that target ought to donate to charity.

We further find that subjective giving standards are driven in part by erroneous perceptions of how earning more income generates additional spare money, or financial slack (Zauberman & Lynch, 2005). Though people often feel financially constrained and report having little spare money in the present, they expect that earning a higher income will considerably ease their financial constraints, creating an abundance of spare money. Accordingly, they believe that higher-earning others can easily donate to charity without experiencing significant self-sacrifice. In contrast, higher earners themselves report having much less spare money than lower earners expect, and consequently, believe they should donate much less.

In the following section, we further explain why an individual's own income is likely to affect how they perceive others' finances, and why these perceptions might affect the standards of charitable giving they apply to others.

2. Income, spare money & subjective standards of giving

Past research points to a number of reasons why people's own income might influence how they evaluate the standards of giving applied to others across the income distribution. For one, people might fail to appreciate that they and others hedonically adapt to changes in income (Frederick & Loewenstein, 1999; Kahneman, Krueger, Schkade, Schwarz, & Stone, 2006). The notion that increases in income and other positive life circumstances tend to produce only short-term gains in well-being is referred to as the "hedonic treadmill" (Brickman & Campbell, 1971; Deiner, Lucas & Scollon, 2006). Earning more money allows people to spend more on goods and services, and these additional expenditures are initially pleasurable. However, people often adjust quickly to this increased standard of living. Not only does the pleasure from making these new purchases soon fade, but forgoing these new expenditures is soon reconstrued as a painful loss as well (Kahneman, Knetsch, & Thaler, 1991).

Failing to account for adjustment to living standards as incomes grow may distort how people assess others' available financial resources. For most people, charitable donations are discretionary expenses that are considered only after their own essential needs have been met. A poorer individual, struggling to make ends meet, might feel little ethical obligation to donate (cf. Sharma, Mazar, Alter, & Ariely, 2014), but is likely to characterize a richer person as spending a great deal of their income on nonessentials that could otherwise easily be donated to charity. In contrast, a richer person who is accustomed to their lifestyle may construe the same expenditures as necessities that are far too painful to forgo. That richer person may, in turn, regard even richer others in a similar fashion. Hence, people across income levels may maintain the belief that they are justified in giving little because they have little to spare, while believing that higher earners could easily donate the money they spend in seemingly extravagant ways. In other words, individuals across incomes feel obligated to donate significantly less money than poorer individuals believe they ought to give.

Over and above how people construe expenditures, they may also misjudge how earning more income will affect their overall spending levels. People often fail to anticipate that they will succumb to temptations to spend (Loewenstein, 1996; Peetz & Buehler, 2009) or incur unexpected expenses in the future (Sussman and Alter, 2012). Even when people believe that their expenses will increase, they often underestimate the extent to which these increased expenses will deplete their spare money (Berman, Tran, Lynch, & Zauberman, 2016). This tendency to under-account for increased future expenses appears to be driven by an inability to properly anticipate the tradeoffs associated with budgeting. For instance, "tightwad" individuals who naturally attend to opportunity costs do a better job of accounting for their future expenses than "spendthrifts" who are less attentive to opportunity costs (Berman et al., 2016; Frederick, Novemsky, Wang, Dhar, & Nowlis, 2009). And those who actively calculate future tradeoffs by planning for the long term have better credit ratings than those who rely on intuitions to guide their finances (Lynch, Netemeyer, Spiller, & Zammit, 2009).

Together, these findings suggest that people will systematically overestimate the relationship between higher income (relative to one's own income) and the availability of spare money, expecting higher earners to have more spare money than they actually report having. Whereas past research shows that people erroneously overestimate the extent to which increases in income will make them happier (Kahneman et al., 2006), we predict that people will also erroneously overestimate the extent to which increases in income will increase the spare money available to them.

We additionally expect that these misperceptions of spare money will increase with bigger income differences between oneself and a target individual. Thus, the less someone earns relative to a target, the more they will overestimate the spare money that target has available, and the more they will believe that target is ethically obligated to donate to charity.

Lastly, in addition to overestimating the spare money of others with a higher income, we expect these results to hold even when individuals imagine how their *own* spare money would change if their income increased. That is, we expect that people will overestimate the relationship between increases in income and spare money regardless of whether they evaluate themselves in the future or others who earn more than they do in the present.

The above hypotheses focus on how individuals make upward financial evaluations, or assess the spare money and giving standards of higher-earning individuals. However, our predictions are less clear regarding whether individuals will over- or under-estimate the spare money of lower earners, and the nature of downward evaluations is thus an empirical question. On the one hand, people may fail to appreciate that lower earners are accustomed to spending less and underestimate how much spare money they have. On the other hand, it is also possible that people fail to realize that lower earners also succumb to temptations to spend, and thus believe they have more spare money than they actually do.

In our studies, we find that individuals slightly underestimate the spare money of lower-earning others. Moreover, we find evidence of an asymmetry in upwards versus downwards evaluations of others: a meta-analysis of our entire file-drawer shows that relative income differences are more pronounced in judgments of individuals who earn more than oneself than in judgments of individuals who earn less than oneself. In other words, individuals overestimate the spare financial resources of higher earners to a greater extent than they underestimate the spare

[1] See https://www.givingwhatwecan.org/get-involved/how-rich-am-i/ and https://politicalcalculations.blogspot.com/2016/10/what-is-your-world-income-percentile.html

financial resources of lower earners. Importantly, these judgments produce a corresponding asymmetry in judged standards of charitable giving.

In sum, we find that across all the income levels assessed, individuals believe that they themselves, as well as lower earners, are largely excused from obligations to donate to charity, but that higher earners should donate significantly more than higher earners themselves feel they should. Thus, regardless of how much they currently earn, individuals consistently "pass the buck" to higher-earning others (or their own higher-earning future selves), who in turn "pass the buck" to even higher-earning others.

3. Overview of studies

We test these predictions in four studies and a meta-analysis of our file-drawer. Study 1a investigates whether individuals earning less than $50,000 believe that they would have much more spare money and therefore should donate more to charity than what those currently earning this target amount evaluate for themselves. Study 1b then investigates whether these judgments hold when making evaluations of others rather than an imagined future self. Study 2 examines whether these effects are robust across a wide range of target incomes. Study 3 further tests the psychological process, examining whether subjective ethical standards of giving are directly influenced by perceptions of spare money itself, above and beyond differences in income. Finally, we present a meta-analysis of our file drawer (15 studies, N = 7163) to investigate the robustness of these effects and examine whether evaluations of higher earners differ systematically from evaluations of lower earners.

