



Does scarcity increase or decrease donation behaviors? An investigation considering resource-specific scarcity and individual person-thing orientation

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Abstract

Extant research remains equivocal with respect to whether scarcity increases or decreases charitable behaviors. This research suggests a reconciliation by considering a donor's *resource-specific scarcity*, and their *person-thing orientation* (PTO), a novel personality variable that determines whether individuals are naturally attuned towards people versus things in their environment. Person-orientation predisposes preferences towards donating time, while thing-orientation predisposes preferences towards donating money. Time scarcity leads person-oriented individuals to prefer donating money, but does not affect thing-oriented individuals. Financial scarcity leads thing-oriented individuals to prefer donating time, but does not affect person-oriented individuals. Person-oriented individuals' attention towards *other people* and thing-oriented individuals' focus on *resource evaluation* form the basis for the observed relative donation preferences. Finally, PTO can also be situationally induced. Using donation intentions and real click-through behavior for diverse charitable organizations, we show in five studies that the combined effect of consumers' perceived resource-specific scarcity and PTO determines the relative preference for donating time vs. donating money. Our results have important implications for charities soliciting specific kinds of resources, as well as real-world government and social welfare initiatives critically dependent on volunteerism. Theoretically, we examine scarcity from an individual-difference perspective that has not been well understood.

Keywords Resource scarcity · Charitable donations · Time versus money · Person-thing orientation

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Introduction

Charitable organizations have a significant societal impact (Bendapudi et al., 1996; Bradford, 2020), and typically solicit different forms of donations such as monetary gifts or volunteer time. A key metric of performance for a charity is the percentage of money raised that actually goes toward supporting their focal cause, rather than toward their administrative costs. This is where volunteers prove invaluable. The more volunteers a charity has to run their daily operations, the higher their administrative cost savings, and consequential increases in the efficiency of the donated dollar to aid the focal cause. In 2020, Americans volunteered their time resulting in more than \$200 billion in wages saved, valued at approximately \$28.54 per hour (Independent Sector, 2021). In fact, more than 100,000 organizations are able to survive only because consumers

volunteer their time (Volunteermatch, 2020). In addition, certain needs of society can be met only when people volunteer their time and provide specific services such as companionship and mentorship (Reed et al., 2007), underscoring the criticality of donations in the form of volunteer hours. However, resources such as financial capital or labor (e.g., time) are often limited in short-term availability due to people encountering a heavier workload or unforeseen expenses (Hamilton et al., 2019). How do these kinds of resource-specific scarcities impact charitable donations?

While the availability of resources such as time and money (the resources most commonly sought by charities) impacts donation behavior, time as a resource is valued uniquely compared to money. Due to the finite nature of time, most individuals have a time-donation aversion (Reed et al., 2016), even though giving time (versus money) leads to greater connectedness with others, develops deeper social relations, and enhances other people-centered behaviors (Lee & Williams Bradford, 2015; Reed et al., 2007, 2016). In fact, Americans report feeling more time-constrained than ever (Carroll, 2008; Roxburgh, 2004; Sharif et al., 2021), and the perception of a “time famine” is reported across the globe (Hamermesh & Lee, 2007; Sharif et al., 2021). In general, scarcity of resources such as time and money has been heightened in recent times due to natural disasters such as global pandemics, hurricanes, earthquakes, large-scale flooding, and other devastating events such as war. This unprecedented scarcity of resources coupled with the increased need for charitable organizations to deliver much needed relief to those suffering from the effects of such disturbing events engenders a better understanding of how scarcity of resources influences charitable behavior. While there is abundant and growing academic research investigating the drivers of prosocial behavior (e.g., Bradford & Boyd, 2020; Johnson & Park, 2021; White et al., 2020), the effect of scarcity on charitable behaviors remains equivocal (Hamilton et al., 2019). For example, while Roux et al. (2015) have shown that scarcity leads to a predictable decline in charitable donations, other findings (e.g., Miller et al., 2015; Piff et al., 2010) demonstrate the opposite, that individuals experiencing resource scarcity show increased charitable behavior. Further underscoring the equivocal relationship between resource scarcity and charitable behavior, *real* charitable money donations tracked in 2020–21 revealed that on an average, individual Americans *increased* their charitable donations by 2.2% (Giving, 2021) despite unemployment rising to 8.6% in 2020 (Bennett, 2021).

In the current research, we offer a “resource-specific” account of how scarcity influences charitable behavior and implicate a novel individual difference perspective. We suggest and show that an individual’s *person-thing orientation*, i.e., whether the individual is more attuned to people or to things in their environment (Little, 1972), is a determinant

of the individual’s charitable behavior in the face of time or money scarcity. Specifically, we establish that individuals who are predisposed towards the social aspects of their environment, i.e., have a “person orientation,” prefer donating time, while individuals who are predisposed towards the physical aspects of their environment, i.e., have a “thing orientation,” prefer to donate money. We also show that resource-specific scarcity changes this innate preference. In the face of time scarcity, those who are person-oriented donate money, while those who are thing-oriented are unaffected by time-scarcity. In contrast, under conditions of financial scarcity, those who are thing-oriented donate time, while those who are person-oriented are unaffected. This proposed asymmetry in how person- and thing-oriented individuals’ preferred donation (time versus money) changes due to resource-specific scarcity offers an explanatory account of why, in the face of scarcity, *aggregate* charitable behavior sometimes increases (Miller et al., 2015; Piff et al., 2010), but at other times, decreases (Roux et al., 2015). As such, the current work may offer an individual-difference perspective on why, in the face of recent unprecedented actual and perceived scarcity, monetary donations actually increased in the United States. Our work therefore advances the current understanding of how individual level factors influence the way scarcity affects consumer behavior and reconciles some of the equivocal findings about the effects of scarcity on charitable behaviors by providing a resource-specific scarcity account.

We next develop our model by first elaborating on the current understanding of charitable behaviors, especially in terms of donating time and money, and examining the literature on how scarcity influences charitable behaviors. We then introduce the novel person-thing orientation variable to explicate the differential resource-specific effects of scarcity of time or money on charitable behaviors. We present six hypotheses and five studies to test our predictions. We show the implications of our propositions on charitable donation intentions and actual behavior, as well as on attitudes toward real-world welfare initiatives. We conclude with a discussion of the theoretical, managerial, and policy implications of our work.

Theoretical background

Resource-specific charitable behaviors: Giving time versus giving money

Prosocial behavior is an integral part of cooperative social interactions that is beneficial to almost all consumers and marketers (Bhattacharya & Sen, 2004; Sen & Bhattacharya, 2001). Prosocial behaviors involve voluntary acts that enhance the welfare of other people (Penner

et al., 2005), as well as increase one's own happiness (Dunn et al., 2008). In contradiction to the predictions of standard economic theory, past research has consistently shown that a high proportion of consumers are not entirely self-centered (Henrich et al., 2001) and voluntarily engage in various prosocial behaviors. This is ubiquitous across cultures (Aknin et al., 2013; Belk et al., 2005; Curtis et al., 1992), and visible in human beings as early as the age of two (Zahn-Waxler et al., 1992). However, despite the willingness of individuals to engage in prosocial behavior that benefits others and increases one's own happiness (Penner et al., 2005; Dunn et al., 2008), charitable organizations struggle to secure adequate donations, especially in the form of time (Bendapudi et al., 1996; Bradford & Boyd, 2020). While donations could also be in the form of other resources including food, supplies, and body parts such as blood or organ donations (Bradford & Boyd, 2020), in the current work, we focus on the donations of the most common resources sought by charitable organizations- time and money (Lee & Williams Bradford, 2015; Reed et al., 2007, 2016). We next discuss the psychological drivers of donating time versus money, and how these uniquely serve charitable organizations.

Monetary donations involve giving away a specific amount of money to help others (Aknin et al., 2013) and provide a “powerful vehicle” for achieving prosocial goals (Dunn et al., 2008, p. 1687). In contrast, volunteering time involves devoting time and energy to helping others by providing services such as mentoring, healthcare to the ailing, or providing therapy to the troubled (Clary et al., 1998), as well as engaging in activism and mobilizing more supporters for a specific cause (Bradford, 2020). Specific organizations may rely on either of these two resources more than the other. For example, web-based portals such as VolunteerMatch and GiveGab specifically mobilize people interested in volunteering and donating time, making time donations an important component of any charitable effort. Identifying factors that increase time donations may similarly benefit charities such as Habitat for Humanity, Doctors without Borders, Sleep in Heavenly Peace, or the Big Brothers and Sisters of America organizations, along with many local community organizations such as Parent-Teacher Associations, that rely on volunteers' donated time and effort to serve their charitable causes. In contrast, charities such as the Red Cross, UNICEF, or the World Wildlife Fund rely primarily on monetary donations and not on volunteers, due to the often dangerous, disparate, and world-wide nature of their operations. As such, the nature of the resource donation is critical for the effectiveness of these and many such charities, and so, a determination of factors that influence resource-specific donations is critical.

In addition to fulfilling the resource-specific needs of different charities, donating time versus donating money differs in other important ways. Donating time is sometimes perceived to be morally superior to donating money- both from one's own perspective (Reed et al., 2007) as well as when perceived by a third party (Johnson & Park, 2021). Giving time “demands some ability to relate to and care about the beneficiary” (Reed et al., 2016, p. 437), and people typically prefer to donate time when they are personally invested in a cause (Reed et al., 2007). Time as a resource is also finite - while money could be stored for later use, time cannot be stockpiled or saved to be used later. Hence, in the context of giving, people may have a significant aversion to giving away time compared to money, especially to strangers and distant others (Reed et al., 2007, 2016). In fact, the decision to volunteer (time) to a charity has been argued to represent an important, even “life-altering” commitment (Fisher & Ackerman, 1998; Pelozo & Hassay, 2007). Additionally, busyness, seen as a perceived scarcity of (leisure) time, is a contemporary method of status-signaling in cultures such as the US (Bellezza et al., 2017), while a “busy mindset” (subjective perception of busyness) bolsters people's sense of self-importance (Kim et al., 2019). Interestingly, despite people experiencing a chronic shortage of time, surplus discretionary time does not automatically translate to greater well-being (Sharif et al., 2021). Given these unique aspects of the perception of time scarcity, donation of time (as compared to donation of money) carries psychologically distinct motivations, which could thus be differentially impacted by individual differences as well by resource-specific scarcity, discussed subsequently. In fact, past research has studied systematic individual level and contextual differences that determine preferences for time and money donations, such as moral identity (Reed et al., 2016) and self-construal (Lee & Williams Bradford, 2015). As such, for charitable organizations seeking time and money donations, it is important to understand the factors that impact the preference, extent, and willingness to donate time or money, especially in the face of high perceived and real resource scarcity.

