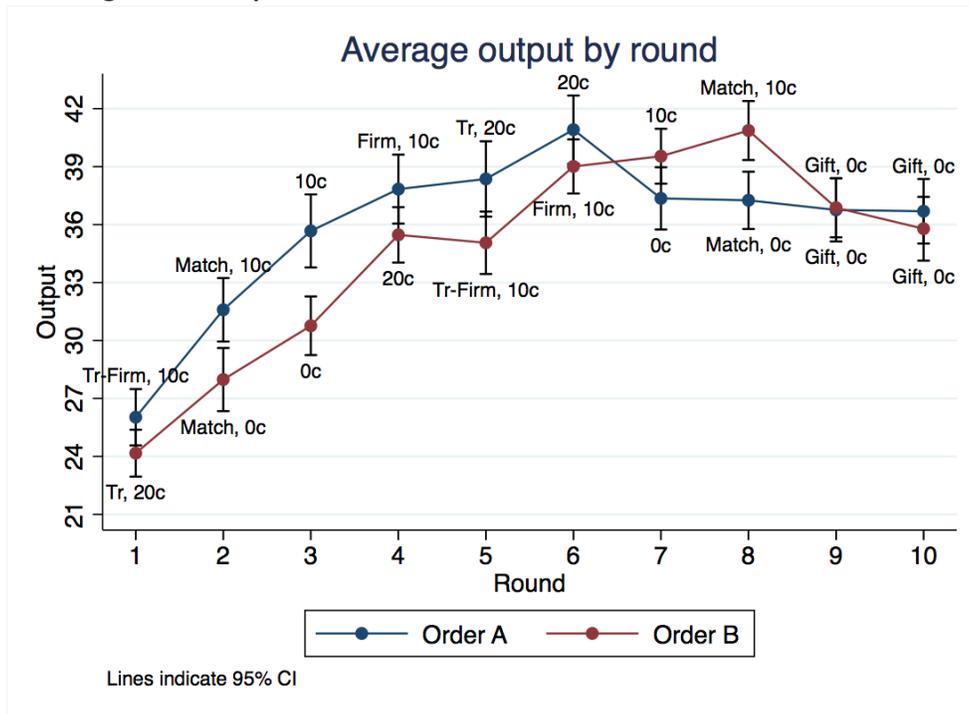


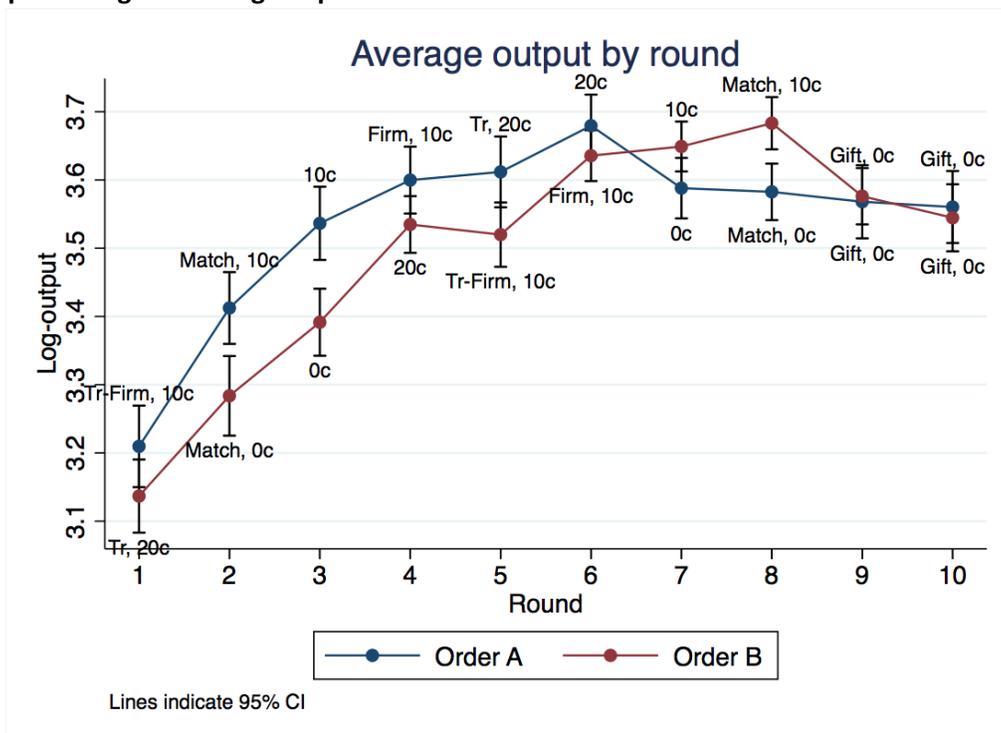
Online Appendix for Estimating Social Preferences and Gift Exchange at Work

Stefano DellaVigna, John A. List, Ulrike Malmendier, and Gautam Rao

Online Appendix Figure 1. Productivity Experiment: Average Effort over the 10 Batches, by Order
 Online Appendix Figure 1a. Output



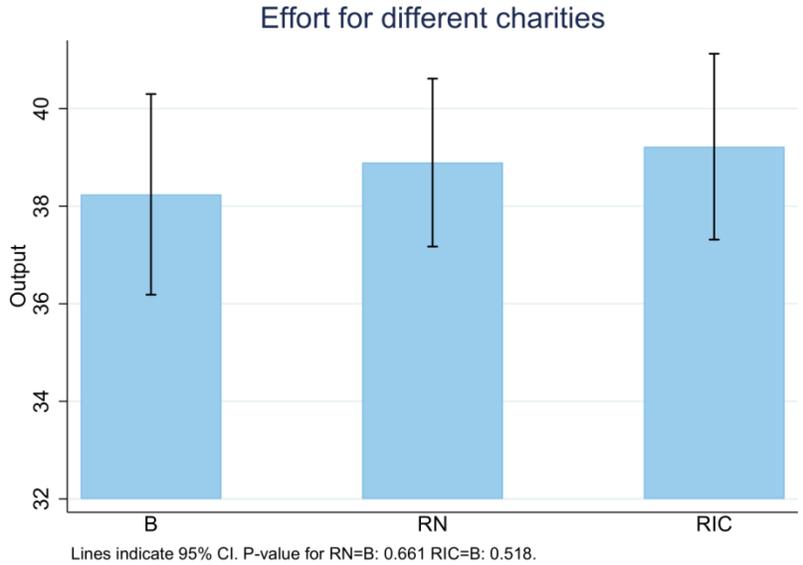
Online Appendix Figure 1b. Log Output



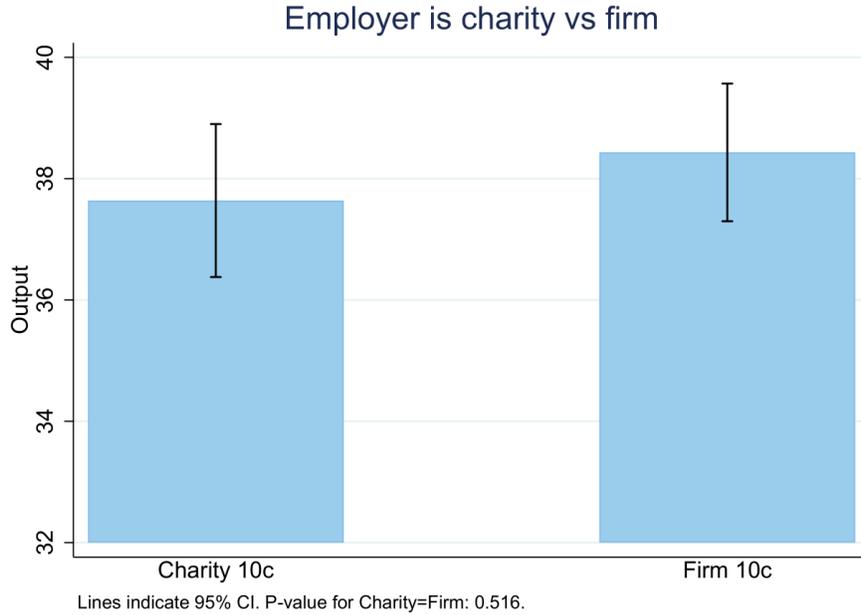
Notes: This figure displays the average output (number of envelopes folded within a 20-minute round) and log output in a batch (round). The figure indicates 95% confidence intervals computed clustering by session, thus allowing for correlation of errors among subjects in a session. Subjects are randomized into Order A or Order B. See Figure 1 for more detailed labeling of the 10 batches in each order. The output for batches 9 and 10 averages across the gift treatments displayed in Figure 1.

Online Appendix Figures 2a-b. Productivity Experiment: Additional Findings

Panel a. Effort Provided For Three Different Charities



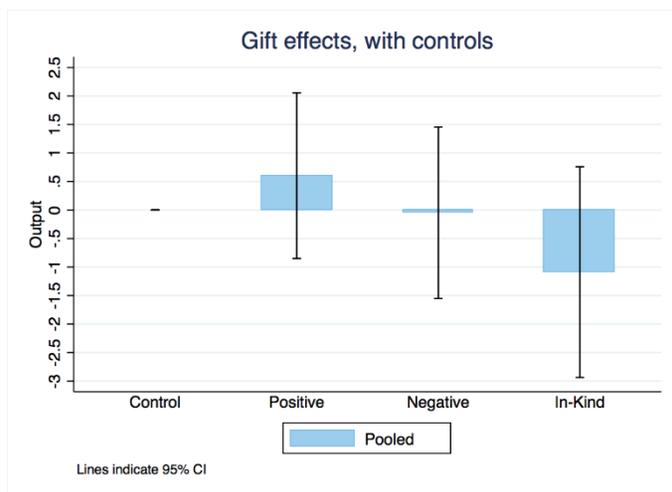
Panel b. Charity Employer versus Grocery Store Employer



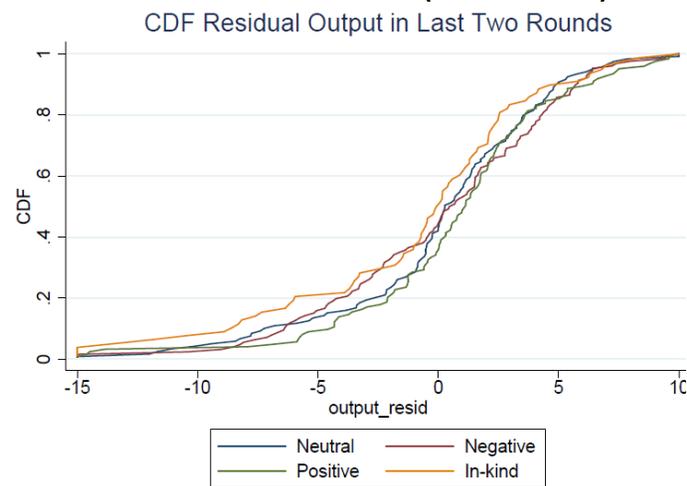
Notes: This figure displays additional experimental results on average output (number of envelopes folded within a 20-minute round). Online Appendix Figure 2a compares productivity across the three different charities used in the experiment. The charities are randomized in a rotating way to take the role of Charity 1, 2, and 3. The comparison uses output in all rounds except for the training rounds. Online Appendix Figure 2b compares output when producing for a charity versus for a firm (a grocery store) holding constant the pay rate at 10 cents and holding constant the perceived return to the employer at 30 cents per envelope. The rounds compared are outlined in Figure 1. The figures indicate 95% confidence intervals computed clustering by session.

