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A Descriptive Statistics

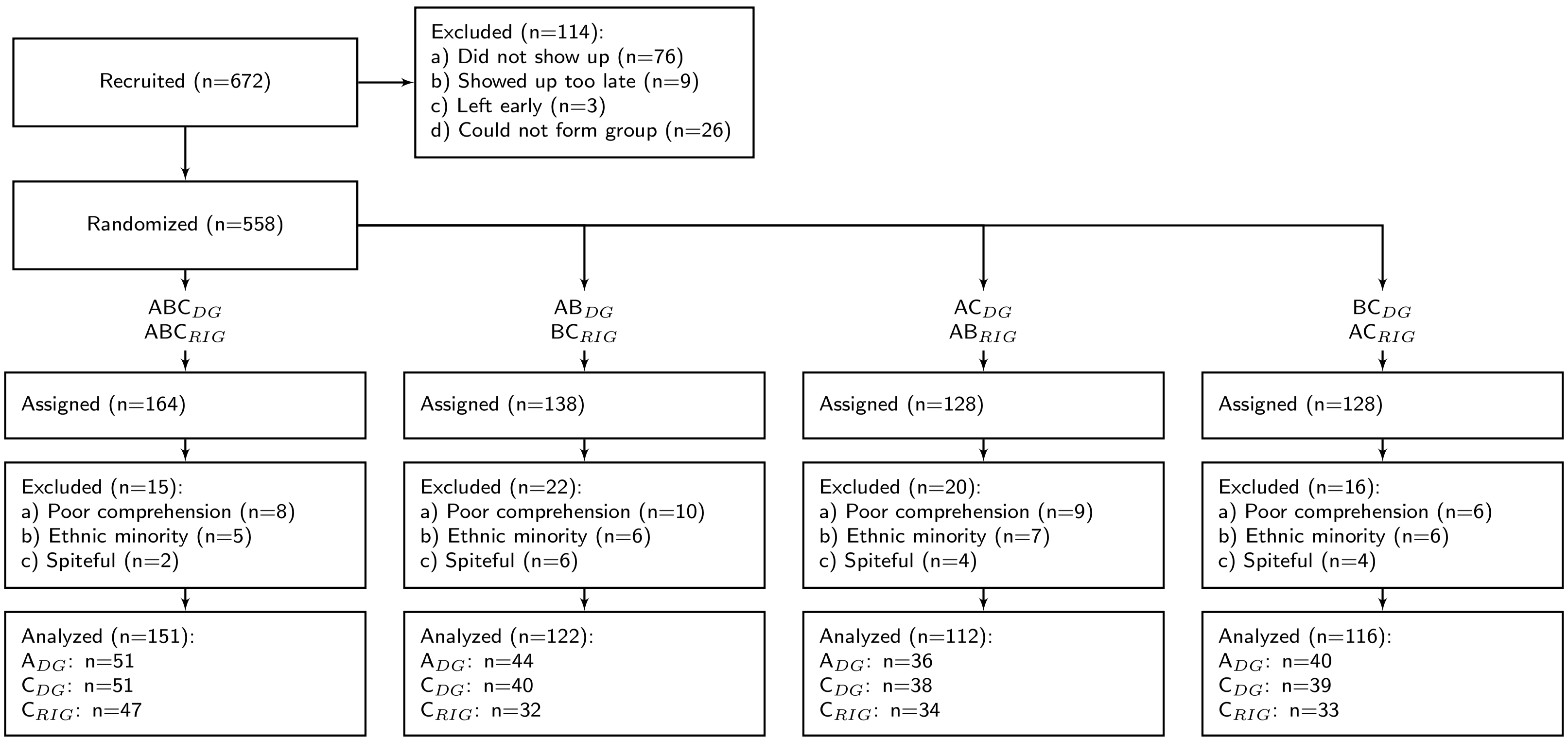
Table A.1 provides descriptive statistics of participant background for the full sample and by treatment group. Of the 501 individuals that that are included in the analyses, 53% were male, the mean age bracket was 30-39 years of age, the mean level of educational attainment was primary school, and the mean income bracket was KES 500-749 in Kenya and TZ 5,000-7,499 in Tanzania. The 501 individuals participating in the experiment were randomly assigned to one of the three roles for each of the experimental games.

Table A.1: Descriptive Statistics of Participants

		Kenya				Tanzania			
	Full Sample	ABC_{DG}, ABC_{RIG}	AB_{DG}, BC_{RIG}	AC_{DG}, AB_{RIG}	BC_{DG}, AC_{RIG}	ABC_{DG}, ABC_{RIG}	AB_{DG}, BC_{RIG}	AC_{DG}, AB_{RIG}	BC_{DG}, AC_{RIG}
Age	2.06	1.97	1.86	1.74	1.70	2.32	2.38	2.34	2.16
	(1.11)	(1.07)	(1.09)	(0.98)	(1.02)	(1.09)	(1.14)	(1.21)	(1.08)
Education Level	1.98	1.54	2.12	2.05	1.89	2.04	1.96	1.96	2.22
	(0.98)	(1.13)	(1.19)	(1.13)	(1.15)	(0.69)	(0.64)	(0.73)	(0.82)
Income Level	3.50	3.08	3.75	4.33	4.34	3.63	2.84	4.00	2.33
	(3.48)	(3.22)	(3.37)	(3.39)	(4.19)	(3.60)	(3.07)	(3.58)	(3.17)
Male	0.53	0.47	0.49	0.62	0.45	0.54	0.58	0.60	0.52
	(0.50)	(0.50)	(0.50)	(0.49)	(0.50)	(0.50)	(0.50)	(0.49)	(0.50)
Religiosity	1.18	1.18	1.28	1.49	1.28	1.13	0.94	1.10	1.00
	(0.93)	(0.84)	(0.79)	(1.16)	(1.12)	(0.95)	(0.87)	(0.86)	(0.77)
Luo	0.47	0.40	0.50	0.57	0.51	0.38	0.52	0.48	0.48
	(0.50)	(0.49)	(0.50)	(0.50)	(0.51)	(0.49)	(0.50)	(0.50)	(0.50)
Ethnic Minority	0.02	0.00	0.00	0.03	0.04	0.01	0.04	0.04	0.03
	(0.15)	(0.00)	(0.00)	(0.18)	(0.20)	(0.11)	(0.20)	(0.20)	(0.17)
Num. of Subjects	500	72	72	61	47	79	50	50	69

Note: Means with standard deviations in parenthesis. *ABC* represents treatment groups in which Players A, B, and C are all from the same ethnic group, *AB* represents treatment groups in which only Players A and B are from the same ethnic group, *AC* represents treatment groups in which only Players A and C are from the same ethnic group, and *BC* represents treatment groups in which only Players B and C are from the same ethnic group. *Age* is a categorical variable representing a participants' age (0 if between 18-29 years old, 2 if between 30-39 years old, 3 if between 40-49 years old, and 5 if over 50 years old). *Education Level* is a categorical variable that represents participants' highest level of education (0 if no formal schooling, 1 if some primary, 2 if primary, 3 if some secondary, 4 if secondary, and 5 if post-secondary). *Income Level* is a categorical variable representing participants' income in the previous week (0 if no income, 1 if KES 1-99/TZS 1-2,499, 2 if KES 100-249/TZS 2,500-4,999, 3 if KES 250-499/TZS 5,000-7,499, 4 if KES 500-749/TZS 7,500-9,999, 5 if KES 750-999/TZS 10,000-12,499, 6 if KES 1,000-1,249/TZS 12,500-14,999, 7 if KES 1,250-1,499/TZS 15,000-17,499, 8 if KES 1,500-1,749/TZS 17,500-19,999, 9 if KES 1,750-1,999/TZS 20,000-29,999, 10 if KES 2,000-2,999/TZS 30,000+, and 11 if KES 3,000+). *Male* is a dummy indicating gender. *Religiosity* signifies the number of times a participant attended a religious service in the past week. *Luo* is a dummy indicating Luo ethnicity. *Ethnic Minority* is a dummy indicating Luo living in Kuria-majority villages and Kuria living in Luo-majority villages.