Resource scarcity and charitable behavior

The extant literature on the precise direction of the influence of scarcity on charitable behavior lacks consensus (Hamilton et al., 2019). For example, Roux et al. (2015) showed that a consumer's perception of resource scarcity reduces their inclination to donate their resources to others due to the activation of a self-preservation mindset. Specifically, when participants thought about scarcity of resources such as gasoline, sugar, water, wheat, and electricity, they were less likely to engage in prosocial behavior (Roux et al., 2015, Study 4). The influence of financial scarcity on financial donations is especially subject to several contextual

factors. On the one hand, financial scarcity reduces an individual's inclination to share their monetary resources with others, especially distant others (Herzenstein & Small, 2012). On the other hand, Piff et al. (2010) establish that financial scarcity among lower income consumers leads to higher generosity and prosocial behavior on account of a greater commitment to egalitarian values, but this is not so for upper-class consumers. Miller et al. (2015) also show that children from lower-income families donate more prize tokens to an anonymous sick child as compared to children from higher income families. In other research, those who are high in materialism reported being less willing to give or lend things to friends or relatives (Richins & Dawson, 1992). Also, materialism (a subscale of which is “non-generosity”) is not directly related to affluence (Belk, 1985, 2010; Ger & Belk, 1996), and so, scarcity of material resources does not necessarily reduce charitable behavior, underscoring the equivocal relationship between abundance of resources and generosity.

In contrast to the relationship between financial resources and charitable behavior, there is relatively more consensus in the literature regarding the effects of time scarcity on charitable behavior. Specifically, when consumers experience scarcity of time, they are less willing to help others by donating their time to them. For example, Darley and Batson (1973) showed that seminary students who were running late to their talk on the parable of the “Good Samaritan” were more likely to pass a suffering confederate without stopping. Similarly, in field experiments across 23 cities around the world, Levine et al. (2001) showed that pace of life was negatively related to prosocial behaviors such as assisting a blind person to cross the street. Thus, residents of cities such as New York, who experience chronic time scarcity, were least likely to spend their time helping others.

Importantly and relevant to the present work, some research has suggested that behaviors such as not sharing scarce resources may be domain-specific, and consumers who are scarce on one resource may be willing to share other non-scarce resources. In a meta-analytic study of 42 studies, Orquin and Kurzban (2016) found that low levels (i.e., scarcity) of blood glucose (associated with increased hunger) did not influence prosocial behaviors that were unrelated to food. Similarly, Häusser et al. (2019) showed that individuals experiencing acute hunger, which signals limited resource availability of food, do not reduce prosocial behavior that requires sharing resources other than food. We thus propose that it is important to take a *resource-specific perspective of scarcity* when predicting giving behaviors, and this would apply in the consideration of the donation of time and money, the two resources most commonly solicited by charitable organizations. Specifically, scarcity of a specific resource (e.g., time) may lead consumers to prefer donating a relatively non-scarce resource (e.g., money).

Therefore, we suggest that when consumers are facing a scarcity of time, they may prefer to donate in the form of money. Similarly, when consumers experience scarcity of monetary resources, they may prefer to volunteer their time. Our proposed resource-specific perspective thus offers some reconciliation of the conflicting findings of how scarcity, in general, impacts charitable behavior. We suggest that scarcity of a specific resource will adversely impact charitable behavior related to that resource but may not impact alternate resource-related charitable behaviors.

While this resource-specific examination of the effect of scarcity is warranted and apropos to the general tendency of individuals and charities to consider time and money as the most common instruments of donation, the innate proclivity of individuals to show preference for donating time or money can be an important determinant of how they respond to resource-specific scarcity. For example, individual factors such as moral identity (Reed et al., 2016) and self-construal (Lee & Williams Bradford, 2015) have been found to impact preferences for donating time versus money. Reed et al. (2016) suggest that people who view themselves as more moral prefer to donate time versus money, while Lee and Williams Bradford (2015) find that those with a more interdependent (versus independent) self-construal show a higher preference for donating in terms of time versus money. In the current research, we add to this work and suggest that an individual's person versus thing orientation, a unique and distinct disposition variable, will be a critical determinant of their charitable behavior in response to resource-specific scarcity.

Person-thing orientation and time or money donations

Past research has proposed that the environment is comprised of two fundamental entities: persons and things, and individuals may be differentially interested in these two basic elements of the environment—*other people* and *physical objects*—around them (Little, 1972; McIntyre et al., 2021; Lee, 2019; Graziano et al., 2012). Little (1972) showed that some individuals might naturally be more attuned to environmental elements such as neighbors, children, strangers, and the elderly; this predisposition towards social aspects of the environment characterizes “person orientation.” Other individuals might be naturally oriented towards physical aspects of the environment such as computers, machinery, and mobile phones; this predisposition towards non-social aspects of the environment characterizes “thing orientation.” Past research shows that people are innately different on whether they are person- or thing-oriented (McIntyre et al., 2021; Graziano et al., 2012), but this person or thing orientation may also be situationally induced (Lee, 2019). Importantly, these two dimensions have been conceptualized

to be separate or even orthogonal, and not bipolar opposites (Little, 1972; Graziano et al., 2011), differentially impacting individual choices and behavior such as career preferences and ethical behavior (Graziano et al., 2011; Lee, 2019).

The differential predilection towards focusing on people versus things impacts categorical attention to specific elements in the environment and a preference for distinct objects and behavior (McIntyre & Graziano, 2016). For example, person-thing orientation (hereafter, PTO) has been shown to determine how individuals represent or describe other people. When asked to compare and contrast individuals known to them personally, person-oriented participants described people on the basis of wants, purpose, and ambitions (Little, 1976), while thing-oriented participants described people on the basis of physical characteristics such as weight, height, and age. In another study, person-oriented individuals construed their environment, such as a shopping mall, in a more *personalistic* manner, by paying attention to consumers, managers, and employees of these places (Little, 1987), while thing-oriented individuals were concerned more with the *physicalistic* aspects of the shopping mall, such as structural and geometric or architectural features. McIntyre and Graziano (2019) found that person orientation was positively related to a preference for books related to persons (e.g., on relationships), while thing orientation was positively related to a preference for books focused on things (e.g., on robotics). Classic and contemporary research in fields such as vocational and clinical psychology has also studied the differential effects of person vs. thing orientation (McIntyre et al., 2021; Prediger, 1982). For example, PTO is used to predict academic and career choices (McIntyre et al., 2021); thing orientation is related to interest and retention in educational programs related to things, especially science, technology, engineering, and mathematics fields. In addition, extreme thing orientation is associated with an autistic personality that is characterized by a heightened proclivity for objects (Malika, 2011).

Extant research thus shows that selective orientation towards the social environment (people) versus physical environment (things) differentially impacts motivations, behavior, and life choices. The charitable impulse to reach out to help another in need is recognized as a fundamental and universal human value (Bendapudi et al., 1996). We propose that this unique PTO construct will thus also impact preferences with respect to forms of charitable donations, specifically, donating time versus money. To understand this, it is necessary to carefully reconsider the conceptual differences in the characteristics of money and time as resources. Time and money, while understood to be related and interchangeable with each other (DeVoe & Pfeffer, 2007; Monga et al., 2017), are also well-established as conceptually differing on important features. Money is the most accepted currency for commercial

transactions, allowing for a definite quantification of consumption (Liu & Aaker, 2008), whereas the perceived value of time may vary by individual. Money is generally conceptualized as a resource that “flattens social relations” on account of its fungibility, reducing interactions to a largely impersonal, common measure of value (Simmel, 1978; Bradford, 2015, p. 80; Belk, 2010). “Tangible objects can be more easily acquired with money” (Lee & Williams Bradford, 2015). Time, on the other hand, by its very nature, is universally finite and perishable, and one’s 24 h must be thoughtfully allocated to work, leisure, personal care, and rest (Bradford, 2015). From the perspective of resource donation, the value of donated money is less ambiguous compared to the value of donated time (Okada & Hoch, 2004).

Past research on PTO has shown that thing-oriented people prefer more structured and numerical information- in other words, the more tangible (Baron-Cohen, 2002; Little, 1976). Those with a thing orientation are more attuned to physical objects, notions of quantities and definitive resource-evaluations, and are more sensitive to monetary versus social rewards (Delmonte et al., 2012; Malika, 2011). For example, Delmonte et al. (2012) found that in a learning context, extreme thing-oriented individuals (characterized by autism spectrum disorders) were more attuned to monetary rewards compared to social rewards. Since donating in the form of money has a definitive economic utility while providing an opportunity for the recipient to acquire tangible objects, we predict that thing-oriented individuals will prefer to donate money rather than volunteer time.

Time and money also vary on the extent to which they are “other-focused.” For instance, past research points out that relationships are “more easily nurtured by spending time” (Lee & Williams Bradford, 2015, p. 144). Similarly, Mogilner (2010) found that when people focus on time as a resource, they are more inclined to spend time with friends and family, increasing their happiness. In contrast, when people focus on money as a resource, it motivates them to spend more time on their work. Liu and Aaker (2008) showed that thinking about time activated a mindset of emotional belonging while thinking about money activated a mindset of economic utility. Similarly, other research has also shown that giving time (versus money) leads to greater connectedness with others, develops deeper social relations, and enhances other people-centered behaviors (Reed et al., 2007, 2016). In other words, as opposed to considerations of donating money, the consideration of donating time makes social aspects salient. As discussed, individuals with a person orientation are more attuned to other people and social relationships, and also endorse communal goals (Woodcock et al., 2013). Thus, person-oriented individuals are likely to be more inclined to donate in the form of volunteering time (rather than donating money).

Specifically, we hypothesize:

H1 Person-oriented individuals will exhibit a greater relative preference for donating in the form of time (versus money) compared to thing-oriented individuals.

Our theorizing also suggests that PTO should induce differential processing about *other people* versus *physical resources*, which should be reflected in cognitive elaboration during decision-making regarding a donation. Specifically, person-oriented individuals should have more “other-people” centered thoughts when elaborating on different aspects of the donation decision. In contrast, thing-oriented individuals should have more “resource-evaluation” thoughts when elaborating on the donation decision. These cognitive responses would provide evidence for the mechanism underlying the relative preference for time versus money donations.

Specifically,

H2 The impact of person-thing orientation on preference for donating time versus money will be mediated by other-people centered and resource-evaluation thoughts.

Understanding that the natural proclivity of person-oriented individuals is towards donating time, and that of thing-oriented individuals is towards donating money, we now elaborate on how resource-specific scarcity might differentially impact these donation preferences. Drawing on prior research (Orquin & Kurzban, 2016; Häusser et al., 2019) we have earlier discussed that in charitable donations, scarcity of a specific resource would have a detrimental impact on the extent to which consumers would be willing to share *that* scarce resource with others. Thus, even though person-oriented individuals are naturally inclined towards donating time, this proclivity would be reduced under conditions of time scarcity, shifting their preference towards donating money instead. Similarly, even though thing-oriented individuals are naturally inclined towards donating money, this proclivity would be reduced under conditions of financial scarcity, shifting their preference towards donating time instead.

