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Deserving to Indulge and Donate: Drivers of Virtuous Consumer Behavior

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Appendices

Appendix 2.A: Overview of Measures in Study 1

Measure ^a	Items
PANAS-X (Guilt and self-assurance items only) 5-point scale: 1 = very slightly or not at all to 5 = a lot (Watson & Clark, 1994) ^a	Confident Ashamed Bold Blameworthy Disgusted with self Guilty Strong Proud Daring Angry at self Dissatisfied with self Fearless
State shame and guilt scale 5-point scale: 1 = not feeling this way at all to 5 = feeling this way very strongly (Marschall et al., 1994) ^b	<i>Guilt:</i> I feel bad about something I have done. I feel like apologizing, confessing. I cannot stop thinking about something bad I have done. I feel tension about something I have done. I feel remorse, regret. <i>Pride:</i> I feel good about myself. I feel worthwhile, valuable. I feel capable, useful. I feel proud. I feel pleased about something I have done. <i>Shame:</i> I want to sink into the floor and disappear. I feel small. I feel like I am a bad person. I feel humiliated, disgraced. I feel worthless, powerless.
4-item self-concept scale 7-point scale: 1 = strongly disagree to 7 = strongly agree (Khan & Dhar, 2006) ^b	I was compassionate. I was sympathetic. I was warm. I was helpful.
Behavioral disengagement 4-point scale: 1 = I did not do this at all to 4 = I did this a lot (Carver et al., 1989) ^c	I gave up the attempt to get what I want. I just gave up trying to reach my goal. I admitted to myself that I couldn't deal with it, and quit trying. I reduced the amount of effort I was putting into solving the problem.
Realism of the grocery trip 7-point scale: 1 = strongly disagree to 7 = strongly agree	The choices I made accurately reflect what I would do in my regular grocery store. The comparisons I made between products and prices closely reflected how I make decisions in my regular grocery store. The prices presented during the grocery trip were realistic. The prices presented during the grocery trip were fair. I was familiar with the products presented during the grocery trip. Most of the presented products are sold at my regular grocery store.
Attention check 5-point scale: 1 = strongly disagree to 5 = strongly agree	Please select 'Disagree' as your answer for this item.
Health consciousness 5-point scale: 1 = strongly disagree to 5 = strongly agree (Dutta-Bergman, 2004)	Living life in the best possible health is important to me. Eating right, exercising, and taking preventive measures will keep me healthy for life. My health depends on how well I take care of myself. I actively try to prevent disease and illness. I do everything I can to stay healthy.

	Calorie information is important to me.
Health consciousness 5-point scale: 1 = strongly disagree to 5 = strongly agree (Gould, 1988)	I reflect about my health a lot. I'm very self-conscious about my health. I'm generally attentive to my inner feelings about my health. I'm constantly examining my health. I'm alert to changes in my health. I'm usually aware of my health. I'm aware of the state of my health as I go through the day. I notice how I feel physically as I go through the day. I'm very involved with my health.
General Health Interest (subscale of the Health and Taste Attitude Scales (HTAS)) 7-point scale: 1 = strongly disagree to 7 = strongly agree (Roininen et al., 1999)	The healthiness of food has little impact on my food choices. (R) I am very particular about the healthiness of food I eat. I eat what I like and I do not worry much about the healthiness of food. (R) It is important to me that my diet is low in fat. I always follow a healthy and balanced diet. It is important for me that my daily diet contains a lot of vitamins and minerals. The healthiness of snacks makes no difference to me. (R) I do not avoid foods, even if they may raise my cholesterol. (R)
Perceived competence (maintaining a healthy diet) 7-point scale: 1 = Not at all true to 7 = Very true (Williams & Deci, 1996)	I feel confident in my ability to maintain a healthy diet. I now feel capable of maintaining a healthy diet. I am able to maintain a healthy diet permanently. I am able to meet the challenge of maintaining a healthy diet.
Health motivation scale 7-point scale: 1 = strongly disagree to 7 = strongly agree (Moorman, 1990)	I try to protect myself against health hazards I hear about. I am concerned about health hazards and try to take action to prevent them. I try to prevent health problems before I feel any symptoms.
Dietary restraint scale 3- and 4-point scale (see right column) (Herman & Mack, 1975)	How often are you dieting? (0 = never, 4 = always) What is the maximum amount of weight (in kilos) you have ever lost within 1 month? (0 = 0–2.5, 4 = 10+) What is the maximum amount of weight gain (in kilos) within a week? (0 = 0–0.5, 4 = 2.5+) In a typical week, how much does your weight fluctuate? (0 = 0–0.5, 4 = 2.5+) Would a weight fluctuation of 2.5 kilos affect the way you live your life? (0 = not at all, 3 = very much) Do you eat sensibly in front of others and splurge alone? (0 = never, 3 = always) Do you give too much time and thought to food? (0 = never, 3 = always) Do you have feelings of guilt after overeating? (0 = never, 3 = always) How conscious are you what you are eating? (0 = not at all, 3 = extremely) How many kilos over your desired weight were you at your maximum weight? (0 = 0–2.5, 4 = 10+)
Price Consciousness scale 5-point scale: 1 = strongly disagree to 5 = strongly agree (Ailawadi et al., 2008)	For me, price is decisive when I am buying a product. Price is important to me when I choose a product. I generally strive to buy products at the lowest price.
Frugality–distrust scale 7-point scale: 1 = strongly disagree to 7 = strongly agree (Baker & Hagedorn, 2008)	I argue or complain about the costs of things I buy It bothers me when I discover I could have bought something for less After buying, I wonder if I could have paid less elsewhere I automatically say I can't afford it, whether I can or not When I buy, I complain about the price I paid