In all studies, sample sizes were determined in advance. No conditions or participants were dropped from any analysis performed. All measures assessed that are not reported can be found in the supporting materials. Data files can be found online at (https://osf.io/s5vdf/).

4. Study 1A & 1B

In Study 1a, participants were asked to imagine what their lives would be like if they earned $50,000 a year, while Study 1b asks participants to imagine a similar other earning $50,000 a year. We expected that the less that participants currently earn, relative to $50,000, the more they would believe that earning this amount affords someone greater spare money, and the more they believe that someone earning this amount should donate to charity.

4.1. Study 1a - method

Participants (Mechanical Turk, N = 505; Mean age = 32.5, 39% female; 61% male; Median Household Income = $45,000) were asked to imagine what their life would be like if their combined household income was $50,000 per year. They then were asked to consider "what you feel would be the appropriate amount of money you think that you should donate to charity if you earned this amount. This number should reflect what you think is morally appropriate given that your household income is $50,000 per year." Responses were given in dollars, which we log transformed (ln + 1) to account for skewness in the data. Participants then evaluated the likelihood that they would be able to make a one-time payment of $2000 without having to dip into their retirement fund, borrow money, or charge it to a credit card, if their household income was $50,000 a year (on a scale ranging from 1 = "extremely unlikely" to 11 = "extremely likely"). This served as our measure of estimated spare money (Berman et al., 2016; Lusardi, Schneider, & Tufano, 2011).

At the end of the survey, participants reported how much they donated to charity in the previous year in dollars (Median = $100; Mean = $539, SD = $1677), and estimated their own ability to make a one-time payment of $2000 on a scale ranging from 1 = extremely unlikely to 11 = extremely likely (M = 5.41, SD = 3.83).

4.2. Study 1a - results

Subjective Giving Standards: A univariate linear regression with participant income predicting subjective giving standards shows that the less a respondent earns, the more they believe they should donate if they earned $50,000 a year ($\beta = -0.19$, $SE = 0.03$), $t(503) = -5.70$, $p < .001$. Fig. 1 displays these results.

One may wonder if the reason why poorer people expect to donate more than richer people is that they currently donate a greater proportion of their income to charity, and expect that they would donate the same proportion of their income if they earned $50,000 a year. To address this possibility, we examined if our findings can be explained

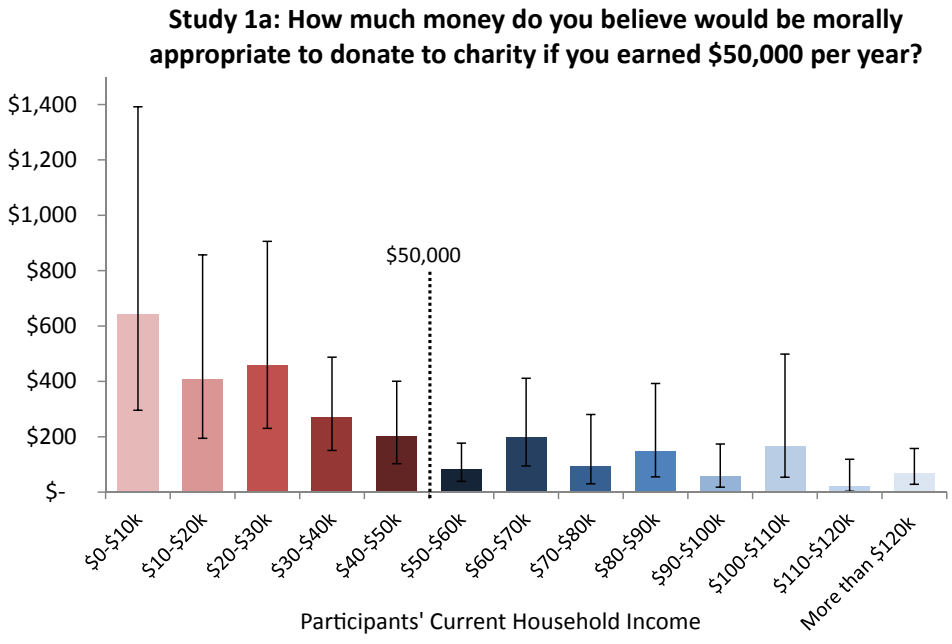

Fig. 1. Relationship between participants' income and their judgments of how much they believe they should donate to charity with a household income of $50,000 per year. Blue bars correspond to those who earn more than $50,000 and red bars correspond to those who earn less than $50,000. Mean values and 95% confidence intervals for each income bracket are computed on the log transformed dollar amounts (ln + 1), are then transformed back into dollar amounts for ease of interpretation. (For interpretation of the references to colour in this figure legend, the reader is referred to the web version of this article.)

Table 1
Robustness Checks, Study 1a.

	Ln (Giving Standards + 1)				Spare Money	
	I	II	III	IV	V	VI
Intercept	6.31***	6.05***	4.69***	5.06***	8.68***	7.62***
	(0.21)	(0.21)	(0.66)	(0.65)	(0.25)	(0.83)
Income ($10,000 s)	−0.19***	−0.20***	−0.23***	−0.22***	−0.37***	−0.36***
	(0.03)	(0.03)	(0.04)	(0.04)	(0.04)	(0.05)
Age			−0.02	−0.01		0.02
			(0.01)	(0.01)		(0.02)
Gender			−0.06	0.04		−0.58†
(0 = Male, 1 = Female)			(0.24)	(0.24)		(0.30)
Marital Status			−0.06	−0.09		−0.49
(0 = Single, 1 = Married)			(0.29)	(0.29)		(0.36)
Number of children			0.11	0.16		−0.19
			(0.13)	(0.13)		(0.16)
Education			0.53***	0.43*		0.24
			(0.18)	(0.18)		(0.23)
Political conservatism			−0.11	−0.15†		0.01
			(0.08)	(0.08)		(0.10)
Religiosity			0.25***	0.22**		0.03
			(0.07)	(0.07)		(0.09)
Tithing			1.29**	0.51		1.03
(0 = No, 1 = Yes)			(0.45)	(0.48)		(0.61)
Participants' Donation Rate (% of household income)		28.88***		21.89***		−9.07
		(4.17)		(4.75)		(6.00)
R-Squared	0.06	0.14	0.15	0.19	0.15	0.17

Regression coefficient and standard errors. The relationship between participant income (row 2) and both subjective giving standards and expected spare money are robust to a wide range of control variables, including past self-report donation rates. †p < .10, * p < .05, ** p < .01, *** p < .001.

by differential donation rates (as a percentage of income) among the rich versus the poor. On average, our participants reported donating 0.93% (SD = 2.6%) of their income to charity in the past year, and self-reported donations to charity were not significantly correlated with income (r = 0.05, p = .26). Controlling for individual donation rates does not affect the relationship between participant income and subjective giving standards (β = −0.20, SE = 0.03), $t(502) = -6.13$, $p < .001$. Table 1 presents these results in full, along with demographic covariates. In subsequent studies, all of our results remain highly robust to the inclusion of demographic covariates, including past donation rates. See supporting materials for details.