Online Appendix Figure 3. Productivity Experiment: Additional Evidence on Gift Treatments

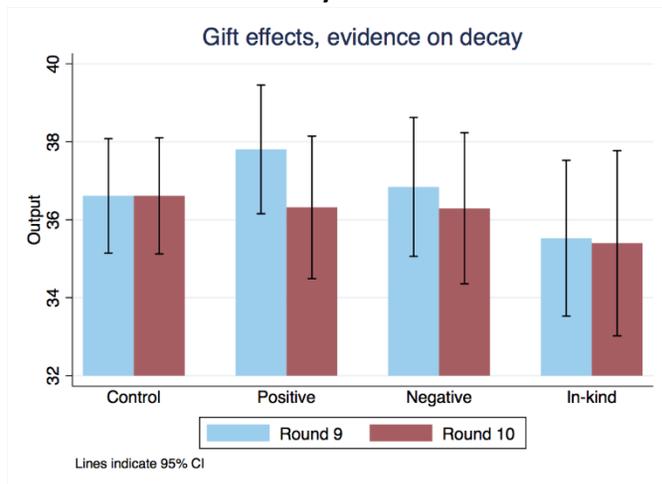
Panel a. Effect of Gift Treatments (With Controls)



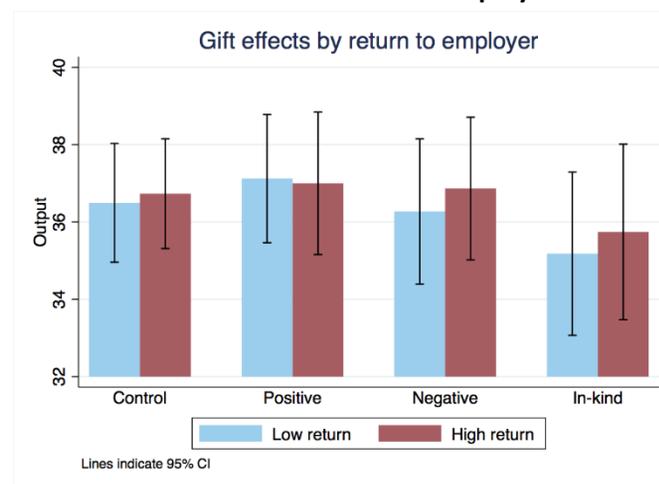
Panel b. Effect of Gift Treatments (With Controls)



Panel c. Evidence on Decay of Gift Effects



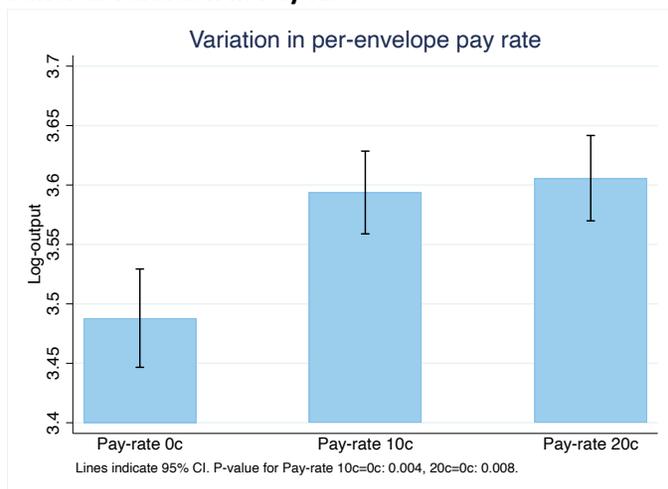
Panel d. Interaction with Return to Employer



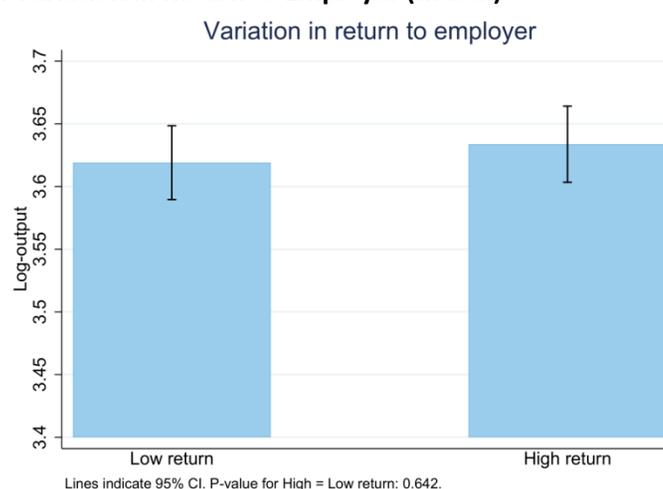
Notes: This figure presents additional results for average output (number of envelopes stuffed in 20 minutes) in the gift treatments in rounds 9 and 10 (see Figure 1). The figures include 95% confidence intervals obtained after clustering for session. Panel a presents the results controlling for average productivity in rounds 5-8 (Table 1, Column 3). Panel b presents the c.d.f. of the worker-level estimated gift effects. (We regress productivity in rounds 9 and 10 on average productivity in rounds 5-8, take the residuals and average the two residuals for each worker.) Panel c examines the possible decay of gift effects. Panel d splits the results by return to the firm: in either round 9 or round 10 (depending on a randomization) the employer earns a higher return due to a charity match.

Online Appendix Figure 4. Findings of Productivity Experiment, Log Output

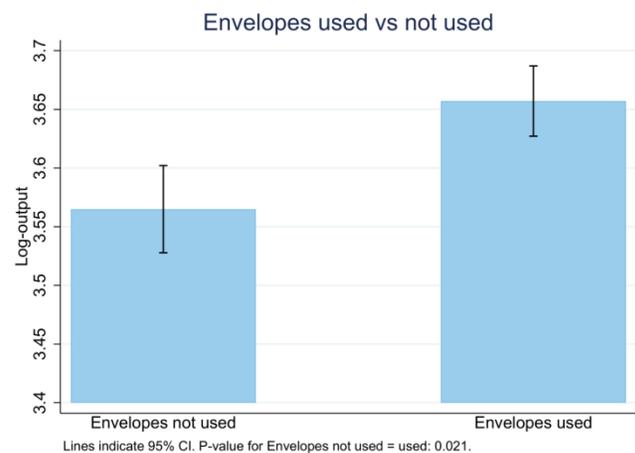
Panel a. Variation in Pay Rate



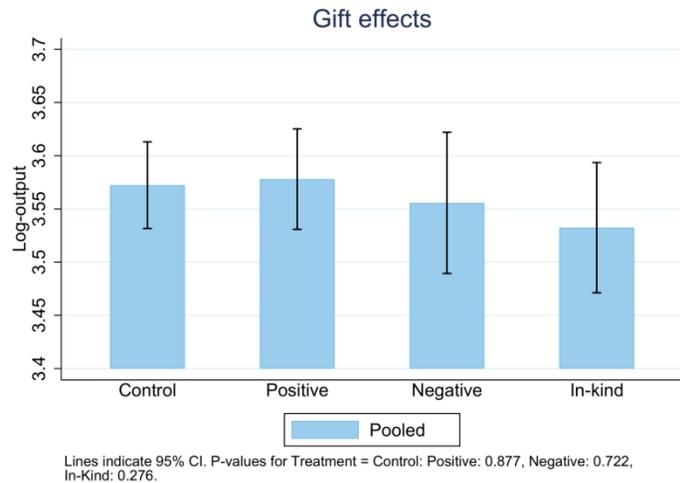
Panel b. Variation in Return to Employer (Match)



Panel c. Consequences to the Employer



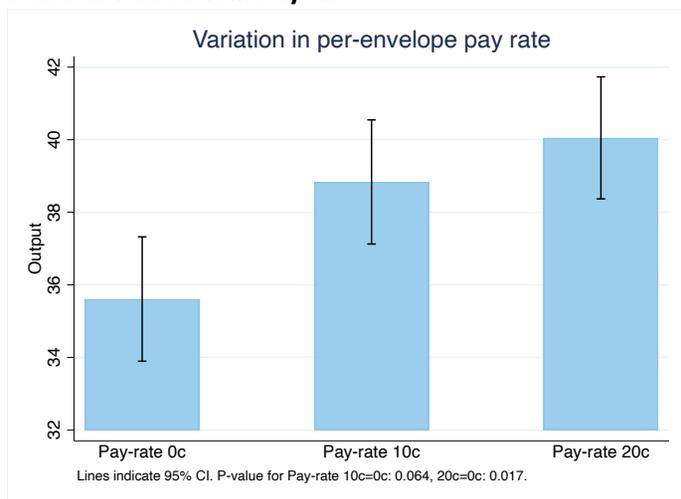
Panel d. Effect of Gift Treatments



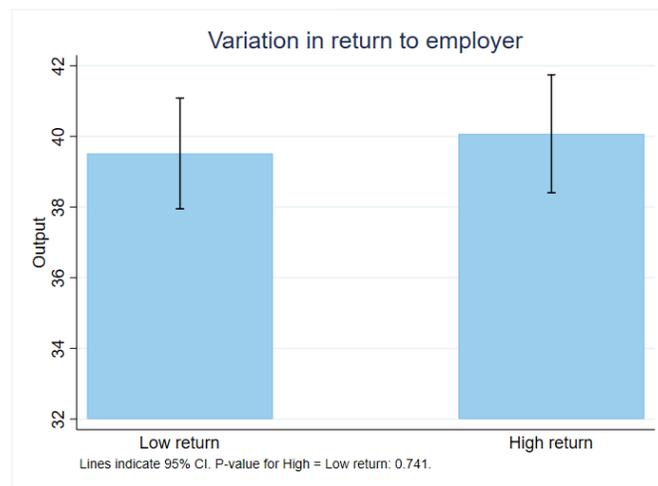
Notes: This figure displays the key findings in Experiment 1 for log output (log of number of envelopes folded within a 20-minute round) rather than output.

Online Appendix Figure 5. Findings of Productivity Experiment, Output, Employed participants only

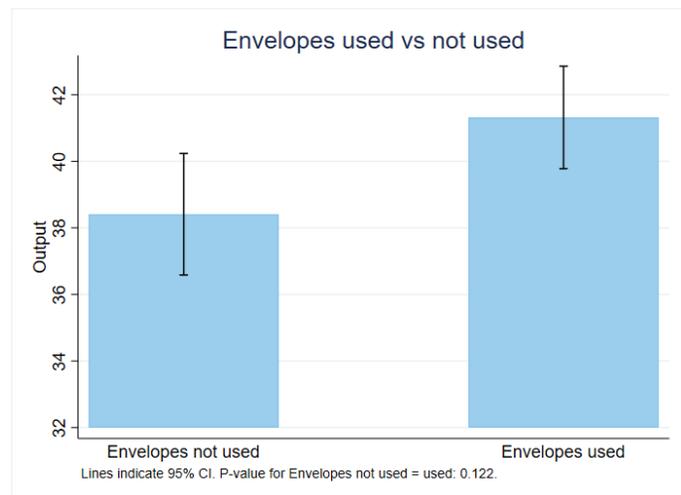
Panel a. Variation in Pay Rate



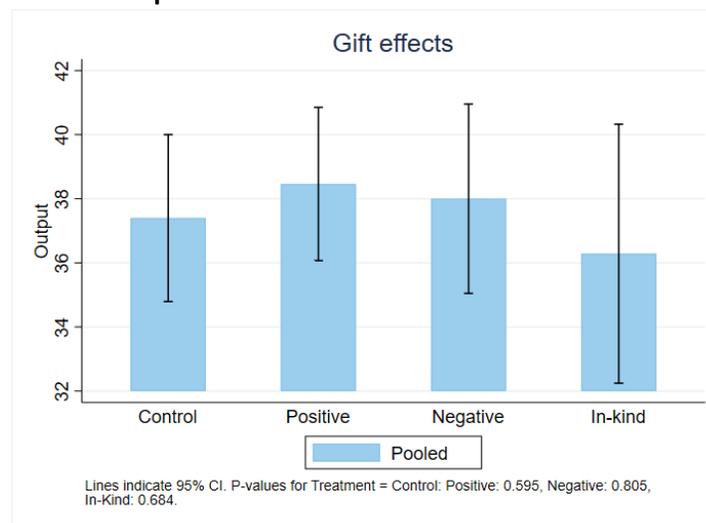
Panel b. Variation in Return to Employer (Match)



Panel c. Consequences to the Employer



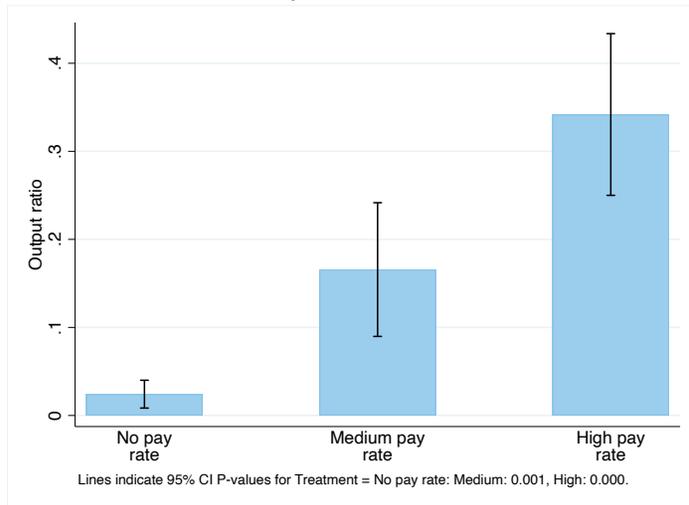
Panel d. Response to Gifts



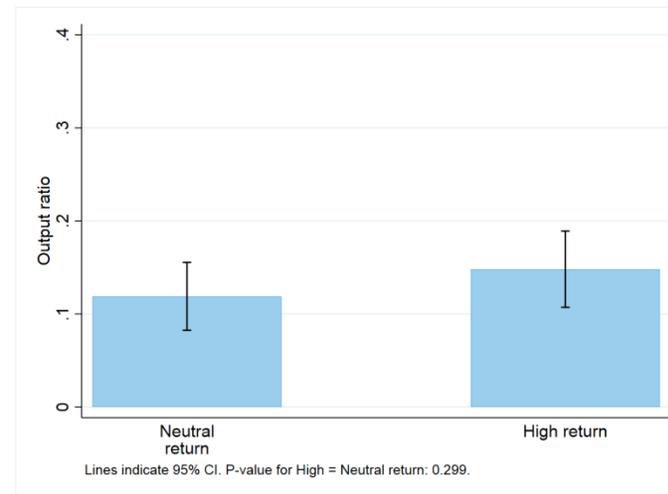
Notes: This figure displays key comparisons of average output (number of envelopes folded within a 20-minute round) including only employed workers.