Brief self-control scale 5-point scale: 1 = Not at all like me to 5 = Very much like me (Tangney et al., 2004)	I am good at resisting temptation. I have a hard time breaking bad habits. I am lazy. I say inappropriate things. I do certain things that are bad for me, if they are fun. I refuse things that are bad for me. I wish I had more self-discipline. People would say that I have iron self-discipline. Pleasure and fun sometimes keep me from getting work done. I have trouble concentrating. I am able to work effectively toward long-term goals. Sometimes I can't stop myself from doing something, even if I know it is wrong. I often act without thinking through all the alternatives.
Shopping frequency and expenditure	How often do you normally shop for groceries per month? How much do you typically spend on groceries per month (in €)? If uncertain, please give your best estimate.
Hunger	How hungry do you feel at this moment? (1 = not at all to 7 = very) Please estimate (to the nearest 15 minutes) how much time has passed since you last ate something (in minutes).
Dietary restrictions	Please indicate any dietary restrictions or allergies you may have (Vegetarian, vegan, other, namely [...], none) Are you currently dieting in order to control your weight?
Gender	What is your gender? (Male, female)
Age	What is your age?
Body mass index (BMI)	What is your height? What is your weight?
Mood and arousal 9-point semantic scale (Aarts & Dijksterhuis, 2003; Salovey & Birnbaum, 1989)	<i>Mood:</i> bad–good sad–happy displeased–pleased <i>Arousal:</i> calm–excited tired–energetic sedate–aroused

^a The reported order corresponds with the measurement order in the study.

^b We asked participants in the instructions to indicate specifically to what extent they have felt this way about the products they just selected.

^c We slightly adapted the original items to improve the fit with the purpose of this study.

Appendix 2.B Overview of Product Categories and Vice/Virtue Classifications in Studies 1–3

Study 1			Study 2			Study 3			Study 3 (cont.)		
Category	Type ^a	Category	Type	Category	Type	Category	Type	Category	Type	Category	Type
Beef	Virtue	Bread	Virtue	Baby food	Virtue	Frozen vegetables	Virtue	Frozen vegetables	Virtue		
Bread	Virtue	Butter	Vice	Bake-off/croissants	Vice	Fruit	Vice	Fruit	Virtue		
Canned sausages	Vice	Candy	Vice	Beer	Vice	Fruit (preserved)	Virtue	Fruit (preserved)	Virtue		
Canned soup	Virtue	Canned meat	Vice	Bottled water	Virtue	Fruit and vegetables (other)	Virtue	Fruit and vegetables (other)	Virtue		
Cheese	Vice	Cereal	Virtue	Bread	Virtue	Fruit juice	Virtue	Fruit juice	Virtue		
Chips	Vice	Cheese	Vice	Bread spreads	Vice	Fruit juice (fresh)	Virtue	Fruit juice (fresh)	Virtue		
Cola	Vice	Chips	Vice	Breakfast solutions	Virtue	Greek yogurt	Virtue	Greek yogurt	Virtue		
Fruit juice	Virtue	Cola	Vice	Butter	Vice	Hard liquor	Vice	Hard liquor	Vice		
Gingerbread	Vice	Cookies	Vice	Candy/gum	Vice	Health/diet foods	Virtue	Health/diet foods	Virtue		
Granola	Virtue	Crackers	Virtue	Canned meat	Vice	Mayonnaise	Vice	Mayonnaise	Vice		
Granola bars	Virtue	Fruit/vegetable juice	Virtue	Canned seafood	Virtue	Meat/poultry/seafood fresh	Virtue	Meat/poultry/seafood fresh	Virtue		
Ham slices	Virtue	Granola bars	Virtue	Canned vegetables	Virtue	Milk	Virtue	Milk	Virtue		
Ice cream	Vice	Ice cream	Vice	Carbonated beverages	Vice	Pantry meal solutions/seasoning	Virtue	Pantry meal solutions/seasoning	Virtue		
Iced tea (sweetened)	Vice	Juice	Virtue	Cheese	Vice	Pasta	Virtue	Pasta	Virtue		
Mayonnaise	Vice	Mac and cheese	Vice	Chocolate	Vice	Pastry/snack cakes	Vice	Pastry/snack cakes	Vice		
Milk	Virtue	Mayonnaise	Vice	Coffee milk	Virtue	Pickles	Virtue	Pickles	Virtue		
Pancake mix	Vice	Milk	Virtue	Coffee/tea	Virtue	Potatoes	Virtue	Potatoes	Virtue		
Pasta sauce	Virtue	Oatmeal	Virtue	Convenience meals	Vice	Prepared salads	Virtue	Prepared salads	Virtue		
Peanut butter	Vice	Pasta sauce	Virtue	Convenience vegetables	Virtue	Rice	Virtue	Rice	Virtue		
Pizza	Vice	Peanut butter	Vice	Cookies	Vice	Salad dressing	Virtue	Salad dressing	Virtue		
Salad dressing	Virtue	Popcorn	Vice	Dairy drinks	Virtue	Salty snacks	Vice	Salty snacks	Vice		
Spaghetti	Virtue	Salad dressing	Virtue	Deli meat	Virtue	Seafood	Virtue	Seafood	Virtue		
Spreadable butter	Vice	Soup	Virtue	Dough products (dry)	Virtue	Soup	Virtue	Soup	Virtue		
Whipped cream	Vice	Spaghetti	Virtue	Dough products (sweet)	Vice	Soup by-products	Virtue	Soup by-products	Virtue		
Yogurt	Virtue	Yogurt	Virtue	Dried fruits	Virtue	Sugar	Virtue	Sugar	Virtue		
				Eggs	Virtue	Sweet desserts	Vice	Sweet desserts	Vice		
				Frozen desserts	Vice	Toast spreads	Vice	Toast spreads	Vice		
				Frozen meat/poultry/seafood	Virtue	Vegetables	Virtue	Vegetables	Virtue		
				Frozen potato products	Vice	Wine	Vice	Wine	Vice		
				Frozen prepared dinners	Vice	(Whipped) creams	Vice	(Whipped) creams	Vice		
				Frozen snacks	Vice	Yogurt	Virtue	Yogurt	Virtue		

^a Vice/virtue classifications are based on Hui et al., (2009) and Van Doorn and Verhoef (2011).

