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"This one's on me!": Differential well-being effects of self-centered and recipient-centered motives for spending money on others

Peter A. Caprariello[1] · Harry T. Reis[2]

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Abstract

Past research reliably shows that spending money on others (termed *prosocial spending*) makes people happier than spending money on oneself. The present research tested whether the happiness benefits of prosocial spending may be reduced when spending money on others for *self-centered reasons*—to benefit the self—than when done for *recipient-centered reasons*—to benefit the recipient. Four specific spending motives—spending on others to self-enhance, out of obligation, to enhance recipients, and to support recipients—were derived empirically and tested for their unique effects on hedonic and eudaemonic well-being. Across four studies, recipient-enhancement, a recipient-centered motive with a positive effect on well-being, and obligation, a self-centered motive with a negative effect on well-being, emerged as the most reliable motivational predictors of well-being from prosocial spending, across hedonic and eudaemonic forms. These findings offer the first evidence of specific interpersonal motives on prosocial spending behaviors and their effects on levels of rewards in addition to kinds of rewards.

Keywords Prosocial spending · Well-being · Consumer happiness · Eudaemonia · Altruism · Helping motives · Selfishness

Introduction

Prosocial spending–the act of spending money on other people instead of on oneself–is common. It includes giving to charitable organizations, which occurred in 73% of American households in 2019–2020 (Jones, 2020). It includes subsidizing loved ones' activities and needs (e.g., paying for a child's education or extracurricular activities), which are routine expenses in families (Becker, 1974). It includes gift-giving, which occurs year-round but peaks during November–December, at an average of $885 in USD spent per person according to Gallup polls (Saad, 2018). Finally, money is routinely spent on other people for relatively informal purposes (e.g., paying for a colleague's meal, buying a drink for a friend).

It feels good to spend money on others. A large body of evidence shows that happiness is greater when spending money on other people compared to spending the same amount on oneself (Aknin et al., 2020; Dunn et al., 2008, 2014, 2020). This effect holds across cultures (Aknin et al., 2013a, 2013b, 2015) and regardless of whether the money is earned or given as a windfall (Geenen et al., 2014). The rewards of prosocial spending "trickle" into other life domains, such as job satisfaction and team commitment (Anik et al., 2013), and is self-reinforcing over time (Aknin et al., 2012a, 2012b, 2018).

Theoretically, the strong association between prosocial spending and happiness has been interpreted as the "warm glow of giving" (Aknin et al., 2012b, 2013a, 2013b, 2015, 2020; Anik et al., 2013; Dunn et al., 2014, 2020; O'Brien & Kassirer, 2019; Wiwad & Aknin, 2017), a concept borrowed from economics that describes a private reward that individuals experience when supporting others (Andreoni, 1989, 1990). Applied to prosocial spending, the robust association of prosocial spending with happiness suggests that spending money on others is an inherently gratifying activity, because it affords a sense of satisfaction with doing one's part, consistent with the conclusions of two recent meta-analyses (Curry et al., 2018; Hui et al., 2020).

If spending money on others reliably and robustly results in happiness, if the effect is nearly universal (in one study, the effect was observed in 120 out of 136 countries sampled; Aknin et al., 2013a, 2013b, Study 1), and if the effect is

✉ Peter A. Caprariello
peter.caprariello@stonybrook.edu

[1] College of Business, Stony Brook University, 312a Harriman Hall, Stony Brook, NY 11794-3775, USA

[2] Department of Clinical and Social Sciences in Psychology, University of Rochester, Rochester, NY, USA

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demonstrable in toddlers as young as two years old (Aknin et al., 2012a, 2012b; see also Aknin et al., 2015), then perhaps prosocial spending effects reveal a deeper truth about the elemental nature of human generosity. Such truth would be consistent with evolutionary analyses of prosocial behavior, which conclude that benefiting others at the expense of oneself has distinct adaptive advantages compared to self-reliance, exploitation (maximizing personal gains at others' expense), or free-riding (garnering benefits from a public good without contributing to its cost) (Brewer & Caporael, 2006; Fehr & Schmidt, 1999; Olson, 1965; Trivers, 1971).

The present research aims to fill two conceptual gaps in the existing narrative on the benefits of prosocial spending. First, behaviors that appear generous can be guided by motives other than generosity, which in turn alters the meaning and consequences of the behavior. For example, seemingly identical behaviors can be driven by egoistic or altruistic motives (Batson, 1987; Batson et al., 1981; Cialdini et al., 1987). Interpreting prosocial spending as evidence of generosity discounts the possibility that givers' motives may reflect selfish rather than prosocial motives. Moreover, in economics, the "warm glow" is conceptualized as an incentive to give more than as a reward for giving (see Andreoni, 1989, 1990; Bergstrom et al., 1986), which clouds interpretations of prosocial spending effects as evidence of generosity. Thus, while prosocial spenders may have generous intentions, and generous intentions may increase happiness, other intentions might drive people's actual spending decisions. In short, the motives underlying prosocial spending need to be investigated more fully.

Second, prior research on prosocial spending has focused on hedonic forms of happiness, defined by levels of pleasure and pain (King, 2008). Eudaemonic well-being, which results from perceiving meaning, purpose, and fulfillment from one's activities (Ryff, 2018; Waterman, 1993), may function separately. Research in other areas of prosocial behavior more generally have considered indicators of eudaemonic well-being such as psychological flourishing (Nelson et al., 2016) and meaning in life (Nelson et al., 2014). To date, the effects of prosocial spending on eudaemonic well-being has not been explored.

The present research was intended to address these gaps. More broadly, our goal was to deepen the field's understanding of the motives underlying prosocial spending and their effects on hedonic and eudaemonic well-being.

Behaviors that appear generous can be guided by motives other than generosity

Generosity, which underlies prosocial spending, can be defined as a behavioral exchange, as entailing a cost to the benefactor so as to benefit a beneficiary. The greater the cost, the more generous the action (Batson, 1998; Batson & Shaw, 1991). Prosocial spending is generous in the sense that resources are voluntarily given so that others may benefit (e.g., Aknin et al., 2012a, 2012b; Curry et al., 2018; Layous et al., 2017; Nelson et al., 2016; Rowland & Curry, 2019).

Generosity can also be defined motivationally, as behaving prosocially *for the primary reason* of improving others' welfare and not as a means of benefiting the self (Crocker & Canevello, 2008; Crocker et al., 2017). A motivational account assumes that prosocial behaviors can be driven by goals to satisfy the self or the recipient, and this distinction affects the meaning of the behavior (see Batson, 1987, for a review). Prosocial motives are defined as self-centered (egoistic) when the giver's primary focus, at the time of action, is on personally obtaining rewards or avoiding punishments (see Batson & Shaw, 1991). In these cases, benefits accrued by recipients are of secondary psychological importance or are incidental consequences (see Carlson & Zaki, 2018). In contrast, prosocial motives are recipient-centered (altruistic) when the giver's primary focus, at the time of action, is benefiting the recipient. In these cases, any benefits experienced by givers are of secondary psychological importance or are incidental consequences. Applied to prosocial spending, interpreting the actions of spenders as generous or not depends on whether givers' motives are relatively self-centered or recipient-centered.

Self-centered and recipient-centered motives affect well-being. For recipient-centered motives, converging evidence concludes that empathic concern, compassionate goals, and communal orientation (all markers of recipient-centered motives) increase daily, trait, and relationship well-being (e.g., Canevello & Crocker, 2015; Le et al., 2018). For selfish motives, one recent review summarized the literature as showing that "selfish motivation [for giving] is clearly related to poor psychological well-being, physical health, and relationships" (Crocker et al., 2017, p. 313). Results from two specific studies support these conclusions. In one longitudinal study, volunteers who endorsed self-centered reasons for helping (e.g., "Volunteering makes me feel better about myself") exhibited increased mortality risk compared to those who endorsed recipient-centered reasons (e.g., "I feel compassion toward people in need"). Furthermore, mortality risk for self-centered volunteers was equivalent to that of individuals who did not volunteer at all (Konrath et al., 2012). In another study, recalling prosocial acts that were intended to "help [recipients] get ahead" increased self-perceived moral character, which in turn increased positive affect, compared to recalling prosocial acts intended to "help you get ahead" (Wiwad & Aknin, 2017). By this reasoning, and in extension of these studies, we expected prosocial spending guided by self-centered motives to be associated with reduced well-being relative to prosocial spending guided by recipient-centered motives.

The "warm glow" of giving is historically interpreted as self-interested motivation

Despite its intent to provide evidence of the pure joy of giving, research on the warm-glow of charitable giving suggests the possibility of self-interested motivation: People do good in order to feel good personally, more than they do good in order to actually benefit others (Andreoni & Payne, 2013). This conclusion has been borne out repeatedly in laboratory experiments and field studies showing that people continue to give, even when doing so has no incremental value to recipients (Andreoni, 1993; Andreoni & Payne, 2013). This reasoning suggests that some other kind of private incentive, besides the needs of recipients, motivates individuals' charitable giving. Labeled a "warm glow" at the time that it was inferred mathematically (Bergstrom et al., 1986), the motivation was speculated to describe a joy of giving (see also Becker, 1974; Andreoni, 1988, 1989), but its exact nature was unclear. Over time, research made it clear that the motivation is personal: All else being equal, individuals derive personal value from contributing their own dollars, even if the amount received by beneficiaries remains constant (Crumpler & Grossman, 2008). Individuals show interest in promoting others' welfare (thereby ruling out pure egoism), but some private incentive is necessary in order to explain why individuals choose to give their own money when others' money will suffice.

Is the warm glow joyless? Not at all. The motivation to do one's part tracks closely with experiencing pleasure. Neuroimaging research by Harbaugh et al. (2007) showed that the desire to contribute is linked to actual experiences of reward. In this study, subjects received $100 and were examined in an fMRI machine while making decisions about whether or not to give money to a local food bank. During some rounds, the food bank was given money without subject choice, similar to a process of taxation. During other rounds, subjects chose between giving or keeping money for themselves. After every round, subjects reported their experienced happiness in the moment. Neural regions associated with reward processing showed greater activation when subjects voluntarily chose to give than when the food bank was funded by "tax" dollars. Importantly, these neural patterns correlated strongly with self-reported happiness. Similar results have been obtained from self-reported happiness in studies where participants chose to give, compared to being forced to give or to keep money for themselves (e.g., Aknin et al., 2013a, 2013b; Berman & Small, 2012; Dunn et al., 2008; Konow & Earley, 2008; Weinstein & Ryan, 2010). In short, it seems appropriate to conclude that donors generally enjoy the process of giving to others, even if the motivation underlying their giving is unclear.