Figure A.1: CONSORT Diagram



B Additional Analyses and Robustness Checks

B.1 Ordered Probit Regressions

Table A.2: Cooperative Sharing Across Coethnicity Treatments (Ordered Probit)

	Kenya		*Tanzania*	
	(1)	(2)	(3)	(4)
AB	−0.435	−0.729**	−0.030	0.093
	(0.302)	(0.338)	(0.326)	(0.333)
AC	−0.611*	−0.752**	0.128	0.099
	(0.319)	(0.342)	(0.346)	(0.368)
BC	0.214	−0.014	−0.020	0.255
	(0.343)	(0.360)	(0.310)	(0.341)
Age		−0.225		0.205*
		(0.143)		(0.118)
Male		−0.383		−0.113
		(0.256)		(0.273)
Education Level		0.001		−0.085
		(0.117)		(0.241)
Income Level		−0.024		0.073**
		(0.035)		(0.037)
Cut 1	−1.321***	−2.210***	−0.684***	−0.346
	(0.260)	(0.563)	(0.228)	(0.639)
Cut 2	−0.860***	−1.627***	−0.333	0.053
	(0.239)	(0.535)	(0.225)	(0.643)
Cut 3	−0.283	−0.936*	0.011	0.447
	(0.227)	(0.518)	(0.223)	(0.650)
Cut 4	0.070	−0.530	0.197	0.651
	(0.229)	(0.519)	(0.223)	(0.653)
Cut 5	0.335	−0.234	0.632***	1.126*
	(0.231)	(0.523)	(0.226)	(0.654)
Village Fixed Effects	No	Yes	No	Yes
Observations	89	89	82	82

Note: Ordered probit estimates with standard errors in parentheses ($^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$). The dependent variable is tokens transferred from Player A to Player B. Village fixed effects are based on A's village. *ABC* treatment group omitted. *ABC* represents treatment groups in which Players A, B, and C are all from the same ethnic group, *AB* represents treatment groups in which only Players A and B are from the same ethnic group, *AC* represents treatment groups in which only Players A and C are from the same ethnic group, and *BC* represents treatment groups in which only Players B and C are from the same ethnic group.

Table A.3: Costly Sanctioning Across Coethnicity Treatments (Ordered Probit)

	Kenya		*Tanzania*	
	(1)	(2)	(3)	(4)
Amount Kept (A)	0.360***	0.391***	0.199***	0.210***
	(0.035)	(0.038)	(0.071)	(0.075)
AB	0.153	0.123	0.367	0.462
	(0.160)	(0.164)	(0.381)	(0.407)
AC	0.005	−0.023	0.047	−0.134
	(0.165)	(0.175)	(0.399)	(0.413)
BC	0.284	0.338*	0.444	0.565
	(0.188)	(0.192)	(0.337)	(0.359)
Age		0.014		0.024
		(0.061)		(0.138)
Male		−0.207		0.468
		(0.130)		(0.291)
Education Level		−0.035		0.060
		(0.067)		(0.184)
Income Level		0.013		0.072
		(0.018)		(0.044)
Constant	−1.840***	−2.298***		
	(0.267)	(0.420)		
Cut 1			1.741***	2.653***
			(0.589)	(0.940)
Cut 2			2.900***	3.929***
			(0.629)	(0.978)
Village Fixed Effects	No	Yes	No	Yes
R2	0.58	0.65		
Observations	88	88	80	80

Note: Ordered probit estimates with standard errors in parentheses ($^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$). The dependent variable is tokens spent by C to reduce income of A. Village fixed effects are based on C's village. *ABC* treatment group omitted. *ABC* represents treatment groups in which Players A, B, and C are all from the same ethnic group, *AB* represents treatment groups in which only Players A and B are from the same ethnic group, *AC* represents treatment groups in which only Players A and C are from the same ethnic group, and *BC* represents treatment groups in which only Players B and C are from the same ethnic group.

Table A.4: Costly Income Adjustment Across Coethnic Treatments (Ordered Probit)

	Kenya				*Tanzania*			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Amount Allocated (A)	0.374***	0.423***			0.310***	0.466***		
	(0.109)	(0.131)			(0.097)	(0.167)		
Amount Allocated (B)			0.423***	1.114**			0.484***	0.530***
			(0.139)	(0.455)			(0.119)	(0.139)
AB	0.249	0.593	−3.772	−2.390	−0.765	−1.267	−0.190	−0.577
	(0.446)	(0.549)	(465.763)	(1323.484)	(0.654)	(0.928)	(0.514)	(0.613)
AC	−0.556	−0.729	−1.207	2.980	−0.638	−0.715	−0.906	−1.302*
	(0.537)	(0.667)	(0.847)	(5.277)	(0.483)	(0.607)	(0.629)	(0.745)
BC	0.246	0.164	−0.726	11.045	−1.060*	−1.760*	−0.991	−1.719**
	(0.436)	(0.529)	(0.686)	(10.104)	(0.562)	(0.913)	(0.628)	(0.861)
Age		0.089		0.344		0.504*		0.163
		(0.200)		(0.913)		(0.268)		(0.215)
Male		−0.390		13.613		0.708		0.195
		(0.521)		(9.598)		(0.549)		(0.481)
Education Level		0.350		−3.813		−0.094		−0.994**
		(0.231)		(4.058)		(0.457)		(0.463)
Income Level		0.118		−0.349		−0.069		−0.058
		(0.081)		(0.588)		(0.079)		(0.069)
Cut 1	3.205***	4.758***	3.252***	7.292	2.169***	4.362**	3.534***	2.157
	(0.924)	(1.408)	(1.038)	(6.749)	(0.710)	(2.081)	(0.865)	(1.476)
Cut 2	4.709***	6.704***	4.103***	11.308			5.211***	4.060***
	(1.002)	(1.558)	(1.134)	(7.661)			(0.984)	(1.537)
Cut 3							5.871***	4.956***
							(1.074)	(1.549)
Village Fixed Effects	No	Yes	No	Yes	No	Yes	No	Yes
R2								
Observations	68	68	68	68	77	76	77	76

Note: Ordered probit estimates with standard errors in parentheses ($^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$). The dependent variable is tokens spent by C to reduce income of A (Models 1-2, 5-6) or B (Models 3-4, 7-8). Village fixed effects are based on C's village. *ABC* treatment group omitted. *ABC* represents treatment groups in which Players A, B, and C are all from the same ethnic group, *AB* represents treatment groups in which only Players A and B are from the same ethnic group, *AC* represents treatment groups in which only Players A and C are from the same ethnic group, and *BC* represents treatment groups in which only Players B and C are from the same ethnic group.