Online Appendix Figure 6. Findings of Experiment 2, Output in Extra Minutes (As Fraction of Output in First 120 Minutes)

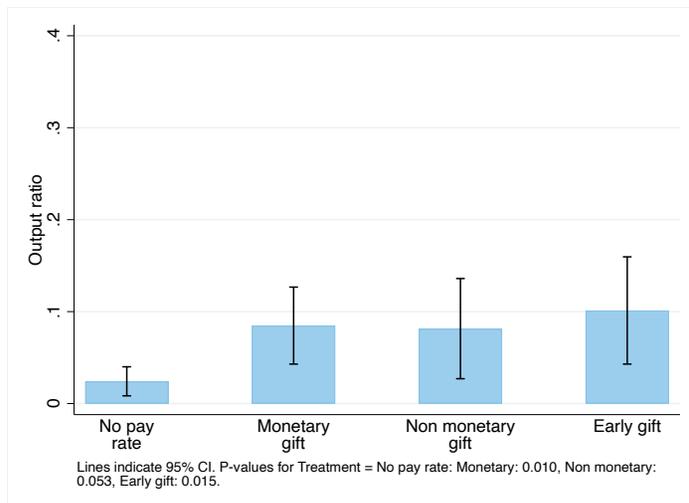
Panel a. Variation in Pay Rate



Panel b. Variation in Return to Employer



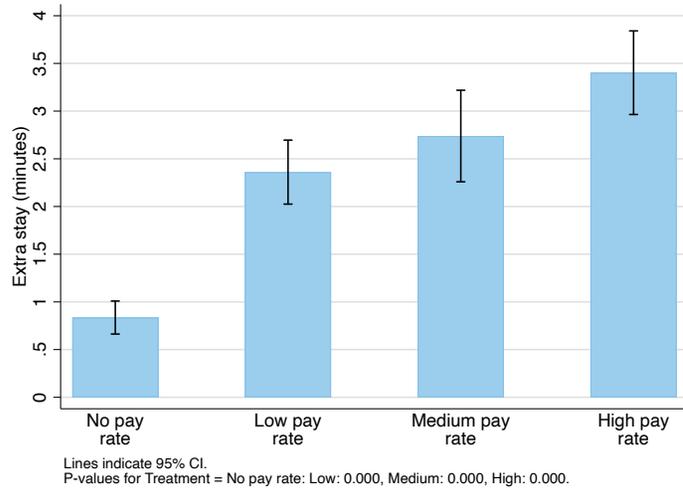
Panel c. Effect of Gift Treatments



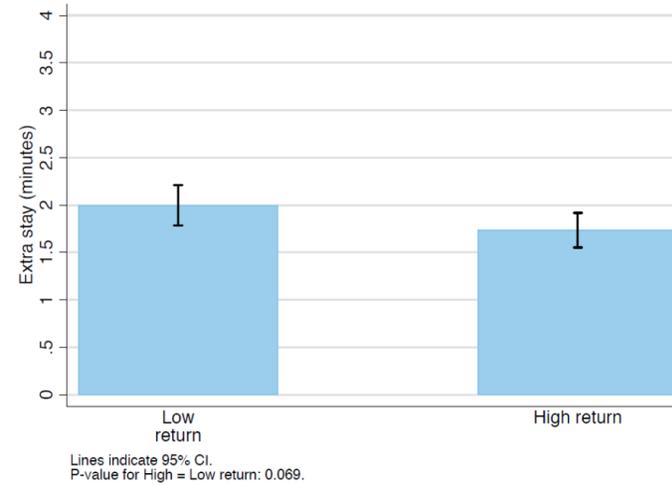
Notes: This figure presents the findings of the extra-work experiment 2 reporting the output (number of lines coded) produced in the extra minutes of work, as fraction of the output produced by that same subject in the initial 120 minutes of work. Output is 0 for subjects who do not stay extra.

Online Appendix Figure 7. Findings of Experiment 3, Extra Work Measured as Extra Minutes Worked

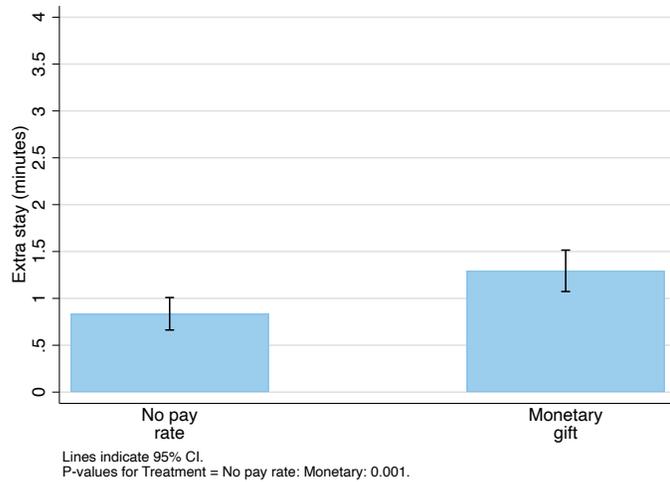
Panel a. Variation in Pay Rate



Panel b. Variation in Return to Employer



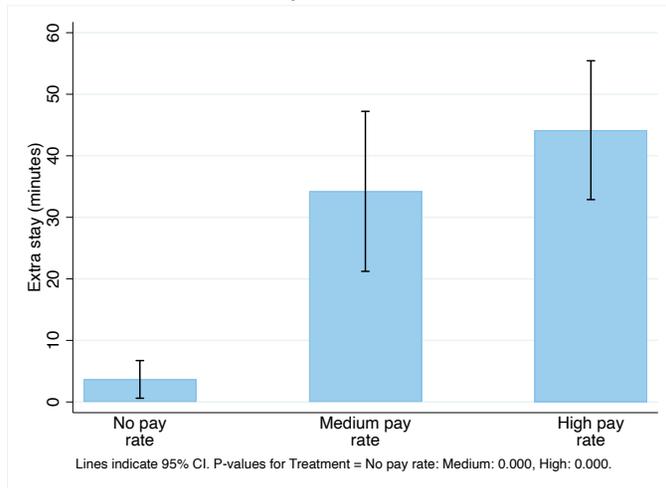
Panel c. Effect of Gift Treatments



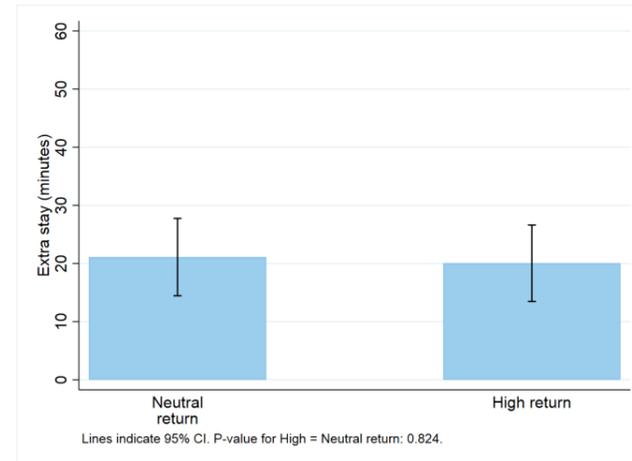
Notes: This figure presents the findings of the extra- work experiment 3, with as outcome variable the number of minutes worked, set as zero for those who do not work extra, and capped at 20 minutes..

Online Appendix Figure 8. Findings of Experiment 2, Craigslist Participants

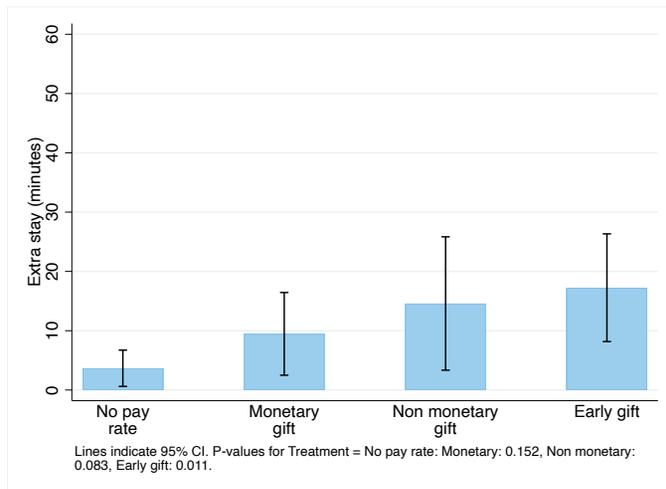
Panel a. Variation in Pay Rate



Panel b. Variation in Return to Employer



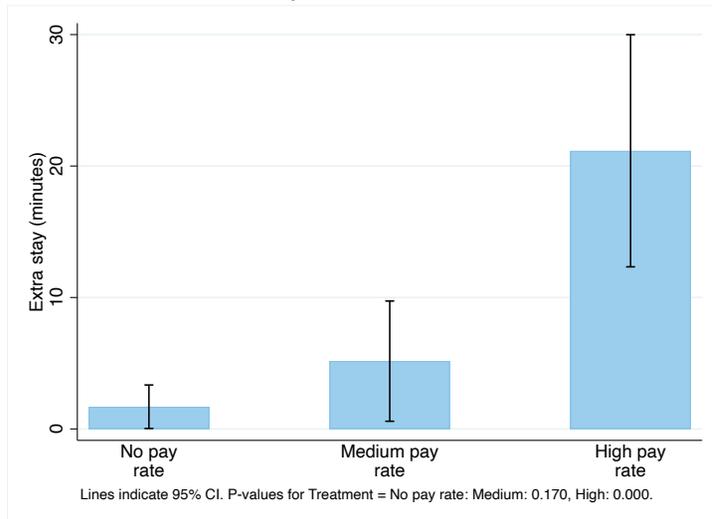
Panel c. Effect of Gift Treatments



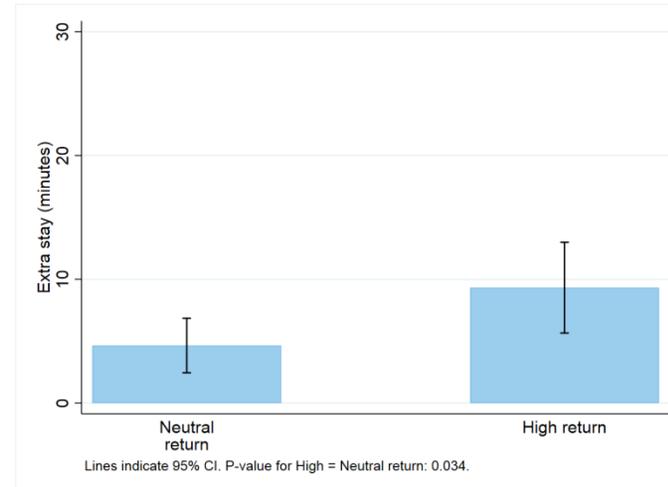
Notes: This figure presents the findings of the labor supply experiment, for the subjects recruited through Craigslist ads.