Estimated Spare Money: We repeated the above univariate linear regression analysis with spare money as the dependent variable. Results show that a participant's current income negatively predicted their estimated ability to make a one-time payment of $2000 if they earned $50,000 a year (β = −0.37, SE = 0.04), t(504) = −9.31, $p < .001$. Fig. 2 displays these results, and Table 1 presents results controlling for demographic variables.

Thus, the less participants earn relative to $50,000, the more spare money they expect to have and the more they believe they should donate to charity if they earned this amount.

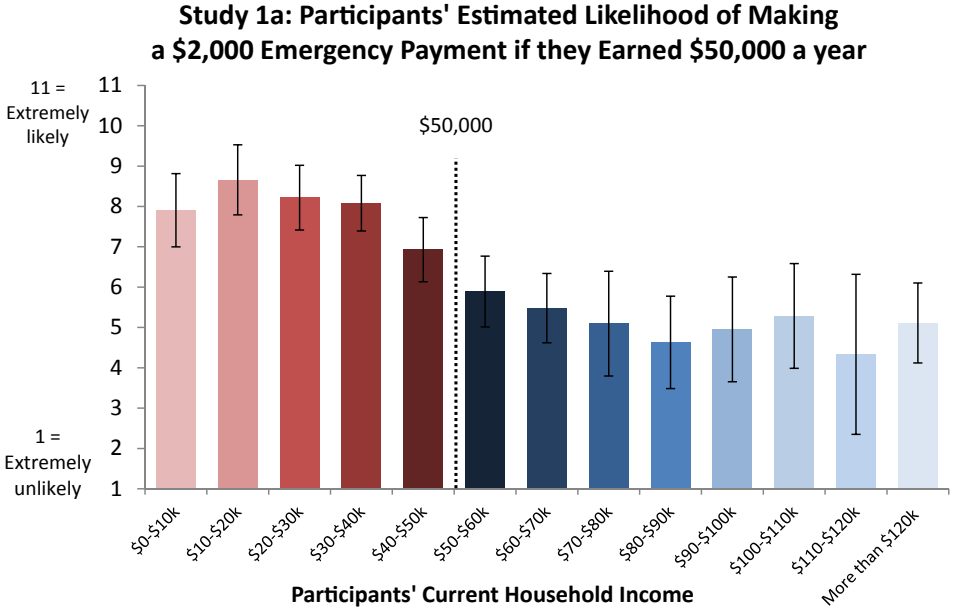

Fig. 2. Relationship between participants' income and their judgments of how much spare money they would have if they earned $50,000. Blue bars correspond to participants earn more than the target income ($50,000) and red bars correspond to those who earn less than the target. Error bars correspond to 95% confidence intervals. (For interpretation of the references to colour in this figure legend, the reader is referred to the web version of this article.)

4.3. Study 1b - methods

In Study 1b (Mechanical Turk, N = 1002; Median Household Income = $45,000), we test whether this relationship holds when people evaluate others. At the beginning of the survey, participants reported their age (M = 34.2, SD = 11.2), gender (45% female), marital status (33% single, 67% married), and number of children (M = 0.74, SD = 1.21). Participants then imagined a target individual who had similar demographic characteristics as themselves. For example, a participant who reported that he is a single male, 36 years old, and has no children, was asked to imagine a target that is a 36-year-old single male with no children.

All participants were told that the target individual's household income was $50,000 per year. They then provided evaluations of how much they believed that this person should donate to charity each year, which was measured as a percentage of total income in this study (as opposed to the dollar amount measure used in Study 1a). Participants also evaluated the target's estimated spare money in the same manner as Study 1a.

4.4. Study 1b - results

Consistent with our previous results, participants' current income was a significant negative predictor of subjective giving standards ($\beta = -0.30$, $SE = 0.10$, $t(1000) = -2.93$, $p = .003$), and estimated spare money ($\beta = -0.34$, $SE = 0.03$, $t(1000) = -12.41$, $p < .001$).

5. Discussion

Together, Study 1a and 1b show that an individual's household income predicts how they evaluate the finances of those earning $50,000 a year, whether evaluating themselves or others. The less someone presently earns, the more they believe that earning $50,000 results in additional spare money, and the more they believe that a person earning $50,000 should donate to charity. In Study 2 we test the robustness of these results by examining a wider range of target incomes.

6. Study 2

In Study 2, we make a number of changes to test the robustness of our findings. As in Study 1b, we again ask participants to evaluate giving standards and spare money of a similar other. However, in the present study, we ask participants to assess multiple target individuals with different incomes in order to see whether our results hold across a range of target income levels. In addition, we utilize a stratified sampling plan to obtain enough participants across within each income level bracket assessed. Consistent with Study 1a & 1b, we expect that the less participants earn relative to each target individual, the more spare money they will believe the target has, and the more they will believe the target should feel obliged to donate to charity. This study design and analysis plan was pre-registered with the OSF (https://osf.io/2hfjk/).

6.1. Methods

We recruited 1022 participants via an online panel. Specifically, we sampled an equal number of participants in each of the following income brackets: $0 to $10,000; $10,000 to $30,000; $30,000 to $50,000; $50,000 to $70,000; $70,000 to $90,000; $90,000 to $110,000; over $110,000. Within each income bracket, we sampled an equal number of participants in two age groups, one between the ages 18 to 40 (Mean Age = 30) and the other between the ages 41 to 65 (Mean Age = 52).

As in Study 1b, participants in this study first reported their age, gender (80% female; 20% male), marital status (58% single, 42% married), and number of children (M = 1.59, SD = 1.42), were again to imagine a target individual with demographic characteristics similar to their own. However, in this study, we presented each participant with five such target individuals on separate pages, each with a different income level: $20,000, $40,000, $60,000, $80,000, or $100,000 per year. For each of the five targets, participants reported the percentage of household income that individual should donate to charity each year, which served as our measure of subjective ethical standards of charitable giving. The presentation order of the target individuals was displayed in either ascending order (lowest to highest income) or descending order (highest or lowest income) and counterbalanced across participants. Participants then repeated this process for our measure of spare money, again evaluating the five target individuals on separate pages in the same order as the subjective giving standards measure they completed.