B.2 Excluding All Ethnic Minorities

Table A.5: Cooperative Sharing Across Coethnicity Treatments (No Ethnic Minorities)

	Kenya		*Tanzania*	
	(1)	(2)	(3)	(4)
AB	-0.667	-0.931^{*}	-0.343	-0.210
	(0.502)	(0.506)	(0.639)	(0.608)
AC	-1.024^{*}	-1.056^{**}	0.193	0.155
	(0.530)	(0.520)	(0.667)	(0.653)
BC	0.127	-0.150	-0.047	0.310
	(0.562)	(0.549)	(0.581)	(0.584)
Age		-0.278		0.512^{**}
		(0.216)		(0.213)
Male		-0.519		-0.348
		(0.393)		(0.489)
Education Level		0.004		0.038
		(0.183)		(0.406)
Income Level		-0.027		0.110^{*}
		(0.054)		(0.062)
Constant	3.167^{***}	3.851^{***}	2.593^{***}	1.297
	(0.362)	(0.790)	(0.390)	(1.109)
Village Fixed Effects	No	Yes	No	Yes
R2	0.07	0.29	0.01	0.21
Observations	88	88	79	79

Note: OLS estimates with standard errors in parentheses ($^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$). The dependent variable is tokens transferred from Player A to Player B. Village fixed effects are based on A's village. *ABC* treatment group omitted. *ABC* represents treatment groups in which Players A, B, and C are all from the same ethnic group, *AB* represents treatment groups in which only Players A and B are from the same ethnic group, *AC* represents treatment groups in which only Players A and C are from the same ethnic group, and *BC* represents treatment groups in which only Players B and C are from the same ethnic group.

Table A.6: Costly Sanctioning Across Coethnicity Treatments (No Ethnic Minorities)

	Kenya		*Tanzania*	
	(1)	(2)	(3)	(4)
Amount Kept (A)	0.367^{***}	0.401^{***}	0.113^{***}	0.105^{**}
	(0.034)	(0.037)	(0.041)	(0.041)
AB	0.149	0.107	0.186	0.224
	(0.155)	(0.158)	(0.228)	(0.233)
AC	0.063	0.049	0.023	−0.095
	(0.161)	(0.171)	(0.227)	(0.229)
BC	0.287	0.353^{*}	0.236	0.275
	(0.181)	(0.186)	(0.199)	(0.202)
Age		0.041		0.012
		(0.060)		(0.080)
Male		-0.286^{**}		0.288^{*}
		(0.129)		(0.165)
Education Level		0.024		0.012
		(0.068)		(0.101)
Income Level		0.010		0.036
		(0.018)		(0.025)
Constant	-1.885^{***}	-2.540^{***}	−0.333	−0.659
	(0.258)	(0.417)	(0.328)	(0.493)
Village Fixed Effects	No	Yes	No	Yes
R2	0.61	0.67	0.12	0.23
Observations	87	87	79	79

Note: OLS estimates with standard errors in parentheses ($^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$). The dependent variable is tokens spent by C to reduce income of A. Village fixed effects are based on C's village. *ABC* treatment group omitted. *ABC* represents treatment groups in which Players A, B, and C are all from the same ethnic group, *AB* represents treatment groups in which only Players A and B are from the same ethnic group, *AC* represents treatment groups in which only Players A and C are from the same ethnic group, and *BC* represents treatment groups in which only Players B and C are from the same ethnic group.

Table A.7: Costly Income Adjustment Across Coethnic Treatments (No Ethnic Minorities)

	Kenya				*Tanzania*			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Amount Allocated (A)	0.092***	0.075***			0.055***	0.056***		
	(0.023)	(0.024)			(0.015)	(0.015)		
Amount Allocated (B)			0.091***	0.078***			0.096***	0.097***
			(0.016)	(0.017)			(0.020)	(0.020)
AB	0.125	0.171	−0.135	−0.171	−0.185	−0.206	0.084	0.026
	(0.192)	(0.199)	(0.136)	(0.142)	(0.130)	(0.135)	(0.171)	(0.181)
AC	−0.124	−0.116	−0.218	−0.132	−0.201*	−0.209*	−0.161	−0.167
	(0.194)	(0.205)	(0.138)	(0.146)	(0.117)	(0.116)	(0.153)	(0.156)
BC	0.144	−0.042	−0.160	−0.002	−0.243*	−0.257**	−0.178	−0.198
	(0.177)	(0.196)	(0.126)	(0.140)	(0.123)	(0.121)	(0.161)	(0.162)
Age		−0.010		−0.001		0.081*		−0.049
		(0.072)		(0.051)		(0.042)		(0.056)
Male		−0.073		0.226*		0.107		0.046
		(0.172)		(0.123)		(0.097)		(0.130)
Education Level		0.130*		−0.131**		−0.056		−0.189**
		(0.077)		(0.055)		(0.067)		(0.091)
Income Level		0.010		−0.010		−0.025*		−0.014
		(0.025)		(0.017)		(0.014)		(0.019)
Constant	−0.229	−0.412	−0.040	0.443*	0.104	0.073	−0.170	0.228
	(0.196)	(0.361)	(0.101)	(0.233)	(0.119)	(0.234)	(0.123)	(0.313)
Village Fixed Effects	No	Yes	No	Yes	No	Yes	No	Yes
R2	0.25	0.41	0.37	0.50	0.27	0.40	0.34	0.42
Observations	66	66	66	66	74	73	74	73

Note: OLS estimates with standard errors in parentheses ($^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$). The dependent variable is tokens spent by C to reduce income of A (Models 1-2, 5-6) or B (Models 3-4, 7-8). Village fixed effects are based on C's village. *ABC* treatment group omitted. *ABC* represents treatment groups in which Players A, B, and C are all from the same ethnic group, *AB* represents treatment groups in which only Players A and B are from the same ethnic group, *AC* represents treatment groups in which only Players A and C are from the same ethnic group, and *BC* represents treatment groups in which only Players B and C are from the same ethnic group.

B.3 Including Spiteful Income Adjustment

Table A.8: Costly Income Adjustment Across Coethnic Treatments (with Spiteful Punishers)

	Kenya				*Tanzania*			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Amount Allocated (A)	0.068^{***}	0.052^{**}			0.042^{***}	0.043^{***}		
	(0.021)	(0.024)			(0.015)	(0.015)		
Amount Allocated (B)			0.069^{***}	0.066^{***}			0.083^{***}	0.083^{***}
			(0.018)	(0.021)			(0.019)	(0.020)
AB	0.099	0.146	−0.093	−0.167	-0.235^{*}	-0.245^{*}	0.223	0.206
	(0.188)	(0.201)	(0.157)	(0.170)	(0.123)	(0.127)	(0.158)	(0.166)
AC	−0.055	−0.025	-0.270^{*}	−0.285	-0.213^{*}	-0.245^{**}	−0.064	−0.081
	(0.194)	(0.209)	(0.162)	(0.177)	(0.117)	(0.120)	(0.150)	(0.156)
BC	0.181	0.083	−0.227	−0.221	-0.240^{*}	-0.260^{**}	−0.073	−0.114
	(0.173)	(0.194)	(0.144)	(0.165)	(0.122)	(0.122)	(0.157)	(0.158)
Age		0.006		−0.057		0.055		−0.016
		(0.071)		(0.060)		(0.041)		(0.054)
Male		0.026		0.177		0.142		−0.063
		(0.172)		(0.146)		(0.096)		(0.124)
Education Level		0.079		−0.077		−0.001		-0.195^{**}
		(0.079)		(0.067)		(0.064)		(0.084)
Income Level		−0.007		0.022		−0.015		−0.014
		(0.024)		(0.021)		(0.013)		(0.017)
Constant	−0.085	−0.129	0.079	0.348	0.199^{*}	0.107	−0.126	0.337
	(0.185)	(0.370)	(0.118)	(0.291)	(0.116)	(0.236)	(0.128)	(0.304)
Village Fixed Effects	No	Yes	No	Yes	No	Yes	No	Yes
R2	0.15	0.27	0.20	0.30	0.19	0.30	0.27	0.35
Observations	74	74	74	74	87	86	87	86