Appendix 2.C: De-biasing Procedure to Adjust for the Amount of RTM

In this appendix, we provide details on the de-biasing procedure we used to estimate true dynamic effects by correcting for RTM. In their “primer on regression artifacts,” Campbell and Kenny (1999) demonstrate that in time-series data, the amount of RTM depends on the autocorrelation ρ between the current scores Y_{it} and lagged scores $Y_{i,t-1}$ as well as a cumulative moving average:

$$\bar{Y}_{i,t-1} = \frac{Y_{i1} + \dots + Y_{i,t-1}}{t - 1}$$

Assuming that the model is first-order autoregressive, the expected value of Y can be expressed as:

$$Y'_{it} = \bar{Y}_{i,t-1} + \rho(Y_{i,t-1} - \bar{Y}_{i,t-1})$$

As Campbell and Kenny (1999) explain (p. 27), this expected value can be viewed as a weighted average of the predictor variable (i.e., the lagged dependent variable) and the mean.

We apply this equation to de-bias relative healthiness based on the following steps. First, we estimated an intercept-only AR(1) model to obtain an estimate of ρ . We detected a small yet varying amount of autocorrelation across studies 1–3. Specifically, the intercept-only models yielded $\rho = -.002, .008$ and $.038$, respectively. Second, substituting t with product choice n , using the estimate of ρ from the first step, and a cumulative average of $RH_{i,n-1}$ (denoted as $\overline{RH}_{i,n-1}$), we estimated the expected value of relative healthiness RH'_{in} via:

$$RH'_{in} = \overline{RH}_{i,n-1} + \rho(RH_{i,n-1} - \overline{RH}_{i,n-1})$$

Third, we calculated a de-biased relative healthiness measure \widetilde{RH}_{in} by deducting this expected value of relative healthiness from the observed value of relative healthiness:

$$\widetilde{RH}_{in} = RH_{in} - RH'_{in}$$

Finally, we use this de-biased relative healthiness score as the dependent variable in all regression analyses.

Appendix 2.D: Fixed-Effects Regression Study 1

	Main-effects model		Full model	
	Parameter	SE	Parameter	SE
β_1 RH _{i,n-1}	-0.13 ^{***}	(0.01)	-0.18 ^{***}	(0.01)
β_2 Vice _{in}	-3.56 [*]	(1.873)	-3.27 [*]	(1.79)
β_3 Vice _{in} × RH _{i,n-1}			0.08 ^{***}	(0.02)
<i>Control variables</i>				
β_4 Pl _{in}	126.61 ^{***}	(8.54)	127.54 ^{***}	(8.55)
β_5 Choice _{in}	0.15	(0.12)	0.15	(0.13)
β_0 Constant	-126.06 ^{***}	(8.33)	-127.09 ^{***}	(8.36)
Observations	7,680		7,680	
Number of baskets	320		320	

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Cluster-robust standard errors in parentheses.

Appendix 2.E: Simulation Analysis Randomized Sequence in Study 1

	Simulation model	
	Parameter	SE
<i>Within-effects</i>		
β_{1r} RH _{i,n-1}	-0.03***	(0.01)
β_{2r} Vice _{in}	-3.25*	(1.91)
<i>Between-effects</i>		
β_{4r} RH _i	0.11	(0.07)
β_{5r} Vice _i	-36.05*	(21.07)
<i>Control variables</i>		
β_{7r} PI _{in}	122.19***	(8.50)
β_{8r} PI _i	-167.41***	(45.78)
β_{9r} Choice _{in}	0.16	(0.13)
β_{10r} Choice _i	-4.63*	-2.60
β_{11r} HI _i	0.57	(0.74)
β_{0r} Constant	125.64**	(54.09)
Observations	7,680	
Number of baskets	320	

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Cluster-robust standard errors in parentheses.

Appendix 2.F: Three-Way Interaction Analysis Study 1 (model 5)

	Three-way interaction (5)	
	Parameter	SE
<i>Within-effects</i>		
β_1 RH _{i,n-1}	-0.36 ***	(0.02)
β_2 Vice _{in}	-4.80	(3.33)
β_3 Choice _{in}	0.13	(0.10)
β_4 Vice _{in} × RH _{i,n-1}	0.13 ***	(0.05)
β_5 Choice _{in} × RH _{i,n-1}	0.01 ***	(0.00)
β_6 Choice _{in} × Vice _{in}	0.12	(0.22)
β_7 Choice _{in} × Vice _{in} × RH _{i,n-1}	0.00	(0.00)
<i>Between-effects</i>		
β_8 RH _i	-1.08 ***	(0.09)
β_9 Vice _i	38.05 *	(20.24)
β_{10} Choice _i	/	
β_{11} Vice _i × RH _i	-0.18	(0.14)
β_{12} Choice _i × RH _i	0.10 ***	(0.01)
β_{13} Choice _i × Vice _i	-0.28	(0.64)
β_{14} Choice _i × Vice _i × RH _i	0.01	(0.01)
<i>Control variables</i>		
β_{15} PI _{in}	127.46 ***	(8.55)
β_{16} PI _i	-143.48 ***	(25.21)
β_{17} HI _i	0.17	(0.36)
	/	
β_0 Constant	-2.41	(26.73)
Observations	7680	
Number of baskets	320	

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Cluster-robust standard errors in parentheses.