We further propose that time scarcity would not impact thing-oriented individuals. As previously discussed, the perceived value of time may vary by individual and is more directly linked to social capital. The ambiguity and intangibility of the value of time as a resource render it less salient to thing-oriented individuals, who are naturally more attentive towards the tangible. Thing-oriented individuals therefore would be less attentive towards time as a resource and consequently *scarcity* of that resource. Scarcity of time as a resource is thus relatively less likely to affect thing-oriented individuals with respect to their donation preferences. However, thing-oriented individuals would be affected by scarcity of a tangible resource like money, which would

nudge their natural donation preferences away from money, and towards time.

We also propose that financial scarcity would not affect person-oriented individuals. As previously discussed, money is easily quantified and rendered to material capital, and money as a resource lacks a social aspect, largely rendering interactions impersonal (Simmel, 1978; Bradford, 2015, p. 80; Belk 2010). Hence, money is rendered less salient as a resource to person-oriented individuals. Person-oriented individuals therefore would be less attentive towards money as a resource, and accordingly the *scarcity* of that resource. Scarcity of money as a resource is therefore relatively less likely to affect person-oriented individuals with respect to their donation preferences. However, person-oriented individuals would be affected by scarcity of an “other-focused” resource like time, which would nudge their natural donation preferences away from time, and towards money. Stated formally:

H3a Under conditions of time scarcity, person-oriented individuals will exhibit a higher relative preference for donating in the form of money compared to time (versus a control condition).

H3b Time scarcity will not affect donation preferences of thing-oriented individuals.

H4a Under conditions of financial scarcity, thing-oriented individuals will exhibit a higher relative preference for donating in the form of time compared to money (versus a control condition).

H4b Financial scarcity will not affect donation preferences of person-oriented individuals.

We test our propositions with the help of five studies. In Study 1, we measure individual PTO as defined in the literature, and in support of H1, show that person-oriented (thing-oriented) individuals have a relative preference for donating in the form of time (money), versus money (time). Importantly, we hold perceived relative resource scarcity constant in this study. We also test H2 and show the process underlying why person-oriented (thing-oriented) individuals are more inclined to donate in the form of time (money) via “other-people” (“resource-evaluation”) thoughts. In Study 2, we induce PTO based on procedures derived from past research. Converging with Study 1, Study 2 results show that when person (thing) orientation is induced, it leads to higher intentions to donate time (money; H1). Additionally, we demonstrate the impact of PTO on actual behavior with respect to individuals’ preferred donation method by measuring webpage visits.

In Studies 3 and 4, we directly manipulate resource scarcity, and show the impact of time scarcity on donation preferences of person-oriented individuals (Study 3) and the impact of

financial scarcity on donation preferences of thing-oriented individuals (Study 4), testing H3a-3b and H4a-4b respectively. We also differentiate the effect of PTO from the seemingly related construct of materialism in Study 4 and explore the impact on a consequential (incentive-compatible) financial donation behavior. Finally, in Study 5, we demonstrate additional practical implications of our research with respect to how individuals respond to social welfare initiatives under specific conditions of resource scarcity. We show that the natural proclivity of person-oriented individuals to volunteer time changes to monetary donations under conditions of time scarcity. The social initiative scenario used in Study 5 is based on a real-world government initiative aimed at getting citizens to volunteer to mentor underprivileged school children. Across our studies we use both real and hypothetical charitable organizations to enhance the validity of our findings. These five studies together demonstrate the important role of the construct PTO in determining donation preferences with respect to time versus money, under specific conditions of resource scarcity (Table 1). Our full conceptual framework is presented in Fig. 1.

Study 1: PTO and donation preferences

In Study 1, we explored the relationship between person-thing orientation and preference for donating in the form of time or money using a hypothetical charitable organization.

Specifically, we examined whether person/thing orientation spontaneously predicts relative preference for volunteering time versus donating money, thus testing H1. We further investigated whether this relationship could be explained by differential processing of information (specifically, via other-people centered and resource-evaluation thoughts) during deliberation regarding their donations, thus testing H2.

Participants and method

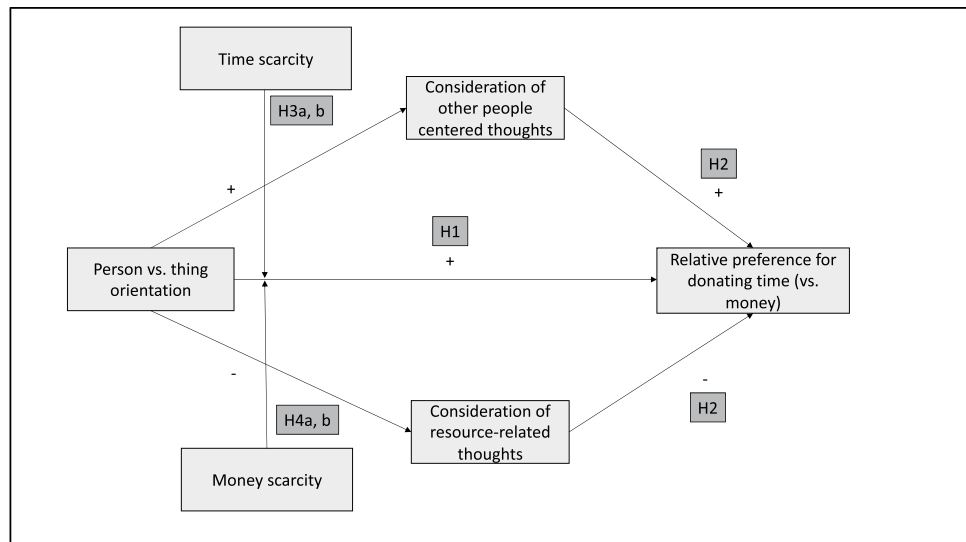
Two hundred and seventeen college students (51.6% females, $M_{age} = 22.42$, $SD_{age} = 4.29$) participated in exchange for course credit. The study was conducted in two parts. In the first part, respondents learned that they were participating in a study on social behaviors. Respondents first read the description of a hypothetical situation in which they had received an on-campus scholarship that paid very well, as a result of which they had surplus money that semester. In addition, they learned that they were taking easy classes during that semester and that these classes required very little studying, as a result of which they also had a lot of spare time. These descriptions were designed to ensure that participants did not perceive any resource (time/money) scarcity in this study in order to control for any effects of scarcity. The participants then imagined that one day during the semester, the students had been asked to donate to the “US Welfare Fund” (a fictitious charity) which promoted

Table 1 Overview of studies

Study	Hypotheses tested	Design	N	Charity	Person-thing orientation	Dependent measures
Study 1	H1, H2	PO vs. TO	217	US Welfare Fund (fictitious)	Measured (13-items)	(1) Donating money or time (10-point scale) (2) listed thoughts
Study 2	H1	PO vs. TO	400	Habitat for Humanity (real)	Manipulated	(1) Donating money or time (binary choice); (2) Actual behavior-Webpage visits
Study 3	H3a, H3b	2 (Time scarcity vs. Control) x 2 (PO vs. TO)	197	Center of Constitutional Rights (real)	Measured (13-items)	(1) Donating money or time (10-point scale)
Study 4	H4a, H4b	2 (Money scarcity vs. Control) x 2 (PO vs. TO)	802	Feeding America (real)	Measured (13-items)	(1) Donating money or time (10-point scale) (2) Incentive-compatible money donation (0 to 25 dollars)
Study 5	H3a, H3b	2 (Time scarcity vs. Control) x 2 (PO vs. TO)	447	Become a Mentor (real)	Measured (13-items)	(1) Willingness to volunteer one hour of their time; (2) number of hours willing to volunteer; (3) frequency of volunteer; (4) Donating money or time (binary choice); (5) Donating money or time (10-point scale)

PO = Person orientation; TO = Thing orientation

Fig. 1 Full conceptual framework showing moderation by resource scarcity



public awareness, policy-making, and medical research towards preventing cancer and AIDS (adapted from Reed et al., 2016). The participants then indicated the extent to which they would be interested in volunteering time versus money (1 = more likely to volunteer time; 10 = more likely to donate money). This scale was used to measure their relative preference for giving time or money. To prevent potential order effects, the participants were randomly assigned one of the two scale orders (1 = more likely to volunteer time, 10 = more likely to donate money; or 1 = more likely to donate money, 10 = more likely to volunteer time). Participants then listed the thoughts that went through their mind when they were deciding between their likelihood of donating money or volunteering time. Participants also completed questions regarding their perceived scarcity of time and money in the described hypothetical situation on a seven-point scale (“In this situation, how scarce is money for you?” and “In this situation, how scarce is time for you?;” 1 = not at all to 7 = extremely). Participants also rated the extent to which they thought the US Welfare Fund was supporting an important cause on a seven-point scale (1 = not at all, 7 = extremely), as well as how valuable time and money were to them (1 = not at all valuable, 7 = extremely valuable). In the second part of the study, presented as an unrelated “Orientations Study,” participants completed the full 13-item person-thing orientation scale (Graziano et al., 2011; Little, 1972). As part of this exercise, they rated the extent to which they enjoyed being in specific situations on a five-point scale anchored from 1 = not at all enjoyable to 5 = extremely enjoyable. For example, for assessing thing orientation, they rated five situations (e.g., “Remove the back of a mechanical toy to see how it works”) and for measuring person orientation, they rated eight situations (e.g., “Listen in on a conversation between two people in a crowd”). Please see Web Appendix A for the full set of

scales and items used. A thing orientation index was computed by averaging the five items that assessed orientation towards things in the environment ($\alpha = 0.81$), and a person orientation index was calculated by averaging the eight items that measured orientation towards other people ($\alpha = 0.74$). Following past research, the standardized z-score of the thing orientation index was subtracted from the standardized z-score of the person orientation index to calculate a derived person-thing orientation score (Little, 1972). The higher an individual’s score on this PTO derived measure, the higher their relative orientation towards *people* compared to *things* in one’s environment.

Results

Donation preferences A paired t-test showed that, as expected, participants did not significantly vary on the extent to which they perceived scarcity of time versus money ($M_{\text{time}} = 3.91$, $SD = 1.97$; $M_{\text{money}} = 3.65$, $SD = 1.78$; $t(216) = 1.83$, $p = .07$). We can thus isolate the effects of PTO on donation preferences. In this study as well as in the subsequent studies, the donation preferences of participants were coded such that higher numbers indicate a preference for donation in the form of time versus money. A linear regression with the derived PTO score as the predictor indicated that person-thing orientation was positively correlated with preference for donating in the form of time versus money ($\beta = 1.12$, $t = 5.89$, $p < .001$), supporting H1.