Note: OLS estimates with standard errors in parentheses ($^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$). The dependent variable is tokens spent by C to reduce income of A (Models 1-2, 5-6) or B (Models 3-4, 7-8). Village fixed effects are based on C's village. *ABC* treatment group omitted. *ABC* represents treatment groups in which Players A, B, and C are all from the same ethnic group, *AB* represents treatment groups in which only Players A and B are from the same ethnic group, *AC* represents treatment groups in which only Players A and C are from the same ethnic group, and *BC* represents treatment groups in which only Players B and C are from the same ethnic group.

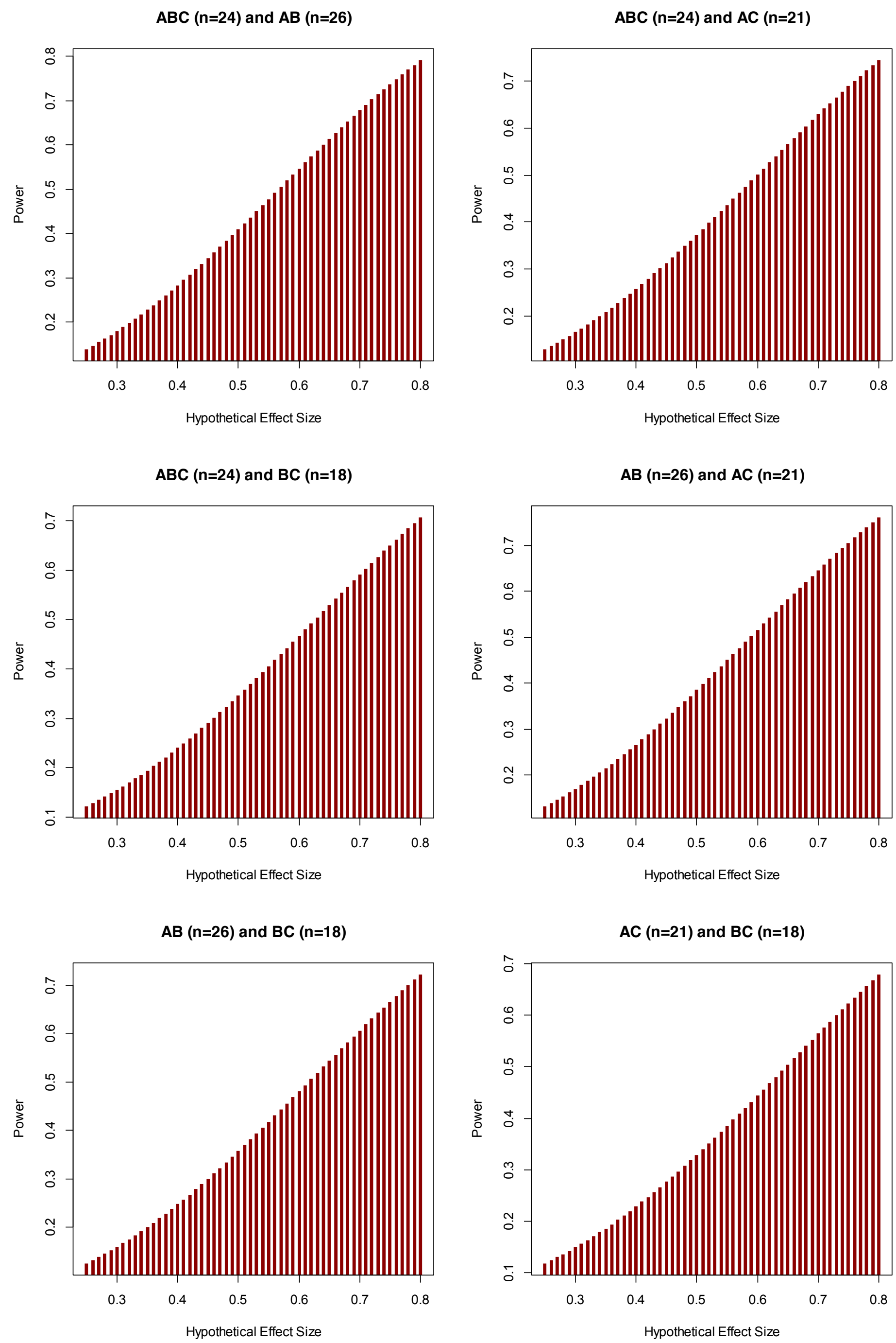
C Statistical Power

The experiment reported in the main text involves four treatment conditions implemented across two national contexts. By spreading the study sample across these factors, our investigation allocates a relatively small number of observations to each treatment condition in each national context. These allocations of experiment participants raise concerns about statistical power.

To understand the relevance of these concerns, we performed post hoc power calculations for a range of possible effect sizes, taking as given the sample sizes used in the various pairwise comparisons reported in the main text. Figures A.2 and A.3 display these calculations for our Kenyan and Tanzanian samples, respectively. Each figure consists of six panels representing each of the six pairwise comparisons that can be made between our treatment conditions. At the top of each panel, the relevant pairwise comparison is listed along with the sample size for each treatment condition. In the plotting field of each panel, we display the statistical power of a two-sample t-test with unequal sample sizes (viz. those sample sizes displayed in the title of each panel) for a range of hypothetical, standardized effect sizes. The hypothetical effect sizes (in standard deviation units) range from those deemed very small ($d = 0.25$) to very large ($d = 0.8$) by past researchers (Cohen 1988). We do not use the estimated effect sizes from our present investigation because we acknowledge that they might themselves result from inadequate power. Instead, we draw on hypothetical effects sizes in order to learn how large an effect would need to be in order for us to detect it, given our sample sizes.