Appendix 2.G: Overview of Measures in Study 2

Measure ^a	Items
Perceived competence (maintaining a healthy diet) 7-point scale: 1 = not at all true to 7 = very true (Williams & Deci, 1996)	I feel confident in my ability to maintain a healthy diet. I now feel capable of maintaining a healthy diet. I am able to maintain a healthy diet permanently. I am able to meet the challenge of maintaining a healthy diet.
General Health Interest (subscale of the Health and Taste Attitude Scales (HTAS)) 7-point scale: 1 = strongly disagree to 7 = strongly agree (Roininen et al., 1999)	The healthiness of food has little impact on my food choices. (R) I am very particular about the healthiness of food I eat. I eat what I like and I do not worry much about the healthiness of food. (R) It is important to me that my diet is low in fat. I always follow a healthy and balanced diet. It is important for me that my daily diet contains a lot of vitamins and minerals. The healthiness of snacks makes no difference to me. (R) I do not avoid foods, even if they may raise my cholesterol. (R)
Dietary restraint scale 3- and 4-point scale (see right column) (Herman & Mack, 1975)	How often are you dieting? (0 = never, 4 = always) What is the maximum amount of weight (in kilos) you have ever lost within 1 month? (0 = 0–2.5, 4 = 10+) What is the maximum amount of weight gain (in kilos) within a week? (0 = 0–0.5, 4 = 2.5+) In a typical week, how much does your weight fluctuate? (0 = 0–0.5, 4 = 2.5+) Would a weight fluctuation of 2.5 kilos affect the way you live your life? (0 = not at all, 3 = very much) Do you eat sensibly in front of others and splurge alone? (0 = never, 3 = always) Do you give too much time and thought to food? (0 = never, 3 = always) Do you have feelings of guilt after overeating? (0 = never, 3 = always) How conscious are you what you are eating? (0 = not at all, 3 = extremely) How many kilos over your desired weight were you at your maximum weight? (0 = 0–2.5, 4 = 10+)
Treatment Self-Regulation Questionnaire (TSRQ) 7-point scale, 1 = not at all true, 7 = very true (Williams et al., 1996)	Because I feel that I want to take responsibility for my own health. Because I would feel guilty or ashamed of myself if I did not eat a healthy diet. Because I personally believe it is the best thing for my health. Because others would be upset with me if I did not. I really don't think about it. Because I have carefully thought about it and believe it is very important for many aspects of my life. Because I would feel bad about myself if I did not eat a healthy diet. Because it is an important choice I really want to make. Because I feel pressure from others to do so. Because it is easier to do what I am told than to think about it. Because it is consistent with my life goals. Because I want others to approve me. Because it is very important for being as healthy as possible. Because I want others to see I can do it.

	I don't really know why.
Price Consciousness scale 5-point scale: 1 = strongly disagree to 5 = strongly agree (Ailawadi et al., 2008)	For me, price is decisive when I am buying a product. Price is important to me when I choose a product. I generally strive to buy products at the lowest price.
Dietary restrictions	Please indicate any dietary restrictions or allergies you may have (Vegetarian, vegan, other, namely [...], none) Are you currently dieting in order to control your weight?
Attentiveness to product and nutritional characteristics	<i>During this shopping trip, how much attention did you pay to:</i> Product specifications (e.g., brand, flavor, packaging) Price Nutritional information (overall) Calories Fat Saturated fat Sugar Sodium
Hunger	How hungry do you feel at this moment? (1 = not at all to 7 = very) Please estimate (to the nearest 15 minutes) how much time has passed since you last ate something (in minutes).
Perceptions of the grocery trip 7-point scale: 1 = strongly disagree to 7 = strongly agree	I liked the way the nutritional information was presented during this grocery trip. I understood the nutritional information format that was presented during this grocery trip. I liked this grocery trip. Most of the presented products are sold at my regular grocery store. I was familiar with the products presented during the grocery trip. The prices presented during the grocery trip were realistic.
Attention check 7-point scale: 1 = strongly disagree to 7 = strongly agree	Please select 'Disagree' as your answer for this item.
Pittsburgh Sleep Quality Index (PSQI) Open questions and 4-point scales (see right column) (Buysse et al., 1989) ^b	<i>During the past month...</i> ...how long (in minutes) has it usually taken you to fall asleep each night? ...how many hours did you spend in bed at night? ...how many hours of actual sleep did you get at night? (This may be different than the number of hours you spent in bed.) ...how often have you had trouble sleeping (e.g. because you had to get up to use the bathroom, felt hot/cold, had bad dreams or pain, could not breathe comfortably, coughed or snored loudly)? (Not during the past month; Less than once a week; Once or twice a week; Three or more times a week) ...how often have you taken medicine to help you sleep (prescribed or "over the counter")? (Not during the past month; Less than once a week; Once or twice a week; Three or more times a week) ...how often have you had trouble staying awake while driving, eating meals, or engaging in social activity? (Not during the past month; Less than once a week; Once or twice a week; Three or more times a week) ...how much of a problem has it been for you to keep up enough enthusiasm to get things done? (Not during the past month; Less than once a week; Once or twice a week; Three or more times a week) ...how would you rate your sleep quality overall? (Very good; fairly good; fairly bad; very bad)

Shopping expenditure	How much do you (as a household) typically spend on groceries per month (in \$)? If uncertain, please give your best estimate.
Income	What is your approximate monthly household income (in \$)?
Brief self-control scale 5-point scale: 1 = Not at all like me to 5 = Very much like me (Tangney et al., 2004)	I am good at resisting temptation. I have a hard time breaking bad habits. I am lazy. I say inappropriate things. I do certain things that are bad for me, if they are fun. I refuse things that are bad for me. I wish I had more self-discipline. People would say that I have iron self-discipline. Pleasure and fun sometimes keep me from getting work done. I have trouble concentrating. I am able to work effectively toward long-term goals. Sometimes I can't stop myself from doing something, even if I know it is wrong. I often act without thinking through all the alternatives.
Mood and arousal 9-point semantic scale (Aarts & Dijksterhuis, 2003; Salovey & Birnbaum, 1989)	<i>Mood:</i> bad–good sad–happy displeased–pleased <i>Guilt:</i> calm–excited tired– energetic sedate–aroused
Gender	What is your gender? (Male, female)
Age	What is your age?
Body mass index (BMI)	What is your height? What is your weight?

^a The reported order corresponds with the measurement order in the study.

^b For the sake of brevity, we slightly adapted and shortened the original items.