We ran separate regression analyses (similar to the above) on other measures: scarcity of resources, valuation of resources, and importance of the cause. The results showed that person-thing orientation was positively associated with the importance of the cause ($\beta = 0.27$, $t = 3.04$, $p < .01$). We therefore ran a regression analysis with the

PTO derived score as the predictor while controlling for the importance of the cause. The positive relationship between the PTO derived score and donation preference remained significant ($\beta = 1.10$, $t = 5.66$, $p < .001$). The results suggest that the effects observed were independent of the importance of the cause, highlighting the robustness of person-thing orientation as a reliable predictor of donation preference in the form of time or money.

Cognitive responses Two independent coders oblivious to the research question categorized participants' stated thoughts into three categories: other-people centered (e.g., "I would like to volunteer time to inform people about the risk of contracting AIDS rather than giving money. I believe that when people are aware and informed then they can avoid and prevent the disease"), resource-evaluation related (e.g., "I believe that money would be more useful for research for those diseases. So, I would rather give money, that will be better to buy equipment to get research done"), or other thoughts (unrelated to either other people or resources; e.g., "As an undergrad in the accounting major and an international student, I was thinking about my situation"). To examine whether PTO impacted donation preferences by influencing other-people centered thoughts and resource-evaluation thoughts, bootstrapping analyses were conducted using the PROCESS macro (Hayes, 2018; Model 4, 5000 samples). The PTO index was the predictor, "other-people centered thoughts" and "resource-evaluation related thoughts" were entered as mediators and the relative donation preference served as the dependent variable. The results revealed that both other-people centered thoughts (effect = 0.16, SE = 0.08, 95% Confidence Interval (CI) [0.01, 0.32]) and resource-evaluation related thoughts (effect = 0.16, SE = 0.08, 95% CI [0.03, 0.33]) mediated the observed effect of person-thing orientation on donation preferences, supporting H2 (see Fig. 2).

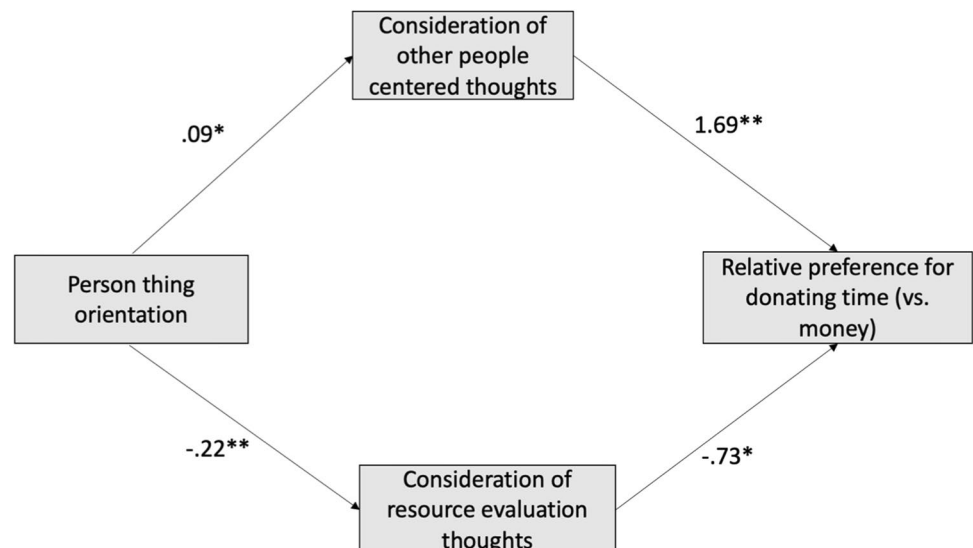
Discussion

This study provided initial support for the role of a novel individual difference variable, PTO, in predicting preference for volunteering time over donating money. Person-oriented participants were more likely to want to donate in the form of time (versus money) compared to thing-oriented participants, thereby supporting H1. Analysis of the cognitive responses indicated systematic differences in processing based on PTO. Person orientation was associated with elaboration of other people-centered thoughts and thing orientation was related to resource-evaluation thoughts, thereby supporting H2. In Study 2, we induce PTO based on procedures derived from past research, as opposed to measuring it as a trait variable, and provide additional support for H1, examining direct choice with respect to time vs. money donation preferences, as well as real behavior.

Study 2: Inducing person-thing orientation using advertising images

Study 2 used a different operationalization of person-thing orientation. While participants' chronic person-thing orientation (PTO) was measured in Study 1, Study 2 made PTO temporarily accessible via situational priming. We induced PTO using marketing stimuli—print advertisements of real products. To further increase the ecological validity of our findings, our charitable donation scenario was embedded in a real life and relevant setting of the aftermath of Hurricane Ida, featuring a real charitable organization. We also explored the impact on a managerially relevant behavior—participants' click-through rate to visit the charitable organization's website.

Fig. 2 Mediation analysis of the impact of person-thing orientation on donation preferences (Study 1)



Participants and method

Four hundred Prolific participants ($M_{\text{age}} = 40.97$, $SD = 14.30$; 49.3% female) completed the study. The study was conducted in three parts. In the first part, we manipulated person or thing orientation. Following McIntyre and Graziano (2016) who showed that person and thing-oriented people paid more attention to interest-congruent content of images (such that person-oriented people paid more attention to persons in the image), we used visual stimuli (real print ads) to manipulate person or thing orientation (Lee, 2019). We asked participants to view print ads which had both persons (i.e., consumers) and things (i.e., products; see Web Appendix B). Participants in the person orientation condition were asked to carefully focus on the consumers depicted in the visuals and describe the interactions of the consumers. In contrast, participants in the thing orientation condition were asked to focus on products contained in the visuals and describe the features of the product, especially the product features that were important for the working and operation of the product. Participants first finished two practice rounds in which they were provided instructions on how to identify the interaction of consumers or features of the products depicted in the ads, and then completed the same exercise with the five print ads. Viewing the same ad, participants in the person orientation condition, for example, focused on a family interacting with each other, whereas participants in the thing orientation condition focused on the features of a car such as its “navigation system,” “remote start,” “backup camera,” etc. This person/thing orientation manipulation was selected based on a pretest (Web Appendix B). Participants then completed the person-thing orientation manipulation check using 12-items adapted from the chronic PTO scale (Graziano et al., 2011, see Web Appendix A for details) such that six items formed the person orientation manipulation check ($\alpha = 0.77$), and six items formed the thing orientation manipulation check ($\alpha = 0.68$).

In a purportedly unrelated part of the study, participants learned that they were taking part in a study on charity evaluations. They learned about Hurricane Ida, a real natural disaster that had recently affected the northeastern states of the US. They then read about a real charity organization—Habitat for Humanity—which was engaged in raising and distributing aid following Hurricane Ida. Participants were directed to imagine that they had decided to support Habitat for Humanity and were asked to indicate whether they would be willing to support Hurricane Ida relief efforts by donating their money or by volunteering their time (1 = donate money, 2 = volunteer time), a direct choice-measure.

Participants also indicated (a) the extent to which they were personally affected by any hurricane in the past, and (b) the extent to which disaster caused by the hurricane really concerned them (1 = not at all, 7 = very much).

Finally, participants indicated the extent to which Habitat for Humanity was (a) important, and (b) relevant to them on two separate seven-point scales (1 = not at all, 7 = very much). Participants also rated the extent to which they felt time constrained and financially constrained in their daily life (1 = not at all, 7 = very much).

We also included a real behavioral measure to gauge participants' level of interest in knowing more about donating money versus volunteering time to the charity. Participants were shown a specific link for the Habitat for Humanity webpage where they could get more information about volunteering their time and a specific link for the Habitat for Humanity webpage where they could get more information about how to donate their money. The count of the number of participants in the PO and TO conditions who clicked on the respective links for volunteering time or donating money was obtained using a web analytics service (Mathur et al., 2023) and served as a measure of real behavior related to participant preference for donating time versus money. The study also included attention checks. We find similar results after excluding the four participants who failed the attention checks (see Web Appendix B for results excluding these participants). We report the full sample results here.

Results

Manipulation check An independent samples t-test conducted on the person-thing orientation manipulation confirmed the efficacy of the manipulation. As expected, participants induced to think about persons (versus things) scored higher on the person orientation manipulation check ($M_{\text{PO}} = 5.31$, $SD = 0.83$; $M_{\text{TO}} = 3.19$, $SD = 0.98$; $t(398) = 23.48$, $p < .001$). In addition, participants induced to think about things (versus persons) scored higher on the thing orientation manipulation check ($M_{\text{TO}} = 4.42$, $SD = 0.87$; $M_{\text{PO}} = 2.90$, $SD = 1.05$; $t(398) = 15.38$, $p < .001$). Similar analyses on the extent to which they had ever been affected by a hurricane, whether they were concerned about hurricane damage, importance of the charity, and perceived everyday constraints of time and money showed that none of these measures were significant (all t s < 1.64 , all p s > 0.10) and are not discussed further.

Donation choice We conducted a logistic regression with the person orientation vs. thing orientation condition as the predictor, and the binary time versus money donation choice of participants (1 = donate money, 2 = volunteer time) as the dependent measure. The findings showed that induced person-oriented participants (54.6%) chose to volunteer time compared to the induced thing-oriented participants (vs. 38.6%, $\chi^2(1, N = 400) = 9.94$, $p < .01$), thereby supporting H1.

Consequential behavioral measure: Click through rate The consequential behavioral variable of click through rates showed similar results. A higher percentage of person-oriented participants clicked on the volunteer-time link compared to thing-oriented participants (13.1% vs. 6.4%; $\chi^2(1, N = 400) = 4.55, p < .05$). In contrast, a higher percentage of thing-oriented participants clicked on the donate-money link as compared to person-oriented participants (16.4% vs. 7.9%; $\chi^2(1, N = 400) = 6.70, p = .01$). This direct behavioral measure also supports H1.

Discussion

Study 2's findings converged with those of Study 1 while providing additional support for our prediction by inducing person-thing orientation, using a different charity context, and measuring the impact on choice and actual click-through-rates. In aggregate, the two studies establish that person-oriented participants reliably demonstrated a preference to donate in the form of time (versus money) compared to thing-oriented participants, thereby supporting H1. Importantly, we induced person-thing orientation using marketing stimuli (advertising images), so Study 2 also suggests managerial interventions that can induce PTO and evoke a specific form of donations.

Study 3: Time scarcity and donation preferences of person-oriented individuals

In Study 3, we build on the findings of Studies 1 and 2 by examining the interactive effect of person-thing orientation and resource scarcity—specifically, time scarcity—on donation preferences. The objective of Study 3 was to test H3a, that time resource scarcity would influence person-oriented individuals to donate money compared to volunteering time (versus a control condition). We also expected that time resource scarcity would not impact thing-oriented individuals, such that their preference for donating in the form of money would be similar to that in a control condition (H3b). Again, for generalizability and to enhance the ecological validity of our findings, we featured a different real charitable organization in this study.