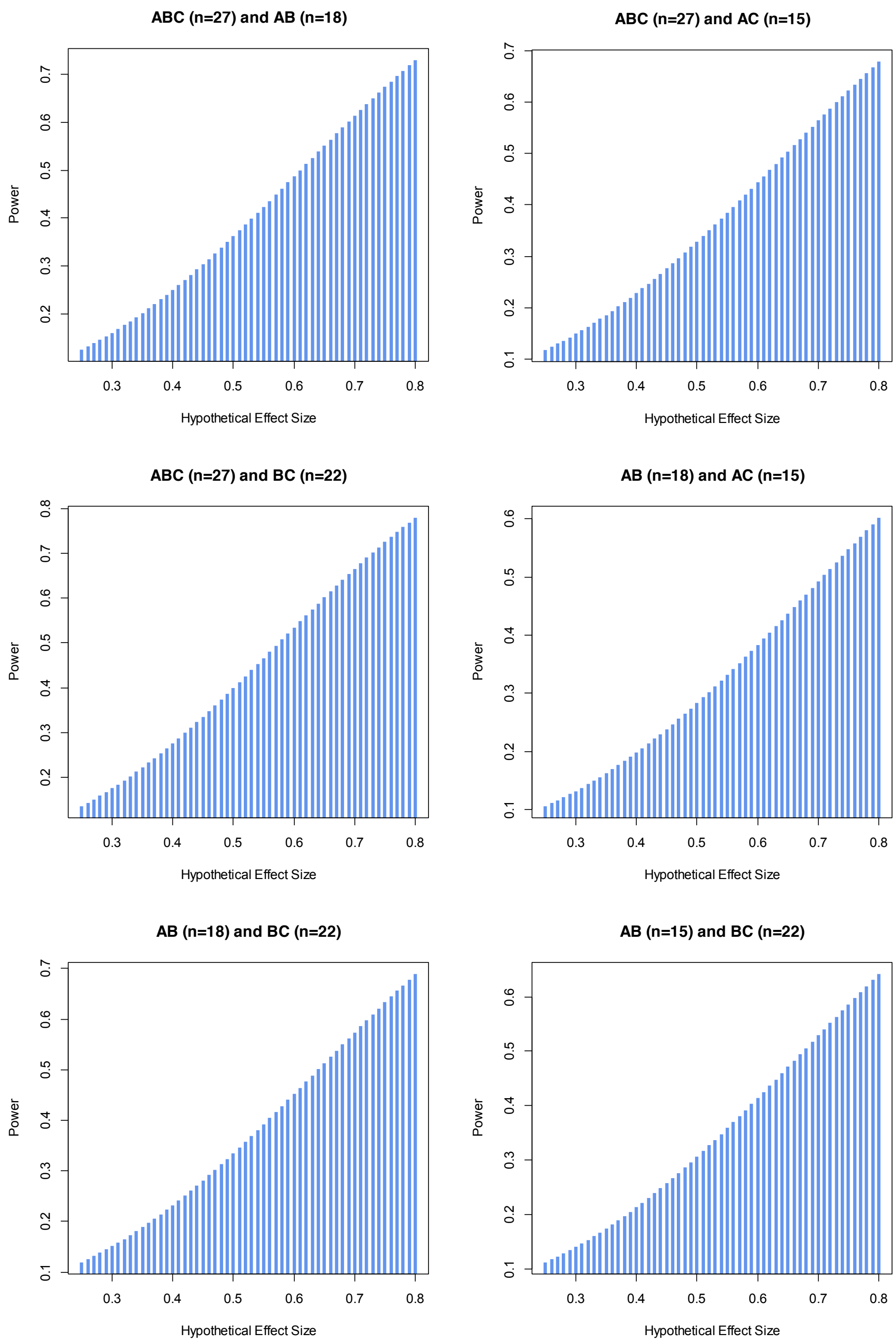
As Figures A.2 and A.3 indicate, for small effect sizes we are grossly under-powered and we do not reach conventional levels of power (power=0.8) even for effects that researchers would deem large. This dearth of power appears evident across all panels, thus suggesting that we remain under-powered for all comparisons of our focal treatment conditions.

Figure A.2: Power Calculations for Treatment Comparisons in Kenya



Note: The panels display the power of a two-sample t-test for varying effect sizes (in standard deviation units), given the actual, unequal sample sizes for experiments conducted in Kenya.

Figure A.3: Power Calculations for Treatment Comparisons in Tanzania



Note: The panels display the power of a two-sample t-test for varying effect sizes (in standard deviation units), given the actual, unequal sample sizes for experiments conducted in Tanzania.

D Participant Recruitment

Before the experiment began, research teams made visits to the target villages to seek permission from local authorities to recruit participants. Participants were recruited from 12 different villages in southwest Kenya and northwest Tanzania – where the ancestral homelands of the Kuria and Luo meet. This included 8 small villages near Karamu, Kenya (4 Kuria villages and 4 Luo villages) and 4 small villages near Somba Nyasoko, Tanzania (2 Kuria villages and 2 Luo villages). The RAs recruited participants by taking a random walk from a pre-designated part of the village (typically the center) and recruiting a random household member from every Xth home, determined by a dice roll. When recruiting, RAs alternated between gender, and selected individuals randomly using a dice roll. These procedures involved the following script (spoken in Swahili or participant's mother tongue):

> Hello, my name is __________, and we would like to recruit a member of your household to participate in a research project involving [Kenyatta University (Kenya) / the Shirati Health, Education, and Development Foundation (Tanzania)], and Stanford University in the United States. If your household agrees to participate, you will be given [KES 300 / TZS 5000] cash for your time and matched with other participants from the area to complete a series of activities. The experiment will be held next weekend here in __________ at 8am, and it should take no more than four or five hours total. Would somebody here be interested in participating?
>
> Please know that participation is completely voluntary, and you may withdraw from the research at any time. But if you show up for the experiment you will receive [KES 300 / TZS 5000] and a chance to win more money depending on the decisions made by you and others in the experiment. May I schedule you for the experiment?
>
> Great, from this household, I need to select a [male / female]. Can we gather all the [males / females] of the house?

[SELECT BY ROLLING DICE AND RECORD RESPONDENT INFO]

You are now registered for the experiment. It will be held at ___________. Please know that other people from this village are being recruited to attend sessions on different days, so you should pay attention to the day that you are invited, which is written here on the experiment info sheet. Please try to arrive 15 minutes early – if you are late, we cannot give you any money.

E Experiment Procedures

All experiment instructions given to a group were in Swahili. During one one one interactions between the RA and a participant, either Swahili or the participant's home language (Kuria or Luo).

Each experiment session in Kenya and Tanzania involved 30 participants at the most. When participants arrived to the experiment site they were randomly assigned a participant ID that ranged from 1-30 by drawing a number out of a hat. These IDs were then used to randomly assign participants to groups of three. Figure A.4 shows the forms used to connect randomly assigned numbers to specific groups and roles within each game for that group. We relied variation in the ethnic composition of these randomly assigned groups to generate variation in the treatment conditions. In experimental sessions with equal proportions of Kuria and Luo participants, all four experimental conditions (ABC, AB, AC, and BC) were equally likely. The more unbalanced the ethnic composition of the experimental session, however, the more likely the ABC condition became relative to the other three conditions. On average, our 20 sessions were 55% one ethnic group and 45% the other, but imbalance was as large as 71% one ethnic group in one session. In this most extreme case, assignment to the ABC condition became 50% more likely than each of the other three conditions. This helps account for the greater number of ABC groups ($n = 55$) than AB ($n = 45$), AC ($n = 44$), and BC ($n = 42$) in the DG3 game. Participants that could not be assigned to a group were sent away with the promised show-up fee.

Each participant played one dictator game and one random-income game. To avoid the possibility of spillovers across games we took two precautions. First, results from the experimental games were not given to participants until after the experiment was over. Second, player assignments were designed so that each participant made only one experiment decision (despite playing two games). This was accomplished by assigning player B of the dictator game to the role of player C in the random-income game, and assigning players A and C of the dictator game to the role of players A and B in the random-income game. All experiment decisions and survey responses were recorded on mobile phones equipped with Open Data Kit (ODK).

Figure A.4: Form which mapped numbers 1-30 drawn from a hat to particular groups and roles for the dictator game with third party punishment.