Appendix 2.H: Symmetry Analysis (Models 3 and 4) Study 2

	Main-effects model (3)		Full model (4)	
	Parameter	SE	Parameter	SE
<i>Within-effects</i>				
β_1 RH ^h _{i,n-1}	-0.16***	(0.02)	-0.25***	(0.03)
β_2 RH ^u _{i,n-1}	0.19***	(0.02)	0.25***	(0.03)
β_3 Vice _{in}	-6.54**	(2.66)	-7.76**	(3.24)
β_4 Vice _{in} × RH ^h _{i,n-1}			0.20***	(0.04)
β_5 Vice _{in} × RH ^u _{i,n-1}			-0.14***	(0.04)
<i>Between-effects</i>				
β_6 RH ^h _i	0.27**	(0.12)	0.20	(0.19)
β_7 RH ^u _i	-0.06	(0.12)	-0.11	(0.22)
β_8 Vice _i	-20.89	(24.36)	-26.51	(24.86)
β_9 Vice _i × RH ^h _i			0.14	(0.24)
β_{10} Vice _i × RH ^u _i			0.11	(0.21)
<i>Effects choice format</i>				
β_{11} CF _i	-3.98*	(2.31)	-4.67	(10.25)
β_{12} CF _{in} × RH ^h _{i,n-1}			-0.01	(0.04)
β_{13} CF _{in} × RH ^u _{i,n-1}			0.00	(0.04)
β_{14} CF _i × RH ^h _i			0.05	(0.21)
β_{15} CF _i × RH ^u _i			0.01	(0.24)
<i>Control variables</i>				
β_{16} Pl _{in}	81.06***	(6.79)	80.14***	(6.86)
β_{17} Pl _i	-34.84	(39.65)	-35.22	(39.11)
β_{18} Choice _{in}	0.16	(0.18)	0.16	(0.18)
β_{19} Choice _i	3.13*	(1.74)	2.84*	(1.71)
β_{20} Hl _i	-1.41	(1.17)	-1.55	(1.19)
β_0 Constant	-77.96*	(45.78)	-69.98	(45.47)
Observations	4,994		4,994	
Number of individuals	234		234	

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Cluster-robust standard errors in parentheses.

Appendix 2.I: Simulation Analysis Randomized Sequence in Study 2

	Simulation model	
	Parameter	SE
<i>Within-effects</i>		
β_{1r} RH _{i,n-1}	-0.04***	(0.01)
β_{2r} Vice _{in}	-7.20***	(2.74)
<i>Between-effects</i>		
β_{4r} RH _i	0.06	(0.05)
β_{5r} Vice _i	-9.62	(22.21)
<i>Effects choice format</i>		
β_{7r} CF _i	-2.64	(2.86)
<i>Control variables</i>		
β_{10r} PI _{in}	83.16***	(7.17)
β_{11r} PI _i	-41.50	(41.33)
β_{12r} Choice _{in}	-0.36*	(0.19)
β_{13r} Choice _i	0.82	(0.83)
β_{14r} HI _i	-1.94	(1.20)
β_{0r} Constant	-38.59	(43.52)
Observations	4,772	
Number of individuals	234	

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Cluster-robust standard errors in parentheses.

Appendix 2.J: Three-Way Interaction Analysis Study 2 (model 5)

	Three-way interaction (5)	
	Parameter	SE
<i>Within-effects</i>		
β_1 RH _{i,n-1}	-0.46***	(0.03)
β_2 Vice _{in}	-5.11	(4.52)
β_3 Choice _{in}	0.22	(0.18)
β_4 Vice _{in} × RH _{i,n-1}	0.18***	(0.06)
β_5 Choice _{in} × RH _{i,n-1}	0.02***	(0.00)
β_6 Choice _{in} × Vice _{in}	-0.10	(0.31)
β_7 Choice _{in} × Vice _{in} × RH _{i,n-1}	0.00	(0.00)
<i>Between-effects</i>		
β_8 RH _i	-1.23***	(0.12)
β_9 Vice _i	-17.64	(17.46)
β_{10} Choice _i	1.91	(1.71)
β_{11} Vice _i × RH _i	0.21	(0.16)
β_{12} Choice _i × RH _i	0.12***	(0.01)
β_{13} Choice _i × Vice _i	-0.42	(0.86)
β_{14} Choice _i × Vice _i × RH _i	-0.02*	(0.01)
<i>Effect choice format</i>		
β_{15} CF _i	-1.34	(1.44)
<i>Control variables</i>		
β_{16} PI _{in}	79.83***	(6.68)
β_{17} PI _i	-65.74***	(22.09)
β_{18} HI _i	-1.13*	(0.67)
β_0 Constant	-26.42	(30.19)
Observations	4,994	
Number of individuals	234	

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Cluster-robust standard errors in parentheses.

Appendix 2.K: Symmetry Analysis (Models 3 and 4) Study 3

	Main-effects model (3)		Full model (4)	
	Parameter	SE	Parameter	SE
<i>Within-effects</i>				
β_1 RH ^h _{i,n-1}	-0.15 ***	(0.01)	-0.16 ***	(0.01)
β_2 RH ^u _{i,n-1}	0.11 ***	(0.01)	0.10 ***	(0.01)
β_3 Vice _{in}	-6.73 ***	(0.76)	-7.86 ***	(0.93)
β_4 Vice _{in} × RH ^h _{i,n-1}			0.01	(0.02)
β_5 Vice _{in} × RH ^u _{i,n-1}			0.03 **	(0.02)
<i>Between-effects</i>				
β_6 RH ^h _i	0.24 ***	(0.03)	0.17 ***	(0.04)
β_7 RH ^u _i	-0.23 ***	(0.03)	-0.17 ***	(0.03)
β_8 Vice _i	13.26 ***	(1.76)	12.91 ***	(2.85)
β_9 Vice _i × RH ^h _i			0.19 ***	(0.05)
β_{10} Vice _i × RH ^u _i			-0.18 ***	(0.06)
<i>Control variables</i>				
β_{11} PI _{in}	-5.06 ***	(0.69)	-5.07 ***	(0.69)
β_{12} PI _i	11.64 ***	(1.92)	12.24 ***	(1.91)
β_{13} Promotion _{in}	6.61 ***	(0.82)	6.61 ***	(0.82)
β_{14} Promotion _i	-5.43 **	(2.51)	-5.25 **	(2.53)
β_{15} Choice _{in}	-0.08 **	(0.04)	-0.08 **	(0.04)
β_{16} Choice _i	0.10 **	(0.05)	0.10 **	(0.05)
β_{17} Store 2	0.69	(0.60)	0.74	(0.59)
β_{18} Store 3	-1.75 ***	(0.61)	-1.72 ***	(0.61)
β_{19} Week 2	-0.53	(0.84)	-0.37	(0.83)
β_{20} Week 3	-0.86	(0.84)	-0.72	(0.83)
β_{21} Week 4	-0.78	(0.85)	-0.61	(0.85)
β_{22} Week 5	-1.73 **	(0.83)	-1.51 *	(0.83)
β_{23} Week 6	0.77	(0.83)	0.92	(0.82)
β_{24} POD 2	-1.17 **	(0.57)	-1.13 **	(0.57)
β_{25} POD 3	-1.15 *	(0.61)	-1.14 *	(0.61)
β_{26} POD 4	-0.27	(0.97)	-0.20	(0.96)
β_{27} Weekend	-0.88 *	(0.49)	-0.97 **	(0.48)
β_0 Constant	-6.17 ***	(2.11)	-6.13 ***	(2.23)
Observations	100,620		100,620	
Number of individuals	5,041		5,041	