The well-being rewards of prosocial spending motives may extend beyond hedonic indicators

One important goal of the present research was to broaden how well-being from prosocial spending is conceptualized by including measures of eudaemonic well-being. Defined as experiencing meaning, fulfillment, and authenticity from one's actions (Vittersø, 2004; Waterman et al., 2008), eudaemonic well-being is usually experienced as hedonically pleasant (Disabato et al., 2016), but can be considered a qualitatively distinct experience of subjective well-being (Waterman, 1993), accompanied by feelings of authenticity, self-expression, and vitality (Kashdan et al., 2008; Martela & Ryan, 2016; Ryan & Deci, 2001). Furthermore, eudaemonic fulfillment has distinct predictors from hedonic pleasure. For example, eudaemonic well-being is more likely to result from activities that satisfy basic psychological needs (e.g., needs for autonomy, competence, and relatedness) than from activities that satisfy secondary needs (e.g., needs for pleasure or comfort), which more strongly predict hedonic outcomes (Huta & Ryan, 2010). For prosocial spending, measuring happiness strictly in terms of hedonic properties may limit the extent to which research captures the full range of well-being that results from prosocial spending.[1]

Might recipient-focused spending be particularly likely to foster eudaemonic well-being compared to spending motivated by self-focus? Theories vary in their prescription for attaining an authentic life, but most recognize the fundamental importance of frequent, mutually rewarding social interactions (e.g., Baumeister & Leary, 1995; Ryff & Singer, 2008). Importantly, whereas many kinds of interaction are pleasurable, interactions characterized by attentiveness, caring, and responsiveness to needs are particularly likely to provide personal fulfillment and meaning (for reviews, see Clark & Lemay, 2010; Feeney & Collins, 2015). This is because interactions characterized by responsiveness to partner needs will tend to emphasize and build authentic connection and intimacy more than interactions lacking this quality (Canevello & Crocker, 2015; Reis et al., 2004). Based on this analysis, and assuming that recipient-centered motives reflect attention to partner needs whereas self-centered motives reflect attention to self-interest, we hypothesized

[1] Defining eudaemonic well-being as a subjectively experienced outcome differs from an important perspective in the literature, in which eudaemonia is focused on the "life well-lived rather than a subjective state" (Martela & Sheldon, 2019, p. 465). According to this perspective, eudaemonia is a way of functioning and not a quality of life; whether eudaemonic activities leads to qualitatively distinct experiences of reward is a separate issue. For reviews of this ongoing controversy, see Huta and Waterman (2014), Kashdan et al. (2008), Martela and Sheldon (2019), Ryan and Martela (2016), and Tiberius (2016).

that recipient-centered motives should increase eudaemonic well-being compared to spending for self-centered motives.

The present research

The present research addressed two objectives. First, we sought to examine the nature of self-centered and prosocial motives for prosocial spending. Second, we aimed to determine whether these alternative motives have similar or dissimilar effects on people's experience of happiness after giving. As part of this latter objective, we sought to differentiate between hedonic and eudaemonic well-being.

In Studies 1 and 2, we developed a broad but concise measure of motives relevant to prosocial spending, using factor analytic and classical measurement methods (Clark and Watson, 1995). The general goal of Studies 3 and 4 was to examine the well-being consequences of these motives in terms of both hedonic and eudaemonic well-being.

Study 1: scale development and relationships to well-being

Generating a pool of reasons for giving

An initial pool of 81 reasons for spending money on other people was generated by brainstorming, by collecting qualitative pilot data, by seeking feedback from other scholars, and by adapting items from established measures of social motivation (e.g., motives for social support, Feeney & Collins, 2003, and for sacrifice, Impett et al., 2005).

Fifty-two of the generated items appeared at face value to assess self-centered motives. These items mentioned a broad range of self-centered reasons: seeking approval for a purchase, avoiding conflict, avoiding guilt, following internalized personal norms (e.g., "it was the right thing to do"), obligations ("I felt like I had to"), feeling in control, reducing personal distress, establishing reciprocity in a relationships, focusing on the personal rewards of a relationship (Clark et al., 2008), seeking praise, enhancing self-esteem, and pursuing self-image goals. A complete list of all 81 items is included as Table S1 in online supplemental materials (OSM).

Twenty-nine items appeared to assess recipient-centered motives, including: Supporting recipients' felt acceptance, compassionate responses to recipients' distress, helping out during times of need, thoughtful gift-giving, responding to voiced concerns, and appropriately valuing recipients' well-being.

To begin the process of identifying the dimensional structure of the reasons, we asked a large sample of respondents to recall multiple instances of prosocial spending, and to consider the psychological relevance and importance of all 81 reasons in the context of their actions.

Participants

We recruited 913 individuals from a variety of online sources: 36.6% from websites recruiting unpaid volunteers for online psychological research (93.9% of these participants were located in the United States), 33.4% from a random set of medium or large-sized American cities on Craigslist, and 30.0% from an undergraduate participant pool at an American university. The study was open for recruitment for three months. There was no compensation for participating except for the student pool, who participated in exchange for partial course credit.

Of our initial field, 376 individuals (41.2%) were excluded from analyses for declining consent, for completing less than 50% of the survey, or for completing the survey in under five minutes (median completion time, excluding this group of participants, was just over 15 min). The likelihood of providing usable data varied by online source, $\chi^2(2) = 199.68$, $p < 0.001$. Whereas 46.4% of participants recruited from research sites and 41.0% of participants recruited from Craigslist provided usable data, undergraduate participants (93.8%) were substantially more likely to do so. Our final sample consisted of 537 individuals, who varied in age (*mdn* = 21 years, $M = 26.0$ years, $SD = 11.4$, *range* = 16–70), the majority of whom were female (77.3%), single (50.1%) or in committed relationships or married (46.4%), Caucasian (78.3%), and from the United States (94.0%).

Procedure

Participants were informed that that the study was investigating how people spend their money on others. Prosocial spending was defined as follows:

> *People spend their money in various ways. Often, people spend money on others instead of on themselves. For example, one may loan money to a friend or family member, buy a gift for a special occasion, pick up the tab at a restaurant or bar, or give money to a charity. All of these are considered ways of spending money on other people.*

Participants were then instructed to think about the past two weeks, to bring to mind all the times they had spent money on others, and to list up to five specific episodes. To assist in memory retrieval, spaces were provided for participants to provide details (e.g., approximately how much money was spent, their relationship with the recipient, and what, if anything, was bought). Next, participants considered these episodes as a set, to consider all the reasons that motivated any or all of the five episodes, while rating the initial

pool of 81 reasons for relevance and importance. Finally, participants completed measures of well-being and a measure of social desirability bias before being thanked.

Relevance and importance of prosocial spending reasons

Participants were asked to consider their five spending episodes, and to consider whether any of the reasons listed in the item pool were relevant during any of the five episodes. They then reviewed all 81 items from the pool, using the items to complete the sentence stem, "The reason I spent my money was…" For each item, participants used a 0–4 scale that assessed each reason's frequency and importance (0 = *this was never a reason*, 1 = *when this was a reason, it was not very important*, 2 = *when this was a reason, it was somewhat important,* 3 = *when this was a reason, it was moderately important,* 4 = *when this was a reason, it was extremely important*.)

Global well-being and social desirability bias

Participants completed a 1-item measure of happiness, adapted from Dunn et al. (2008). This item asked, "Do you feel happy, in general?," using a 5-point scale, with anchors, *Very Rarely*, *Rarely*, *Sometimes*, *Often*, and *Almost Always*.

Next, participants completed 24 items adapted from the Positive and Negative Affect Scale (PANAS-X; Watson & Clark, 1994), measuring positive affect (PA; 6 items) and negative affect (NA; 18 items). Participants indicated the extent to which they generally experience each emotion (e.g., enthusiastic, upset) on a scale from 1 (*Not At All*) to 5 (*Extremely*). Reliabilities for these scales (and for all multi-item scales in this report) were estimated using McDonald's omega (ω), according to the recommendations of Hayes and Coutts (2020), and items from each scale were averaged to form composites of PA ($\omega = 0.80$) and NA ($\omega = 0.94$).

Participants then completed the Satisfaction with Life scale (Diener et al., 1985), which consisted of five items measuring attitudes about life (e.g., "In most ways my life is close to ideal"; $\omega = 0.90$). Participants indicated degree of agreement with each item on a scale from 1 (*Strongly Disagree*) to 7 (*Strongly Agree*).

A composite measure of *Global Well-Being* was calculated by first summing items within each of the above scales, reversed where necessary, and then standardizing and averaging the four scales ($\omega = 0.81$).

Finally, for control purposes, participants completed the Balanced Inventory of Socially Desirable Responding (BIDR; Paulhus, 1991; $\omega = 0.76$). This scale asks participants to indicate their degree of agreement with 18 items on a scale from 1 (*Strongly Disagree*) to 7 (*Strongly Agree*). Scores were calculated according to the recommendations of Paulhus (1991), so that higher scores reflect greater tendencies to present oneself in unrealistically positive ways.

Data reduction and dimension identification

Data reduction and dimension identification proceeded in three phases. The first phase focused on item distributions, in which we eliminated items with poor psychometric properties. Fifteen items with highly non-normal distributions (defined as skew statistics greater than ± 2.0, which are considered gross violations of symmetry; Bulmer, 1979) were removed. Next, 13 pairs of items with zero-order correlations greater than or equal to ± 0.60 were identified, and we eliminated one item from within each pair. All together, this left 53 items for phase two.

The second phase used principal components analysis (PCA) to explore the dimensional structure of the 53 retained items, using the guidelines of Floyd and Widaman (1995). Four iterations of PCA with varimax rotation were performed, attempting to identify the most parsimonious but informative sets of reasons for prosocial spending.[2] In the first iteration, ten factors emerged with eigenvalues greater than one, but visual inspection of the scree plot suggested that only the first five factors provided reasonable explanatory power. The pattern of loadings on the last five components supported this interpretation (i.e., only 11 out of 265 loadings on these components were above 0.40, two of which exhibited significant cross-loadings). Six items were thus eliminated in this iteration, leaving 47 items. Complete results for each iteration are available in OSM, as Tables S2–S5.

In the second iteration of PCA, seven components emerged from the remaining 47 items. The sixth and seventh factors contained only one item each with loadings greater than 0.40 and were dropped. The fifth factor contained only three items with loadings greater than 0.40 but Cronbach's alpha was relatively low for them ($\alpha = 0.66$), and therefore these three items were eliminated for having too little shared variance.[3] Finally, one item cross-loaded on multiple factors ("I was paying attention to their needs and wishes") and was dropped.

[2] In all iterations of PCA reported here, results obtained from varimax rotations were compared to those obtained from oblimin and promax rotations. At no point did the choice of rotation change the substantive conclusions being made about which subsets of factors accounted for meaningful variance, even if the patterns of loadings varied.