Online Appendix Figure 9. Findings of Experiment 2, Student Participants

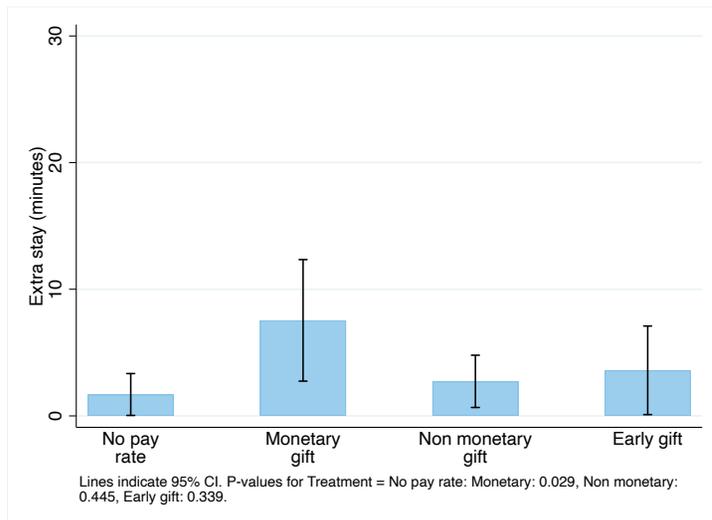
Panel a. Variation in Pay Rate



Panel b. Variation in Return to Employer

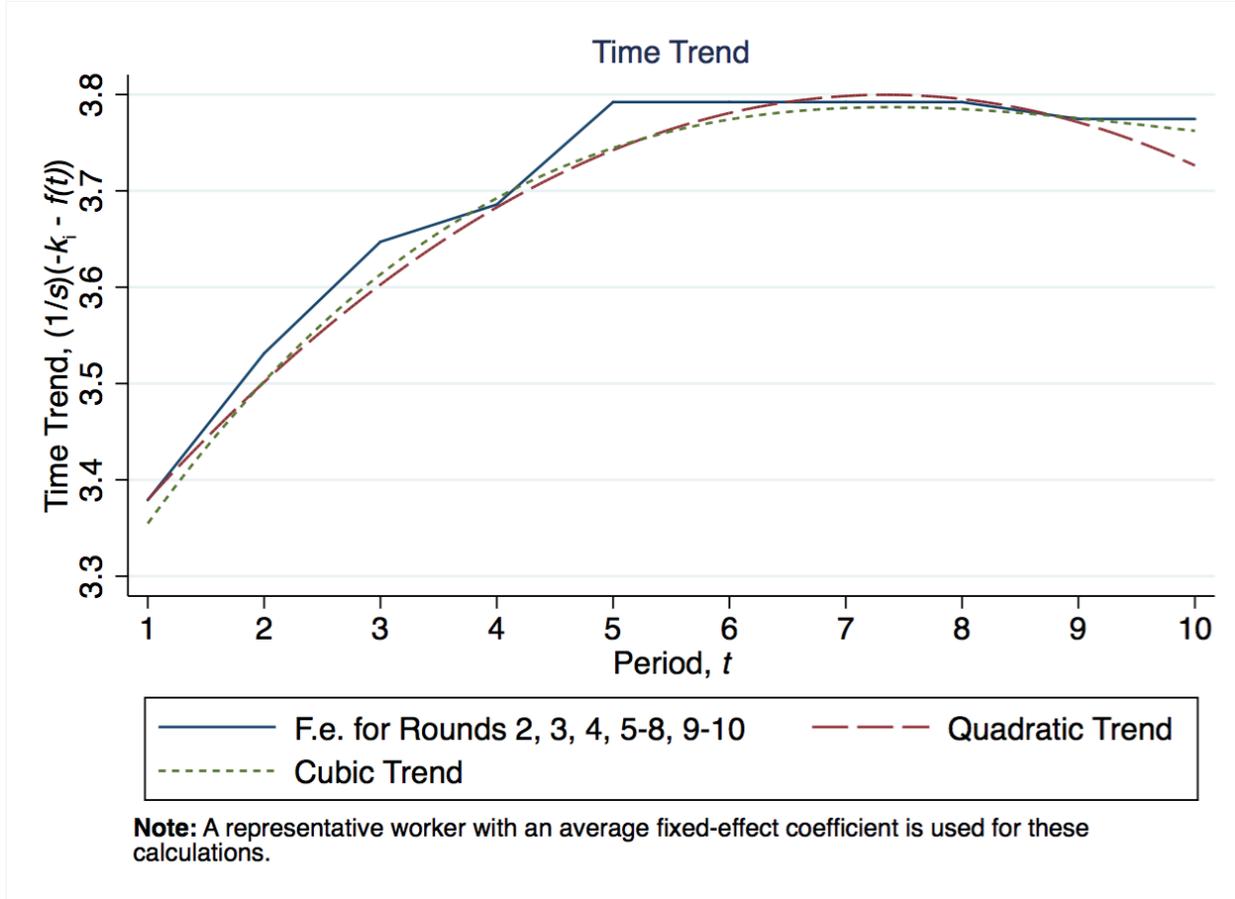


Panel c. Effect of Gift Treatments



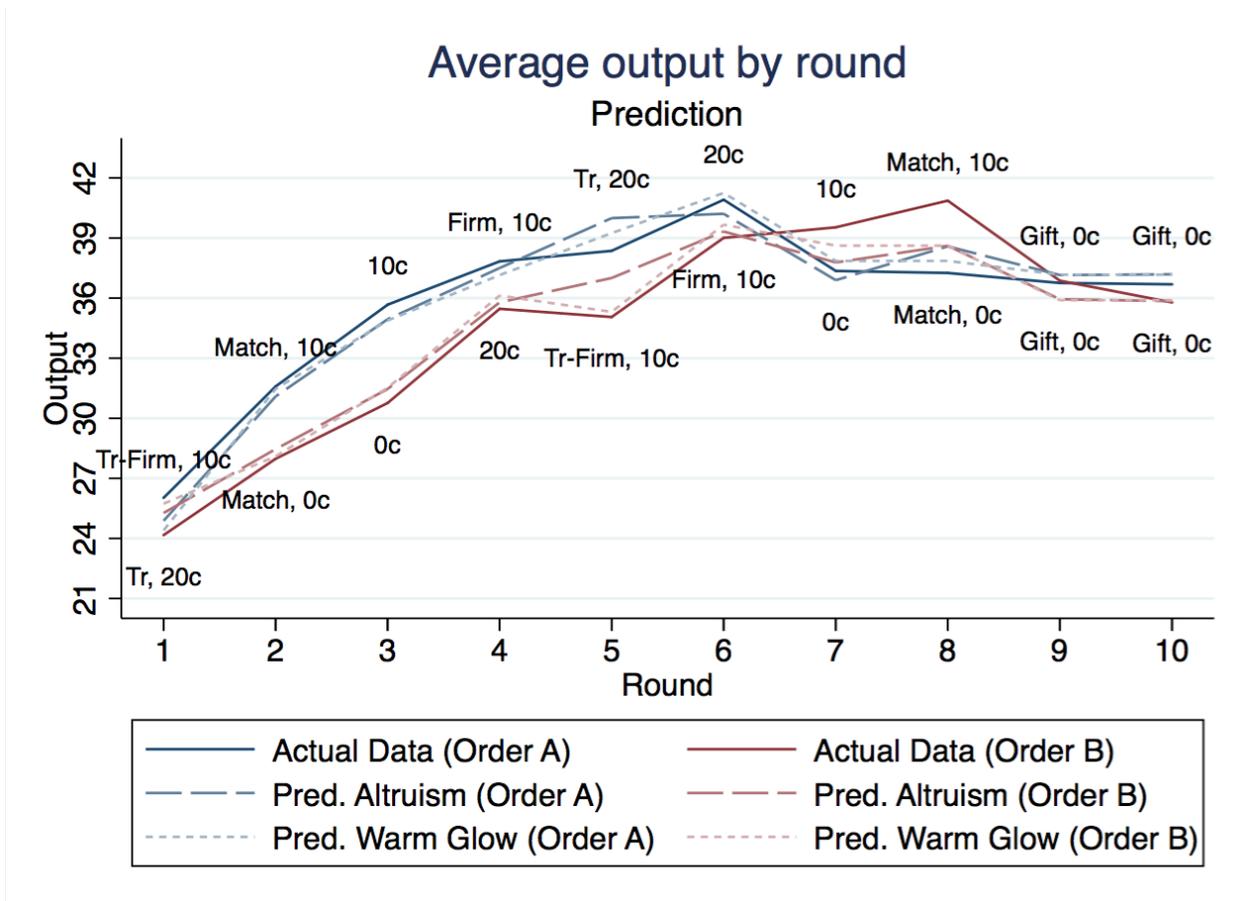
Notes: This figure presents the findings of labor supply experiment, for the subjects who are students.

Online Appendix Figure 10. Productivity Experiment, Estimated Productivity Effects, Different Models



Notes: This figure plots for Experiment 1 the estimated $(1/\gamma)(-k_t - f(t))$ function, that is, how the cost of effort function is estimated to change over time for an individual with representative k . The estimated coefficients are from specifications in Table 3, Column 1 (indicators for rounds), and from Online Appendix Table 8, Columns 1 (quadratic polynomial), and 2 (cubic polynomial).

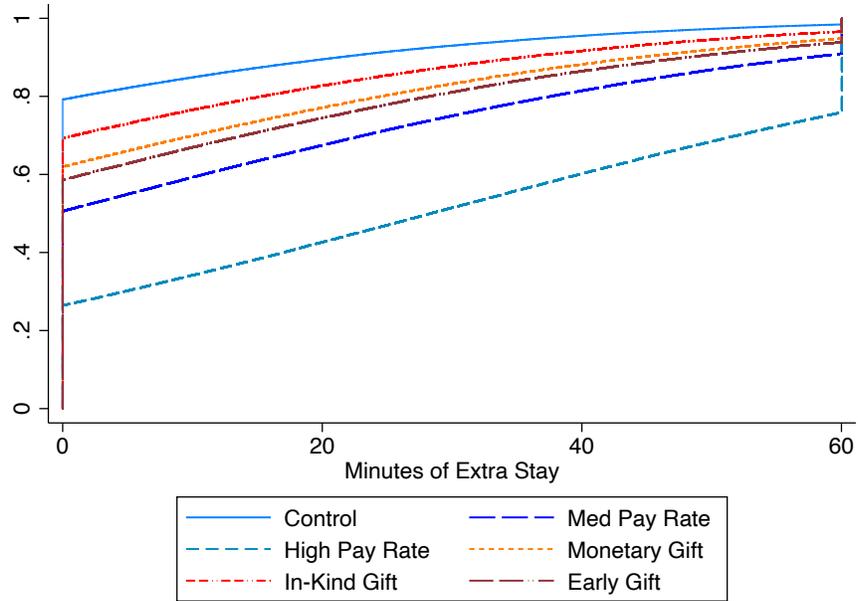
Online Appendix Figure 11. Fit of warm Glow versus Altruism Model, All 10 Rounds, Order A and B



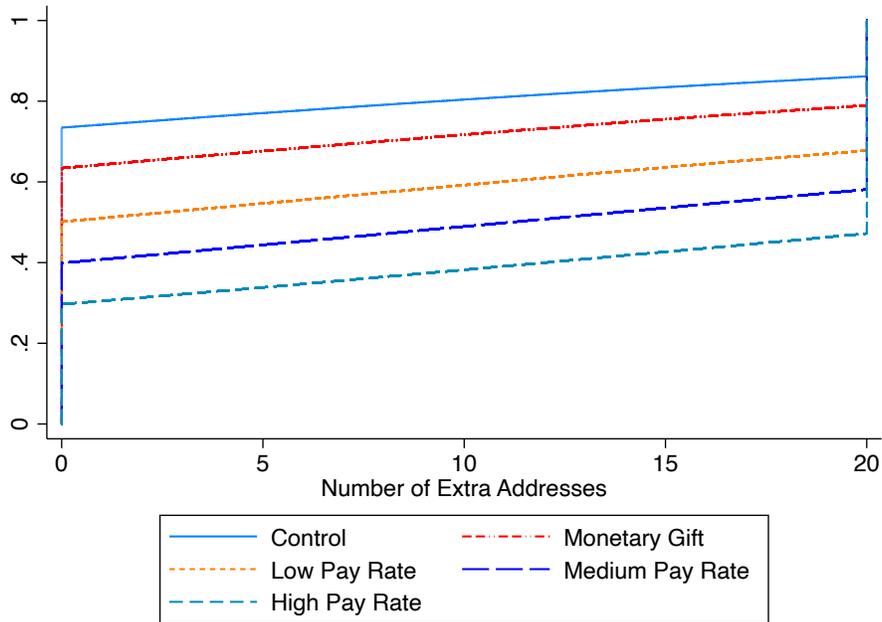
Notes: This figure displays the average output (number of envelopes folded within a 20-minute round) in a round for Order A and Order B, together with the predicted output according to the warm glow model (Column 4 in Online Appendix Table 7) and according to the altruism model (Column 3 in Online Appendix Table 7). See Figure 1 for more detailed labeling of the 10 rounds (batches) in each order. The output for rounds 9 and 10 averages across the gift treatments displayed in Figure 1.