6.2. Results

Subjective Giving Standards: To examine how a participant's income relative to the target predicts subjective giving standards, we first created a measure of relative income using the difference between how much each participant, i, earns relative to each target individual, j. Fig. 3 plots the relationship between a participant's relative income to each target and how much they believe that a given target should donate to charity.

We then conducted the following mixed model linear analysis, including Participant ID as a random effect, Relative Income (centered at 0) as a continuous fixed effect, and Target Income and Presentation Order as categorical fixed effects.

$$\begin{aligned}\text{Giving Standards}_{ij} = {} & \text{ParticipantID}_i + \text{RelativeIncome}_{ij} + \text{TargetIncome}_j \\ & + (\text{RelativeIncome}_{ij} \text{ X } \text{TargetIncome}_j) + \text{PresentationOrder}_i \\ & + \varepsilon_{ij} \end{aligned} \quad (1)$$

We estimated the model in Eq. (1) and evaluated the simple effect of relative income at each level of target income. Table 2 displays these results.

The coefficient for relative income is significant for each target income evaluated: a participant's current income consistently affects how much they believe each target should donate to charity. Moreover, the coefficient is negative across the entire range of target individuals: the less participants earn relative to a target, the more they believe that target should donate to charity, and the more participants earn relative to a target, the less they believe that target should donate. Together, these results confirm our pre-registered hypothesis.

Note that the effect size of relative income on subjective giving standards is larger when evaluating high-income targets (e.g., those earning $100,000) compared to low-income targets (e.g., those earning $20,000). This suggests that individuals are particularly sensitive to relative income when making upward evaluations of higher earners compared to when making downward comparisons of lower earners. We investigate this asymmetry further in the meta-analysis reported below.

Estimated Spare Money: We computed the same model listed in Eq. (1), replacing the DV with the measure of estimated spare money. Results are displayed in Table 2. Across all target incomes, the effect of relative income is significant and negative: the less (more) that participants earn relative to a target, the more (less) likely they are to believe that target individual is capable of making a one-time payment of $2,000. These results again support our pre-registered hypothesis.

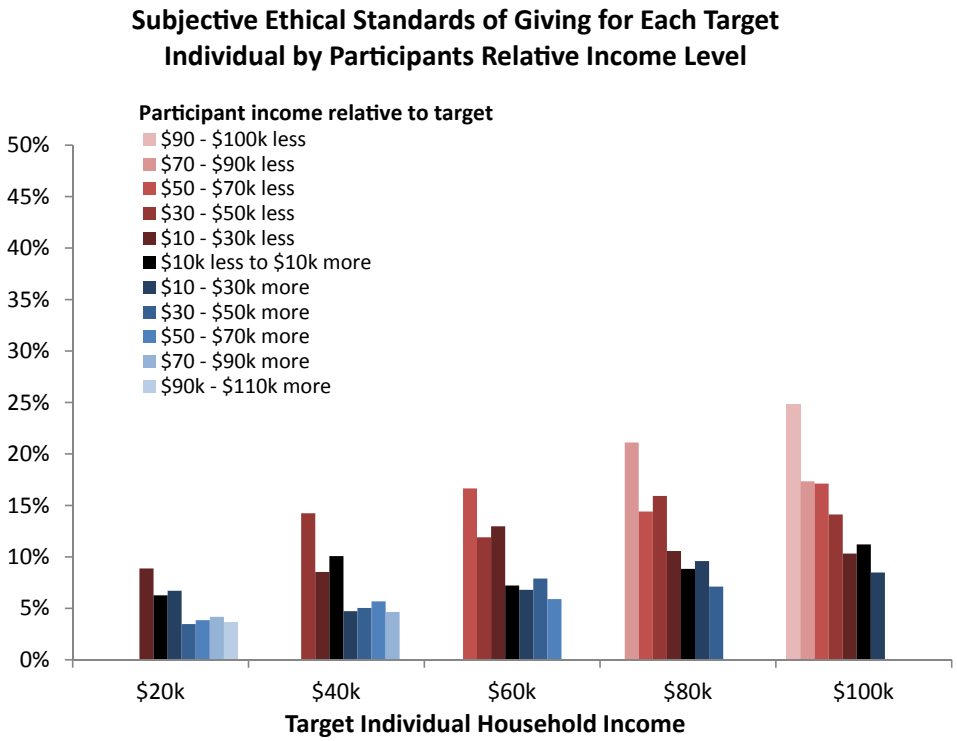

Fig. 3. Model free means relating how much participants believe that others should donate to charity as a function of their relative income to the target individual. The bars identify participants' income relative to each of the five target individuals. Subjective giving standards are measured as a percent of target's income. For presentation purposes, relative income is grouped in $20,000 increments.

Table 2
The effect of participant's relative income on their judgments of how much a given target individual should donate to charity (as a percent of the target's total household income) and how much spare money they expect the target income to have. Relative income is measured in units of $10,000.

	Subjective Giving Standards			Estimated Spare Money		
Target Income	$\beta_{RelativeIncome}$	S.E.	*t*	$\beta_{RelativeIncome}$	S.E.	*t*
$20,000	−0.39%	0.12	−3.22**	−0.09	0.02	−4.41***
$40,000	−0.69%	0.12	−5.72***	−0.14	0.02	−6.66***
$60,000	−0.81%	0.12	−6.78***	−0.14	0.02	−6.67***
$80,000	−1.04%	0.12	−8.64***	−0.09	0.02	−4.35***
$100,000	−1.20%	0.12	−10.00***	−0.06	0.02	−2.72**

7. Study 3

The studies thus far show a concordance between perceptions of spare money and subjective ethical standards of giving. The present study assesses whether the manner in which people allocate their income casually affects perceived spare money and judged giving standards. One reason people overestimate the effects of earning a higher income is that they change the way they think about their finances as soon as they earmark money for a specific purpose (Thaler, 1985). Earmarking often acts as a pre-commitment device that individuals are reluctant to violate (Heath & Soll, 1996; Shefrin & Thaler, 1988), even when doing so could be financially advantageous (Sussman & O'Brien, 2016).

In this study, we examine how earmarking affects perceived spare money and subjective giving standards. We expect that putting aside money for a specific purpose will decrease perceptions of spare money even when that purpose is a long-term savings goal. In contrast, we expect that money that is saved with no explicit purpose in mind will be encoded as spare money. Though in both cases the same amount of money is being saved rather than spent, we expect that earmarking will decrease subjective perceptions of spare money, compared to saving with no defined goal in mind. More importantly, we expect that any perceived differences in spare money would in turn influence giving standards. That is, holding income and expenditures constant, individuals who save with a specific goal in mind will be perceived as having less spare money, and less obligated to donate to charity than those who save equivalent sums of money, but do not allocate this money towards a savings goal.