[3] The factor appeared to measure reciprocity concerns, with items: "It was my turn to pay," "I knew that _____ would be more likely to help me in the future," and "I knew that he or she would also help me at some other time".

Table 1 Final, 23-item "Prosocial Spending Motives" Scale (study 1)

Item #	Item	Sub-scale
19	I wanted _____ to need me and like me	Self-enhancement
33	_____'s concern felt like part of my own so I helped out	Recipient-support
25	It made me look good to others	Self-enhancement
29	I thought that I would have looked bad if I had not	Obligation
6	To help support this person	Recipient-support
31	He or she expressed concern and I helped	Recipient-support
34	I didn't want _____ to worry about money	Recipient-support
37	At the time, supporting his or her wellbeing was important to me	Recipient-support
12	Because I would have felt like a bad person if I hadn't	Obligation
11	I bought a gift that reflected how much I cared for this person	Recipient-enhancement
3	I felt obligated to help _____; it was expected of me	Obligation
53	In order to feel better about myself	Self-enhancement
80	It made me feel important	Self-enhancement
58	I liked feeling needed	Self-enhancement
55	I gave him or her something that I thought he or she would appreciate	Recipient-enhancement
60	I wanted to buy something that ____ wanted	Recipient-enhancement
67	_____ will be more likely to value our relationship now	Self-enhancement
46	I liked the attention	Self-enhancement
47	____ found it difficult to handle things on his or her own; I wanted to help	Recipient-support
54	I valued _____'s happiness greatly at the time	Recipient-enhancement
79	I would have felt guilty if I hadn't done so	Obligation
51	Because I felt like I had to	Obligation
62	I was trying to express affection	Recipient-enhancement

All items were measured on a 5-point scale, anchored with 0 (*this was never a reason*) through 1 (*this was a reason, but it was not very important*) to 4 (*this was a reason, and it was extremely important)*. The column "Item #" refers to the item's original numbering from the 81-item pool from which all items originated

In a third iteration of PCA, the remaining 41 items were factor analyzed. A stable, four-factor solution emerged. The first factor contained 16 items, such as "It made me look good to others," that appeared to measure self-enhancing motivations. The second factor contained 12 items, such as "Their concern felt like a part of my own," that appeared to measure recipient-supporting motivations. The third factor contained eight items, such as "I valued their happiness greatly at the time," that appeared to measure recipient-enhancing motivations. The fourth factor contained five items, such as "Because I felt like I had to," that appeared to measure motives to fulfill duties and obligations.

Given our stated preference for brevity, we proceeded to continue trimming items, by removing items on each factor that loaded less than 0.65, and by cutting items whose wording seemed redundant on their face (e.g., "Made me feel important" and "Spending the money made me feel important"). This resulted in dropping an additional 18 items.

Submitting the final 23 items to PCA resulted in the same 4-factor solution that had been obtained in the prior iteration. These four dimensions reflected motivations that could be traced back to existing theory (to be discussed below), were broad in their scope, but formed a scale of manageable length. The four sub-scales were labeled *Self-Enhancement, Recipient-Support, Recipient-Enhancement,* and *Obligation.* Items are reported in Table 1. Descriptive statistics and other diagnostic information (e.g., variance accounted for) are reported in Table S6 of OSM.[4]

The third phase examined criterion validity by correlating the 4-factor solution with the composite measure of well-being. Because self-enhancement and obligation represent self-centered motives, we expected them to correlate negatively with well-being. Because recipient-enhancement and recipient-support represent other-centered motives, we expected them to correlate positively with well-being. Motive scores were computed by averaging items within each sub-scale. All four motives demonstrated good internal consistency (self-enhancement, $\omega = 0.87$; obligation,

[4] The final 4-factor solution also emerged as the best-fitting solution when the analysis was re-run comparing subjects from the participant pool versus subjects from online research sites, and when the analysis was re-run comparing random sub-groups within the sample.

Table 2 Global well-being, regressed onto prosocial spending motives, controlling for socially desirable responding (study 1)

	B	*SE*	*β*	*F*(1, 485)	*p*
Self-Enhancement	− 0.52	0.11	− 0.25	22.77	<0.001
Obligation	− 0.26	0.08	− 0.16	9.87	0.002
Recipient-Enhancement	0.22	0.07	0.15	10.30	0.001
Recipient-Support	− 0.03	0.07	− 0.02	0.13	0.716
Social Desirability Bias	0.03	0.02	0.07	2.39	0.123
Gender	− 0.28	0.17	− 0.07	2.84	0.093

Gender was coded so that 0 = male, 1 = female

ω = 0.84; recipient-enhancement, ω = 0.83; recipient-support, ω = 0.84).

Composite well-being was regressed simultaneously onto the four motives, controlling for social desirability and for gender (coded as 0 = male, 1 = female). Gender was included to address the possibility of gender differences in communal motivation, which may affect both endorsements of recipient-centered motives and levels of well-being (Croft et al., 2015).

Overall, the model was significant, $F(6, 482) = 12.31$, $p < 0.001$, $R^2_{adj} = 0.12$. As shown in Table 2, both self-centered motives correlated negatively with well-being: for self-enhancement, $B = -0.52$, $SE = 0.11$, $r^2_{partial} = 0.04$, and for obligation, $B = -0.26$, $SE = 0.08$, $r^2_{partial} = 0.02$. Recipient-enhancement correlated positively with well-being, $B = 0.22$, $SE = 0.07$, $r^2_{partial} = 0.02$ but recipient-support was not associated with well-being, $B = -0.03$, $SE = 0.07$, $r^2_{partial} = 0.01$, nor was socially desirable responding, $B = 0.03$, $SE = 0.02$, $r^2_{partial} = 0.00$, or gender, $B = -0.28$, $SE = 0.17$, $r^2_{partial} = 0.01$.

Study 1 discussion

Study 1 identified a set of motives relevant and important to the act of prosocial spending: self-enhancement, obligation, recipient-enhancement, and recipient-support. Self-enhancement and obligation were presumed to reflect self-interest, an interpretation supported by their negative associations with well-being. These findings support the proposed inverse relationship between self-centered motives for prosocial spending and well-being. Recipient-enhancement and recipient-support were presumed to reflect recipient-interest, although only recipient-enhancement exhibited a positive relationship with well-being. This latter result is consistent with an account of prosocial spending as reflecting other-focused motives.

How does the four-motive solution that emerged here compare to the solution that emerged from research by Böckler et al. (2016)? In their study, scores on 14 measures of prosociality were submitted to exploratory and confirmatory factor analyses. Of these 14 measures, 11 were behavioral measures (e.g., variations of hypothetical allocation tasks and one-shot game-theoretical scenarios), and three were self-report measures (e.g., the Prosocialness Scale; Caprara et al., 2005). Four factors emerged reliably. Altruistically motivated prosocial behavior seeks to benefit others at the expense of the self. Norm motivated prosocial behavior describes the desire to help others out of reciprocity concerns or the desire to punish cheaters. Strategically motivated prosocial behavior describes the tendency to help others when doing so nets positive outcomes for the self. The fourth dimension, labeled "prosocial attitudes," reflects the tendency to self-report as prosocial or as selfish.

Although the specific labels of the motives differ between their research and ours, in terms of conceptual interpretations, we see convergence. Böckler et al.'s altruistically motivated behavior dimension appears consistent with the motives of recipient-enhancement and recipient-support found in Study 1, to the extent that these motives reflect the tendency to seek recipient-benefit over self-benefit. Norm motivated and strategically motivated behaviors appear consistent with obligation and self-enhancement, to the extent that both sets of motives shift focus of attention away from recipient-benefit and toward self-benefit. Thus, despite differing labels, the motives that emerged across studies share similarities in their themes of orienting givers toward self-benefit or recipient-benefit.

Next, we briefly review the four motives identified in Study 1 in the context of existing research and conceptual models of interpersonal motivation. These reviews are admittedly brief and speculative, in the interest of generating testable hypotheses about the effects of the motives on well-being.

Self-enhancement

Self-enhancement focuses on obtaining personal gain, such as to fulfill a personal need (e.g., buying lunch for someone else to avoid sitting alone), to garner recognition, to feel important, or to gain attention (e.g., buying a desirable stranger a drink to curry favor). Self-enhancement is powerful and pervasive motive (Dufner et al., 2019) and in non-social contexts positive self-views tend to be healthy and adaptive (Taylor & Brown, 1988). But in social and giving situations, modest approaches may be more appropriate. Self-enhancers may obtain immediate personal gains, but at the long-term expense of reputation and sincerity (Crocker & Park, 2004; Leckelt et al., 2015). Even pride can be misperceived: When self-aggrandizing goals are salient, pride appears more boastful and competitive (i.e., hubristic) than when cooperative goals are activated (Tracy & Robins, 2007). In short, for self-enhancement motives, "the benefits dissipate while

the costs accumulate" (Crocker & Park, 2004, p. 398), and the costs that develop over time are mostly social (Dufner et al., 2019). For these reasons, consistent with the results of Study 1, we predicted a negative association between self-enhancement motives and well-being.

Obligation fulfillment

Obligation is a motive focused on fulfilling duties or commitments. Obligation is considered self-centered because the reason for giving is not to benefit recipients but to avoid negative outcomes for oneself. Examples include repaying favors, meeting community obligations (e.g., tithing 10% to a church), avoiding looking bad, or fulfilling relationship "duties" (e.g., participating in Valentine's Day). Obligations feel distressing when they signal an existing or potential inequity, or failure to reciprocate a past benefit (Hatfield et al., 1978). This is particularly true in relationships governed by exchange norms, in which benefits are expected to be exchanged *quid pro quo*, compared to communal norms, in which more attention is paid to partner welfare than to the balance of benefits given versus received (Clark & Mills, 1993; Clark et al., 1987). In exchange relationships, until debts are fully met, individuals may experience discomfort, guilt, and indebtedness (Hatfield et al., 1978). Even in marriages, exchange norms may heighten record-keeping of inputs and outcomes and introduce feelings of distress, indebtedness, or exploitation when inputs become imbalanced (Clark & Waddell, 1985; Clark et al., 2010). Although meeting obligations can restore balance, obligation motives transform the action's meaning from one of giving to one of duty (Gebauer et al., 2008), which tend to be extrinsically motivated, undermining well-being compared to intrinsically motivated motives (Nelson et al., 2015). For these reasons, we predicted a negative relationship between this factor and well-being, consistent with Study 1.