Participants and method

One hundred and ninety-seven mTurk participants (52.8% females, $M_{\text{age}} = 40.53, SD_{\text{age}} = 14.22$) participated in a single factor (time scarcity versus control) between-subjects study. The study was conducted in three parts. In the first part, participants were informed that the experimenters were interested in how people manage their time and money. Participants first indicated the financial value of one hour of

their time in dollars. They then proceeded to the second part where they were presented with either the time scarcity condition or the control condition. Time scarcity was induced by having participants think about and list the various factors that contributed to their personal time constraints (adapted from Tully et al., 2015). Participants in the control condition listed ten facts that they knew (Tully et al., 2015).

Subsequently, participants completed a purportedly unrelated part of the study where they first read a short description about a real charitable organization, the Center of Constitutional Rights and were directed to imagine that they had decided to donate to the organization. They were then asked to indicate, on a ten-point scale, their preference for the type of donation- volunteering time, specifically one hour, versus a monetary donation equivalent to their indicated dollar value of 1 h of their time. Participants were randomly assigned one of two scale orders to counteract potential order effects, (1 = I would prefer to volunteer one hour of my time; 10 = I would prefer to donate \$ __ of my money or 1 = I would prefer to donate \$ __ of my money; 10 = I would prefer to volunteer one hour of my time). Participants then completed manipulation checks for time scarcity using two items that assessed the degree to which they felt time constrained, and the extent to which they considered time constraints while making their judgments (1 = not at all, 7 = very much). The two items were aggregated to form a manipulation check index for time constraints ($\alpha = 0.84$). Participants also rated the extent to which the charitable organization was important and relevant to them on a seven-point scale (1 = not at all, 7 = very much). The two items were aggregated to form an “importance of charitable organization” index ($\alpha = 0.89$).

Next, participants completed the 13-item person-thing orientation scale described in Study 1 (person orientation: $\alpha = 0.79$, thing orientation: $\alpha = 0.85$). Finally, they indicated the extent to which they felt time constrained in everyday life (“Please rate the extent to which you feel time constrained in everyday life”) on a seven-point scale (1 = not at all, 7 = very much) and completed demographic information. The study also included three attention checks. We find similar results after excluding 10 participants who failed the attention checks (see Web Appendix C for results excluding these participants). We report the full sample results here.

Results

Manipulation check First, as in Study 1, the standardized z-score of the thing orientation index was subtracted from the standardized z-score of the person orientation index to calculate a derived PTO score for each individual, with higher scores on this derived score indicating that the individual is more person-oriented rather than thing-oriented. We analyzed the manipulation check index for time scarcity using a regression analysis with time scarcity, the PTO

derived score, and their interaction as the predictors. The regression analysis revealed only a main effect of time scarcity such that the participants in the time scarcity condition reported feeling more time constrained than in the control condition ($\beta = 0.43$, $t = 3.79$, $p < .001$). We ran separate regression analyses (similar to the above) on the importance of the charitable organization and respondent perception of feeling time constrained in everyday life. The results showed that person-thing orientation was positively associated with the importance of the charitable organization ($\beta = 0.41$, $t = 3.56$, $p < .001$).

Donation preferences Similar to Study 2, the relative time versus money donation preferences of participants were coded such that higher numbers indicate preference for donation in the form of time over money.

The regression analysis on the donation preferences index showed a main effect of person-thing orientation ($\beta = 0.57$, $t = 2.36$, $p < .05$) and a two-way interaction effect of PTO and time scarcity ($\beta = -0.67$, $t = -2.78$, $p < .01$). The spotlight analyses in the control condition revealed that person-oriented participants were more likely to donate in the form of time (versus money) compared to thing-oriented participants at the baseline ($\beta = 1.24$, $t = 3.57$, $p < .001$), further supporting H1 (Fig. 3).

Spotlight analyses on person-oriented participants' donation preference revealed that person-oriented individuals had a lower preference for volunteering time compared to donating money in the time-scarcity condition (vs. control; $\beta = -0.67$, $t = -2.12$, $p < .05$; see Fig. 3), supporting H3a. A similar analysis for thing-oriented participants revealed that the preference for volunteering time compared to donating

money was similar in the time scarcity and control conditions ($\beta = 0.57$, $t = 1.82$, $p = .07$; Fig. 3), supporting H3b.

To control for the importance of the charitable organization, the effect of which was previously found significant, we conducted identical regression analyses and observed that the two-way interaction of person-thing orientation and time scarcity remained significant ($\beta = -0.66$, $t = -2.75$, $p < .01$).

Discussion

Study 3 study supported H3a in that person-oriented individuals exhibited a higher preference for donating in the form of money compared to time when they perceived time scarcity (versus a control condition). However, time resource scarcity did not impact thing-oriented individuals (H3b). Consistent with Studies 1 and 2, but using a different real charitable organization, person-oriented participants were more likely to donate in form of time compared to money in the control condition, that is, when there was no time scarcity.

Study 4: Financial scarcity and donation preferences of thing-oriented individuals

In Study 4, we tested whether the relative preference of thing-oriented (vs. person-oriented) individuals for donating in the form of money is affected by the scarcity of financial resources, as outlined in H4a. We also examine whether person-oriented individuals' donation preference would be unaffected by financial scarcity (versus a control condition; H4b). An additional purpose of Study 4 was to examine the effects of materialism—a potential alternate account for the observed effects. Materialism denotes the desire for acquisition and ownership of things and defining success in terms of things one possesses (Belk, 1985) and has been shown to impact donation behavior. Materialism is associated with wealth accumulation (Kasser & Ryan, 1993) and is negatively associated with desire for volunteering (Bauer et al., 2012), helping behavior (Kasser, 2005), and willingness to donate to charities (Bennett, 2003). In addition, materialism and thing orientation may be potentially related because there is centrality of *things* in both the constructs, but these two constructs are not identical. For example, materialistic individuals focus on the acquisition of things in the pursuit of happiness whereas thing-oriented individuals focus on the interaction with things in the environment. In addition, past research has suggested that consumers facing financial scarcity have heightened materialism (Ger & Belk, 1996). Given that materialism has been shown to be peripherally related to theoretical elements of person-thing orientation and financial scarcity, in the current study, we explored whether materialism might impact donation preferences. To further enhance the generalizability of our findings, this

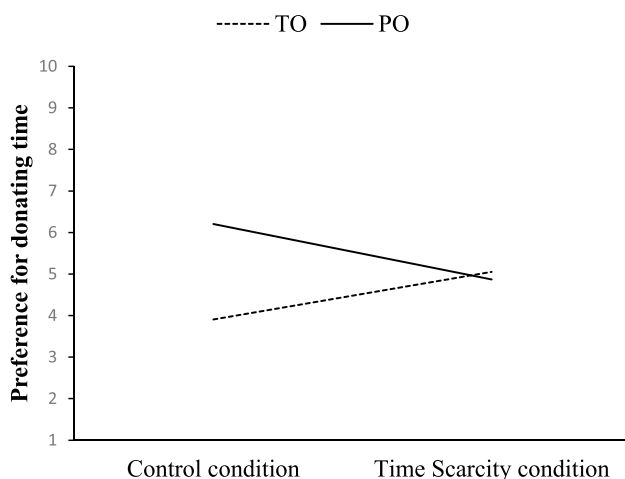


Fig. 3 Preference for donating time (versus money)^a as a function of person-thing orientation and time scarcity (Study 3). ^aUnstandardized regression coefficients

study also featured a different real charitable organization, and an additional different consequential dependent measure that was incentive-compatible.

Participants and method

Eight hundred and two Prolific participants (49.4% females, $M_{\text{age}} = 38.22$, $SD_{\text{age}} = 14.93$) completed a single factor (money scarcity versus control) between-subjects study. The study was conducted in two parts. In the first part, participants were presented with either the financial scarcity condition or control condition. Financial scarcity was manipulated by asking participants to think about and list the factors that contributed to their personal financial constraints (Malika et al., 2022). Similar to Study 3, in the control condition, participants were asked to list ten facts that were true. Subsequently, participants completed a purportedly unrelated part of the study where they read a short description about a real charitable organization, Feeding America. Participants were asked to imagine that they had decided to donate to the organization and were asked, on a ten-point scale, to indicate the form—time versus money—in which they would like to donate (similar to Study 1).

Participants then completed an incentive-compatible behavioral dependent measure. They were told that all participants would take part in a lottery in which two winners would receive \$25 (Duclos & Barasch, 2014). Participants were asked to make a choice regarding the cash that they might actually receive. They were asked to indicate how much of their \$25 cash they would give to Feeding America charity (\$0 to \$25).

After completing the dependent measures, participants completed manipulation checks for financial scarcity using two items that assessed the degree to which they felt financially constrained, and the extent to which they considered financial constraints while indicating their donation preferences on a seven-point scale (1 = not at all, 7 = very much). The two items were aggregated to form a manipulation check index for financial constraints ($\alpha = 0.85$). Participants also rated the extent to which the charitable organization was important and relevant to them on two separate seven-point scale (1 = not at all, 7 = very much). The two items were aggregated to form an importance of charitable organization index ($\alpha = 0.94$).

Next, similar to the earlier studies, participants completed the PTO scale (person orientation: $\alpha = 0.76$, thing orientation: $\alpha = 0.86$). As in previous studies, the standardized z-score of the thing orientation index would be subtracted from the standardized z-score of the person orientation index to calculate a derived PTO score for each individual—the higher the score on this derived measure, the more person-oriented the individual. In addition, participants completed the materialism scale on all three subscales—success ($\alpha = 0.84$), centrality ($\alpha = 0.77$), and happiness ($\alpha = 0.84$) using a five-point scale (1 = strongly disagree, 5 = strongly

agree; Richins, 2004). Finally, they indicated the extent to which they felt financially constrained in *everyday* life and completed demographic information. The study also included attention checks similar to Study 3. As before, we find similar results after excluding 11 participants who failed the attention checks (see Web Appendix D for results excluding these participants). We report the full sample results here.

Results

Manipulation check We analyzed the manipulation check index for financial scarcity using a regression analysis with financial scarcity, the PTO derived score, and their interaction as the predictors. The regression analysis showed only a main effect of financial scarcity such that the participants in the financial scarcity condition felt more financially constrained than in the control condition ($\beta = 0.43$, $t = 6.44$, $p < .001$).

We ran separate regression analyses (similar to the above) on other measures: importance of the charitable organization, everyday perceptions of money, and the materialism scale. The results showed that person-thing orientation was positively associated with the importance of the charitable organization ($\beta = 0.20$, $t = 6.34$, $p < .001$) and negatively associated with the happiness dimension of materialism ($\beta = -0.07$, $t = -2.75$, $p < .01$). These would be included as control measures in the subsequent regression analyses.