7.1. Methods

We recruited 298 participants (56% female; Mean Age = 35; Median Household Income = $45,000 to $50,000 a year) via Mechanical Turk. Participants read about Mike and Mary, a couple whose household income is $50,000 a year, leaving them with $42,000 after taxes. Participants were then presented with a table containing four rows describing how much the couple spends each year. The first two rows showed that the couple spends $14,000 on rent and $16,000 on other expenses. In the Committed Savings condition, the latter two rows showed that the couple allocates $10,000 a year to their retirement savings and have $2000 a year in uncommitted savings. In the Uncommitted Savings condition, these numbers were reversed, such that Mike and Mary were shown to allocate $2000 a year to their retirement savings and have $10,000 a year in uncommitted savings.

Participants then reported how much they believe that Mike and Mary should donate to charity each year in dollars. They then responded to two questions assessing their subjective perceptions of the couple's spare money. This included "How much spare money do Mike and Mary have?" and "How financially constrained are Mike and Mary?" on seven-point scales. The latter measure was reverse coded and combined to create a two-item measure of perceived spare money ($r = 0.59$, $p < .001$).

7.2. Results

Due to the skewness in subjective giving standards responses, we utilize a Mann-Whitney *U* test to analyze the data. Results show that when Mike and Mary had committed less money to retirement savings, they were expected to donate more to charity (M = $1,171,

SD = $1,717) than when they had committed more money to retirement savings (M = $866, SD = $1,809), U = 13,231.5, Z = 2.94, $p = .004$. We found the same pattern of results for the perceived spare money measure. When Mike and Mary committed less money to retirement savings, participants thought they had more spare money (M = 4.23, SD = 1.33) than when they committed more to retirement savings (M = 3.52, SD = 1.41), U = 14,396, Z = 4.46, $p < .001$.[2]

Mediation Analysis: We ran a bootstrapped mediation analysis with 10,000 samples to examine whether the effect of uncommitted savings on giving standards is mediated by estimated spare money. This mediation model used logged giving standards as the DV, savings condition as the IV, and the two-item measure of perceived spare money as the mediator variable. Consistent with our expectations, we find a significant indirect effect, as indicated by a confidence interval that excludes zero (β = 0.35, SE = 0.11, 95% CI [0.18, 0.60]). When Mike and Mary had less money committed to retirement savings, participants perceived them to have more spare money than when they had a higher commitment to retirement savings (a = 0.71, S.E. = 0.16, $p < .001$), and greater estimates of spare money predicted higher giving standards (b = 0.49, S.E. = 0.09, $p < .001$). Controlling for the mediator, the effect of relative income on giving standards decreased from c = 0.49, SE = 0.25, $p = .05$ to c' = 0.14, SE = 0.25, $p = .57$.

7.3. Discussion

This study shows how the manner in which people budget their money casually affects subjective ethical standards of giving. Even holding income and expenditures constant, those who save for a specific long-term goal are seen as having less spare money, and thereby as less obligated to donate to charity, than those who save the same amount without any explicit goal.

8. Meta-analysis

In the preceding sections, we presented only 4 out of the 18 studies we conducted for this project. In order to assess the robustness of our findings, we conducted a meta-analysis of our entire file-drawer.

8.1. Methods & results

Of the 18 studies conducted, our meta-analysis includes the 15 studies that directly assess judged giving standards and spare money. Specifically, we eliminate three vignette studies that provided explicit information about the spare money of hypothetical individuals instead of measuring participants' subjective perceptions of spare money. The studies included in the meta-analysis were designed to examine the robustness of the basic effect to various factors (e.g., order effects, utilizing different response scales), and we present an overview of each of these studies in the supporting materials.

Of the 15 included studies, six asked participants to make a judgment of a single target individual, while the other nine asked participants to make judgments of multiple target individuals. For the studies that included multiple target individuals, we utilized two different selection criteria to enable us to make consistent comparisons with the results of our single-target studies: (1) a "Median Target Income" analysis that evaluates only responses towards the target individual that earns an income closest to $55,000 (the median household income in the United States at the time of the studies); and (2) a "First Response" analysis that evaluates only the first assessment made by participants, controlling for target income level when applicable.

We examined the extent to which a participants' relative income affects their subjective judgments of giving standards (13 studies, N = 6360) and judgments of spare money (15 studies, N = 7163). Subjective giving standards were measured in dollar amounts in nine studies and as a percentage of total income in four studies. Dollar amounts were log transformed (ln + 1) before conducting all analyses, and all results also hold with untransformed dollar amounts.

To conduct the median target income analysis, we calculated a Pearson correlation between participant household income and the DV of interest. To conduct the first response analysis, we calculated a standardized regression coefficient between relative income and the DV of interest, controlling for target income level (Peterson & Brown, 2005). We computed Fisher's Z for each correlation from each study and calculated a weighted mean Z across studies, using inverse variance weights to assign more weight to studies with larger samples. We converted these Fisher's Z values back to *r* for ease of presentation and interpretation (Lipsey & Wilson, 2001). Given the similarities in design and samples across studies, we present fixed effects models in the