Recipient-enhancement

Recipient-enhancement refers to the motive to increase others' well-being, and aligns closely with generosity. Examples include buying gifts that demonstrate understanding of recipients' desires or seeking recipient happiness (rather than approval). Recipient-enhancement is driven by communal norms, in which the focus of attention is partner welfare (Clark & Mills, 1993). Recipients may be benefitted simply to be pleased, without accounting for the costs of doing so. In this context, costly, self-sacrificing behaviors are experienced as rewarding and not as painful, because the recipient's happiness is the reward (Chancellor et al., 2018; Le & Impett, 2015). Giving according to communal norms often leads to mutual cycles of responsiveness and pro-relationship behaviors (Clark & Lemay, 2010; Reis et al., 2004), which improves trust and personal well-being (Wieselquist et al., 1999; Williamson & Clark, 1989). For these reasons, we predicted that recipient-enhancement motives would increase well-being from prosocial spending, consistent with the results of Study 1.

Recipient-support

Recipient-support is a motive in which givers respond to recipients' needs in order to alleviate recipients' distress, eliminate obstacles, or help them cope with stressors. Prosocial spending examples include paying for a needed meal, contributing to a GoFundMe campaign, or donating to a charity. Our conceptualization of recipient-support focuses on caring for distressed persons, echoing concepts from literatures on social support, attachment, and parenting motivation. Caregiving builds on the foundation of empathy (Preston, 2013) and motivates compassionate responses to people in need (Feeney & Collins, 2003). An active caregiving system commonly generalizes beyond immediate family to include friends, extended family (Sörensen et al., 2002), strangers, and even outgroup members (Mikulincer et al., 2005). Caregiving responses therefore provide an adaptive mechanism for building connections with others, which often serve as their own reward (Dunbar, 2009; Gilbert, 2005; Leary & Baumeister, 2000). Moreover, perceiving recipients' gratitude further reinforces these social bonds (Algoe et al., 2016). For this reason, we predicted a positive relationship between recipient-support motives and well-being (even though Study 1 provided no evidence of such a relationship).

Study 2: confirmation, replication, and addressing relationship closeness

Study 2 had three primary goals. First, we sought to validate the 4-factor solution developed in Study 1 using confirmatory factor analysis. Second, we sought to replicate associations between the motives and well-being in a new sample. A third aim of Study 2 was to examine the role of relational closeness in prosocial spending. Communal, recipient-centered helping occurs more frequently in close relationships than in more distant relationships (Clark & Mills, 1993), and spending money on close relationships makes people happier than spending money on distant relationships (Aknin et al., 2011). It is possible, therefore, that the associations between motives and well-being can be explained by closeness between givers and recipients.[5]

[5] A fourth goal of Study 2 was to examine construct validity of the 23-item scale, by analyzing patterns of concurrent correlations between the motives measure and theoretically neighboring con-

Participants, procedure, and data analysis strategy

A total of 298 undergraduates were recruited from an undergraduate participant pool at an American university. Data collection proceeded over the course of one full academic semester, with the goal of obtaining as many responses as possible within that timeframe. Eight subjects were excluded for completing the study in under five minutes (median time to completion, excluding these subjects, was 19 min, 40 s). The final sample ($N = 290$) consisted of 228 females (78.6%) and 60 males (20.7%); two participants did not indicate their sex (0.7%). Age ranged from 18 to 44 ($mdn = 20$, $M = 20.01$, $SD = 2.33$). Participants were Asian ($n = 72$, 24.8%), African-American ($n = 10$, 3.4%), or Caucasian ($n = 198$, 68.3%); 10 individuals did not report their race (3.4%) and 14 identified as Hispanic (4.9%). The majority of the sample was single or dating casually (67.4%); the remainder was dating exclusively (31.6%) or married/engaged (1.0%).

Participants thought about their most recent single instance of prosocial spending, defined as in Study 1. Participants indicated how long ago the event took place, how much money was spent, and then completed the 23-item Prosocial Spending Motives scale. Next, participants completed measures of well-being.

Measures

Prosocial spending motives

Spending motives were assessed using the 23 items identified in Study 1. Each item reflected a possible ending to the stem, "The reason I spent my money was…." For each item, participants used the same 0 ("this was not a reason") to 4 ("this was a reason, and it was extremely important") scale used in Study 1, with labels modified to reflect a single instance of prosocial spending. All four motives demonstrated good reliability: for self-enhancement, $\omega = 0.87$; for obligation, $\omega = 0.86$; for recipient-enhancement, $\omega = 0.84$; for recipient-support, $\omega = 0.83$.

Global well-being

Global well-being was assessed identically to Study 1. Participants completed the one-item measure of global happiness, the 24-item PANAS, which included subscales for NA ($\omega = 0.94$) and PA ($\omega = 0.84$), and SWLS ($\omega = 0.90$). As in Study 1, a composite measure of *Global Well-Being* was calculated by first summing items within scales, reversed where necessary, and then standardizing and averaging the four scales ($\omega = 0.75$).

Happiness-from-spending

Study 2 also assessed happiness as a direct consequence of spending. *Happiness-from-Spending* consisted of three items ($\omega = 0.79$) taken from prior research on consumer happiness (e.g., Van Boven & Gilovich, 2003). Two items asked, "When thinking about how you spent this money, how happy does it make you right now," and "When thinking about how you spent this money, how happy did it make you at the time?" Participants responded on 5-point Likert-type scales (1 = *Neutral (or slightly unhappy)*, 5 = *Exceptionally happy*). The third item was "To what extent would you say this purchase is money well-spent?" also on a 5-point Likert-type scale (1 = *Not well-spent*, 5 = *Extremely well-spent*). Responses were averaged to form a composite.

Relationship closeness

Participants responded to two items assessing closeness to recipients. One item measured communal strength, adapted from Mills et al. (2004). Participants indicated how far out of their way they would go to do something for the recipient, on a scale from 1 (*Not far out of my way at all*) to 5 (*Extremely far out of my way*). Another item measured psychological closeness using Aron et al.'s (1992) Inclusion of the Other in the Self (IOS) visual scale, in which participants selected one of seven levels of overlapping circles, representing degrees of closeness. These two measures were correlated, $r\,(288) = 0.57$, and were standardized and averaged.

Confirmatory factor analysis

Latent variable models were constructed using AMOS 18.0 and maximum likelihood estimation. An initial measurement model specified four factors: self-enhancement (7 indicators), obligation (5 indicators), recipient-enhancement (5 indicators), and recipient-support (6 indicators). The constraints of the model were that (a) all indicators loaded onto only their predicted factors, (b) no error terms were permitted to covary, and (c) no second-order latent factors were specified.

Results

Table 3 presents complete results for the initial measurement model, displaying unstandardized factor loadings. Each path leading to the latent factors was statistically significant, with communalities (h^2) ranging from 0.39 to 0.62. Model fit was acceptable according to some customary standards and

Footnote 5 (continued)

structs. These procedures were central to scale development but not to predicting well-being and are therefore reported fully in OSM.

Table 3 Results of confirmatory factor analysis on the initial measurement model (study 2)

Item #	Keyword	*B*	*SE*	*p*	*β*	*CR*	h^2
Self-enhancement factor							
67	Value rel more now	0.88	0.08	< 0.001	0.66	10.52	0.44
25	Look good others	0.81	0.08	< 0.001	0.66	10.47	0.44
19	Need like me	1.04	0.08	< 0.001	0.77	12.32	0.59
58	Liked feeling needed	1.00			0.76		0.58
80	Feel important	1.00	0.09	< 0.001	0.72	11.39	0.51
53	Feel better about self	0.79	0.07	< 0.001	0.68	10.74	0.46
46	Liked attention	0.85	0.07	< 0.001	0.75	12.06	0.57
Obligation factor							
79	Would've felt guilty	1.04	0.08	< 0.001	0.79	13.19	0.63
3	Felt oblig; was expected	0.83	0.08	< 0.001	0.64	10.39	0.42
12	Would've felt bad person	0.99	0.08	< 0.001	0.79	13.08	0.62
29	Would've looked bad	0.81	0.07	< 0.001	0.70	11.48	0.49
51	Felt like had to	1.00			0.80		0.64
Recipient-enhancement factor							
62	Express affection	0.86	0.10	< 0.001	0.64	9.06	0.41
54	Valued happiness at time	0.84	0.09	< 0.001	0.69	9.61	0.47
60	Buy something wanted	1.02	0.10	< 0.001	0.76	10.48	0.58
11	Bought gift reflected care	1.00			0.69		0.47
55	Gave something they appreciated	0.98	0.09	< 0.001	0.80	10.87	0.65
Recipient-support factor							
47	Found difficult to handle	0.69	0.06	< 0.001	0.67	10.64	0.45
37	Supporting well-being important	0.91	0.09	< 0.001	0.66	10.34	0.43
34	Didn't want worry money	0.80	0.08	< 0.001	0.62	9.74	0.39
31	Expressed concern; I helped	0.87	0.08	< 0.001	0.72	11.37	0.51
6	Help support	1.04	0.09	< 0.001	0.71	11.19	0.50
33	Concern felt like own	1.00			0.79		0.63

The initial measurement model is a fully constrained model, in which no error terms for any items are allowed to covary. The column "Item #" refers to the item's original numbering from the 81-item pool from which all items originated. *CR* = critical ratio test of statistical significance. h^2 = percentage of item variance explained by the specified model

unacceptable according to others: corrected $\chi^2/244_{df} = 2.65$, $p < 0.001$ (which is below 3; acceptable); RMSEA = 0.08, with 90% CI = [0.07, 0.09] (which is not different than 0.08; unacceptable; Browne & Cudeck, 1993); CFI = 0.87, TLI = 0.85 (both fall below threshold of 0.90; unacceptable; Hu & Bentler, 1999). These indices indicate room for improvement in terms of overall model fit.

To improve model fit, we allowed several pairs of error terms between items to correlate, but only when the error terms were associated with items from the same latent factor. Also, we applied only those modifications that would improve model fit by at least 10 units of χ^2 (Schreiber et al., 2006). In all, eight pairs of error terms were permitted to covary as modifications. A revised measurement model demonstrated good fit across all indices: corrected $\chi^2/216_{df} = 1.97$, $p < 0.001$; RMSEA = 0.06, with 90% confidence intervals = [0.05, 0.07]; CFI = 0.92; TLI = 0.91. Comparing AIC statistics between models revealed that the revised model significantly improved goodness-of-fit compared to the initial model, χ^2_{Δ} (1) = 150.65, $p < 0.001$. There were no substantive differences in path loadings between the initial model (as reported in Table 3) and the revised model, and so the complete breakdown of these coefficients is provided in Table S7 in OSM.

Associations between spending motives and well-being

Global well-being and happiness-from-spending were examined separately as a function of the four motives, controlling for cost, elapsed time, and gender. All four motives were entered simultaneously, so that their covariances could be accounted for. Subsequently, relationship closeness was entered in a separate step, to examine whether it reduced the strength of association between any of the four motives and well-being. The results of these analyses are presented in Table 4.