Donation preferences Similar to the earlier studies, the relative time versus money donation preferences of participants were coded such that higher numbers indicate preference for donation in the form of time over money. The regression analysis on the donation preferences index showed a main effect of person-thing orientation ($\beta = 0.30$, $t = 3.67$, $p < .001$) and financial scarcity ($\beta = 0.45$, $t = 4.13$, $p < .001$). As expected, there was a two-way interaction of PTO and financial scarcity ($\beta = -0.38$, $t = -4.63$, $p < .001$). Consistent with H1, spotlight analyses in the control condition revealed that person-oriented participants were more likely to donate in form of time (versus money) compared to thing-oriented participants at the baseline ($\beta = 0.69$, $t = 5.74$, $p < .001$).

Spotlight analyses of thing-oriented participants revealed that they preferred to volunteer time as compared to donating money in the money-scarcity condition (vs. control condition; $\beta = 0.95$, $t = 6.20$, $p < .001$; see Fig. 4), supporting H4a. Spotlight analyses for person-oriented participants revealed that their preference for volunteering time compared to donating money in the money-scarcity condition was similar to that in the control condition ($\beta = -0.06$, $t < 1$), supporting H4b.

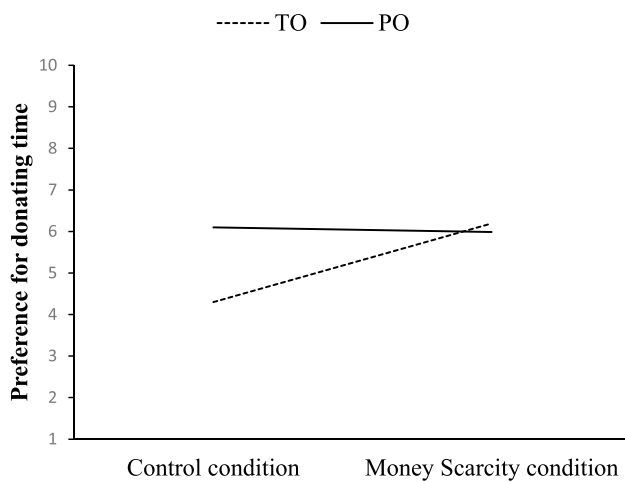


Fig. 4 Preference for donating time (versus money)^a as a function of person-thing orientation and money scarcity (Study 4). ^aUnstandardized regression coefficients

We also ran separate regression analyses (similar to the above) with each of three materialism subscales. These analyses did not reveal significant two-way interactions on the donation preferences (all t s < 1.64, p s > 0.10). We also ran regression analyses with PTO while controlling for the three subscales of materialism and the importance of charitable organization, which were previously found significant. The findings showed that the two-way interaction of PTO and financial scarcity remained significant ($\beta = -0.39$, $t = -4.69$, $p < .001$).

Incentive-compatible behavioral measure: Money donation to charity The regression analysis on the donation of the \$25 cash showed that a significant main effect of financial scarcity ($\beta = -0.67$, $t = -2.37$, $p < .05$). However, the two-way interaction effect of person-thing orientation and financial scarcity did not reach significance ($\beta = 0.38$, $t = 1.75$, $p = .08$). The spotlight analyses revealed that thing-oriented participants were willing to give less monetary donations in the scarcity of money resource condition (vs. control condition; $\beta = -1.16$, $t = -2.91$, $p < .01$), supporting H4a, whereas person-oriented participants donation preference was unaffected by financial scarcity (vs. the control condition; $\beta = -0.17$, $t < 1$), supporting H4b. Thus, we find evidence that an incentive-compatible behavioral measure replicates expressed donation preferences of person vs. thing-oriented individuals.

Discussion

This study demonstrated that scarcity of monetary resources impacts the effect of PTO on relative preferences for volunteering time or donating money. Consistent with the earlier studies, thing-oriented participants were more likely to

donate in the form of money compared to time when they did not perceive an explicit scarcity of money, but were more likely to volunteer time compared to donate money when they experienced financial scarcity (H4a). There was no impact of financial scarcity on the donation preferences of person-oriented individuals (H4b). Our findings also suggested that time versus money donation preferences were driven by PTO in particular, and not by materialism.

Study 5: Social initiatives soliciting time and money

The objective of this study was to replicate our previous findings in the context of social initiatives similar to what is seen in the real world. Specifically, we examined whether the relative preference for volunteering time versus donating money for person orientation and thing orientation extends to the context of government and social initiatives for charity campaigns. As before, we anticipated that person-oriented (vs. thing-oriented) participants would be more willing to donate their time, as predicted in H1. We also expected that this effect would be attenuated when they faced time scarcity (as per H3a). In contrast, thing-oriented participants would be less willing than person-oriented participants to donate time, and their time donation would be unaffected by time scarcity.

Participants and method

Four hundred and forty-seven mTurk participants ($M_{\text{age}} = 38.96$, $SD = 11.84$; 42.3% females) participated in a single factor (time scarcity versus control) between-subjects study. The study was conducted in three parts. In the first part, participants completed the items of the person-thing orientation scale (person orientation: $\alpha = 0.84$, thing orientation: $\alpha = 0.89$). As before, a standardized derived PTO score was calculated for each individual. Respondents then proceeded to the second part where they were presented with either the time scarcity condition or the control condition and subsequently indicated the financial value of one hour of their time in dollars, similar to Study 3. Participants also completed a measure that assessed the degree to which they felt time constrained in their everyday life on a seven-point scale (1 = not at all, 7 = very much).

Participants then completed a purportedly unrelated part of the study where they first read a short description about a “Become a Mentor Program” which described a government initiative reaching out to professionals who are competent in their fields to offer mentorship to one or more students in the Middle to High school age range in their local town, neighborhood, or community. The full description is presented in Web Appendix A. The description was adapted from real-world government citizen mentorship initiatives (e.g., the

New York state government (The New York State Mentoring Program, 2022); Delhi government in India (Hindustan Times, 2021)). Participants were asked the extent to which they would be willing to volunteer one hour of their time (1 = not at all willing, 7 = very willing), total number of hours of their time they were willing to volunteer over the next 12 weeks (0 to 100 h), and the frequency with which they would be willing to volunteer their time on an ongoing basis (1 = one-time only, 9 = as often as needed). Participants were also asked about their preference to donate to the Mentorship Program in form of time or money using a choice measure (1 = donate money, 2 = donate time) as well as a scale measure similar to earlier studies (1 = I would prefer to volunteer one hour of my time, 10 = I would prefer to donate \$ ___ of my money or 1 = I would prefer to donate \$ ___ of my money, 10 = I would prefer to volunteer one hour of my time; scale order randomly presented). Participants also rated the extent to which the Mentorship Program would help Middle and High School kids (1 = will not help at all, 7 = will help a lot), and rated the Mentorship Program on favorability (1 = unfavorable, 7 = favorable), usefulness (1 = not useful, 7 = useful), and desirability (1 = undesirable, 7 = desirable).

Finally, participants completed two additional measures about the scarcity manipulation writing task: ease of writing (1 = Very difficult to write, 7 = Very easy to write) and effort to write (1 = Took a lot of effort to write, 7 = Took little effort to write). These two measures were combined to form an index of ease of writing task ($\alpha = 0.69$). In the end, participants provided their demographic details including political orientations. The study also included two attention checks. We find similar results after excluding 27 participants who failed the attention checks (see Web Appendix E for results excluding these participants). We report the full sample results here.

Results

Volunteer time for mentorship program The regression analysis on the willingness to volunteer showed a main effect of PTO ($\beta = 0.44$, $t = 4.84$, $p < .001$) such that person-oriented individuals indicated a stronger preference to volunteer their time compared to thing-oriented individuals.

As expected, the regression analysis on the willingness to volunteer showed a two-way interaction effect of the PTO index and time scarcity ($\beta = -0.28$, $t = -3.14$, $p < .01$). Spotlight analyses revealed that in the time scarcity (vs. control) condition, as expected, person-oriented participants reported being less willing to volunteer time ($\beta = -0.34$, $t = -3.39$, $p = .001$), supporting H3a. Spotlight analysis for thing-oriented participants revealed a similar preference for volunteering time in both the scarcity and control conditions ($\beta = 0.11$, $t = 1.06$, $p = .29$).

We ran separate regression analyses (similar to the above) on other measures: importance of the cause, everyday perceptions of time and money resources, ease of writing task, political orientation, and attitude towards the current government. The results showed that person-thing orientation was positively associated only with the importance of the charitable organization ($\beta = 0.38$, $t = 6.05$, $p < .001$), and ease of the writing task ($\beta = 0.31$, $t = 3.89$, $p < .001$). We thus ran a separate regression analysis while controlling for the importance of the charitable organization and ease of the writing task measure. The interactive effect of the PTO score and time scarcity condition remained significant ($\beta = -0.25$, $t = -3.52$, $p < .001$). Similar results were found for other dependent measures (see Web Appendix E).

Discussion

This study showed that the impact of PTO on relative preferences for volunteering time over donating money extends to social and government initiatives, modeled on real-world government programs. Consistent with the earlier studies, person-oriented participants were more likely to donate in the form of time at the baseline compared to thing-oriented participants for the Mentorship Program. However, this difference between person-oriented individuals and thing-oriented individuals reduced under the time scarcity condition. In other words, person-oriented individuals, chronically inclined to volunteer time rather than donate money, demonstrated a reduced preference for volunteering time under the time scarcity condition.

As a separate addendum to Study 5, we had additionally explored whether the combined impact of PTO and time scarcity would influence consumer support for non-charitable government welfare initiatives which had mandatory (as opposed to voluntary; De Wit et al., 2018) financial implications via taxes, such as the US government's recent Infrastructure bill. However, we do not find that to be the case (see Web Appendix E for full details). We conclude that since one's perceived level of scarcity would not differentially impact whether one pays taxes, consumer support for such initiatives would not be impacted by their scarcity perceptions. In other words, the combined effect of PTO and resource-scarcity, as we have studied here, is restricted to charitable initiatives where consumers have agency over the resources available for donation.

General discussion

This research documents that an individual's relative preference for donation in the form of time versus money is contingent upon both perceived resource scarcity and an understudied disposition variable, their individual

person-thing orientation. Across five studies using different charitable organizations (both hypothetical and real) and real-world government initiatives, we offer a resource-specific account of the combined effects of PTO and scarcity of resources on time versus money donation preferences across a variety of dependent measures including a tradeoff between time and money, binary choice, actual behavior including click-throughs, and incentive-compatible donations. As we show, person-oriented (vs. thing-oriented) individuals prefer donating in the form of time versus money, but this preference is reversed under time scarcity. Importantly, time scarcity does not affect the donation preferences of thing-oriented individuals. In contrast, thing-oriented (vs. person-oriented) individuals prefer donating in the form of money versus time, but this preference is reversed under financial scarcity which, interestingly, does not impact donation preferences of person-oriented individuals. We underscore the importance of person-thing orientation in determining charitable intention and behavior, especially in the face of resource-specific scarcity, by demonstrating that donors focus on other people vs. resource-evaluations as evidenced by their documented thoughts. We document these effects using PTO as a measured construct, and additionally demonstrate that PTO can be induced as a state, which has important implications for marketing communications seeking charitable donations.