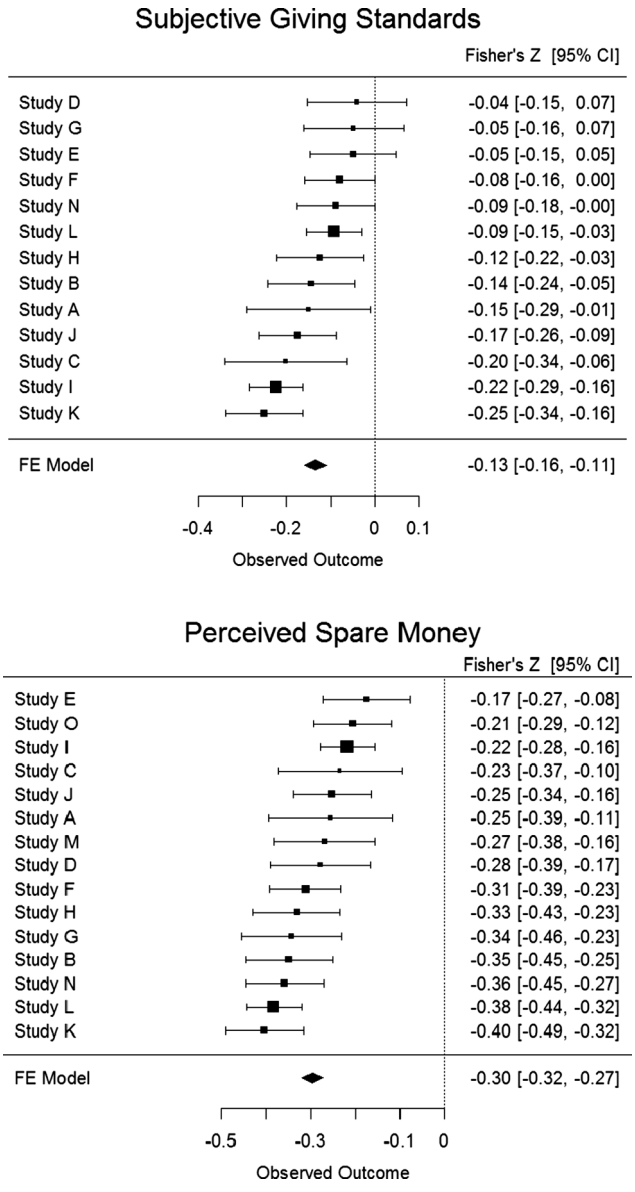

Fig. 4. a & b. Forest plots examining the total effect of relative income on subjective giving standards (top panel) and perceived spare money (bottom panel) for the median target income analysis. For details on corresponding studies see supporting materials.

[2] These results hold when a *t*-test is run on the log transformed subjective ethical standards DV, $t(296) = 1.96$, $p = .05$, $d = 0.23$, and the untransformed two-item spare money DV, $t(296) = 4.49$, $p < .001$, $d = 0.52$.

analyses below. For additional robustness checks, including random effects models, see our supporting materials.

As predicted, the relationship between relative income and subjective giving standards is significant and negative for both the median target income analysis ($r = -0.13$, 95% CI = [−0.16, −0.11], $Z = -10.67$, $p < .001$; see Fig. 4a) and the first response analysis ($r = -0.13$, 95% CI = [−0.16, −0.11], $Z = -10.58$, $p < .001$). Additionally, the relationship between relative income and perceptions of spare money is also significant and negative for both the median target income analysis ($r = -0.29$, 95% CI = [−0.32, −0.27], Z = -24.98, $p < .001$; see Fig. 4b) and the first response analysis ($r = -0.23$, 95% CI = [−0.26, −0.21], Z = -19.95, $p < .001$). Thus, the full set of studies provides consistent evidence that a participant's income relative to a target affects their perceptions of that target's spare money and the standards of giving they apply to them.

8.2. Asymmetric sensitivity to upward vs. Downward evaluations

In the analyses presented throughout the paper, we have shown that estimates of spare money and subjective giving standards are reference-dependent with respect to the self. In the present section, we built on our prior analyses by investigating whether individuals show differential sensitivity to changes in income when making upward evaluations of higher earners (i.e., targets who earn more than the participant) versus downward evaluations of lower earners (i.e., targets who earn less than the participant). On the one hand, consistent with general negativity bias (Rozin & Royzman, 2001) and loss aversion (Kahneman & Tversky, 1979), people may be particularly sensitive to losses in income and thus perceive lower earners as especially constrained for spare money.

On the other hand, if people already feel constrained for spare money across most income levels, there may be little room to adjust their judgments of lower-earning individuals further downwards. Conversely, judgments of higher-earning individuals are not bounded in this way. Hence, people may expect that spare money increases with income gains more than it decreases with income losses, since spare money can only fall so low before approaching zero. The same reasoning applies to judgments of giving standards. If people across income levels feel obligated to donate very little, then the standards they assign to poorer others may have little room to further decrease. However, if greater income is expected to significantly increase spare money, then people may believe that higher earners are obligated to donate significantly more to charity.

To test these possibilities, we use a piecewise regression model to estimate the relationship between relative income and our focal DVs (Subjective Giving Standards and Expected Spare Money) separately for those who earn less than the target (and thereby make upward evaluations), and those who earn more than the target (and thereby make downward evaluations). The model fits two lines that are constrained to meet at the target income level, and thus allows us to statistically test for potential differences in the effect of relative income on upwards versus downwards evaluations. We again conducted both a median target income analysis and a first response analysis. For the median target income analysis, we employed the following regression for each study:

$$\text{Giving Standards} = \alpha + \beta_1(\text{RI}_{\text{UpwardEvaluation}}) + \beta_2(\text{RI}_{\text{DownwardEvaluation}}) + \varepsilon \quad (2)$$

$$\text{RI\_UpwardEvaluation} = \text{Income of participant to relative to target for all values} < 0, \text{ else} = 0;$$

$$\text{RI\_DownwardEvaluation} = \text{Income of participant to relative to target for all values} > 0, \text{ else} = 0.$$

In this regression, β_1 evaluates the magnitude of the relative income effect for individuals making upward evaluations (towards higher-earning others) while β_2 evaluates the magnitude of the relative income effect for individuals making downward evaluations (towards lower-earning others). For the first response analysis, we utilize the equation above, and further included a control variable for target income. For each regression, we then extracted the standardized correlation between the coefficient and the DV (Peterson & Brown, 2005). We then converted this value to Fisher's Z using the same procedure described above.

Subjective Giving Standards: Results suggest that the effect of relative income is stronger for upward evaluations of higher-earning others than for downward evaluations of lower-earning others. For the median income analysis, we find that when making upward evaluations, the less that participants earn, the more they believe that the target individual should donate to charity, R = -0.11, 95% CI = [-0.14, -0.09], Z = -8.94, $p < .001$. However, for those who earn more than the target, thereby making downward evaluations, this relationship is notably weaker, R = -0.04, 95% CI = [-0.06, -0.01], Z = -3.03, $p < .001$. Similarly, in the first response analysis, the relationship between relative income and subjective giving standards is notably stronger for upward evaluations of higher earners, R = -0.10, 95% CI = [-0.13, -0.08], Z = -8.06, $p < .001$, than for downward evaluations of lower earners, R = -0.06, 95% CI = [-0.08, -0.03], Z = -4.69, $p < .001$.