Table 4 Summary of hierarchical regressions predicting well-being from spending goals and relationship closeness (study 2)

	(Step 2)			(Step 3)		
	B	(*SE*)	*β*	*B*	(*SE*)	*β*
Global well-being						
Self-enhancement	− 0.39	(0.14)	− 0.20	− 0.46	(0.14)	− 0.23
Obligation	− 0.10	(0.10)	− 0.06	− 0.11	(0.10)	− 0.07
Recipient-enhancement	0.19	(0.09)	0.14	0.22	(0.09)	0.16
Recipient-support	0.04	(0.10)	0.03	0.07	(0.10)	0.04
Relationship closeness				− 0.14	(0.09)	− 0.10
Happiness-from-spending						
Self-enhancement	− 0.09	(0.07)	− 0.08	− 0.02	(0.07)	− 0.02
Obligation	− 0.13	(0.05)	− 0.14	− 0.11	(0.05)	− 0.13
Recipient-enhancement	0.34	(0.05)	0.44	0.30	(0.05)	0.38
Recipient-support	− 0.04	(0.05)	− 0.04	− 0.07	(0.05)	− 0.08
Relationship closeness				0.15	(0.04)	0.20

Step 1 entered the covariates of cost, elapsed time, and gender

For global well-being, excluding relationship closeness, the four motives accounted for a significant amount of variance, $F(4, 276) = 3.90$, $p = 0.004$, $R^2_{\Delta} = 0.05$. As displayed in the top section of Table 4, self-enhancement, $B = -0.39$, $SE = 0.14$, $F(1, 276) = 8.55$, $p = 0.004$, $r^2_{partial} = 0.03$, and recipient-enhancement, $B = 0.19$, $SE = 0.09$, $F(1, 276) = 4.43$, $p = 0.036$, $r^2_{partial} = 0.02$, significantly predicted global well-being. Obligation, $B = -0.10$, $SE = 0.10$, $F(1, 276) = 0.89$, $p = 0.347$, $r^2_{partial} = 0.00$, and recipient-support, $B = 0.04$, $SE = 0.10$, $F(1, 276) = 0.15$, $p = 0.697$, $r^2_{partial} = 0.00$, did not. Entering relationship closeness into the model at Step 3 did not significantly increase variance accounted for, $B = -0.14$, $SE = 0.09$, $F(1, 275) = 2.39$, $p = 0.123$, $r^2_{\Delta} = 0.01$. More importantly, the pattern of relationships between the motives and global well-being remained stable (see the top half of Table 4). There were no effects of any of the covariates in Steps 1, 2, or 3, Fs ≤ 1.93, ps ≥ 0.166.

For happiness-from-spending, the model was again significant $F(4, 277) = 18.50$, $p < 0.001$, $R^2_{\Delta} = 0.20$. The pattern of coefficients, displayed in the bottom half of Table 4, shows that obligation, $B = -0.13$, $SE = 0.05$, $F(1, 277) = 5.79$, $p = 0.017$, $r^2_{partial} = 0.02$, and recipient-enhancement, $B = 0.34$, $SE = 0.05$, $F(1, 277) = 56.94$, $p < 0.001$, $r^2_{partial} = 0.16$, significantly predicted happiness-from-spending. Self-enhancement, $B = -0.09$, $SE = 0.07$, $F(1, 277) = 1.79$, $p = 0.182$, $r^2_{partial} = 0.01$, and recipient-support, $B = -0.04$, $SE = 0.05$, $F(1, 277) = 0.59$, $p = 0.456$, $r^2_{partial} = 0.00$, did not. Entering relationship closeness in Step 3 significantly increased variance accounted for in happiness-from-spending, $B = 0.15$, $SE = 0.04$, $F(1, 276) = 11.98$, $p = 0.001$, $r^2_{\Delta} = 0.03$. However, the pattern of relationships between the motives and happiness-from-spending again remained stable.[6]

Study 2 discussion and introduction to study 3

In Study 2, the underlying structure of the 23 items identified in Study 1 was tested and, with minor modifications, was validated. Also, relationships between the motives and well-being were re-examined. Recipient-enhancement motives emerged as the most robust predictor of well-being, across both measures of well-being, and accounted for 16% of the variance in happiness-from-spending specifically. This is consistent with an account of prosocial spending as generally capturing processes of generous motives. Recipient-support failed to correlate with either measure of well-being, consistent with the results of Study 1, suggesting that recipient-support may not be reliably associated with well-being, at least in its hedonic forms.

Study 2 also directly examined the possibility that the effects of motives on well-being were artifacts of relationship closeness. We did not find support for this alternative explanation in Study 2. Study 3 will re-examine this possibility in a new sample, by using the same analytic strategy used in Study 2, of comparing associations between motives

[6] There was a significant effect of gender on happiness-from-spending in Step 1 (in which only the covariates were entered), $B = 0.29$, $SE = 0.13$, $\beta = 0.13$, $F(1, 281) = 4.97$, $p = 0.027$, $r^2_{partial} = 0.02$, suggesting that, on average, females (coded 1) reported higher levels of happiness-from-spending than males (coded 0). But this effect disappeared after accounting for the motives in Step 2, $F(1, 277) = 0.78$, $p = 0.379$, and therefore will not be discussed further. There were no other significant effects of any of the other covariates in this analysis.

and well-being before and after controlling for relationship closeness.

In Study 3, we broadened the conceptualization of well-being to include eudaemonic well-being, examining the relative influences of self-enhancement, obligation, recipient-enhancement, and recipient-support on well-being, and using a within-subjects design to allow participants to describe multiple episodes of prosocial spending. For each episode, participants indicated the extent to which they felt hedonically pleased and eudeamonically fulfilled. This type of design allowed us to compare relationships between the motives and well-being relative to each participant's own average levels of motivation.

Participants and procedure

Using G*Power (Faul et al., 2009), we estimated the size of a sample needed to power a regression model with five predictors (the four motives plus relationship closeness). In Study 2, the motives (as a set) explained 4.8% of the variance in global well-being (represented in the top left quadrant of Table 4). We used this value, which is the smallest value of r^2 for a set of predictor variables in any analysis from Studies 1 and 2, as a benchmark effect size (corresponding to $r = 0.22$). From this, a minimum sample of $n = 399$ was required to achieve 95% power in a regression model with five predictors (and with $\alpha = 0.05$).

We obtained responses from two sources, MTurk and a participant pool at an American university. We recruited 200 subjects from MTurk (restricted to US residents) in exchange for US$ 0.10 (data were collected in the spring of 2011, and this payment was commensurate with going rates at that time), and we recruited as many college-aged subjects as we could obtain in one semester ($n = 277$, for partial course credit). Six MTurkers failed attention checks and were removed prior to analyses. Our final sample consisted of 471 (50.4% female) respondents, achieving 99.8% power to obtain an effect size of $r = 0.22$. The pattern of results did not vary between sub-samples.

In age, 78.9% of participants were aged 29 years or younger, 19.7% were aged 30–59 years, and 2.4% were aged 60 years or older. The sample reported as Caucasian (54.6%), Asian (28.5%), African-American (10.0%), American Indian (1.1%), Pacific Islander (0.4%), or missing (5.5%). Thirty-eight individuals (8.1%) also identified as Hispanic. Participants were mostly single or dating casually (55.0%), were dating exclusively but not married (29.0%), were married (11.6%) or separated, divorced, or widowed (4.3%).

Participants were asked to recall the last three times they spent money on someone else, with prosocial spending defined as in Studies 1 and 2. For each episode, separately, participants indicated the cost and the amount of elapsed time since the episode; descriptive statistics for these variables are presented in OSM. Then participants completed the following measures sequentially for each episode.

Spending motives

Spending motives were assessed using the 23-item Prosocial Spending Motives scale. Internal consistencies for each motive sub-scale were calculated within episodes, and then averaged. All four motives showed good reliability: for self-enhancement, average $\omega = 0.89$; for obligation, average $\omega = 0.89$; for recipient-enhancement, average $\omega = 0.87$; for recipient-support, average $\omega = 0.86$.

Measures of well-being

Participants completed one measure of hedonic pleasure for each episode: the 3-item scale of *Happiness-from-Spending* introduced in Study 2 (average $a = 0.87$).[7]

Eudaemonic fulfillment was assessed with 18 items that used the stem, "Right now, thinking about spending my money for the reasons that I did…," and for which participants indicated degree of agreement on a scale from 1 (*Strongly Disagree*) to 7 (*Strongly Agree*). The 18 items were intended to measure eudaemonic well-being on a single dimension, but principal components analysis of the items revealed two separate factors.

The first factor included five items measuring authenticity (a full list of items is included in OSM). Sample statements included, "…I feel like I'm representing the 'real' me to [the recipient]," and "I feel authentic (true to myself) when spending money for these reasons." The five items were averaged to form a composite scale (average $\omega = 0.92$). The other 13 items came from two published scales, measuring Vitality (Ryan & Frederick, 1997; sample item: "…I have energy and spirit") and Eudaemonia (Waterman, 1993; sample item: "…I feel complete or fulfilled"). One Vitality item was dropped because it did not contribute to the internal consistency of the scale. The 12 items remaining were averaged to form a single composite (average $\omega = 0.94$).

Scores on both composites were correlated relatively highly (average $r = 0.46$) and were therefore standardized separately and averaged into a single composite of *Eudaemonic Fulfillment.*

[7] The composite measure of global well-being was not assessed in this study because it measures well-being at a global, trait level, and the focus of this study was on identifying within-person variability, in specific response to spending behaviors.

Table 5 Summary of multi-level analyses predicting episode-level well-being from spending goals and relationship closeness (study 3)

	(Model 1)			(Model 2)		
	Coeff.	(*SE*)	*Var.*[a]	*Coeff.*	(*SE*)	*Var.*[a]
Happiness-from-spending						
Model			0.32			0.35
Self-enhancement	0.09	(0.09)	0.00	0.10	(0.09)	0.00
Obligation	− 0.24	(0.06)	0.03	− 0.20	(0.05)	0.02
Recipient-enhancement	0.40	(0.04)	0.29	0.33	(0.05)	0.15
Recipient-support	0.12	(0.04)	0.02	0.09	(0.04)	0.01
Relationship closeness				0.13	(0.04)	0.05
Eudaemonic fulfillment						
Model			0.30			0.35
Self-enhancement	0.03	(0.07)	0.00	0.05	(0.06)	0.00
Obligation	− 0.20	(0.05)	0.03	− 0.16	(0.05)	0.02
Recipient-enhancement	0.35	(0.04)	0.24	0.25	(0.04)	0.11
Recipient-support	0.22	(0.04)	0.07	0.18	(0.03)	0.05
Relationship closeness				0.16	(0.03)	0.08

For Model 1, $df = 885$; for Model 2, $df = 883$, for level-1 effects

[a]The column *var.* estimates proportions of variance explained, equivalent to Cohen's f^2 applied to multi-level models, using formulas provided by Woltman et al. (2012) (see footnote 10). For rows labeled "model," *var.* was calculated as $(var_{total} - var_{model})/var_{total}$. For rows corresponding to predictor variables, *var.* was calculated as $(var_{model} - var_{model\ without\ variable})/var_{model}$

Relationship closeness

For each episode, participants responded to the same two items assessing closeness as were used in Study 2. As before, these two measures were correlated, average $r = 0.59$, and were standardized and averaged to form a *Relationship Closeness* composite.