PLAYER ASSIGNMENT KEY – Dictator (Activity 1) Country: Kenya / Tanzania Date: ____

Village	ID	Interview2	Game2	Role2	Group2	Allocation2	Reduction2	Payout2
	1	YES	Dictator	A	1			
	2		Dictator	B	1			
	3	YES	Dictator	C	1			
	4	YES	Dictator	A	2			
	5		Dictator	B	2			
	6	YES	Dictator	C	2			
	7	YES	Dictator	A	3			
	8		Dictator	B	3			
	9	YES	Dictator	C	3			
	10	YES	Dictator	A	4			
	11		Dictator	B	4			
	12	YES	Dictator	C	4			
	13	YES	Dictator	A	5			
	14		Dictator	B	5			
	15	YES	Dictator	C	5			
	16	YES	Dictator	A	6			
	17		Dictator	B	6			
	18	YES	Dictator	C	6			
	19	YES	Dictator	A	7			
	20		Dictator	B	7			
	21	YES	Dictator	C	7			
	22	YES	Dictator	A	8			
	23		Dictator	B	8			
	24	YES	Dictator	C	8			
	25	YES	Dictator	A	9			
	26		Dictator	B	9			
	27	YES	Dictator	C	9			
	28	YES	Dictator	A	10			
	29		Dictator	B	10			
	30	YES	Dictator	C	10			

RA Name: ____

Figure A.5: Form which mapped numbers 1-30 drawn from a hat to particular groups and roles for the random income game with third party income adjustment.

PLAYER ASSIGNMENT KEY – RIG (Activity 2) Country: Kenya / Tanzania Date: ______

Village	ID	Interview2	Game2	Role2	Group2	Allocation2	Reduction2	Payout2
	1		RIG	B	1			
	2	YES	RIG	C	1			
	3		RIG	A	1			
	4		RIG	B	2			
	5	YES	RIG	C	2			
	6		RIG	A	2			
	7		RIG	B	3			
	8	YES	RIG	C	3			
	9		RIG	A	3			
	10		RIG	B	4			
	11	YES	RIG	C	4			
	12		RIG	A	4			
	13		RIG	B	5			
	14	YES	RIG	C	5			
	15		RIG	A	5			
	16		RIG	B	6			
	17	YES	RIG	C	6			
	18		RIG	A	6			
	19		RIG	B	7			
	20	YES	RIG	C	7			
	21		RIG	A	7			
	22		RIG	B	8			
	23	YES	RIG	C	8			
	24		RIG	A	8			
	25		RIG	B	9			
	26	YES	RIG	C	9			
	27		RIG	A	9			
	28		RIG	B	10			
	29	YES	RIG	C	10			
	30		RIG	A	10			

RA Name: ______

E.1 Common Group Instructions

Once all participants were present and assigned IDs, the RAs started the experiment by obtaining oral consent and giving the experiment introduction to participants collectively:

> Thank you for signing up for this experiment, and for contributing your time and effort to this research. Today you will be matched with other participants from the area and asked to complete a series of activities. The purpose of this experiment is to study how people spend money. Please know that your participation here is completely voluntary and that you are free to withdraw from this experiment at any time without any penalty. As promised, you will receive [KES 300 (Kenya) / TZS 5000] cash for showing up today. But if you complete the experiment, you will have a chance of winning more depending on the decisions made by you and others in the experiment.
>
> Do you agree to participate?

After obtaining oral consent:

> Great, let's get started. Today's experiment may take up to 4 hours so if you think you will not be able to stay that long let me know now. Before we begin I want to make some general comments about what we are doing here today and explain the rules that we must follow. We will be performing some experiments in which you can get some money. Whatever money you will get in the experiments will be yours to keep and take home. Maybe you won't get any money from the experiment, but you will receive the promised KES 300 (Kenya)/ TZS 5000 (Tanzania) for showing up today. This money is not part of the experiment, it is yours to keep. Assistant 1 and I will be supplying the money, but you should understand that this is not our own money. It is money given to us by a University in the United States to use for research.
>
> Before we proceed any further, let me stress something that is very important. You were invited here without understanding very much about what we are planning

to do today. If at anytime you find that this is something that you do not wish to participate in for any reason, you are free to leave. You may leave at anytime whether we have started the experiment or not.

I will now explain the experiment to you. Afterwards each of you will come into the adjacent room one-at-a-time with me and carry out the experiment. It is important that you listen as carefully as possible, because only people who understand the experiment will actually be able to participate. We will run through some examples here while we are all together. You cannot ask questions or talk while here in the group. This is very important. Please be sure that you obey this rule because it is possible for one person to spoil the experiment for everyone. If one person talks about the experiment while sitting in the group, we will not be able to carry out the experiment today. Do not worry if you do not completely understand the experiment as we go through the examples here in the group. Each of you will have a chance to ask questions in private to be sure that you understand what you have to do.

Also, your decisions in the experiment will determine how many shillings you receive at the end of the experiment. In the experiment we will use tokens, not shillings. Here are 100 (Kenya) / 2000 (Tanzania) shillings. (Currency is shown to participants.) Here are ten tokens (Poker chips are shown to subjects.) Every token is worth 10 / 200 shillings. (Subjects are shown 1 token and 10 / 200 shillings.) In the experiment we will only use tokens, but at the end of the experiment each token will be exchanged for shillings. If you obtain 0 tokens, you will get 0 shillings; if you obtain 1 token, you will obtain 10 / 200 shillings; if you obtain 2 tokens, you will obtain 20 / 400 shillings; if you obtain 3 tokens, you will obtain 30 / 600 shillings; if you obtain 4 tokens, you will obtain 40 / 800 shillings; if you obtain 5 tokens, you will obtain 50 / 1000 shillings; if you obtain 6 tokens, you will obtain 60 / 1200 shillings; if you obtain 7 tokens, you will obtain 70 / 1400 shillings; if you obtain 8 tokens, you will obtain 80 / 1600 shillings; if you

> obtain 9 tokens, you will obtain 90 / 1800 shillings; if you obtain 10 tokens, you will obtain 100 / 2000 shillings.

After the introduction, RAs explained what the dictator and random-income games would entail, starting with the dictator game (activity 1):

> We will now explain the experiment. Please listen closely as you will need to remember these instructions in order to complete the experiment and earn additional shillings.
>
> You will all play two types of games: Activity 1, and Activity 2. Both activities are similar and involve three people – Person A, Person B, and Person C. Each of you have been assigned a random number and this determines whether you will be playing the role of A, B, or C in these activities. The number was determined by chance, and each of you had an equal chance of being assigned to each role. During the experiment, none of you will know exactly with whom you are interacting, only which village the other person is from. I cannot tell you the identity of the people you are matched with, so please do not ask. I will, however, tell you that today there are people from 4 villages: W, X, Y, Z.
>
> Here are 100 / 2000 shillings. (Currency is shown to participants.) Here are ten tokens (Poker chips are shown to subjects.) Again, remember, every token is worth 10 / 200 shillings. (Subjects are shown 1 token and 10 / 200 shillings.) Here are 10 tokens.
>
> In Activity 1, Person A must decide how many of these ten tokens to give to Person B and how many to keep. Person B takes home whatever Person A gives to him, but Person A has to wait until Person C has made a decision before finding out what he is going to take home. Person C is given 5 tokens. Person C can do two things with his 5 tokens.
>
> 1. Person C can reduce the income of Person A. For the cost of 1 token, Person C can reduce by 3 tokens the amount of money Person A gets to keep.

2. Person C can pay nothing, keep the 5 tokens and leave Person A with the tokens he or she wanted to keep for him or herself untouched.