Online Appendix Figure 12. Distribution of Extra Work in Experiments 2 and 3, Model Fit

Panel a. Experiment 2



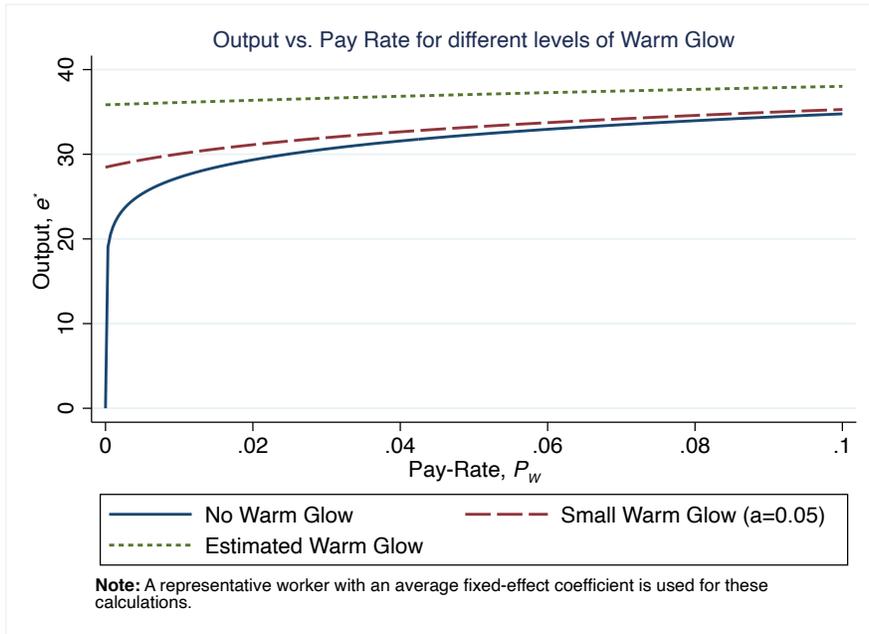
Panel b. Experiment 3



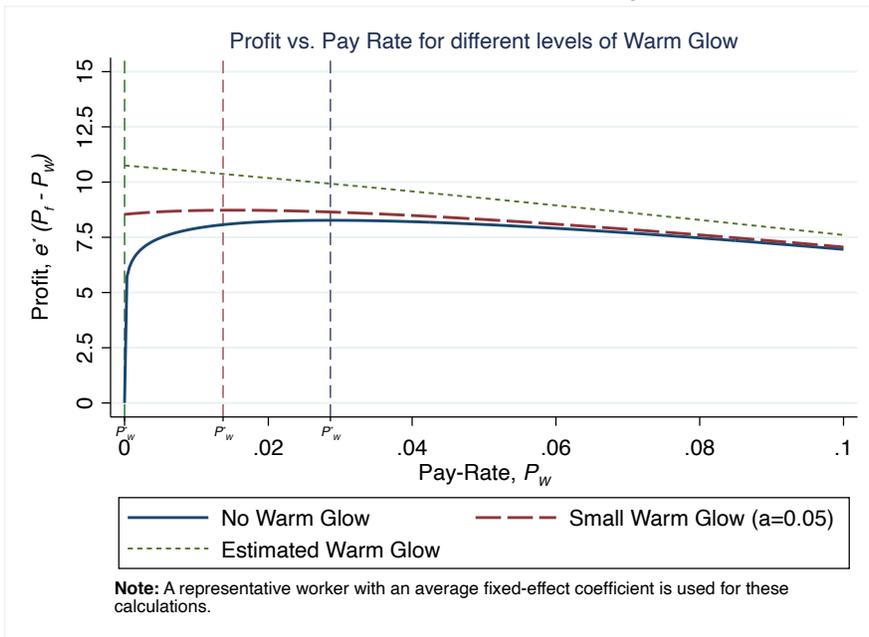
Notes: The panels display the c.d.f. of the extent of extra work (number of extra-minutes stayed in Experiment 2 and extra addresses checked in Experiment 3), as predicted by the models for the specifications in Column 1 and 3 of Table 4.

Online App. Figure 13. Productivity Experiment, Optimal Pay Rate for Estimated Social Preferences

Panel a. Effort as Function of Pay Rate



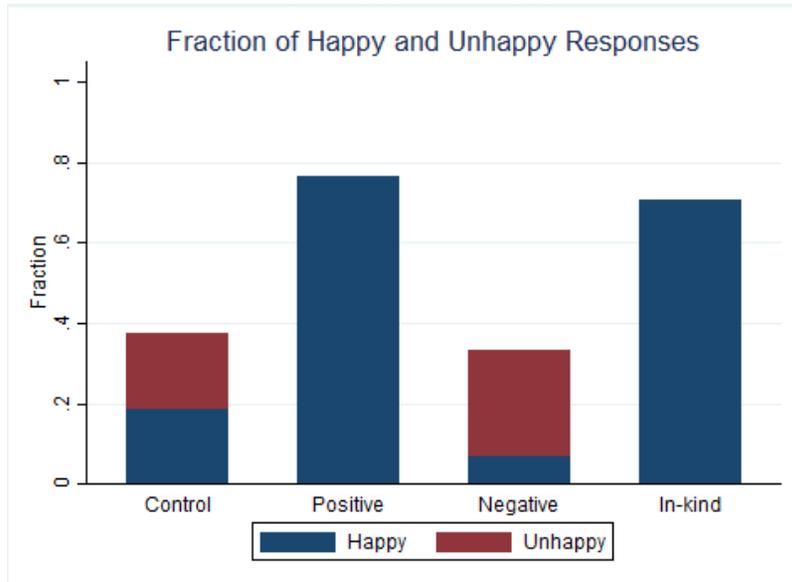
Panel b. Profit Rate as Function of Pay Rate



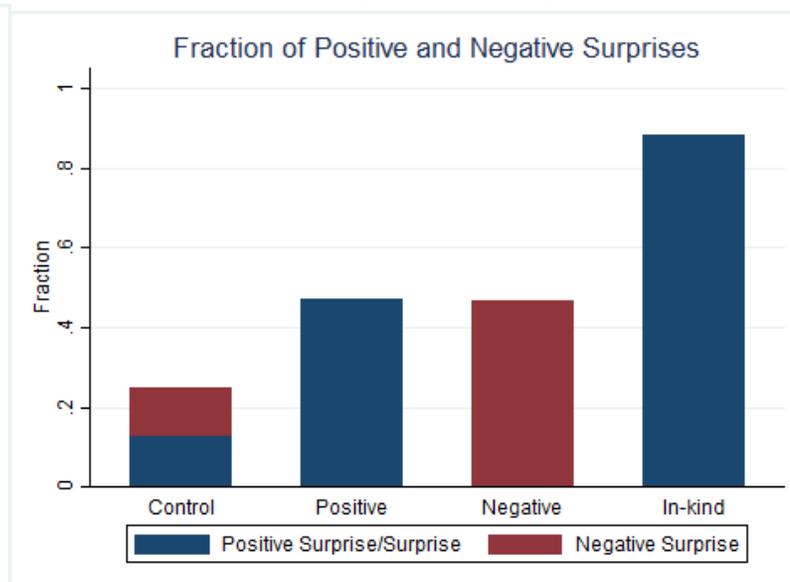
Notes: This figure for Experiment 1 takes the estimated parameters in the warm-glow specification and predicts the implied effort e^* (Panel a) and profit rate $e^*(P_f - P_w)$ (Panel b), for different levels of the pay rate P_w . Specifically, the plots examine the impact on profits of increasing the pay rate holding constant all else (including the lump-sum pay). We take the parameters from Column 2 in Online Appendix Table 7, assuming an individual with an average fixed effect k at the productivity estimated for batches 5-8. The continuous blue line indicates the counterfactual for the case with no social preferences. The dotted green line indicates the curves for the estimated warm glow. The dashed red line indicates the case with warm glow at one tenth of the estimated one, holding all other parameters the same.

Online Appendix Figure 14. Productivity Experiment, Effect of Gift Treatments on Worker Happiness and Surprise

Panel a. Fraction Stating a Happy or Unhappy Reaction



Panel b. Fraction Stating Positive or Negative Surprise



Notes: This figure presents the average response to a short debriefing questionnaire administered after the end of the productivity experiment. The sample size includes 65 subjects, since the questions were only asked for the last 65 subjects in the experiments. Panel a presents the fraction that indicates being happy and the fraction that indicates being unhappy for each of the various treatments. Panel b indicates the fraction stating a positive surprise versus negative surprise (with the other categories being “as expected” or “none”). For the in-kind treatment, the bar shows the fraction that reported being surprised (we did not ask for the share with negative surprise).

Online Appendix Table 1. Overview of Features of Selected Gift Exchange Papers

<u>Authors (chronologically)</u>	<u>Gift in Treatment Condition</u>	<u>Task Assigned</u>	<u>Between- or Within-Subject Design? (B/W)</u>	<u>Pay-Rate Design? (Y/N)</u>	<u>Sample Size. Shaded if Larger than 100</u>	<u>Workers Know Return to Employer? (Y/N)</u>	<u>Vary Return to Employer? (Y/N)</u>	<u>Estimate Social Preferences? (Y/N)</u>	<u>Lab or Field Experiment?</u>	<u>Notes</u>
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
DellaVigna, List, Malmendier, Rao (2019), <i>Productivity Experiment</i>	\$7 (100%) increase / \$4 (57%) decrease relative to \$7 baseline	Folding Charity Envelopes	B for Gift Exchange	Y	446	Y	Y	Y	Field	
<u>Panel A. Real Effort Experiments</u>										
Gneezy and List (2006) <i>Study 1 - data-entry task</i>	\$8 (67%) increase relative to \$12 baseline	Library Book Coding	B	N	19	N	N	N	Field	First design of gift exchange in the field. Value of data entry to employer not clear
Gneezy and List (2006) <i>Study 2 - door-to-door fundraising</i>	\$10 (100%) increase relative to \$10 baseline	Door-to-door Fundraising	B	N	23	Y	N	N	Field	Subjects raise funds for charity and thereby can determine the return to employer
Bellemare and Shearer (2011)	\$80 (37%) increase relative to average daily earnings of \$215	Tree-Planting	W	N	18	N	N	Y	Field	All tree-planting workers receive \$80 bonus on the second of five working days; thus, variation for Gift is Within subject
Hennig-Schmidt, Rockenbach, and Sadrieh (2010), <i>Study 1 - Data Entry</i>	DM 2 (10%) / DM 8 (40%) increase relative to DM 20 baseline	Data-Entry Task	B for Gift Exchange	N	103	N	N	N	Field	Examine the effects of peer comparison among workers
Hennig-Schmidt, Rockenbach, and Sadrieh (2010), <i>Study 2 - Fold Envel.</i>	EUR 0.25 (10%) increase relative to EUR 2.50 baseline	Folding Envelopes in Lab	B	N	59	Y	N	N	Lab	Return to employer is stated by opportunity costs of outsourcing data-entry task
Englmaier and Leider (2012a)	\$5 (38%) increase relative to a \$13 baseline	Data-Entry Task	B	N	59	N	Y	N	Field	Experimenters get a "substantial bonus" (worth \$10, not known to subjects) if 50% of the work is done by the end of the week
Englmaier and Leider (2012b)	\$10 (100%) increase relative to \$10 baseline	"Managers" assign 25-minute coding	B	N	192	Y	Y	N	Lab	Subjects in lab exp. assigned to role of <i>managers</i> decide pay of \$20 or \$10 for worker; efficiency of work varies
Kube, Marechal, and Puppe (2012)	EUR 7 (19%) increase or Gift-wrapped thermos relative to EUR 36 baseline	Library Book Coding	B	N	117	N	N	N	Field	Interested in the effect of non-monetary gifts
Kube, Marechal, and Puppe (2013)	EUR 5 (33%) increase / EUR 5 (33%) decrease rel. to EUR 15 base	Library Book Coding	B	N	68	N	N	N	Field	Analyze asymmetric effects of pay raises and cuts
Esteves-Sorenson (2018)	\$6 (50%) / \$8 (67%) / \$12 (100%) increase relative to \$12 baseline	Data-Entry Task	B	N	162	N	N	N	Field	Examine several potential confounds of earlier studies
Cohn, Fehr, and Goette (2014)	CHF 5 (23%) increase relative to a CHF 22 baseline	Newspaper Distribution	B for Gift Exchange	N	196	N	N	N	Field	Interested whether fairness considerations drive gift exchange-induced effort increases
Gilchrist, Luca, and Malhotra (2016)	\$1 (33%) increase relative to a \$3 baseline	Entering CAPTCHAs	B	N	230	N	N	N	Field	Examine the effects of restructuring a portion of the wage as an unexpected gift
<u>Panel B. Stated-Effort Experiments</u>										
Fehr, Kirchsteiger, and Riedl (1993)	Firms post wages, workers can reciprocate according to known effort-cost-schedule	Stated Effort	B		35	Y	N	N	Lab	Test the fair-wage hypothesis in a one-shot setting with a fixed efficiency factor of 126. Return to the employer is given by (126-w)e
Brown, Falk, and Fehr (2004)	Wages determined by an open auction and fixed effort-cost schedule for workers	Stated Effort	B		140	Y	N	N	Lab	Third-party enforceability of contracts and identifiability of workers affects long-term relations, with employer return 10e-w
Kessler (2013)	0/5/10 units as a wage in a bilateral gift-exchange game	Stated Effort	B		44	Y	Y	N	Lab	Varies whether the firm is rich (R=1) or poor (R=0) compared to the worker and whether worker's effort is efficient