Results

Analytic considerations

We first calculated nonindependence in well-being scales across the three episodes, using intraclass correlation coefficients (*ICC*). For eudaemonic fulfillment and happiness-from-spending, *ICC*s = 0.55 and 0.34, respectively, indicating a substantial level of commonality across individuals' three reported episodes (for *ICC*s and bivariate correlations for all variables, see Table S9 in OSM). To control for within-person dependencies, we used multi-level modeling.

All continuous predictors were person-mean centered, yielding effects that should be interpreted as deviations from each person's average. Happiness-from-spending and eudaemonic fulfillment were examined in separate models. For each outcome, the first model included the four motives of self-enhancement, obligation, recipient-enhancement, and recipient-support as predictors. The second model entered relationship closeness as an additional predictor, in order to determine whether controlling for closeness would reduce the effects for the other predictors.

All models controlled for cost, elapsed time (both log-transformed and centered), and episode number (to control for possible order effects in recalling episodes) as level-1 covariates. Gender was included as a level-2 predictor, along with cross-level interactions. Intercepts were also predicted by gender, to account for possible main effects on the DVs. Effects of gender and other covariates were few and not predicted, and they are described in OSM.

Hypothesis tests

Results of analyses predicting happiness-from-spending are reported in the top half of Table 5. Model 1 yielded reliable effects, in predicted directions, for obligation, $b = -0.24$, $t = -5.16$, $p < 0.001$, recipient-enhancement, $b = 0.40$, $t = 11.90$, $p < 0.001$, and recipient-support, $b = 0.12$, $t = 3.09$, $p = 0.003$. Self-enhancement was not significantly related to happiness-from-spending, $b = 0.09$, $t = 1.10$, $p = 0.349$. The magnitude, directions, and significance of all effects held when controlling for relationship closeness, which itself was significantly and positively associated with happiness-from-spending, $b = 0.13$, $t = 3.12$, $p = 0.002$.

A similar pattern was observed for eudaemonic fulfillment (see the bottom half of Table 5). In Model 1, obligation was reliably and negatively associated, $b = -0.20$, $t = -5.05$, $p < 0.001$, and self-enhancement was unrelated, $b = 0.03$, $t = 0.50$, $p = 0.641$. Both recipient-enhancement,

$b = 0.35$, $t = 11.52$, $p < 0.001$, and recipient-support, $b = 0.22$, $t = 6.46$, $p < 0.001$, were positively associated. These effects remained significant, and of equivalent magnitude, when controlling for relationship closeness, which itself significantly and positively predicted eudaemonic fulfillment, $b = 0.16$, $t = 5.18$, $p < 0.001$.

Brief discussion of study 3

These analyses provide additional evidence for positive relationships between recipient-centered prosocial spending motives and well-being and for a negative relationship between obligation motives and well-being. Of particular note in this study, eudaemonic well-being was significantly related to three of the four motives. These effects were observed within-persons, using participants' mean levels of motivation as the standard of comparison, suggesting that for any given act of prosocial spending, the potential for happiness depends on the person's relative level of each motive in-the-moment rather than on individual differences. Importantly, these effects were independent of relationship closeness, once again ruling out alternative explanations based on closeness between givers and recipients.

Unlike Studies 1 and 2, Study 3 demonstrated significant associations of recipient-support with well-being. Moreover, in Study 3, self-enhancement revealed the least reliable associations with well-being. These inconsistencies will be addressed following Study 4.

Study 4: manipulating self-centered and recipient-centered motives

Studies 1–3 to this point have been correlational, making it impossible to determine whether self-focused or other-focused motives causally influence well-being. To examine this important question, we manipulated focus of attention, by asking participants to recall prosocial spending episodes in which either the self or the recipient benefited the most. Participants then indicated the relative influence of the four spending motives on their recalled behavior, before reporting hedonic and eudaemonic well-being. Orienting participants' attention toward self-benefit or recipient-benefit should change the kinds of motives being recalled, which should in turn affect reports of well-being.

Consistent with the earlier studies, we expected self-enhancement and obligation to emerge as stronger motivations for episodes recalled in the self-centered condition, but recipient-enhancement and recipient-support to emerge as stronger motives for episodes recalled in the recipient-centered condition than in the self-centered condition. We then expected self-enhancement and obligation to reduce well-being whereas we expected recipient-enhancement and recipient-support to increase well-being.

Method

Participants

Estimated sample size for Study 4 considered the effect of experimental manipulation as well as covariation among the four motives. The average inter-motive correlation in Studies 1–3 was $r = 0.32$. To estimate an effect size for the experimental manipulation, we used Wiwad and Aknin (2017) as a benchmark. In their studies, participants recalled prosocial acts that were motivated by self-interest or by recipient-interest, and therefore should serve as a useful benchmark for estimating effect size. Their three studies generated an average effect of $d = 0.41$. Compiling this information into G*Power resulted in a suggested sample size of $n = 154$ for detecting a comparable effect with 95% power and $\omega = 0.05$. To be cautious, we aimed for a sample of at least 200 participants, or 100 participants per condition.

We recruited 211 participants from MTurk in the spring of 2011 (restricted to U.S. residents; paid $0.10 USD for participating). Eight participants failed attention checks and 12 participants provided no data, resulting in a final sample of $n = 191$ participants. The final sample consisted of 63 men (33.0%), 123 women (64.4%), and five individuals (2.6%) who did not indicate their sex. The sample was predominantly Caucasian (77.7%) and mostly married (36.7%) or single (35.7%); the remainder were dating but not married, divorced, or widowed (27.6%). Age ranged from 18 to 74 years ($M = 33.7$ years; 72.2% were 39 years or younger).

Procedure

Prosocial spending was defined for all participants as in Studies 1–3. Instructions varied depending on random assignment. In the self-centered condition ($n = 103$), participants read:

> "There may be various *reasons* that people spend their money on others. A person may spend money primarily for tangible (or physical) benefits. For example, giving money to charity provides tax breaks and friends will sometimes go out of their way to pay you back, which can work to your advantage.
> "A person may also spend money primarily for intangible benefits. For example, spending money on others may increase your feelings of importance or of being needed, reduce your own feelings of guilt about something, influence another person to like you more, or help you avoid looking bad in certain situations."

In the recipient-centered condition ($n = 88$), participants read:

> "There may be various *reasons* that people spend their money on others. A person may spend money primarily for tangible (or physical) benefits to the recipient. For example, you may buy another person a gift that he or she has expressed interest in and could use.
> "A person may also spend money for intangible benefits to the recipient. For example, your gift may relieve somebody's financial stress, you may genuinely care about their well-being and want them to feel good, or you may buy a person a gift just because you want them to feel good."

Participants were then asked to recall the last time they "spent money on somebody else *primarily for the benefits it provided* [*you*] [*that person*]" (italics appeared in the survey).

All participants indicated how much money had been spent and when the episode occurred. These variables were log-transformed for analyses; descriptive statistics are presented in the OSM. Next, participants listed up to three ways that donating might benefit either themselves or the other party (depending on condition). Participants were given space to list three possible benefits; benefits were left blank six times, out of 573 possible benefits (1.0%). Benefits were coded, as a manipulation check (described below).

Next, participants completed measures of *Self-Enhancement* ($\omega = 0.90$), *Obligation* ($\omega = 0.91$), *Recipient-Enhancement* ($\omega = 0.82$), *Recipient-Support* ($\omega = 0.88$), followed by measures of well-being. This included the same measure of *Happiness-from-Spending* (3 items; $\omega = 0.83$) used in Studies 2–3, and the same measure *Global Well-Being* used in Studies 1–2, which was a standardized composite ($\omega = 0.75$) of 1-item happiness, PA (6 items; $\omega = 0.85$), and NA (18 items; $\omega = 0.96$). Finally, as in Study 3, participants completed scales of authenticity (5 items; $\omega = 0.83$), and vitality/eudaemonia (12 items; $\omega = 0.94$), which were standardized and averaged ($r = 0.33$) to form a composite of *Eudaemonic Fulfillment.*

Coding procedure for the manipulation check

Two coders, blind to condition, rated each participant's three benefits (ordered completely at random for both coders) for degrees of self-centeredness or recipient-centeredness. Benefits were coded on a 3-point scale (1 = *clearly self-centered*, 2 = *unclear who benefits, the self or the recipient*, 3 = *clearly recipient-centered*). Cohen's kappa equaled 0.69, indicating substantial agreement. Ratings for each benefit were then averaged across coders. Next, participants were assigned scores based on their average across the three benefits, with higher scores indicating greater recipient-centered motivation. Participants in the recipient-centered condition ($M = 2.68$, $SD = 0.43$) indicated greater other-focused motivation than participants in the self-centered condition ($M = 1.54$, $SD = 0.48$), $t(189) = -18.42$, $p < 0.001$, $d = 2.49$. Thus, the manipulation successfully oriented subjects' attention toward themselves or toward recipients.[8]

Results

Motives as outcomes of condition

We first used MANCOVA to compare average levels of the motives between conditions, controlling for gender (male = 0, female = 1), cost, and elapsed time.[9] The multivariate main effect of condition on motives was significant, $F(4, 172) = 3.03$, $p = 0.019$, $\eta^2 = 0.07$. Adjusted condition means are presented in Table 6. Follow-up univariate tests revealed that condition significantly affected recipient-enhancement motives, $F(1, 175) = 4.64$, $p = 0.032$, $\eta^2 = 0.03$, and recipient-support motives, $F(1, 175) = 6.04$, $p = 0.015$, $\eta^2 = 0.03$, but not self-enhancement motives, $F(1, 175) = 0.01$, $p = 0.946$, $\eta^2 = 0.00$, or obligation motives, $F(1, 175) = 0.19$, $p = 0.666$, $\eta^2 = 0.00$. As indicated by the pattern of means in Table 6, priming self-benefit reduced levels of recipient-centered motives (recipient-enhancement and recipient-support) but did not increase levels of self-centered motives (self-enhancement and obligation). Likewise, activating focus on recipient-benefit increased levels of recipient-centered benefits but was unrelated to levels of self-centered motives.