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Cluster-robust standard errors in parentheses.

Appendix 2.L: Simulation Analysis Randomized Sequence in Study 3

	Simulation model	
	Parameter	SE
<i>Within-effects</i>		
β_{1r} RH _{i,t-1}	-0.05***	(0.00)
β_{2r} Vice _{in}	-7.13***	(0.74)
β_{3r} Choice _{in}	-0.03	(0.04)
<i>Between-effects</i>		
β_{8r} RH _i	0.22***	(0.02)
β_{9r} Vice _i	14.09***	(1.81)
β_{10r} Choice _i	0.05	(0.05)
<i>Control variables</i>		
β_{15r} PI _{in}	-5.13***	(0.72)
β_{16r} PI _i	11.25***	(2.00)
β_{17r} Promotion _{in}	6.45***	(0.86)
β_{18r} Promotion _i	-5.09**	(2.49)
β_{19r} Store 2	0.61	(0.63)
β_{20r} Store 3	-2.02***	(0.65)
β_{21r} Week 2	-0.63	(0.88)
β_{22r} Week 3	-1.04	(0.88)
β_{23r} Week 4	-0.32	(0.90)
β_{24r} Week 5	-1.68*	(0.88)
β_{25r} Week 6	1.03	(0.87)
β_{26r} POD 2	-1.19**	(0.60)
β_{27r} POD 3	-1.54**	(0.66)
β_{28r} POD 4	-0.15	(1.04)
β_{29r} Weekend	-1.39***	(0.51)
β_0 Constant	-6.64***	(2.03)
Observations	91,131	
Number of individuals	5,041	

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Cluster-robust standard errors in parentheses.

Appendix 3.A: Sentence Rearrangement Task in Experiment 1

In Experiment 1, participants first completed a sentence rearrangement task we adopted from Zitek and Vincent (2015). We included this task in order to induce state entitlement. (We note that this paradigm differs from the task we used to successfully manipulate entitlement in Experiment 3.) Roughly half of the participants rearranged 12 entitlement-related sentences (e.g., “You deserve a great vacation”), while the other half rearranged 12 neutral sentences (e.g., “She wore the gloves for the whole day”). However, a 2 (type of sentences: entitlement vs. control) \times 2 (framing: selective vs. non-selective) ANOVA indicated that the type of sentences did not cause significant differences in scores on the Psychological Entitlement Scale (PES)—a scale that has both been used as a trait measure of entitlement and as manipulation check for state entitlement in past work (Zitek & Vincent, 2015). Specifically, entitlement was not significantly influenced by type of sentence ($F < 1$), selective vs. non-selective framing ($F(1, 211) = 2.13, p = .15$) or their interaction ($F < 1$).

Furthermore, controlling for type of sentence as an (effects-coded) covariate in the multiple linear regression indicated that the effect of type of sentence on donated time was not significant ($B = -6.60, SE = 31.06, p = .83$). Moreover, the coefficients of selectivity ($B = 6.17, SE = 31.18, p = .84$) and entitlement ($B = -16.42, SE = 12.17, p = .18$) were not significant when controlling for type of sentence. Importantly, as in the main analysis, the interaction effect between the framing of the opportunity and entitlement remained significant ($B = 54.13, SE = 24.33, p = .03$), validating that the sentence rearrangement task did not affect the results.

Appendix 3.B: Full Scenarios for Each Selectivity Condition in Experiment 1

Participants were provided with the opportunity to donate to Reach Out and Read, a charitable organization promoting children's literacy, by watching a 9-minute video about the organization's activities. We framed the opportunity as either selective or not selective, after which we provided more specific instructions. The first part of this description included the selectivity manipulation. The remaining instructions were presented similarly across conditions (see below).

Selective condition. *We now offer you the opportunity to help a charitable organization by completing a small additional task. This opportunity is not offered to all participants; **we specifically selected you** for this opportunity.*

Non-selective condition. *We now offer you the opportunity to help a charitable organization by completing a small additional task. This opportunity is offered to **all participants**.*

Specifically, as part of the researchers' efforts to increase social awareness, you are offered the opportunity to donate to "Reach Out and Read", an organization that promotes literacy among America's young children. The charity incorporates books into pediatric care and encourages families to read aloud together, to better prepare children to achieve their full potential.

Instructions: You can donate to this organization by watching a sponsored video which will be presented on the next page. You can donate as much time as you would like; for every minute that you actively watch, \$0.25 will be donated to Reach out and Read, with a maximum of \$2.50 if you watch the entire video. Note that to ensure active viewing, you may be asked questions about the content of the video afterwards.

Appendix 3.C: Full Scenarios for Each Selectivity Condition in Experiment 3

Participants were provided with the opportunity to donate part or all of their monetary lab compensation (€8) to support a local foundation that offers support for highly educated refugee students. We framed the opportunity as either selective or not selective and we suggested that selection was based on the fit with their profile. The instructions included the selectivity manipulation. Participants read the following:

You are almost at the end of this study. Before you leave the cubicle, we would like to present you with the following opportunity. As part of the researchers' efforts to increase social awareness, the researchers offer you the opportunity to use your monetary compensation to support a charitable cause.