Notes: This table contains gift exchange real-effort studies (Panel A) and stated-effort laboratory gift exchange experiments (Panel B) that are categorized according to the following categories: (i) whether they have a piece-rate design; (ii) whether they show the return to the employer or the firm; (iii) whether they vary the return to the employer; and (iv) whether they estimate social preferences structurally. Moreover, the task, amount of the gift, whether the experiment has a between- or within subject design, whether the experiment is a lab or field experiment, and some comments on the feature of the experiment are included. Notice that the sample size refers to the number of subjects in the worker role, i.e., in the laboratory experiments it does not include subjects assigned the role of "firms".

Online Appendix Table 2. Summary Statistics and Covariate Balance, Productivity Experiment

Specification:	OLS Regressions					
Dep. Var.:	Summary Statistics	Output Predictors	Checks of Randomization			
		Average Output	Indicator for Order A	Indicator for Positive Gift	Indicator for Negative Gift	Indicator for In-Kind Gift
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. Individual Demographics						
Is employed (self-reported)	0.397 (0.490)	2.022 (0.799)	0.070 (0.050)	0.025 (0.047)	0.012 (0.044)	-0.045 (0.039)
Female	0.522 (0.500)	2.535 (0.691)	-0.099 (0.049)	0.040 (0.043)	-0.010 (0.044)	0.011 (0.036)
Age 25-34	0.361 (0.481)	2.959 (0.875)	0.062 (0.058)	-0.110 (0.060)	-0.005 (0.052)	0.063 (0.048)
Age 35-44	0.191 (0.393)	0.989 (1.184)	0.039 (0.068)	-0.122 (0.067)	-0.063 (0.064)	0.052 (0.054)
Age 45-54	0.128 (0.334)	-2.122 (1.256)	-0.035 (0.093)	-0.082 (0.082)	-0.160 (0.066)	0.083 (0.057)
Age 55+	0.058 (0.235)	1.305 (1.753)	0.243 (0.100)	-0.002 (0.111)	-0.012 (0.120)	-0.021 (0.069)
Has donated to charity (self-reported)	0.691 (0.463)	0.183 (0.946)	-0.131 (0.059)	0.004 (0.057)	-0.000 (0.048)	0.026 (0.043)
Has volunteered before (self-reported)	0.843 (0.364)	1.159 (1.051)	0.096 (0.065)	-0.043 (0.060)	0.042 (0.070)	0.056 (0.056)
Mean of Dependent Variable		35.19	0.491	0.276	0.283	0.175
R squared		0.097	0.038	0.017	0.015	0.013
N	N = 446	N = 446	N = 446	N = 446	N = 446	N = 446
Panel B. Index of Demographics						
Predicted Effort Based on Demographics (Col. 2)			0.004 (0.010)	-0.001 (0.008)	0.013 (0.008)	0.001 (0.007)
R squared			0.000	0.000	0.005	0.000
N			N = 446	N = 446	N = 446	N = 446

Notes: Column 1 in Panel A reports summary statistics on the sample of 446 participants in the experiment. Column 2 in Panel A reports the estimates of an OLS regression of average output (over the 10 rounds) on subject characteristics. Based on the estimate in Column 2 we form an index of predicted productivity based on demographics which we use in Panel B. In Columns 3-6 of Panels A and B we regress the assignment to different conditions (order A/B and assignment to the different gift treatments) on the subject characteristics (Panel A) and on the index of characteristics (Panel B). The standard errors are clustered at the session level.

Onl. App. T. 3. Productivity Experiment, Gift Treatments, Robustness

Specification:	OLS Regressions			
Dependent Variable:	Output in Batches 9 and 10			
Panel A. Measure of Output:	Number of Envelopes Stuffed in 20 Minutes			
Sample:	Batch 9	Batch 10	Match	No Match
	(1)	(2)	(3)	(4)
<i>Gift Treatments</i>				
Positive (monetary) gift	1.350	-0.145	0.428	0.778
Treatment	(0.636)	(0.904)	(0.801)	(0.771)
Negative (monetary) gift	0.226	-0.321	0.133	-0.227
Treatment	(0.738)	(0.949)	(0.840)	(0.859)
Positive In-kind (Thermos) gift	-1.024	-1.155	-0.924	-1.256
Treatment	(0.907)	(1.080)	(1.013)	(0.977)
<i>Control</i>				
Average Output Measure	0.833	0.797	0.834	0.796
In Rounds 5-8	(0.024)	(0.035)	(0.032)	(0.028)
Constant	4.446	5.852	4.537	5.761
	(1.022)	(1.459)	(1.313)	(1.192)
R squared	0.668	0.556	0.622	0.595
N	N = 446	N = 446	N = 446	N = 446
Panel B. Measure of Output:	Log of Number of Envelopes Stuffed in 20 Minutes			
<i>Gift Treatments</i>				
Positive (monetary) gift	0.0390	-0.008	0.008	0.023
Treatment	(0.018)	(0.027)	(0.023)	(0.023)
Negative (monetary) gift	-0.009	-0.027	-0.010	-0.026
Treatment	(0.031)	(0.035)	(0.032)	(0.035)
Positive In-kind (Thermos) gift	-0.027	-0.039	-0.030	-0.036
Treatment	(0.026)	(0.034)	(0.031)	(0.029)
<i>Control</i>				
Average Output Measure	0.8510	0.8120	0.8430	0.8200
In Rounds 5-8	(0.029)	(0.036)	(0.031)	(0.034)
Constant	0.4900	0.6310	0.5230	0.5990
	(0.108)	(0.130)	(0.112)	(0.125)
R squared	0.574	0.473	0.535	0.505
N	N = 446	N = 446	N = 446	N = 446

Notes: Estimates from an OLS regression of output (Panel A) and log output (Panel B) in the final two batches (Batches 9 and 10) on the gift treatments. The omitted category is a Control treatment with no "gift" (pay is the same as previously experienced with the same charity). The standard errors are clustered at the session level.

Online Appendix Table 4. Summary Statistics and Covariate Balance, Experiment 2

Specification:	OLS Regressions							
	Summary Statistics	Extra Stay Predictors	Checks of Randomization					
Dep. Var.:		Extra Stay	Indicator for Med PayRate	Indicator for High Pay Rate	Indicator for Monetary Gift	Indicator for In-Kind Gift	Indicator for Early Gift	Indicator for High Return
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Baseline Productivity	3.598 [1.618]	-0.155 (0.821)	-0.012 (0.039)	-0.009 (0.038)	0.001 (0.039)	0.006 (0.038)	0.036 (0.038)	-0.030 (0.021)
Craigslist	0.367 [0.483]	7.366 (3.424)	-0.041 (0.150)	-0.104 (0.188)	-0.007 (0.145)	-0.085 (0.157)	0.028 (0.176)	-0.134 (0.089)
Female	0.497 [0.501]	-0.139 (2.253)	-0.063 (0.105)	0.003 (0.110)	-0.085 (0.105)	-0.005 (0.103)	-0.068 (0.106)	0.010 (0.059)
Age 25-34	0.237 [.426]	7.231 (3.106)	-0.042 (0.140)	0.001 (0.173)	-0.051 (0.136)	0.111 (0.139)	-0.022 (0.157)	0.011 (0.081)
Age 35-44	0.097 [0.296]	7.753 (4.701)	-0.160 (0.192)	0.131 (0.217)	-0.445 (0.211)	-0.311 (0.222)	0.020 (0.203)	0.088 (0.122)
Age 45-54	0.053 [0.225]	15.440 (5.834)	-0.042 (0.294)	0.079 (0.318)	-0.100 (0.287)	0.249 (0.257)	0.233 (0.266)	0.190 (0.152)
Age 55+	0.023 [0.151]	5.306 (8.018)	-0.042 (0.294)	-0.099 (0.352)	-0.600 (0.381)	-0.085 (0.330)	-0.153 (0.342)	-0.157 (0.209)
Ho: all the coeffs to jointly be equal to zero		p = 0.000	p = 0.981	p = 0.993	p = 0.326	p = 0.495	p = 0.909	p = 0.547
R squared		0.131	0.016	0.011	0.082	0.065	0.028	0.020
N	N = 300	N = 300	N = 100	N = 100	N = 100	N = 100	N = 100	N = 300

Notes: Column 1 in reports summary statistics on the sample of 300 participants in the experiment. Column 2 reports the estimates of an OLS regression of extra stay on subject characteristics. In Columns 3-8 we regress the assignment to different conditions (assignment to different piece rates and assignment to the different gift treatments) on the subject characteristics. Standard deviations in brackets. Standard errors in parentheses.

Online Appendix Table 5. Extra Work Experiments, Findings with Controls

Specification:	OLS Regressions				Tobit Regressions		Probit Regressions	
	Extent of Extra Work (0-60 Minutes in Exp. 2, 0-20				Indicator for Extra		Work >0	
Dependent Variable:	Addresses in Exp. 3)							
Experiment:	Exp. 2		Exp. 3		Exp. 2	Exp. 3	Exp. 2	Exp. 3
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>Pay Rate Treatments</i>								
Low Pay Rate Treatment			4.726 (0.518)	4.726 (0.518)		29.367 (3.721)		0.254 (0.033)
Medium Pay Rate Treatment	14.011 (3.250)	14.032 (3.255)	5.895 (0.711)	5.895 (0.711)	34.494 (10.151)	35.889 (4.666)	0.161 (0.103)	0.311 (0.042)
High Pay Rate Treatment	28.010 (3.686)	27.950 (3.701)	8.867 (0.666)	8.867 (0.666)	66.721 (10.810)	51.494 (4.812)	0.392 (0.104)	0.472 (0.042)
<i>Gift Treatments</i>								
Monetary Gift Treatment	7.370 (2.522)	5.770 (2.903)	1.906 (0.483)	1.892 (0.658)	27.163 (9.267)	12.883 (3.459)	0.243 (0.106)	0.123 (0.033)
In-Kind Gift Treatment	4.323 (2.481)	2.710 (3.105)			14.594 (9.597)		0.074 (0.109)	
In-Kind Gift, Early Delivery Treatment	6.576 (2.492)	4.994 (3.135)			24.902 (8.652)		0.253 (0.104)	
<i>(Crossed) Employer Return Treatment</i>								
Treatment w/ High Return to the Employer	2.320 (1.946)	0.666 (3.149)	-0.712 (0.48)	-0.719 (0.447)	5.802 (5.384)	-4.237 (2.384)	0.054 (0.060)	-0.029 (0.023)
High Return x Any Gift		3.268 (4.003)		0.029 (0.852)				
Control Mean	2.52	2.52	3.711	3.711	2.52	3.711		
Controls	X	X	X	X	X	X	X	X
Hyp.: Gift Treatments = Control	p=0.001		p=0.000		p=0.003	p=0.000	p=0.028	p=0.000
R squared / Pseudo R Squared	0.328	0.330	0.114	0.114	0.068	0.039	0.097	0.07
Number of Subjects	300	300	1954	1954	300	1954	300	1954

Notes: Robust standard errors. The specifications for Experiment 2 include fixed effects for Craigslist sample, gender, and age groups (25-34, 35-44, 45-54, 55+). The specifications for Experiment 3 include fixed effects for day of experiment and for 4 hourly time blocks. Columns 7 and 8 report the marginal effects for the probit specification.