Motives as mediators of condition effects on well-being

We used parallel mediation analysis to test for indirect effects of condition on well-being through the four motives. Motives were simultaneously entered, conducting the analysis separately for all three well-being variables (global well-being, happiness-from-spending, and eudaemonic fulfillment). Mediation analyses were conducted using the PROCESS macro (model 4; Hayes, 2013). Bias-corrected confidence intervals around indirect effects were estimated using 10,000 bootstrapped resamples, and gender, cost, and elapsed time were included as covariates.

[8] Coded benefits were also used to re-classify participants into observer-coded conditions, depending on whether stated benefits appeared to match randomly assigned conditions or not. Substituting observer-coded conditions for assigned conditions did not change any of the conclusions drawn from any analysis. Nevertheless, there is value in reporting these analyses. A full report is included in OSM.

[9] Effects of covariates are summarized in OSM.

Table 6 Summary of univariate tests predicting the four motives from self-centered and recipient-centered recall conditions (study 4)

	Self-centered ($n=98$)		Recipient-centered ($n=82$)					
	M	(*SD*)	*M*	(*SD*)	*F*	*p*	η^2	*d*
Hedonic pleasure	3.53	(0.71)	3.64	(0.71)			0.01	0.16
Happiness-from-spending	3.54	(0.87)	3.80	(0.87)			0.02	0.30
Eudaemonic fulfillment	4.51	(0.94)	4.87	(0.94)			0.03	0.38
Self-enhancement	1.97	(0.98)	1.98	(0.98)	0.01	0.946	0.00	0.01
Obligation	2.17	(1.20)	2.09	(1.20)	0.19	0.666	0.00	− 0.06
Recipient-enhancement	3.27	(1.11)	3.59	(1.10)	4.65	0.032	0.03	0.33
Recipient-support	2.49	(1.08)	2.89	(1.09)	6.04	0.015	0.03	0.37

$N=191$. All means displayed here adjust for cost, elapsed time since purchase, and gender. Means and standard deviations for well-being are included for informational purposes, along with estimated effect sizes, but differences between conditions were not tested for significance; significance testing of well-being by condition was conducted using mediation analysis (see text and Fig. 1). η^2 = eta-squared. For significance tests, there were 175 *df* in the error term. *p*-values are based on two-tailed tests

There were no significant effects of any of the covariates in any mediation analysis.

For global well-being, none of the motives mediated the effect of condition; for self-enhancement, $ab=-0.00$, $SE=0.03$, 95% CI [− 0.06, 0.07], for obligation, $ab=0.00$, $SE=0.02$, 95% CI [− 0.04, 0.04], for recipient-enhancement, $ab=0.04$, $SE=0.04$, 95% CI [− 0.01, 0.13], for recipient-support, $ab=0.03$, $SE=0.04$, 95% CI [− 0.03, 0.11]. The total effect of condition was not significant, $c=0.13$, $SE=0.16$, 95% CI [− 0.17, 0.45], $t(174)=0.90$, $p=0.371$.

For happiness-from-spending, the effects of condition were mediated by recipient-enhancement, $ab=0.12$, $SE=0.06$, 95 CI [0.01, 0.25], but not by self-enhancement, $ab=-0.00$, $SE=0.02$, 95% CI [− 0.03, 0.05], obligation, $ab=0.02$, $SE=0.05$, 95% CI [− 0.08, 0.13], or recipient-support, $ab=0.06$, $SE=0.03$, 95% CI [− 0.00, 0.13]. The significant total effect of condition, $c=0.31$, $SE=0.15$, 95% CI [0.00, 0.61], $t(175)=1.99$, $p=0.047$, was reduced to a non-significant direct effect when accounting for the motives, $c'=0.10$, $SE=0.14$, 95% CI [− 0.17, 0.38], $t(171)=0.75$, $p=0.457$. See Fig. 1A for a complete breakdown of path coefficients calculated from this analysis.

For eudaemonic fulfillment, the effects of condition were mediated by recipient-enhancement, $ab=0.12$, $SE=0.06$, 95% CI [0.02, 0.24], and by recipient-support, $ab=0.08$, $SE=0.04$, 95% CI [0.01, 0.15], but not by self-enhancement, $ab=-0.00$, $SE=0.03$, 95% CI [− 0.05, 0.06], or obligation, $ab=0.01$, $SE=0.02$, 95% CI [− 0.03, 0.06]. The significant total effect of condition on eudaemonic fulfillment, $c=0.31$, $SE=0.12$, 95% CI [0.06, 0.55], $t(175)=2.48$, $p=0.014$, was reduced to a non-significant direct effect when accounting for the motives, $c'=0.11$, $SE=0.11$, 95% CI [− 0.11, 0.33], $t(171)=0.99$, $p=0.323$. See Fig. 1B for a complete breakdown.

Brief discussion

Study 4 compared the recalled experiences of participants randomly assigned to consider recipient-benefit versus self-benefit. In terms of the effects of this manipulation on activated motives, the results were unexpected. Priming self-focus did not seem to activate self-centered motives (self-enhancement or obligation) but instead showed a stronger tendency to *reduce* recipient-centered motives (recipient-enhancement and recipient-support). Coupled with the pattern of results from mediation, it seems that broadly focusing attention on self-benefit influences well-being by immobilizing recipient-centered goals, not necessarily by activating self-centered ones. On the other hand, broadly focusing attention on recipient-benefit influences well-being by activating recipient-centered goals.

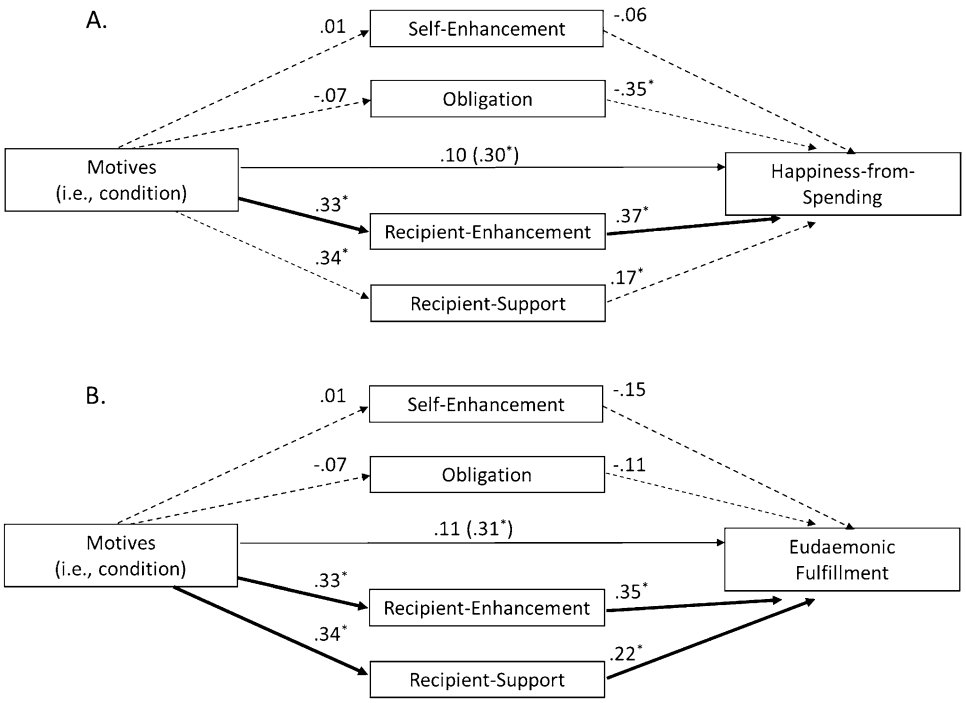
The most robust recipient-centered motive was recipient-enhancement, which significantly mediated effects of condition for both happiness-from-spending and for eudaemonic fulfillment. Recipient-support demonstrated mediation for eudaemonic fulfillment only. Neither self-enhancement nor obligation mediated any effects of condition on any measure of well-being. Thus, in this study in which motives were measured following a manipulation of attentional focus, there was a clear asymmetry in how motives affected well-being.

Mini-meta-analyses

As a final step in clarifying the conclusions of these studies, we conducted a series of mini-meta-analyses (Goh et al., 2016). Specifically, we meta-analyzed the effects of each of the four motives (self-enhancement, obligation, recipient-enhancement, and recipient-support) on each of the three well-being outcomes (global well-being,

Fig. 1 Mediation models predicting well-being from motives, through spending goals. (study 4)

Mediation models predicting well-being from motives, through spending goals. (Study 4)



Note. The top half ("A") summarizes the paths from condition to happiness-from-spending. The bottom half ("B") summarizes the paths from condition to eudaemonic fulfillment. Global well-being was analyzed and reported in the body of the text only. Bolded solid lines indicate significant indirect effects; dashed lines indicate non-significant indirect effects. Asterisks indicate coefficients significant at $p < .05$. Motives condition was randomly assigned (0 = self-centered motives; 1 = recipient-centered motives). Mediators were entered simultaneously.

happiness-from-spending, and eudaemonic fulfillment), twelve effects in all. Because our goal was to estimate the unique effect of each motive on well-being, we computed semi-partial correlations between each measure of well-being and each motive, controlling for the other three motives. For Studies 1–2, these were directly available from regression analysis. For Study 3, in which data were structured in multi-level models, pseudo-r^2 was calculated by comparing proportions of variance in models that did and did not include each motive as a predictor (Peugh, 2010; Singer & Willett, 2003; Woltman et al., 2012). These values had been reported in Table 5 and their square roots were entered into meta-analysis.[10] For Study 4, we followed the same procedure to estimate variance accounted for by each motive in the context of mediation models. A complete report of inputs to the meta-analysis is displayed in Table S10 in OSM.[11]

As recommended by Goh et al. (2016), individual values of r were converted to z using Fisher's r-to-z formula. We calculated fixed effects, weighting effect sizes by sample size. The outputted Z statistic was tested for significance against a normal distribution (two-tailed). Results are summarized in Table 7.

Global well-being was predicted significantly by self-enhancement ($M_r = -0.18$, $p < 0.001$), obligation ($My = -0.09$, $p = 0.008$), and recipient-enhancement ($M_r = 0.13$, $p < 0.001$), but not by recipient-support ($M_r = 0.02$, $p = 0.651$). Happiness-from-spending was predicted by obligation ($M_r = -0.15$, $p < 0.001$) and by recipient-enhancement ($M_r = 0.35$, $p < 0.001$), but not by

[10] This metric is comparable to Cohen's f^2 and is suitable for data structured in hierarchical models (Woltman et al., 2012). Total variance accounted for by a model is calculated as $(var_{total} - var_{model})/var_{total}$ in which var_{total} is derived from an unconditional model on the outcome variable. Variance accounted for by predictor variables is calculated as $(var_{model} - var_{model\ without\ variable})/var_{model}$.