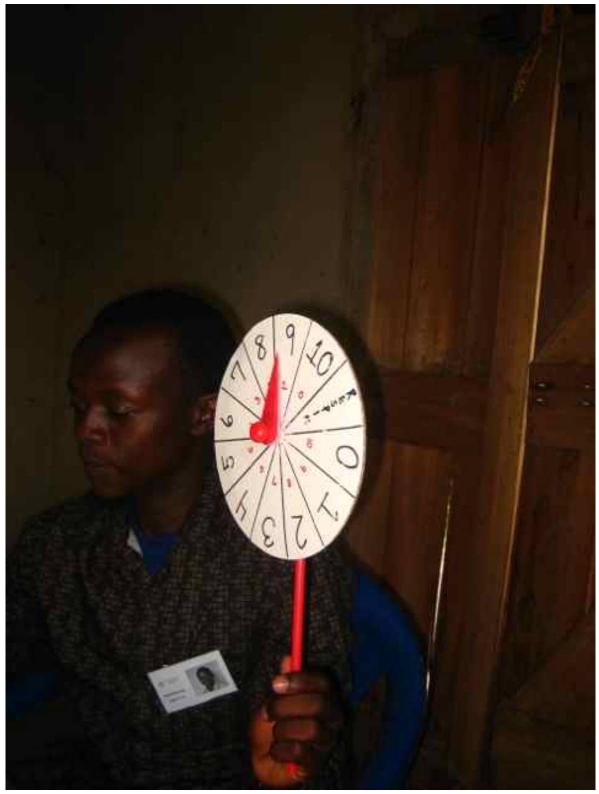
All of these decisions will be made anonymously in the adjacent room. We will call each of you in order of your participant ID. When it's your turn to do the experiment, you can come inside the adjacent room. I will tell you whether you are Person A, Person B, or Person C, explain the experiment again, and ask you to work through a couple of examples to be sure that you understand. After you have completed the experiment, you can come back out to this room and wait for others to complete the experiment. Please know that it is perfectly acceptable to keep all the money given to you in the activity. Some people must take home the money because they have a sick child or must pay for their children's school fees. It is also ok to use the money to pay for food and other bills.

The random-income game (activity 2) was then described:

Now there is also a second activity. In Activity 2, there are still three players, A, B, C. Rules are similar to Activity 1, in that Persons A and B receive some amount of money, and Person C gets a chance to modify the income of Person A or B. However, in this activity, the amount of money that Person A and B receive is determined randomly by this wheel (see Figure A.6). Each wheel is divided into 12 sections. Each section has a value in it from 0 to 10 and one re-spin. Each wheel will be spun once for each group and this will determine the incomes of A and B in the activity. The likelihood of the marker landing on any given number is the same for all numbers. The number that the marker lands on indicates the number of tokens given to Person A. For example, if the marker lands on 6, then Person A is given 6 tokens. Person B gets the remaining tokens; that is, Person B gets 10 minus the number of tokens shown on the wheel.

Before Person A and Person B are given these tokens, however, Person C must make a decision. Person C is given 5 tokens. Person C can do three things with

Figure A.6: Wheel used to generate random division of 10 tokens in the RIG3.



his 5 tokens.

1. Person C can reduce the income of Person A. For the cost of 1 token, Person C can reduce by 3 tokens the amount of money obtained by Person A.
2. Person C can reduce the income of Person B. For the cost of 1 token, Person C can reduce by 3 tokens the amount of money obtained by Person B.
3. Person C can pay nothing, keep the 5 tokens and leave the money of Person A and Person B untouched.

Again, this will be done anonymously in the adjacent room. We will call each of you in order of your participant ID. When it's your turn to do the experiment, you can come inside the adjacent room. I will tell you whether you are Person A, Person B, or Person C, explain the experiment again, and ask you to work through a couple of examples to be sure that you understand. After you have completed

> the experiment, you can come back out to this room and wait for everybody else to complete the experiment.
>
> When you have finished there, you have to wait until everybody has performed the experiment. Remember that you are not allowed to come and talk to the people still waiting to carry out the experiment. When everyone has finished the experiment, I will again call you in one-at-a-time and pay you your experiment winnings. Again, please know that it is perfectly acceptable to keep all the money given to you in the experiment.
>
> Are there any questions?

After the common group instructions were given, RAs took participants to a private room one by one to conduct the games.

E.2 Dictator Game Interview for Player A

Player A of the dictator game received the following instructions:

> Hello. I will now interview you to play Activity 1. You've been selected to play the role of A. As I have told you, there are three persons in this experiment – Person A, Person B, and Person C. None of you will know exactly with whom you are interacting, only which village they are from. Only I know who will be interacting with whom; I will never tell anyone else. Now you yourself are Person A, and you are playing with a B from village ___________ and a C from village ___________.
>
> [SHOW PROPS HERE DISPLAYING A, B, C, THEIR VILLAGES, AND ARROWS INDICATING THE DIRECTION OF TRANSFER]
>
> Here are 10 tokens. You must decide how much of this money you want to give to Person B from village ___________ and how much you want to keep for yourself.

Person B takes home whatever you give him, but you will have to wait until Person C from village ___________ has decided what he wants to do before finding out how much money you can take home. Person C from village ___________ will be given 5 tokens. Person C can do two things with his 5 tokens.

1. Person C can reduce the income of Person A. For the cost of 1 token, Person C can reduce by 3 tokens the amount of money Person A wants to keep.
2. Person C can pay nothing, keep the 5 tokens and leave the money Person A wanted to keep for himself untouched.

Now I would like to ask you some questions to make sure you understand the activity:

1. You are A, and imagine that you allocate 1 token to person B. How many tokens do you have at that point? [Answer: 9 tokens]
2. Ok, so you have 9 tokens. Say that C reduces your income by 6. How many tokens do you have at that point? [Answer: 3 token]
3. How many tokens does B have at that point? [Answer: 1 token]
4. How many tokens did C have to pay to reduce your income by 6? [Answer: 2 tokens]

[FURTHER EXAMPLES AND TEST QUESTIONS, IF NEEDED]

Now it is your turn to play. Here are 10 tokens. You can now decide how much of this money you want to give Person B and how much money you want to keep for yourself. Please divide this money into two piles and put the amount that you wish to give to Person B from village ___________ in the B cup and the amount that you wish to keep for yourself in your A cup, and remember it is ok to keep all the tokens for yourself.

Okay, we will split the money as you decided between yourself and Player B. To see how much you can take home of the money you have kept for yourself, we first have to find out what Person C decides to do. We will tell you how much you can take home at the end of the experiment, after everybody has played. In the meantime, please do not talk to anybody else about the activities you played.

E.3 Dictator Game Interview for Player C

Player C of the dictator activity received the following instructions:

Hello. I will now interview you to play Activity 1. You've been selected to play the role of C. As I have told you, there are three persons in this experiment ? Person A, Person B, and Person C. None of you will know exactly with whom you are interacting, only their village. Only I know who is to interact with whom and I will never tell anyone else. Now you yourself are Person C, and you are playing with an A from village __________ and a B from village __________. [Show props here displaying A, B, C, their villages, and arrows indicating direction of transfers?]

Person A was given 10 tokens, worth 100 / 2000 shillings. Person A told me how much of these 10 tokens he wants to give to Person B from village __________, and how much he wants to keep for himself to take home. Now I will give you 5 tokens. With these 5 tokens you can do one of two things:

1. You can reduce the income of Person A. For the cost of 1 token, you can reduce by 3 tokens the amount of money Person A wants to keep. The most you can reduce Person A's money to is zero tokens.
2. You can do nothing, keep the 5 tokens and leave the money Person A wanted to keep for himself untouched.