Onl. App. T. 6. Experiment 2, Output in Required 120 Minutes, Early gift vs. Other Treatments.

Variable: Treatment Comparison:	Lines of Work Coded in Required 120 minutes		
	Early-Gift Treatment (N=50)	All Other Treatments (N=250)	Diff. of means
	Mean (Std. Dev)	Mean (Std. Dev)	(Std Err)
	(1)	(2)	(3)
<i>Measure of output</i>			
Coded lines in required 120 min	379.98 (181.371)	355.712 (157.637)	24.268 (25.075)
Log of coded lines in required 120 min	5.806 (0.562)	5.766 (0.488)	0.040 (0.078)

Notes: Standard deviation in parenthesis for column (1) and (2) and standard error in parenthesis for column (3). All other treatments include control, non-monetary gift, monetary gift, low piece-rate and high piece-rate groups, since in all these treatments there was no gift, nor a piece rate (which only applies to extra work). In the early-gift treatment the gift preceded the required work and thus we can measure if there is any impact on productivity in the required 120 minutes. Column (3) presents the difference of the mean of all other treatments and the early-gift treatment.

Online Appendix Table 7. Experiment 1, Baseline Social Preferences, Robustness

<u>Estimation:</u>	<u>Non-Linear Least Squares</u>			
	<u>Log (Number of Envelopes in a Batch)</u>		<u>Number of Envelopes in a Batch</u>	
	<u>(1)</u>	<u>(2)</u>	<u>(3)</u>	<u>(4)</u>
<i>Baseline Social Preferences</i>				
Altruism towards Charity	0.230 (0.042)		0.253 (0.040)	
Altruism towards Grocery Store	0.759 (0.088)		0.735 (0.077)	
Warm Glow towards Charity		0.443 (0.064)		0.462 (0.066)
Warm Glow towards Grocery Store		0.720 (0.073)		0.716 (0.074)
<i>Incidental Parameters</i>				
Cost Function Curvature (γ)	11.123 (1.449)	9.440 (0.747)	0.293 (0.030)	0.263 (0.018)
Cost of Effort Function:		Power	Exponential	
Std. Deviation of Error Term	0.131	0.130	3.994	3.952
Std. Dev. of Individual f.e.s * (1/γ)	0.249	0.211	8.155	8.158
R Squared	0.8346	0.8374	0.8500	0.8532
N	3568	3568	3568	3568

Notes: Specifications are from non-linear least squares regressions, with each observation being a worker-batch combination. The sample is restricted to the first 8 batches. The dependent variable is the log of the number of envelopes produced in that round in Columns 1-2 and is the the number of envelopes produced in Columns 3-4. The specifications in Columns 1 and 3 allow for pure altruism towards the employer, in which the worker puts weight alpha on the return to the employer. The specifications in Columns 2 and 4 allow for a form of warm glow, that is, the worker puts a weight on the employer, but on the *average* return (30 cents per envelope), not the actual return (which varies by round). All specifications include fixed effects for worker i as well as indicators for rounds 2, 3, 4, and 5-8. The standard deviations listed are the standard deviation of the error term and the standard deviation of the individual fixed effects divided by the curvature γ . The latter ratio indicates the variation in the individual productivity. The standard errors are clustered at the session level.

Online Appendix Table 8. Productivity Experiment, Baseline Social Preferences, Robustness II

Dependent Variable:	Log (Number of Envelopes)				Number of Envelopes in a Round			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Baseline Social Preferences:								
Altruism towards Charity	0.011 (0.047)	-0.096 (0.028)	0.095 (0.041)	0.143 (0.029)	0.003 (0.034)	-0.068 (0.026)	0.120 (0.044)	0.149 (0.031)
Warm Glow towards Charity	0.392 (0.064)	0.311 (0.060)	0.309 (0.063)	0.842 (0.097)	0.336 (0.052)	0.288 (0.051)	0.291 (0.063)	0.816 (0.100)
Warm Glow towards Grocery Store	0.587 (0.072)	0.648 (0.114)	0.701 (0.069)	1.236 (0.099)	0.543 (0.069)	0.579 (0.095)	0.690 (0.068)	1.181 (0.102)
Incidental Parameters:								
Cost Function Curvature (γ)	10.790 (0.898)	15.248 (1.869)	9.260 (0.728)	3.650 (0.250)	0.320 (0.026)	0.404 (0.042)	0.257 (0.017)	0.105 (0.006)
Cost of Effort Function:	Power Cost of Effort Function				Exponential Cost of Effort Function			
Type of timetrend	Quadratic in Rounds	Cubic in Rounds	Indicators for 2, 3, 4, 5-8 Altruism term does not include piece rate	Indicators for 2, 3, 4, 5-8 Partial Warm Glow During Training	Quadratic in Rounds	Cubic in Rounds	Indicators for 2, 3, 4, 5-8 Altruism term does not include piece rate	Indicators for 2, 3, 4, 5-8 Partial Warm Glow During Training
Specification	Benchmark				Benchmark			
Std. Deviation of Error Term	0.130	0.129	0.130	0.129	3.939	3.909	3.947	3.916
Std. Dev. of Individual f.e.s * (1/γ)	0.249	0.249	0.249	0.249	8.153	8.147	8.165	8.161
R Squared	0.8369	0.8405	0.8376	0.8401	0.8541	0.8563	0.8536	0.8558
N	3568	3568	3568	3568	3568	3568	3568	3568

Notes: Specifications are from non-linear least squares regressions as in specification in Section 4, with each observation being a worker-round combination. The sample is restricted to the first 8 rounds. The dependent variable is the log of the number of envelopes produced in that round in Columns 1-4 and is the number of envelopes produced in Columns 5-8. The specifications in Columns 1 and 5 allow for a quadratic function in the round number, while the specifications in Columns 2 and 6 allow for a cubic function in the round. The specifications in Columns 3-4 and 6-7 include indicators for rounds 2, 3, 4, and 5-8. Columns 3 and 7 assume subjects do not take into account that being paid more as piece rate lowers the return to the firm. Columns 4 and 8 assume that there is warm glow (but not altruism) even in the training rounds, assumed to be half the size as in the periods in which the envelopes are used. All specifications allow for both pure altruism towards the firm and a form of warm glow, that is, the worker puts a weight on the employer, but on the average return (30 cents per envelope), not the actual return (which varies by round). All specifications include fixed effects for worker i . The standard deviations listed are the standard deviation of the error term and the standard deviation of the individual fixed effects divided by the curvature γ . The latter ratio indicates the variation in the individual productivity. The standard errors are clustered at the session level.

Online Appendix Table 9. Productivity Experiment, Social Preferences with Gift Treatments, Robustness

Dependent Variable:	Log (No. Envelopes in a Batch)					Number of Envelopes in a Batch				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
<i>Baseline Social Preferences</i>										
Social Preferences towards Charity	0.405 (0.043)	0.343 (0.043)	0.457 (0.057)	0.444 (0.063)	na	0.337 (0.032)	0.307 (0.035)	0.447 (0.055)	0.463 (0.065)	0.187 (0.043)
Social Preferences towards Grocery Store	0.632 (0.064)	0.539 (0.062)	0.732 (0.068)	0.72 (0.072)	na	0.551 (0.058)	0.506 (0.062)	0.704 (0.065)	0.716 (0.073)	0.797 (0.108)
<i>Reciprocal Social Preferences</i>										
Social Pref. Change -- Positive Monetary Gift	0.2 (0.114)	0.086 (0.089)	0.065 (0.082)	0.374 (0.149)	na	0.098 (0.085)	0.053 (0.075)	0.041 (0.071)	0.314 (0.137)	0.092 (0.087)
Social Pref. Change -- Negative Gift	-0.016 (0.125)	-0.076 (0.093)	-0.099 (0.096)	0.032 (0.135)	na	-0.018 (0.072)	-0.047 (0.061)	-0.068 (0.067)	0.067 (0.100)	-0.001 (0.060)
Social Pref. Change -- In-Kind Gift	-0.074 (0.097)	-0.118 (0.072)	-0.144 (0.080)	-0.044 (0.099)	na	-0.103 (0.072)	-0.118 (0.060)	-0.152 (0.074)	-0.079 (0.089)	-0.062 (0.056)
Estimated Persistence of Social Preferences From Round 9 to 10				0.233 (0.251)	na				0.246 (0.248)	
<i>Incidental Parameters</i>										
Cost Function Curvature (γ)	10.637 (0.835)	11.366 (0.894)	9.039 (0.648)	9.439 (0.738)	na	0.316 (0.024)	0.329 (0.025)	0.257 (0.017)	0.263 (0.018)	0.41 (0.052)
Cost of Effort Function:	Power					Exponential				
Type of timetrend	Quadratic in Rounds	Cubic in Rounds	Round Indicators	Standard Round Indicators (rounds 2, 3, 4, 5-8, 9-10)	Estimated Altruism	Quadratic in Rounds	Cubic in Rounds	Round Indicators	Standard Round Indicators (rounds 2, 3, 4, 5-8, 9-10)	Estimated Altruism
Specification	Benchmark (Warm Glow)				Decay of Gift Effect	Benchmark (Warm Glow)				Decay of Gift Effect
Std. Deviation of Error Term	0.144	0.144	0.144	0.144	0.144	4.308	4.302	4.321	4.315	4.365
Std. Dev. of Individual f.e.s * (1/γ)	0.241	0.241	0.241	0.241	0.241	8.015	8.008	7.995	8.012	8.013
R Squared	0.7908	0.7923	0.7912	0.7918	0.7918	0.8192	0.8197	0.8182	0.8187	0.8144
N	4460	4460	4460	4460	4460	4460	4460	4460	4460	4460

Notes: Specifications are from non-linear least squares regressions, with each observation being a worker-batch combination. The sample includes all 10 batches. The dependent variable is the log of the number of envelopes produced in that round in Columns 1-5 and is the number of envelopes produced in Columns 6-10. All specifications include fixed effects for worker i . Columns 3 and 8 include indicators for batches 2, 3, 4, 5-10. The estimated coefficient on batch 2 is restricted to equal one half of the estimated coefficient in batch 3. Columns 4 and 9 allow for a decay of the warm glow gift parameter in batch 10, to equal δ_{gift} . Thus, $\delta=1$ indicates no decay, $\delta=0$ indicates full decay. The δ does not apply to batch 9. Columns 5 and 10 estimate a model with pure altruism instead of warm glow. The model in Column 5 did not converge. The standard deviations listed are the standard deviation of the error term and the standard deviation of the individual fixed effects divided by the curvature γ . The latter ratio indicates the variation in the individual productivity. The standard errors are clustered at the session level.