We thus identify how resource-scarcity interacts with a previously understudied individual difference variable—person-thing orientation—and impacts time versus money donation preferences, adding to the growing research identifying individual variables impacting such donation preferences (e.g., Lee & Williams Bradford, 2015; Reed et al., 2016). Our resource-specific perspective also provides one account that explains the equivocal effects of scarcity on charitable behaviors. Our research has important implications for charitable organizations wishing to specifically solicit either volunteer time or monetary donations. We next discuss the theoretical and managerial implications of our work in detail.

Theoretical contributions

This research contributes to our understanding of the differential impact of scarcity of resources, specifically time resource and money resource, on the prosocial behavior of consumers, and contributes to the growing literature studying the downstream effects of consumer responses to resource scarcity from the perspective of the donor as well as the recipient (Cannon et al., 2019; Mukherjee et al., 2020). First, our work presents a framework to reconcile the mixed results reported in the literature regarding

how scarcity (from the perspective of the donor) impacts prosocial behavior, as described earlier. Past research has provided conflicting evidence as to whether resource scarcity leads individuals to be more inclined to save resources and so, be less willing to share resources (Roux et al., 2015) or be *more* willing to share their resources with others (Häusser et al., 2019; Piff et al., 2010). Our research suggests that when consumers face scarcity of a specific valued resource such as time, they are more willing to share other resources that are relatively not scarce. Hence, our findings are parallel to and extend research on conservation of resources theory (Hobfoll, 1989; Orquin & Kurzban, 2016) by documenting that scarcity of time and money resource have domain specific effects. Hence, when consumers face scarcity of time, they prefer to donate in the form of money, and when consumers experience scarcity of monetary resources, they prefer volunteering time. Thus, the understanding of the impact of scarcity on donation preferences is incomplete without assessing *specific* resource scarcities.

Critically and in addition, specific resource scarcity *differentially* impacts individuals based on their PTO. While scarcity of time does not modify the donation preferences of thing-oriented individuals, it increases the likelihood of monetary donations by person-oriented individuals. Conversely, financial scarcity does not change the donation preferences of person-oriented individuals, however, it increases the likelihood of volunteering time by thing-oriented individuals. The understanding of the impact of resource scarcity on donation preferences is thus incomplete without the understanding of PTO and how individuals process their environment. Our findings therefore provide a nuanced perspective of understanding charitable behaviors in response to scarcity and a suggested path of reconciling the conflicting findings in the literature.

Our work also highlights the relevance of PTO to consumer domains. Despite the significance of the PTO construct highlighted in vocational and clinical psychology, relatively little attention has been paid to the systematic examination of PTO in the area of consumer research. This research offers novel insight to consumer behavior engendered by person or thing orientation and is the first to establish the downstream effects of PTO in marketing. Specifically, in the context of charitable donations, our findings show that person-oriented and thing-oriented individuals have divergent preferences for donating in the form of time and money respectively and respond differently to resource scarcity. This is because person versus thing orientation leads to asymmetric processing when thinking about charitable giving. When deliberating *how* to donate, person-oriented individuals are influenced by other-people related thoughts, while thing-oriented individuals recall more resource-evaluation thoughts. We also demonstrate

the differential effects on person- and thing-oriented individuals with respect to support towards government initiatives focusing on volunteering time (Study 5), with important regulatory implications for designing social welfare initiatives (Basu & Chattopadhyay, 1995). As our Study 5 demonstrates, while person-oriented individuals' tendency to donate their time may be diminished by perceptions of time scarcity, we also show that thing-oriented individuals will be more willing to donate their time when they perceive monetary-scarcity (Study 4). As such, our results implicate PTO as a critical operant factor, the understanding of which benefits charitable organizations seeking time donations. Finally, we demonstrate that PTO may be manipulated as a state variable using advertising images, with implications for framing marketing appeals.

The present research adds a novel perspective to the existing literature on prosocial behavior. Prior research has widely acknowledged that personal and contextual factors influence prosocial behavior (e.g., moral identity, Reed et al. (2016), and self-construal, Lee and Williams Bradford (2015)). We build on this research and examine how the scarcity of resources and conative differences among individuals interact to impact prosocial behavioral tendencies. To examine how PTO is conceptually similar to but also distinct from other individual difference constructs which have been found to impact preferences for donating time versus money, we conducted three additional correlational studies. We first examined how PTO is associated with moral identity. The extent to which moral characteristics are an important part of one's self-concept defines moral identity (Reed et al., 2007). The internalization dimension of moral identity, measured by items such as "It would make me feel good to be a person who has these characteristics," captures the extent to which moral characteristics are deeply rooted in the self-image. Assessed by items such as "I often wear clothes that identify me as having these characteristics," the symbolization dimension of moral identity measures the extent to which the moral characteristics are publicly endorsed through the person's behavior. Person orientation may be related to moral identity because both constructs are related to the social environment. However, while person orientation is related to a person's attention towards the social environment (Little, 1972; McIntyre et al., 2021), moral identity more specifically involves identifying oneself with moral traits (Reed et al., 2007, 2016). Empirically, we found that that the internalization and symbolization dimensions of moral identity had moderate correlations with person orientation ($r < .36$). Next, self-construal refers to how individuals perceive the self in relation to others (Markus & Kitayama, 1991; Singelis, 1994). An independent self-construal views the self as separate from the social context, while an interdependent self-construal views the self to be embedded in a social context or group; their behaviors are

dependent on the cognitions and emotions of their social group. Person orientation, on the other hand, is about an individual's *attention* to the social aspects of the environment (rather than the physical objects in the environment). In fact, person orientation may be related to both independent and interdependent self-construal (considered to be orthogonal in the literature). A person-oriented individual may be malleable in their interactions with the social environment, but not necessarily view themselves to be a part of a social group. We conducted correlational studies examining whether PTO is related to other constructs such as self-construal, empathy (Davis, 1983), regulatory focus (Higgins et al., 2001), desire for control (Burger & Cooper, 1979), need for cognition (Cacioppo & Petty, 1982), implicit theory (Dweck & Leggett, 1988), and self-monitoring (Snyder, 1974). The findings suggested that the correlations were in the low to moderate range, i.e., all correlation less than $|0.38|$, implying the PTO assesses a distinct construct (Cohen, 1988; Hsee et al., 2015). The results of these studies are reported in Web Appendix F.

Our findings contribute to an important study in prosocial research, the form of donation that consumers may prefer. This investigation has implications for prosocial behavior literature by identifying a variable that moderates the "time aversion" effect (e.g., Lee & Williams Bradford, 2015; Reed et al., 2016). As discussed, other research on prosocial behavior has specifically studied consumer preferences for donating time versus money. As noted, this literature has repeatedly observed the preference for donating in terms of money and avoidance of volunteering time (e.g. Reed et al., 2016). Specifically, we document that specific resource scarcity and person-thing orientation moderated the preference for donating in form of money (versus time). This theoretical insight is critical as it has policy implications for how charities can more successfully solicit charitable behavior from people who differ in their person-thing orientations and experience scarcity of resources (see below).

Some observations that emerged from our findings raise questions that need further investigation. We predicted and observed that scarcity of time versus money impacts donation preferences. Past research has shown that feelings of deprivation have psychological consequences in terms of negative emotions (Chase & Walker, 2015). Future investigation may examine how these negative emotions may influence differential donation preferences. For instance, the effect of specific negative emotions such as sadness and anxiety on donation preferences is likely to be an area of future research (Raghunathan & Pham, 1999). Relatedly, recent research has shown that charitable behavior, due to its association with benevolence (Martela & Ryan, 2016), may in fact lead to happiness even in times of deprivation. Recent country-happiness surveys show that all countries in the top 10 of the "World's Happiest Countries" list report increased

charitable behavior, especially in the form of time donations, especially to distant others, as a driver of reported happiness (Helliwell et al., 2022). Thus, this nascent understanding of the link between charitable behaviors and reported self-happiness may especially be informed by further investigating the effects of PTO and its effects on charitable behaviors during times of scarcity.

Notably, in this research we have only focused on time and money as resources most commonly sought and donated in prosocial behavior (Johnson & Park, 2021). However, there are other forms of capital that are pertinent to the study of prosocial behavior such as bodily capital as in organ donation (Bradford & Boyd, 2020; Bradford, 2020). It is unclear how PTO as an individual difference variable may moderate perceived scarcity of other kinds of capital, and this could be examined in future research.

While in this research we focused on how PTO impacts prosocial behavior in the light of resource scarcity, this understudied PTO variable has vast implications on other aspects of consumer behavior. For example, Rahinel and Ahluwalia (2015) find that paying attention and orienting to one's environment impacts judgement and decision-making regarding products. This research, however, assumes physical and social aspects of environment to be functionally comparable. Our research shows that differential orientations towards people versus things in the environment are manifested in disparate elaborations and behavior, which is likely to have implications on how consumers respond to products and marketing stimuli. Future research considering interactions between consumers and their environment should measure and control for individual PTO. Past research has suggested that the dimensions of person orientation and thing orientation are orthogonal, and apart from person and thing “specialists” (as examined in the current research), some individuals could be high on both (generalists), or low on both dimensions (non-specialists; Graziano et al., 2012; Little, 1976). Future research on PTO could examine the responses of these different segments to marketing communications. For instance, it would be fruitful to better understand the charitable behavior of generalists in future research. In the literature on altruism, a consistent finding is that as the number of victims who are in need increases, paradoxically the amount of emotional experience felt for the victims remains constant or even decreases. While feeling emotions for ‘one’ victim involves attention to only the person, feeling emotions for ‘many’ victims also involves sensitivity to numbers and scope of tragedy (Dunn & Ashton-James, 2008). We anticipate that generalists may be more willing to help when there are ‘many’ victims involved.

Our Study 2 demonstrated that person orientation may be induced by exposure to advertisements depicting human interactions, while thing orientation may be induced by

exposure to images of humans interacting with objects. Future research should consider other downstream consequences of person vs. thing state orientation, such as receptivity to different kinds of marketing communications, and specifically calls to action. Finally, the construct of person-thing orientation could be critical in understanding differential consumer reactions in other important marketing contexts- for example in understanding consumer reactions to anthropomorphized products (Yang et al., 2020; Belk & Kniazeva, 2018), and consumer reactions to technology and artificial intelligence (AI; e.g., Longoni and Cian 2022). Person-oriented individuals (compared to thing-oriented individuals) may be relatively more favorably disposed toward anthropomorphized products, while thing-oriented individuals (compared to person-oriented individuals) may be relatively more favorably disposed towards AI, especially in the growing context of AI potentially replacing human employees and service providers. In fact, PTO may even differentially impact consumer reactions to ethical concerns regarding AI and service robotics (Belk, 2021). We propose the examination of these important questions in future research.