Now I'd like to ask you some questions to make sure you understand the activity:

1. Imagine that person A allocates 1 token to person B. How many tokens does A have at that point? [Answer: 9 tokens]

2. Ok, so A has 9 tokens, and you are C. Say that you reduce A's income by 6. How many tokens does A have at that point? [Answer: 3 token]
3. How many tokens does B have at that point? [Answer: 1 token]
4. How many tokens did you have to pay to reduce A's income by 6? [Answer: 2 tokens]

[FURTHER EXAMPLES AND TEST QUESTIONS, IF NEEDED]

Now its your turn to play. The allocation that Person A from village ___________ has made to Person B from village ___________ is written on the paper in front of me. It says that A kept ___________ and gave ___________ to B. Would like to reduce Person A's income? If yes, please tell me how many tokens you'd like to reduce A's income by. Remember you must pay 1 token for every 3 tokens by which you reduce A's income, and its ok to keep all 5 tokens for yourself.

[DIVIDE The 5 TOKENS VISUALLY TO CONFIRM RESPONSE]

Okay, we will reduce A's income by the amount you wish. We will tell you how much you can take home at the end of the experiment, after everybody has played the two activities. In the meantime, please do not talk to anybody else about the activities you played.?

E.4 Random Income Activity Interview for Player C

The following instructions were given to player C of the random-income game:

Hello. I will now interview you to play Activity 2. You've been selected to play the role of C. As I have told you, there are three persons in this experiment ?

Person A, Person B, and Person C. None of you will know exactly with whom you are interacting, only their village. Only I know who is to interact with whom and I will never tell anyone else. Now you yourself are Person C, and you are playing with an A from village ___________ and a B from village ___________.

[SHOW PROPS HERE DISPLAYING A, B, C, THEIR VILLAGES, AND ARROWS INDICATING THE DIRECTION OF TRANSFER]

In a moment I will spin a wheel and it will determine how much Person A and B receive in this activity. Person A from will receive the amount of tokens equal to the value on which the marker landed. Person B will receive 10 minus that number of tokens. But first, I will give you 5 tokens. With these 5 tokens you can do three things:

1. You can reduce the income of Person A. For the cost of 1 token, you can reduce by 3 tokens the amount of money obtained by Person A. You can reduce the amount of money Person A wants to at most zero tokens.
2. You can reduce the income of Person B. For the cost of 1 token, you can reduce by 3 tokens the amount of money obtained by Person B. You can reduce the amount of money Person B wants to at most zero tokens.
3. You can pay nothing, keep the 5 tokens and leave the money of Person A and Person B untouched.

Now I'd like to ask you some questions to make sure you understand the activity:

Imagine that I spin this wheel and person A gets 9 tokens and person B gets 1 token. Say that you reduce A's income by 3 tokens.

1. How many tokens does A have at that point? [Answer: 6 tokens]
2. How many tokens does B have at that point? [Answer: 1 token]

3. How many tokens did you have to pay to reduce A's income by 3? [Answer: 1 token]
4. If you keep all 5 tokens, how many tokens do A and B have at that point? [Answer: 9 tokens for A and 1 token for B]

[FURTHER EXAMPLES AND TEST QUESTIONS, IF NEEDED]

Now I will spin this wheel to determine Person A and B's incomes. [Spin Wheel] The wheel marker landed on __________. This means that Person A currently will receive __________ tokens and Person B will receive __________ tokens. Now, do you want to pay to reduce one of the players' incomes? If yes, whose income, and by how many tokens? Remember you must pay 1 token for every 3 tokens by which you reduce A or B's income, and it is ok to keep all 5 tokens for yourself.

[DIVIDE The 5 TOKENS VISUALLY TO CONFIRM RESPONSE]

Okay, we will reduce A's and B's incomes by the amount you wish. We will tell you how much you can take home at the end of the experiment, after everybody has completed the experiment. In the meantime, please do not talk to anybody else about the activities you played.

F Exit Survey

F.1 Instructions

After completing the experimental games, the RAs thanked participants for their time and informed them that they would be called back into the adjacent room one at a time to take the exit survey and receive their winnings.

The exit survey was administered using the following script:

> The experiment is now complete. Thank you again for your participation. Your group responses have been recorded, and in just a moment I will pay you your winnings from both activities.
>
> Before I pay you, however, I'd like to ask you a few questions about your background, your interests, and what you thought about the experiment. Your responses to these questions will not affect your winnings so please answer the questions honestly. Your responses will remain completely confidential, and they will be used only by researchers to study how people make decisions involving money.

After finishing the exit survey, participants were given their experiment winnings and asked not to speak with other participants until everybody has been interviewed and paid out.

F.2 Exit Survey Questionnaire

1. Participant ID.
2. Experiment Session ID / Date / Country.
3. Participant Gender.
4. What is your age?
   (a) 18-29
   (b) 30-39
   (c) 40-49
   (d) 50-59
   (e) 60+
5. Have you ever lived outside your current district for more than 6 months? Yes or No
6. What is your highest level of education?
   (a) None

(b) Some primary

(c) Finished primary

(d) Some secondary

(e) Finished secondary

(f) Post-secondary school (university)

7. Which languages can you speak well enough to have a conversation?

   (do not read list, check all those named)

   (a) English

   (b) Kuria

   (c) Luo

   (d) Swahili

   (e) Other ________________

8. What is your tribe?

   (a) Kuria

   (b) Luo

   (c) Other ________________

9. In the past week, how many times did you attend a religious service, if at all? _____

10. Did you earn any cash income in the past week? Yes or No

    If yes, how much? ________________

11. In the past week, how many days did you read the newspaper, if at all? ___________

12. Imagine that in Activity 1 of this experiment, an individual gave you 1 token and kept 9. Please indicate your feelings toward this person.

    (a) Not at all angry

(b) A little angry

(c) Angry

(d) Quite angry

(e) Very angry

13. Think about all Tanzanians [Kenyans]. Which of the following statements is closest to your view?

    (a) I see myself as quite similar to most Tanzanias [Kenyans].

    (b) I see myself as quite different from most Tanzanians [Kenyans].

14. Think about all Tanzanians [Kenyans]. Which of the following statements is closest to your view?

    (a) Because there is a lot of cultural variety in Tanzania, there is very little that makes us the same.

    (b) Even though there is a lot of cultural variety in Tanzania, we are more the same than we are different.

15. Think about all Luos [Kurias]. Which of the following statements is closest to your view?

    (a) I see myself as quite similar to most Luos [Kurias].

    (b) I see myself as quite different from most Luos [Kurias].

16. Do you personally know anybody that has married a member of a different tribe?

    (a) Yes

    (b) No

17. Let us suppose that you had to choose between being a [national group] and being a [ethnic group. Which of the following statements best expresses your feelings?

(a) You feel only [national].

(b) You feel more [national] than [ethnic].

(c) You feel equally [national] and [ethnic].

(d) You feel more [ethnic] than [national].

(e) You feel only [ethnic].

18. How much do you agree with the following statement: In order for justice to be served, violence should be repaid with violence.

    (a) Disagree strongly

    (b) Disagree somewhat

    (c) Neither agree nor disagree

    (d) Agree somewhat

    (e) Agree strongly