Selective condition. *Due to university regulations, we cannot offer this opportunity to all participants. Based on your answers to the previous questions, we consider this opportunity to be highly compatible with your profile. Therefore, we specifically selected you for the opportunity to donate a part or all of your compensation to charity.*

Non-selective condition. *The opportunity to donate a part or all of your compensation to charity is offered to all participants.*

We will facilitate donations to the UAF, the Foundation for Refugee Students. UAF supports refugees from all parts of the world, who, owing to a well-founded fear of persecution, have left their countries, and who have shown to have sufficient abilities, with the objective to let them continue and successfully finish their studies in the Netherlands. The UAF offers them grants and loans, so that they can attend a course of higher education. UAF also offers them study advice, guidance during their studies, and assistance with job applications.

Please indicate below [slider] how much of the €8.00 compensation you would

like to donate to charity using the slider below. We will use this information to transfer the corresponding amounts to the UAF and your bank account when you leave the cubicle.

Appendix 3.D: Results With Covariates in Experiment 3 (1): Controlling for Self-Esteem

As in Experiment 1, we reran the analysis while controlling for self-esteem. Specifically, we conducted a 2 (framing: selective, non-selective) \times 2 (entitlement: high, low) ANCOVA with (mean-centered) self-esteem and the interaction of self-esteem and selectivity added as covariates to assess the robustness of the results. The main effects of selectivity ($F(1, 285) = 1.88, p = .17$) and (state) entitlement ($F < 1$) were not significant. However, as before, the interaction between selectivity and entitlement was marginally significant ($F(1, 285) = 3.17, p = .08$). Specifically, for participants in the high entitlement condition, framing the opportunity as selective significantly increased donations ($M = \text{€}1.34, SD = 0.20$) compared to framing it as non-selective ($M = \text{€}0.74, SD = 0.19; F(1, 285) = 5.05, p = .03$); for participants in the low entitlement condition, donations were not significantly different across selective and non-selective framings ($F < 1$). Hence, we find similar results after controlling for self-esteem.

Appendix 3.E: Results With Covariates in Experiment 3 (2): Additionally Controlling for Measurement Order

We also conducted a 2 (selective, not selective) \times 2 (entitlement: high, low) \times 2 (measurement order: self-esteem first, last) ANCOVA with (mean-centered) self-esteem and the interaction of self-esteem and selectivity as covariates. Hence, compared to the previous analysis, this analysis additionally controlled for the impact of measuring self-esteem at the beginning or end of the study by including it as third factor. The main effects of selectivity ($F(1, 281) = 1.99, p = .16$) and (state) entitlement ($F < 1$) were not significant. However, the interaction between selectivity and entitlement was marginally significant ($F(1, 281) = 3.00, p = .09$). Specifically, for participants in the high entitlement condition, framing the opportunity as selective produced significantly higher donations ($M = \text{€}1.35, SD = 0.20$) than framing it as non-selective ($M = \text{€}0.74, SD = 0.19; F(1, 281) = 5.10, p = .03$); for participants in the low entitlement condition, donations were not significantly different across selective and non-selective framings ($F < 1$). No main or interaction effects with the measurement order factor emerged (all $F < 1$). In conclusion, the significant impact of selectivity on prosocial behavior among participants in the high entitlement condition remains robust after controlling for self-esteem and its measurement order.

Appendix 3.F: Overview of Additional Measures in Experiment 4

Measure	Items
Distinctiveness validation, $\alpha = .97$ 7-point scale: 1 = not at all to 7 = very much (Based on White & Argo, 2011)	1. To what degree does you receiving this opportunity validate your sense of distinctiveness? 2. To what degree does you receiving this opportunity make you feel unique? 3. To what degree does you receiving this opportunity validate your sense of being a unique individual? 4. To what degree does you receiving this opportunity validate your individuality?
Status affirmation, $\alpha = .94$ 7-point scale: 1 = strongly disagree to 7 = strongly agree (Based on Drèze & Nunes, 2009)	Receiving the opportunity to donate... 1. ...matches my felt degree of status 2. ...fits with my special status 3. ...corresponds with my perceived social standing
Undue privilege, $\alpha = .88$ 7-point scale: 1 = strongly disagree to 7 = strongly agree (Based on Goor et al., 2020)	1. I feel unworthy of the opportunity 2. Receiving the opportunity makes me question whether or not I really deserve it 3. I associate the opportunity with an undue privilege 4. The opportunity symbolizes excessive privilege
PES-V, $\alpha = .95$ and PES-G^a, $\alpha = .94$ 7-point scale: 1 = strongly disagree to 7 = strongly agree (Hart, Tortoriello, & Richardson, 2020)	1: I honestly feel I'm just more deserving than others because... PES-V1. ...I've experienced worse outcomes than others. PES-G1. ...I'm superior to others. 2. Great things should come to me due to... PES-V2. ...having had such a difficult life so far. PES-G2. ...my greatness. 3. If I were on a sinking ship, I would deserve to be on the first lifeboat... PES-V3. ...to make up for all my hardships. PES-G3. ...because I am an exceptional person. 4. I demand the best because... PES-V4. ...I seem to always get the worst. PES-G4. ...I usually am the best. 5. I deserve more things in my life because... PES-V5. ...things are often taken from me. PES-G5. ...I outperform others. 6. People like me deserve an extra break now and then because... PES-V6. ...I've been dealt too many bad breaks. PES-G6. ...I'm an extraordinary person. 7. Things should go my way because... PES-V7. ...life has been too hard on me. PES-G7. ...I have earned them through great achievements. 8. I feel entitled to more of everything because... PES-V8. ...life has been unfair to me. PES-G8. ...I am better than most.

^a Participants read each item and rated (dis)agreement with each dependent clause that followed.