Online Appendix Table 10. Experiment 2, Social Preferences, Robustness

<u>Estimation:</u>	Maximum Likelihood, Accounting for Censoring at 0 and 60 Minutes	Minimum Distance Estimation		Maximum Likelihood, Accounting for Censoring at 0 and 60 Minutes	Minimum Distance Estimation	
	Number of Extra Minutes (1)	Moments 0', 1'- 5', 6'-10', 11'- 15',..., 60' (2)	Moments 0', 1'-30', 60' (3)	Log (No. Extra Minutes) (4)	Moments 0', 1'- 5', 6'-10', 11'- 15',..., 60' (5)	Moments 0', 1'-30', 60' (6)
<i>Baseline Social Preferences</i>						
Social Preference towards Employer	0.812 [0.002,100]	100* [0.000,100]	100* [0.000,100]	0.400 [0.000,100]	100* [0.001,100]	100* [0.000,100]
Social Preference Change - High Return for Employer	0.109 (0.088)	0.074 [-0.154,0.347]	0.108 [-0.162,0.812]	0.129 (0.100)	0.075 [-0.176,0.379]	0.107 [-0.174,0.780]
<i>Reciprocal Social Preferences</i>						
Social Preference Change -- Monetary Gift	0.303 (0.143)	0.434 [0.000,0.765]	0.465 [-0.001,3.167]	0.377 (0.176)	0.435 [0.000,0.792]	0.468 [-0.002,1.776]
Social Preference Change -- In-Kind Gift	0.181 (0.131)	0.226 [-0.117,0.522]	0.214 [-0.204,0.564]	0.204 (0.150)	0.226 [-0.120,0.544]	0.215 [-0.191,0.579]
Social Preference Change -- In-Kind Gift, Early	0.360 (0.142)	0.488 [0.018,0.857]	0.508 [0.010,5.143]	0.427 (0.174)	0.489 [0.038,0.898]	0.511 [0.033,2.542]
<i>Incidental Parameters</i>						
Cost Function Curvature (γ)	0.007 [0,0.079]	0 [0,0.143]	0 [0,0.271]	0.146 [0,1.231]	0.011889558 [0,20.252]	0.014043911 [0,20.640]
Std. Deviation of Error Term	45.121 (4.005)	54.989 (5.590)	46.739 (5.148)	3.905 (0.301)	0.369 (0.037)	0.330 (0.034)
Cost of Effort Function:		Exponential			Power	
Log Likelihood / minimum distance	-637.99	0.39	0.35	-399.19	0.37	0.33
N	300	300	300	300	300	300

Notes: Bootstrap standard deviations are in parentheses and 95% bootstrap confidence intervals are in brackets. Columns 1 and 4 report the maximum likelihood estimates using the number of extra minutes worked, not including the required initial 120 minutes. For Column 4, since Log (0 minutes) is undefined, we left-censor the number of extra minutes worked at 1 minute. Minimum distance estimation in Columns 2-3 and 5-6 use the identity matrix as the weighting matrix. The moments used in Columns 2 and 5 are: Share stay 0; Share stay 1-5; ... ; Share stay 51-55; Share stay 60. The moments used in Columns 3 and 6 used are: Share stay 0; Share stay 1-30; Share stay 60.

Online Appendix Table 11. Experiment 3, Social Preferences, Robustness

<u>Estimation:</u>	Maximum Likelihood, Accounting for Censoring at 0	<u>Minimum Distance Estimation</u>		Maximum Likelihood, Accounting for Censoring at 0	<u>Minimum Distance Estimation</u>	
		Moments 0, 1-6-10, 11-15, 20	Moments 0, 1-10, 20		Moments 0, 1-5, 6-10, 11-15, 20	Moments 0, 1-10, 20
<u>Dependent Variable:</u>	Number of Extra Addr. (1)	Number of Extra Addr. (2)	Number of Extra Addr. (3)	Log (No. Extra Addr.) (4)	Log (No. Extra Addr.) (5)	Log (No. Extra Addr.) (6)
<i>Baseline Social Preferences</i>						
Warm Glow towards Employer	0.106 (0.072)	0.128 (0.058)	0.130 (0.059)	0.106 (0.073)	0.128 (0.058)	0.130 (0.059)
Altruism Towards Employer	-0.007 (0.006)	-0.009 (0.005)	-0.009 (0.005)	-0.007 (0.006)	-0.009 (0.005)	-0.009 (0.005)
<i>Reciprocal Social Preferences</i>						
Warm Glow Change -- Monetary Gift	0.075 (0.028)	0.080 (0.023)	0.081 (0.023)	0.077 (0.029)	0.080 (0.023)	0.081 (0.023)
<i>Incidental Parameters</i>						
Cost Function Curvature (γ)	0.054 (0.015)	0.050 (0.011)	0.054 (0.012)	0.328 (0.092)	2.466 (0.548)	2.605 (0.575)
Std. Deviation of Error Term	41.073 (2.213)	42.203 (3.218)	38.632 (2.621)	6.776 (0.349)	0.860 (0.064)	0.806 (0.053)
Cost of Effort Function:		<u>Exponential</u>			<u>Power</u>	
Log Likelihood / minimum distance	-2699.58	0.023	0.023	-2148.89	0.020	0.019
N	1954	1954	1954	1954	1954	1954

Notes: Columns 1 and 4 report the maximum likelihood estimates, not including the required initial 40 addresses. For Column 4, since Log (0) is undefined, we left-censor the number of extra minutes worked at 1 address. Minimum distance estimation in Columns 2-3 and 5-6 use the identity matrix as the weighting matrix. The moments used in Columns 2 and 5 are: Share checked 0; Share checked 1-5; Share checked 6-10; Share checked 11-15; Share checked 20. The moments used in Columns 3 and 6 used are: Share checked 0; Share checked 1-10; Share checked 20.

Online Appendix Table 12. Calibration of Reciprocity in Select Gift Exchange Papers

	Gift in Treatment Condition	Task Assigned	% Effort Change With Gift	Implied Percent Warm Glow Change (Reciprocity) Due to Gift		
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. Findings from this paper:						
DellaVigna, List, Malmendier, Rao (2019)	Pay Increase from \$7 to \$14	Folding	2%	34%	.	.
	Pay Decrease from \$7 to \$3	Charity Envelopes	-2%	-9%	.	.
	Gift of Thermos		-3%	-21%	.	.
Assumption about Cost Function:				Power Cost Function		
Estimated Curvature γ				9.4(0.9)***		
Implied Elasticity				0.11		
Panel B. Selected Previous Findings on Gift Exchange in Field:						
Gneezy and List (2006) Study 1	Pay Increase from \$12 to \$20	Library Book Coding	27% (first 90 min)	846%	230%	61%
Gneezy and List (2006) Study 2	Pay Increase from \$10 to \$20	Door-to-door Fundraising	72% (first 3 hours)	16267%	1405%	196%
Kube, Marechal, and Puppe (2012) Non-monetary gift condition	Gift of Thermos	Library Book Coding	25%	715%	205%	56%
Kube, Marechal, and Puppe (2012) Monetary gift condition	7 Euro raise (from 36 euro pay)	Library Book Coding	5%	58%	28%	10%
Kube, Marechal, and Puppe (2013)	Pay cut from 15 to 10 euro/hr	Library Book Coding	-20%	-88%	-67%	-36%
Gilchrist, Luca, and Malhotra (2016)	Pay increase from \$3 to \$4	Entering CAPTCHAs	18%	374%	129%	39%
Cohn, Fehr, and Goette (2014)	Pay increase from 22 to 27 ChF	Newspaper Distribution	3%	32%	16%	6%
Esteves-Sorenson (2018)	Pay Increase from \$12 to \$20	Enter data	2%	20%	10%	4%
Assumptions about Cost Function:				Power Cost Function		
Assumed Curvature γ				9.4	5.0	2.0
Implied Elasticity				0.11	0.20	0.50

Notes: This table revisits some of the findings in the previous gift exchange experiments in the field, with summary of the key gift treatments and findings in Columns 1-3. Panel A summarizes the effects from this paper: Column 2 reports the findings from Table 4, Column 3, Panel B (on log output). Column 3 reports the results from Table 5, Column 1, taking the ratio of the estimated warm glow change to baseline warm glow. For example, for the positive monetary gift .151/.443=34%. In Panel B we revisit some classic experiments on gift exchange in the field. In Columns 4-6 we compute the implied percent increase in altruism or warm glow implied by the effort increase (or decrease), for a calibrated value of the elasticity of effort. The calibration holds for a power cost of effort function, which is characterized by constant elasticity. Column 4 uses the elasticity estimated for our task (Table 5, Column 1). Columns 5 and 6 report the results assuming higher elasticities.

Online Appendix Table 13. Published Real-Effort Experiments and Pay-Rate Design

Paper	Topic	Experiment (Lab / Field / Online)	Type of Real Effort Task	Pay-Rate Design? (Y/N)	Number of Piece Rates	Notes
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Real Effort Experiments Published in Top-5 Journals from 1999 to 2018</i>						
Gneezy, Rustichini and Niederle (2003)	Competitive Preferences	Lab	Solving mazes	N		
Gneezy and List (2006)	Gift Exchange	Field	Data Entry; Fundraising	N		
Ariely, Bracha and Meier (2009)	Image Motivation	Lab, Field	Typing; Biking	N		Participants face either no incentives or non-linear incentives, but not piece rates
Carpenter, Matthews and Schirm (2010)	Tournaments and Office Politics	Field	Stuffing Envelopes	N		
Abeler, Falk, Goette and Huffman (2011)	Expectations and Effort Provision	Lab	Count number of zeros	N		
Dohmen and Falk (2011)	Incentives and Sorting	Lab	Multiplying numbers	N		
Gill and Prowse (2012)	Disappointment Aversion	Lab	Slider task	N		Participants are stochastically rewarded, with probability of reward increasing in the difference between own effort and a partner's effort. The reward size is varied, but the incentives are not known piece rates
Kube, Marechal and Puppe (2012)	Gift Exchange	Field	Cataloguing Library Books	N		
Augenblick, Niederle and Sprenger (2015)	Time Preferences and Effort	Lab, Online	Data transcription; Tetris	Y	5	Variation in the exchange rate of work between different time periods helps identify the cost of effort
DellaVigna and Pope (2018)	Effort Motivation	Online	Typing	Y	4	

Notes: This table contains real-effort studies published in the *American Economic Review*, *Econometrica*, the *Journal of Political Economy*, the *Quarterly Journal of Economics*, and the *Review of Economic Studies* between 1999 and 2018. We search papers using a search of Google Scholar for papers in these journals and year with the word "real effort" in the text of the paper. We then exclude papers that do not have this feature. It categorizes whether the papers include randomized variation in piece-rates. Two out of ten such published papers we identified include a "piece-rate design".

A Online Appendix A - Related Literature

Online Appendix Table 1 summarizes some of the most related papers in the literature. We identify key features of related papers: (i) the pay-rate design (Column 4); (ii) the sample size (Column 5); (iii) the structural estimation of the social preference parameters (Column 8); and (iv) whether the return to the firm is made explicit and varied experimentally (Columns 6 and 7). We also indicate whether the gift exchange variation is between subjects or within subjects (Column 3) and whether the experiment takes place in a field setting or in the laboratory (Column 9). Panel A documents the most relevant real-effort experiments on gift exchange, including some executed as laboratory experiments, so long as the “work” is real effort and not stated effort.

Regarding the sample size (Column 5), our paper is the real-effort field experiment with the largest sample size thus far, though there are other studies that are well-powered (which we somewhat arbitrarily indicate with a sample size above 100). Column 8 documents the fact that there is only one other paper which attempted structural estimation of social preferences in a gift exchange set-up in the field, Bellemare and Shearer (2011). Bellemare and Shearer (2011) has a very nice estimation set-up, which we partly borrow from, such as a power cost of effort, and individual fixed effects. The table clarifies important differences of our work relative to Bellemare and Shearer (2011): (i) (*sample size*) Bellemare and Shearer (2011) estimates the gift exchange effect on a sample size of just 18 workers; (ii) (*within-subject identification*) The identification of gift exchange is based on time-series variation: all workers on a particular day were given a “gift,” with no control group on that date. Thus, the identification is based on comparing worker effort on those days versus in the days before (that is, is within subject); (iii) (*returns*) the workers do not know the explicit return to the firm of their effort.

The table also highlights another distinguishing feature of our design: whether the return to the firm was made explicit (Column 6) and varied in the experiment (Column 7). As the table makes clear, few real-effort experiment papers did so (and the list omits a few other gift exchange in the field papers which also do not do so). One of the two Gneezy-List experiments arguably made returns explicit, as the workers were raising money for charity and thus could know the return to their effort (though the return itself was not varied). Also, Englmeier and Leider (2012a) vary the return to the firm by telling people in one case that the experimenters would get “a substantial bonus” if 50% of the work was done by a deadline. Hennig-Schmidt, Sadrieh, and Rockenbach (2010) provide more information on the return to the employer in one of their treatments, and find evidence suggestive of gift exchange only when the return is made clear. Both experiments provide suggestive evidence on the effect of returns, given the relatively small sample size.

A study that both informs workers of the return to the firm, and varies returns across treatments, is Englmeier and Leider (2012b). The paper employs a real-effort task and it has a sizable sample ($N = 192$). Interestingly, as in our paper, there is no statistically significant response to a gift from the “manager,” nor does the response appear to interact with the return to the “manager.” We should point to two key differences of this very nice study relative to our work: As the authors themselves emphasize, it is a laboratory experiment, and the “managers” are laboratory subjects assigned to the “manager” role. And this paper does not attempt a structural estimation.

Panel B of the table also shows several of the design features in stated-effort laboratory experiments that our study aims to introduce in the field experiments. Most importantly, the return to the “firm” is made salient, and occasionally also varied. Indeed, a key point in our paper is to show that one can put together the pieces that allow for estimation of preferences in a field setting, as pioneered in the laboratory for stated-effort gift exchange experiments. In this way, our design aims to bridge the gap between the laboratory and field studies, as we say in the paper.