To test whether the difference in slopes is significant, we conducted a model comparison test comparing Eq. (2), which estimates the slope of the effect separately for those who earn more versus those who earn less than the target income, to a model that does not differentiate between those who earn more or less than the target (Giving Standards = $\alpha + \beta_1$(RelativeIncome) + ε). We calculated the semi-partial r of the difference between these two models, and assigned a valence to the results depending on the direction of the effect, such that a positive sign indicates a stronger effect of relative income when making upward evaluations of higher earners, while a negative sign indicates a stronger effect of relative income when making downward evaluations of lower earners. Results show that the model comparison across studies is significant and positive for the median target income analysis, $R_{\text{ModelComparison}} = 0.04$, 95% CI = [0.02, 0.07], $Z = 3.35$, $p < .001$, and marginally significant for the first response analysis, $R_{\text{ModelComparison}} = 0.02$, 95% CI = [0.00, 0.05], $Z = 1.87$, $p = .06$. These results indicate an asymmetric effect around the reference point of one's own income, whereby participants are more responsive to gains in income than losses in income relative to the self when evaluating ethically appropriate levels of charitable giving.

Spare Money: We repeated the above analysis for estimated spare money DV and again find evidence that participants are more responsive to upward evaluations of higher earners compared to downward evaluations of lower earners. For the median income analysis, when isolating participants making upward evaluations of higher earners, we find that the less that participants earn relative to the target individual, the more spare money they believe that the target individual has, R = -0.19, 95% CI = [−0.21, −0.17], $Z = -16.11$, $p < .001$. This relationship is weaker when isolating participants making downward estimations of lower-earning targets, R = −0.14, 95% CI = [−0.17, −0.12], $Z = -12.13$, $p < .001$. Similarly, in the first response analysis, the relationship between relative income and spare money is again stronger for individuals making upward evaluations of higher earners, R = −0.16, 95% CI = [−0.19, −0.15], $Z = -13.89$, $p < .001$, than for individuals making downward estimations of lower earners, R = −0.11, 95% CI = [−0.14, −0.09], $Z = -9.56$, $p < .001$.

To test the relative effect, we repeated the model comparison procedure, which yielded significant positive results for both the median target income analysis, $R_{\text{ModelComparison}} = 0.04$, 95% CI = [0.02, 0.06], $Z = 3.63$, $p < .001$, and the first response analysis,

$R_{ModelComparison}$ = 0.05, 95% CI = [0.02, 0.07], Z = 3.87, p < .001. These findings provide convergent evidence that relative income has a stronger effect on upward evaluations of higher earners than downward evaluations of lower earners.

9. General discussion

This paper investigates how individuals derive charitable standards for the self and others, and presents three main conclusions. First, we find that judgments regarding ethical standards of giving are reference-dependent with respect to one's own income. Consistent with the principle of diminishing marginal utility for income, we find that people expect that higher earners should give more than lower earners. However, we additionally find that these judgments are affected by how much individuals *themselves* earn, which cannot be explained by diminishing marginal utility alone. Thus, giving standards are determined *jointly* by the evaluator's income and the target's income, not just the latter.

Second, we find that subjective standards of giving are affected by mispredictions regarding the relationship between income and spare money. People expect that higher-earning others have more spare money than those higher-earners actually report having. Accordingly, we connect the financial decision-making literature to research on ethical decision-making, and demonstrate that misperceptions of financial constraints shape the generosity standards that people apply to themselves and others.

Third, a meta-analysis provides initial evidence of a difference in how individuals estimate the spare money of those who earn more than them versus those who earn less than them. People significantly overestimate the spare money of higher earners, but evaluate the spare money of lower earners with greater accuracy. Subjective giving standards follow the same pattern: lower earners believe that higher earners ought to give much more to charity than those higher earners believe they ought to give. However, higher earners and lower earners show greater agreement in the charitable standards they assign to lower earners.

If individuals overestimate the relationship between gains in income and spare money, they may feel justified in forgoing donation until their income increases (see Zauberman & Lynch, 2005, Study 7). However, our results support the notion that any gains in perceptions of spare money are short-lived. Once people do earn more money, increase their expenditures, and again find themselves strapped for cash, they may put off donating until they earn even more. To the extent that individuals believe that their own idiosyncratic financial constraints are more exceptional than others (cf. Davidai & Gilovich, 2016), they may feel even more justified in donating very little in the present. If so, individuals may maintain the belief that they are generous without actually contributing much to charity, continually "passing the buck" to wealthier others or to their future, wealthier selves. Given this continual temporal shift in subjective standards of giving, commitment devices may be useful in combating this tendency by enabling people to pre-commit future increases in spare money to charity in advance of a raise (Breman, 2011).

9.1. An "Expectations Gap" in charitable giving

More broadly, our research indicates the existence of an expectations gap between how much people believe that richer others should donate to charity and how much those richer others actually donate. Investigations into the actual relationship between income and charitable giving show a weak relationship at best. Evaluations of tax data in the United States shows that the proportion of income donated to charity remains constant across most income levels, except for particularly high-earning individuals (those who make more than approximately $350,000 a year), who donate a greater proportion of their income to charity than lower-earning Americans (Congressional Budget Office, 2011; Havens, O'Herlihy, & Schervish, 2006; James & Sharpe, 2007; Schervish & Havens, 2001). Despite this weak relationship, our data suggests that the relatively poor set much higher standards for how much higher earners should donate than the standards those higher earners set for themselves or similar others (even for incomes far below the $350,000 threshold).

While we have focused on subjective standards of charitable giving, it is possible that similar effects hold for forecasts of other discretionary expenditures. For instance, people might overestimate how many vacations richer others can afford to take or how big a house they can afford to buy. However, it is less clear whether people also expect that richer others *should* spend more on such expenditures than those richer others believe they should spend. To examine this possibility, we ran a study (supporting materials, Study S1, N = 500) in which participants evaluated how much someone who earns $50,000 should spend on clothing, transportation, healthcare, housing, and donations to charity each year. Only charitable donations were negatively associated with participant income (β = −0.04, SE = 0.02, p = .018), such that the less participants earned, the more they believed that target should donate to charity. In contrast, expenditures on clothing, housing, and healthcare were not significantly associated with participant income (ps > 0.10), while transportation spending was positively associated with participant income (β = 0.03, SE = 0.01, p = .036).

Even other expenditures with a strong normative component, such as expected tax obligations, may not show these effects as strongly or consistently as giving obligations. An additional study (supporting materials, Study S2, N = 501), found no significant relationship between participant income and the amount they believe someone making $30,000 should be taxed (β = 0.02, SE = 0.12, p = .89) or $65,000 (β = −0.16, SE = 0.12, p = .18), but did find that the less participants earned, the higher they believed the tax rate should be for an individual earning $100,000 (β = −0.31, SE = 0.12, p = .01).[3] The discretionary nature of charitable giving may make these judgments particularly sensitive to relative income effects, compared to tax obligations, which people often find distasteful (Sussman & Olivola, 2011) and are required by law to fulfill. Future research could further explore how different sorts of financial obligations are thought to change with income.