Managerial and policy implications

While charitable organizations have immense social significance, soliciting adequate resources in the form of time and money is the most important challenge for them (West, 2004). As previously discussed, soliciting volunteer time is perhaps the bigger challenge for charities. The conceptual understanding of prosocial behavior and consumer characteristics can help these charitable organizations design specific promotional strategies that can elicit bigger donations- specifically, for time or money, as critical at a given time. The present work may, therefore, interest charitable and nonprofit organizations at large. During recent economic slowdowns due to macro events such as pandemics and regional wars, consumers around the globe have experienced financial constraints due to reductions in income, inflation, rising health-care expenses, the inability to service debts, and job loss. For example, a national survey reported that about 70% of adults felt that the Covid-19 has caused financial worries (National Foundation for Credit Counseling, 2020). Economic contraction may lead consumers to face important trade-offs in their prosocial behaviors. Our research suggests that consumers may prefer to volunteer their time under such conditions and hence, charitable organizations should promote how consumers can safely volunteer their time (such as by virtual volunteering). In contrast, the possible significance of volunteering time has been highlighted by the mainstream media by encouraging consumers to consider donating in the form of time when they face economic scarcity (Fox, 2019). In a piece titled “Can I Afford to Be Generous During

a Pandemic?,” Bloomberg Opinion suggests to “offer your time and skills in lieu of cash” (Lowry, 2020). Our findings also offer an individual-level variable account on why there is seemingly an increase in monetary donations during difficult times. As our work shows, only an understanding of resource-specific scarcity and PTO at an individual level can predict whether someone is more or less likely to donate time/money at a given point of time. Importantly, a general statement cannot be made about whether donation behaviors would increase or decrease during times of scarcity.

Due to the differential cognitive processes for person vs. thing-oriented individuals, as discussed previously, it may also be that person-oriented consumers are more positively oriented towards charities or projects that directly aid people such as Habitat for Humanity, Doctors without Borders, Sleep in Heavenly Peace, or the Big Brothers and Sisters of America organizations, local community organizations such as Parent-Teacher Associations, as well as agencies such as the World Food Program that focus on human rehabilitation from hunger and famine. Thing-oriented consumers are likely to be more positively oriented towards charities that focus on rebuilding infrastructure, such as Bloomberg Philanthropies’ Local Infrastructure Hub (Bloomberg, 2022), as well as charities such as the WWF and Red Cross that cannot rely on amateur volunteers but must rely on donations due to the nature of their global operations. In general, time and volunteer donations are essential not only for charitable organizations, but also for the effective functioning of many social institutions such as public schools which rely on time donations from parent volunteer associations, or community common areas such as parks and recreation centers which rely on volunteer resident associations. Indeed, time donations of such volunteer efforts are often irreplaceable and their donations are immeasurable and not easily matched. Policy makers may therefore benefit from a better understanding of charitable behaviors and PTO to more accurately value the time and efforts of volunteers, especially because while money can often be substituted by time, often, people’s time cannot always be equally offset by monetary donations. A prime example of this is elderly care, where between 17.7 million to 32.4 million unpaid informal and family caregivers perform everyday care for more than two years at a time on an average (Plichta, 2018). The recent change in Medicaid and Medicare policy to better support and compensate family and other informal caregivers of the elderly, i.e., allowing Medicaid/Medicare recipients to choose a compensated caregiver, including family, is a step in the desired direction of assessing and valuing caregiver time, and our research provides a framework to understand how to continue to support volunteerism with and without considerations of compensation.

From a managerial viewpoint, our findings provide charitable organizations insights into the psychology

of donors to help them plan more effective advertising campaigns. Understanding the person-thing orientations of consumers will help marketing managers generate marketing messages that are in line with the preferences of the consumer. For example, prosocial messaging that highlights requests for monetary resources may be more effectively aimed toward consumers who are expected to be oriented towards the physical environment (thing-oriented). Similarly, prosocial messaging that is targeted to elicit a greater willingness to volunteer time may be more effective for person-oriented individuals. Alternately, framing of message appeals with respect to focusing on “humans” vs. “objects” could also determine whether it would be more appealing to PO or TO individuals. It is also plausible that a thing-oriented individual’s innate disinclination for donating time may be reversed by describing a volunteering opportunity in specific, numerical or analytical terms that can result in tangible benefits for the recipient. For example, “Two hours of your time can help prepare 20 ready-to-go survival kits.” Conversely, a person-oriented individual’s innate disinclination for donating money may be reversed by highlighting the social benefits of a specific amount of donated money (e.g. “Your sponsorship will help home a family together”), or even highlighting the impact of the donated money on a specific individual beneficiary (Small & Loewenstein, 2003). Essentially, marketing messages or charity donation appeals can be framed in diverse ways to encourage participation by both person and thing-oriented individuals. In other words, through appropriate framing, donating time or money could be made equally attractive to both types of individuals. If the number of hours donated could be framed as having a financial impact greater than the average monetary/wage equivalent of that time, the proposition of time donation would arguably be equally appealing to a thing-oriented individual. Finally, donation requests that are in line with one’s internal predispositions would arguably mitigate the feelings of “sacrifice” on the part of the donor, leading to better and more long-term engagement (Bradford & Boyd, 2020; Varman et al., 2022). Arguably these would also increase happiness from donating, and increase individual well-being (e.g., Dunn et al., 2008; Helliwell et al., 2022). On a broader scale, marketers could use these differences in orientation as a reliable marketing segmentation variable. In many consumer settings, non-profit organizations are often looking for relevant TV shows, magazines, and websites to advertise donation appeals. However, these media may vary on their focus regarding aspects of the environment. For example, the content of television programs may exemplify either the social (such as a show like “Friends”) or physical aspects of the environment (such as a show like “Planet Earth”). The orientations held while viewing these programs may be altered temporarily, as evidenced in our Study 2, resulting in

processes that could lead to differential persuasiveness of the non-profit organization advertising embedded in these shows. In addition, marketers can use popular culture elements to induce either a person orientation or a thing orientation. For example, the character Mr. Spock from Star Trek often stressed his preference for “the concrete...the graspable. the provable,” and appreciated being compared to a “splendid computer” by Captain Kirk (e.g., Star Trek: The Original Series; Season 1 episode 21: “The Return of the Archons”). In contrast, Mr. Rogers, the beloved childrens’-programming character often focused on the “people in his neighborhood.” As such, while Spock may be consonant with thing orientation, Mr. Rogers may be consonant with person orientation. Marketers may therefore utilize such well-recognized characters in line with their objectives for donation drives. Similarly, firms can also strategically highlight messages that are consistent with person or thing orientation. For instance, while dealing with Hurricane Ian, American Homes 4 Rent CEO David Singelyn highlighted the firm’s person orientation by stating, “We first prioritize the human aspect of these disasters over the asset component” (CNBC, 2022). Thus, we offer methods to charity organizations, marketers, and policy makers to induce person versus thing orientation when suitable for more effective communications engendering charitable behavior. Overall, our findings inform the extant altruistic literature and practicing managers of the nuances involved in using the person-thing orientation as a segmentation variable for non-profit organization donation appeals.

Broader implications

There are other broad and far-reaching implications of our research on PTO. While we did not find overall effects of gender in our studies, some past research on PTO has speculated on gender differences. Preliminary evidence suggests that thing-orientation may be generally more associated with males than females (Woodcock et al., 2013; Little, 1972). Also, extreme thing-orientation has been associated with an autistic personality that is more commonly seen in males (Baron-Cohen, 2002). This might offer a possible explanation for why women are underrepresented in STEM fields and why gender disparity exists in high-paying careers and analytical jobs (Krishna & Orhun, 2022). Self-awareness of PTO may enable students to consider a range of career options and overrule gendered stereotypes. Importantly, as person/thing orientation can be situationally induced, it may be possible to “train” individuals one way or the other. For example, immersion in analytical and quantitative training (which may induce thing-orientation) could actually increase affinity towards the STEM-related fields. In a similar vein it is possible that person-oriented individuals naturally gravitate towards professions that are involve care-giving and social interactions such as nursing, hotel management,

and teaching, while thing-oriented individuals may gravitate towards jobs that are more structured and rule based such as programmers, clerks, and operations managers. One could conjecture that an art museum curator who leans towards portraits and paintings that depict families and other human interactions is relatively higher on person-orientation, while a curator who is focused more on landscapes or the abstracts or the Impressionists may be relatively higher on thing-orientation, with implications for art collections curated for the public. One may even speculate that among academics, a qualitative researcher who engages in immersive depth interviews with informants is relatively more person-oriented compared to a quantitative researcher who identifies statistical relationships from data.

In addition to gender, considerations of person and thing orientation may be important and operant at a society and institutional level, in one instance, due to emerging changes in population structures. Due to adverse population structural changes, some countries such as Japan (Reuters, 2023) are now declaring a crisis due to a declining population, calling for an increase in “people” in these countries, resulting in a strong people-focus in these countries. Such a focus might engender a widespread people-orientation and might offer a natural experiment to examine the effects of PO and TO on a myriad of phenomena, especially in communities that have skewed population distributions. For example, countries that are now focused on people and at a national level, have a people-orientation, might enact legislation that better values people’s time, or supports time taken for self and family care, as well as recreation. As such, at a macro level, a better understanding of PTO, and its attendant association with time and money as resources, might help regulators and governments in these countries to better action strategic plans for more favorable population distributions and the resultant more productive economies.

Finally, our research suggests that individuals respond differently to scarcities of resources such as time and money as per their innate person or thing orientations. However, different segments of society are inherently structured by scarcity, perceived or real. It is not that general scarcity alone structures societal hierarchies. A resource-specific perspective reveals that for example, employed people have money but lack time while retired people have more time but may have less monetary resources. Similarly, the poor and unemployed have abundant time with negligible resources. Thus, a resource-specific perspective of time and financial scarcity appears to be a better predictor of societal hierarchies. Recent research (Malika & Maheswaran, 2023) suggests that a resource-specific perception of scarcity can explain why certain firms that are time-scarce (“busy”) are perceived to be more competent, compared to firms that are money-scarce (“poor”), which are conversely perceived to be higher on warmth, with implications for consumer purchase

preferences. We thus hope that future research looks more carefully at the broader implications of both PTO and resource-specific scarcities on core societal aspects, consumer well-being, and marketing strategies.

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Declarations

Conflict of interest The authors declare that they have no conflict of interest.

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