[11] Despite differences in study designs, the effect sizes entered into meta-analysis satisfied the criteria of Morris and DeShon (2002) for combining effect sizes from between-subjects and within-subjects studies, which is that the effect sizes being combined must (1) estimate the same effects (in this case, partial correlations between the motives and well-being) and (2) be transformed into a common metric (in this case, Pearson's r; see Table S10 in OSM).

Table 7 Summary of internal meta-analysis

Effect	Outcome	# of studies	N_{total}	$M_{r/effect}$	$SE_{r/effect}$	Z	$LL_{95\%}$	$UL_{95\%}$	p_z
Self-enhancement	Global well-being	3	952	− 0.18	0.03	− 5.63	− 0.24	− 0.12	< 0.001
Self-enhancement	Happiness-from-spending	3	880	− 0.01	0.03	− 0.20	− 0.07	0.06	0.845
Self-enhancement	Eudaemonic fulfillment	2	594	− 0.02	0.04	− 0.56	− 0.10	0.06	0.577
Obligation	Global well-being	3	952	− 0.09	0.03	− 2.68	− 0.15	− 0.02	0.008
Obligation	Happiness-from-spending	3	880	− 0.15	0.03	− 4.55	− 0.22	− 0.09	< 0.001
Obligation	Eudaemonic fulfillment	2	594	− 0.13	0.04	− 3.12	− 0.21	− 0.05	0.002
Recipient-enhancement	Global well-being	3	952	0.13	0.03	3.98	0.07	0.19	< 0.001
Recipient-enhancement	Happiness-from-spending	3	880	0.35	0.03	10.92	0.30	0.41	< 0.001
Recipient-enhancement	Eudaemonic fulfillment	2	594	0.32	0.04	8.15	0.25	0.39	< 0.001
Recipient-support	Global well-being	3	952	0.02	0.03	0.45	− 0.05	0.08	0.651
Recipient-support	Happiness-from-spending	3	880	0.05	0.03	1.58	− 0.01	0.12	0.115
Recipient-support	Eudaemonic fulfillment	2	594	0.22	0.04	5.35	0.14	0.29	< 0.001

The column, "N_{total}" refers to the number of pooled observations used in analysis. The column "$M_{r/effect}$" refers to the average fixed effects, after meta-analysis. Estimates of Z carry 95% confidence intervals, denoted by the columns "$LL_{95\%}$" and "$UL_{95\%}$." The column "p_z" tests for the significance of the average fixed effects against a normal distribution

self-enhancement ($M_r = -0.01$, $p = 0.845$) or by recipient-support ($M_r = 0.05$, $p = 0.12$). Eudaemonic fulfillment was predicted by obligation ($M_r = -0.13$, $p = 0.002$), recipient-enhancement ($M_r = 0.32$, $p < 0.001$), and recipient-support ($M_r = 0.22$, $p < 0.001$), but not by self-enhancement ($M_r = -0.02$, $p = 0.577$).

Two patterns seem particularly noteworthy here. First, obligation and recipient-enhancement emerged as being most robustly associated with well-being (being associated with all three forms of well-being, in negative and positive directions, respectively). Second, different motives affected well-being in different directions, with positive effects resulting from recipient-enhancement motives (and to a weaker extent, recipient-support), and with *negative* effects of obligation motives (and to a weaker extent, self-enhancement). These findings underscore the central finding of this report, which is that the rewards of prosocial spending actions depend at least in part on the motives underlying the action.

General discussion

The four studies reported here were motivated by three general research questions: (1) Do generous motives predict well-being? (2) What other motives besides generosity are important to prosocial spending, and are they associated with well-being? (3) How do eudaemonic rewards relate to prosocial spending? Across four studies, the evidence strongly supported the conclusion that generous motives, when operationalized as motives to enhance the well-being of another person, are reliably and robustly associated with increased hedonic and eudaemonic well-being. Our results also indicated that prosocial spending may also be influenced by motives other than recipient-enhancement, and these motives had more mixed, and sometimes even negative, effects on well-being. Recipient-support motives were associated with increased eudaemonic well-being but not with increased hedonic well-being. The motive to spend on others to fulfill duties and obligations was associated with reduced hedonic and eudaemonic well-being, indicating that any attempts to use prosocial spending for the purpose of avoiding guilt, fulfilling duties, or restoring equity in relationships might backfire. Finally, the motive to use prosocial spending as a means to enhance the self was associated with reduced global well-being but it was not associated with happiness from the act of spending itself or with eudaemonic well-being.

One goal of this research was to distinguish *kinds* of rewards from *levels* of rewards that come from prosocial spending. Prior research on prosocial spending has been limited to examining hedonic rewards, which is the typical focus in well-being research (for a review, see Busseri & Sadava, 2011). Well-being is a multifaceted construct (Busseri, 2015; Metler & Busseri, 2017), encompassing feelings of growth, purpose, and gratifying relationships (Ryff & Singer, 2008), all outcomes associated with eudaemonic living (c.f., Martela & Sheldon, 2019; see footnote 1). In our work, consistent with a small but growing number of studies in prosocial behavior more generally (e.g., Nelson et al., 2014, 2016), eudaemonic well-being emerged as a robust and reliable product of recipient-centered motives. The four studies reported here suggest that other areas of well-being research might profit from considering eudaemonic well-being, particularly if the research examines selfish versus otherish interpersonal motivations (Crocker et al., 2017).

That recipient-centered motives for prosocial spending enhance well-being but self-centered motives do not underscores the importance of accounting for the motivational context of prosocial behavior and not limiting examination to observable actions. To be sure, interpersonal acts of kindness have clear benefits (Curry et al., 2018; Rowland & Curry, 2019). But the rewards of acting kindly, or in this case spending on others, often depend on givers' motives: When givers are focused on benefiting recipients, personal rewards improve. On the other hand, doing good to fulfill obligations or avoid feeling guilty–in other words, carrying out an identical behavior but with different intentions–may erase the essence of what ultimately makes doing good feel good–helping another person.

This conclusion is consistent with findings from other areas of research, such as social support, responsiveness, and interdependence, in which acting for the express purpose of benefiting another person contributes to personal well-being. For example, helping motivated by communal norms feels better than helping motivated by exchange norms (Williamson & Clark, 1989). Similarly, sacrifice motivated by communal concerns, in which givers set aside self-interest in order to benefit a relationship partner, is more likely to feel good and less likely to feel exploitative (Righetti et al., 2020). Also, compared to self-promotion goals, compassionate goals tend to increase relationship quality, self-esteem, and felt security (Canevello & Crocker, 2010; Crocker & Canevello, 2008). More generally, other literatures point to the same conclusion: orienting toward others' needs improves personal well-being more than orienting toward the needs of the self, even if the behavior looks the same from an external vantage point (Inagaki & Orehek, 2017; Reis et al., 2004).

Limitations and future directions

Several limitations of this research deserve attention. First, these studies focused on prosocial spending, without comparison to the rewards of spending money on oneself. Future research is needed to compare the effects of prosocial spending for the particular motives we studied with spending on oneself. Second, the studies relied on recall paradigms. Recall paradigms cannot differentiate effects derived from actual happiness in the moment being recalled or motivated reinterpretation at the time of recollection (Dunn & Weidman, 2015; Robinson & Clore, 2002). For example, recalling recipient-centered prosocial acts increases perceived moral character, which then increases positive affect (Wiwad & Aknin, 2017), which can be interpreted as effects of motivated reinterpretation of memories on experienced well-being. However, recent research, which directly compares recalling and performing prosocial actions on well-being over a 3-day period, found no advantages or disadvantages to real-time or recall methods in predicting happiness (Ko et al., 2021).

Recall paradigms may also make it difficult to detect the effects of more complicated motivational processes. For example, motives for prosocial spending might be multiply determined (Kruglanski et al., 2002), and identifying one motive as primary is often a difficult task for introspection of motivated behavior (Shah & Kruglanski, 2002). Perhaps givers are in fact strangers to their own motives (Nisbett & Wilson, 1977).

Future research might benefit from considering conditions in which obligation motives increase well-being. For one, this research was conducted in the United States, an individualistic culture that prizes autonomy (Markus & Kitayama, 1991). Cultures that stress interdependent or collective values (e.g., social harmony, social duties, and roles) place higher premiums on familial obligations (Kitayama & Uskul, 2011), and it is possible that the negative effects we observed for obligation might actually be positive in collectivist cultural contexts. In a similar way, obligation motives may be more strongly valued as a virtue by some people more than others. If obligation is a valued ingredient in one's "life well-lived," then prosocial actions driven by this motive may feel more authentic and purposeful than they feel to others for whom obligation feels transactional and burdensome (Martela & Ryan, 2016).

Finally, the current research was limited to the four motives that emerged from factor analyses. There may be other motives that could have emerged from these methods had we started with a different set of inputs. Related to this point, removing items based on skew criteria necessarily removed relatively rare motives from the pool (e.g., "trying to appear wealthy"). Dichotomizing self-centered and recipient-centered motives may be artificial; some occasions may introduce motives that blur the distinction between self and other, such as when prosocial spending benefits both partners in a relationship simultaneously (e.g., paying for a romantic vacation away from childcare responsibilities). Some motives may focus on self-benefit indirectly, through social identity processes (e.g., supporting a cause that bolsters or affirms an important social identity). There may also be complementary or contradictory effects when multiple motives are activated simultaneously. To the extent that covarying goals and motives interact in more dynamic ways than our design could accommodate, it remains an open question whether and how competing goals interact to influence well-being.

Conclusion

The present research was designed to situate research on prosocial spending in a motivational framework. We investigated whether the rewards of prosocial spending depend on the reasons for spending and whether these rewards differ in *kind* as well as in *level*. The evidence points to a central role of recipient-centered motives in enhancing well-being from prosocial spending, compared to self-centered motives, and particularly with regard to eudaemonic forms of well-being. This research demonstrates how prosocial spending should be examined not only as an act of kindness but as a motivated process. To reap the well-being rewards of doing good to others, one's intentions must extend beyond self-interest, focusing on the recipient. Spending money on other people may be a reliable path to happiness only when the other is the focus of the spending.

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Author contributions Both authors contributed equally to the study conception and design, data collection and analysis, and drafting and approval of the final manuscript.

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Declarations

Conflict of interest The authors have no relevant financial or non-financial interests to disclose.

Ethical approval All procedures performed in these studies involving human participants were in accordance with the ethical standards of the local institutional review board and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. The research was approved by the local Research Subjects Review Board at the second author's university (#34139, #39068, #37412) and by the local Institutional Review Board at the first author's university (#2014-2768-F).

Informed consent Informed consent was obtained from all individual participants included in all studies reported here.

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