9.2. Barriers to establishing standards for giving

In our studies, we asked participants to evaluate what amount of money would be morally appropriate to donate to charity. However, it is less clear whether (or what proportion of) individuals feel that giving represents a duty which individuals are obligated to fulfill or whether giving is considered *supererogatory* (i.e., commendable, yet optional).

Some individuals certainly do feel a moral duty to donate. For instance, religious institutions often advocate or enforce "tithing," in which followers are expected to donate a minimal portion of their income to charity, typically 10%. Some philosophers argue that donating to charity ought to be a moral obligation, even if many people do not view it accordingly. In particular, the effective altruism movement was born from consequentialist ethical arguments that donating to save the lives of others is just as obligatory as saving the life of a drowning child (Singer, 2009, 2015; MacAskill, 2015).

Even for those who agree with the notion that people ought to be duty-bound to donate, establishing clear standards for giving remains elusive. For instance, a flat giving rate applied to a percentage of one's income, such as a tithe, may be seen as overly burdensome to the poorest members of society and thus seem unappealing. For instance, in Study 2, only 18% of participants applied a constant donation

[3] See also supporting materials, Study S3 which finds a non-significant effect for perceptions of how much someone who earns $50,000 should be taxed (β = −0.36, SE = 0.24), t(3 0 1) = −1.52, p = .13).

obligation across target incomes. In contrast, 71% of participants indicated that donation obligations ought to be progressive, such that higher earners should be expected to donate a greater percentage than lower earners.

Moreover, even if most people believe that donation rates as a percentage of income should be progressive, our results indicate systematic heterogeneity in beliefs about how much individuals with different incomes can and should give. Such heterogeneity might preclude any clear consensus on what donation standards would most benefit society. Future research might shed further light on additional barriers to forming clear giving standards and the downstream consequences of attempting to establish stronger norms around appropriate levels of giving. For instance, establishing stronger social norms might reduce individuals' sense of agency over their donation decisions, thus reducing the enjoyment they derive from giving (Harbaugh, Mayr, & Burghart, 2007; Weinstein & Ryan, 2010; Berman & Small, 2012). If so, then strengthening expectations regarding how much people ought to donate may be met with resistance, even from committed donors.

Even if establishing prescriptive or injunctive norms remains elusive, research suggests that making good deeds public can establish stronger *descriptive* norms around generosity, thus increasing donation rates (Croson, Handy, & Shang, 2009; Goldstein, Cialdini, & Griskevicius, 2008; Kraft-Todd, Yoeli, Bhanot, & Rand, 2015). Yet, we know little about how publicizing the good deeds of the wealthy might influence the behavior of the poor, or vice versa. The present research suggests that high giving rates among the wealthy may not necessarily inspire others to donate. We find that as the difference between an evaluator and a target increases, individuals' beliefs about their own subjective generosity standards are contrasted with those of higher-earners (cf. Mussweiler, 2003). Publicizing the philanthropic pursuits of the wealthy may also make lower earners feel relatively incapable of making an impact. For instance, the Giving Pledge, a campaign promoted by Bill Gates and Warren Buffett to increase the rate of giving among billionaires has seen promises of over $500 billion to charity. Relative to these massive sums, a single donation by a less wealthy donor may feel like a drop in the bucket. Future research can examine under what conditions actors are influenced by the good deeds of others whose resources and constraints differ from their own.

9.3. Resource contributions in organizations

Although our studies focus on individual charitable donations, the effects we uncover likely apply towards resource contributions in social collectives and other organizational units. Small units within an organization may expect that larger units with greater resources or prowess have enough spare capacity to take on additional burdens. However, the present research suggests that those larger units may view their own capacity as much more constrained than those smaller units expect.

Even in the absence of objective differences in available resources, individuals or organizational units may tend to see themselves as particularly strapped for spare resources compared to similar others. Research shows that people tend to be more sensitive to the barriers they have faced than the blessings they have received, and furthermore believe that they have confronted greater barriers than others have. For example, both Democrats and Republicans are more likely to believe that the Electoral College harms their party more than it helps them, and individuals are more likely to feel that their parents were harsher on them than on their siblings (Davidai & Gilovich, 2016). Just as people believe their contributions to joint efforts are greater than others (Ross & Sicoly, 1979), individuals may feel that their personal sacrifices in support of organizations are more burdensome than those made by others. When asked to "go above and beyond," people may believe that overcoming their idiosyncratic resource constraints is particularly onerous, without realizing that others feel similarly about their own resource constraints.

9.4. Spare resources, the hedonic treadmill, and subjective well-being

The research presented here dovetails with research on the "hedonic treadmill", or the notion that emotional experience are highly sensitive to changes in states, but that people ultimately adapt to those changes over time (Brickman & Campbell, 1971; Diener, Lucas & Scollon, 2006). The hedonic treadmill has been used to explain why income increases do not ultimately lead to significant change in subjective well-being: even if people obtain a momentarily boost in pleasure from receiving a raise, they eventually adapt and return close to their previous baseline feelings (Frederick & Loewenstein, 1995; Kahneman et al., 2006).

While the hedonic treadmill predicts that people will adapt to changing levels of wealth, it remains unclear how adaptation affects the way people manage their finances. However, we find that just as individuals erroneously predict the extent to which earning more money will make them happier, they also erroneously predict the extent to which it will increase the spare money available to them. It is likely that these effects interact. For instance, higher absolute income levels and greater reserves of spare money are positively associated with subjective well-being, presumably because they eliminate stress associated with making ends meet (Ruberton, Gladstone & Lyubomirsky, 2016; Sacks, Stevenson, and Wolfers, 2012). Future research can investigate the extent to which individuals can translate income gains to long lasting increases in subjective well-being.

10. Conclusion

In conclusion, this paper finds evidence that subjective standards of giving are reference dependent, and affected by misperceptions of the relationship between income and spare money. Individuals feel strapped for cash and thereby hold themselves to a relatively low standard of giving, but believe that higher-earning others (and their higher-earning future selves) are flush with spare money that makes it easy for them to give. In contrast, those higher earners also feel strapped for cash and hold themselves to lower standards, thus giving far less than poorer others feel they ought to give. Regardless of their current income, people seem to perceive their current selves as uniquely constrained, and thus free from responsibilities to be generous to others.

Appendix A. Supplementary material

Supplementary data to this article can be found online at https://doi.org/10.1016/j.obhdp.2019.12.005.

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