Appendix 3.G: Descriptive Statistics and Correlations in Experiment 4

Variable	<i>n</i>	<i>M</i>	<i>SD</i>	1	2	3	4
Psychological entitlement (PES)	501	3.02	1.34	—			
Vulnerable-based entitlement (PES-V)	501	2.63	1.46	.62**	—		
Grandiose-based entitlement (PES-G)	501	2.58	1.47	.77**	.47**	—	
Narcissism (NPI-16)	501	3.38	3.17	.63**	.37**	.68**	—

* $p < .05$. ** $p < .01$.

Appendix 3.H: Results When Using Narcissism as Moderator in Experiment 4

We also tested whether we would replicate the interaction of selectivity and entitlement on proportion donated when using narcissism instead of entitlement as the sole moderator in the multiple linear regression. The coefficient of selectivity was significant ($B = 8.16$, $SE = 2.92$, $p = .01$) and the coefficient of narcissism was as well ($B = -1.29$, $SE = 0.46$, $p = .01$). However, the selectivity \times narcissism interaction was not significant ($B = -0.14$, $SE = 0.93$, $p = .88$). This finding further supports our proposition that the interaction effect with selectivity can be attributed to entitlement and not to narcissism in general.

Appendix 3.I: Results With Covariates in Experiment 4 (1): Controlling for Self-Esteem

Moderation. We also tested the interaction of selectivity and entitlement on amount donated while controlling for self-esteem and its interaction with selectivity. The effects of selectivity ($B = 7.72, SE = 2.89, p = .008$) and entitlement ($B = -3.81, SE = 1.10, p < .001$) were significant. The selectivity \times entitlement interaction was significant as well ($B = 4.99, SE = 2.21, p = .02$). Floodlight analysis indicated that the conditional effect of selectivity was significant ($p < .05$) for values of entitlement at or above 2.66 ($M - 0.27 SD; B = 5.90, SE = 3.00; 55.7\%$ of the sample). Thus, this analysis replicates the significant selectivity \times entitlement interaction found in Experiments 1–2 and the main analysis.

Moderated mediation. We replicated our moderated mediation analysis (Hayes, 2018, model 15, 10,000 bootstrap samples) with distinctiveness validation as the mediator, and vulnerable-based entitlement as the moderator while controlling for self-esteem and its interaction with selectivity. First, we assessed whether selectivity affected the mediator. The coefficient of selectivity was significant ($B = 0.67, SE = 0.16, p < .001$); being selected validated participants' distinctiveness. The second part of the model (i.e., the dependent variable model) revealed a positive effect of distinctiveness validation ($B = 3.12, SE = 0.86, p < .001$) and a significant distinctiveness validation \times PES-V interaction ($B = 1.34, SE = 0.53, p = .01$). The coefficient of selectivity was also significant ($B = 6.11, SE = 2.89, p = .04$); the selectivity \times PES-V interaction was marginally significant ($B = 3.46, SE = 2.03, p = .09$). The index of moderated mediation excluded zero (index = 0.90, $SE = 0.42, CI_{.95} = 0.17, 1.80$); thus, while controlling for self-esteem and its interaction with selectivity, we replicate our finding that the indirect effect through distinctiveness validation significantly differs depending on vulnerable-based entitlement.

Appendix 3.J: Results With Covariates in Experiment 4 (2): Controlling for Narcissism

Moderated mediation. We also replicated the moderated mediation analysis while controlling for narcissism and its interaction with selectivity. First, selectivity significantly relates to the mediator ($B = 0.61, SE = 0.16, p < .001$); being selected validated participants' distinctiveness. The second part of the model (i.e., the dependent variable model) revealed a positive effect of distinctiveness validation ($B = 3.05, SE = 0.85, p < .001$) and a significant distinctiveness validation \times PES-V interaction ($B = 1.30, SE = 0.53, p = .01$). The coefficient of selectivity was also significant ($B = 6.37, SE = 2.88, p = .03$); the selectivity \times PES-V interaction was marginally significant ($B = 3.71, SE = 2.12, p = .08$). The index of moderated mediation exceeded zero (index = 0.80, $SE = 0.38, CI_{.95} = 0.14, 1.62$); thus, we also replicate our finding that the indirect effect through distinctiveness validation significantly differs depending on vulnerable-based entitlement after controlling for narcissism and its interaction with selectivity.

Appendix 3.K: Results With Status Affirmation and (Un)due Privilege Mediators

Status affirmation. We also tested a moderated mediation model using the SPSS PROCESS macro (Hayes, 2018, model 15, 10,000 bootstrap samples) with status affirmation as the mediator and vulnerable-based entitlement as the moderator. The results indicate that selectivity did not affect the mediator—status affirmation ($B = 0.21, SE = 0.15, p = .16$). There was a significant effect of status affirmation on amount donated ($B = 3.89, SE = 0.89, p < .001$). The status affirmation \times PES-V interaction was marginally significant ($B = 1.07, SE = 0.56, p = .06$). The coefficient of selectivity was significant ($B = 7.42, SE = 2.83, p = .01$), and the previously significant selectivity \times PES-V interaction remained marginally significant ($B = 3.76, SE = 1.95, p = .06$). However, the index of moderated mediation did not exclude zero (index = 0.22, $SE = 0.21, CI_{.95} = -0.10, 0.72$). Thus, there is no evidence of an indirect effect through status affirmation depending on vulnerable-based entitlement.

(Un)due privilege. We also replicated this moderated mediation model with (un)due privilege as the mediator. The results indicate that selectivity significantly increased perceptions of receiving an undue privilege ($B = 0.52, SE = 0.13, p < .001$). There was a significant and positive effect of undue privilege on amount donated ($B = 3.01, SE = 0.99, p = .003$). The undue privilege \times PES-V interaction was not significant ($B = 0.10, SE = 0.64, p = .87$). The coefficient of selectivity remained significant ($B = 6.82, SE = 2.91, p = .02$), and the previously significant selectivity \times PES-V interaction also remained significant ($B = 4.41, SE = 2.00, p = .03$). The index of moderated mediation did not exclude zero (index = 0.05, $SE = 0.36, CI_{.95} = -.62, .83$). Thus, only the moderated mediation model with distinctiveness validation as the mediator is supported, and not those with status affirmation or (un)due privilege as mediators.