Stress, Ethnicity, and Prosocial Behavior
(Online Appendix – For Online Publication)[*]

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Appendix A. Study Logistics and Sample

A.1. Pre-Analysis Plan Deviations

Table A1: Pre-Analysis Plan Deviations

Description	Timing
Added an additional line in the instructions to underline that Participant 2 in the dictator game does not take any action	Before start of data collection
Added an additional comprehension question to the dictator game that tests whether they retain the fact that Participant 2 in the dictator game does not take action.	Before start of data collection
Added an additional dictator game screen after the task where we inform the participants that they are a Participant 2 for someone else as well and will receive an additional payout accordingly.	Before start of data collection
Analyzed average results across games in Table 3.	During analysis.
Robustness check controlling not only for the political coalition present at the time of data collection (as pre-specified), but also for the prevalent coalition of the 2007 presidential election in Tables C2 and C3.	During analysis.
Robustness check controlling for imbalanced demographics in Table C5.	During analysis.

Notes: This table lists the timing of changes to the study design and analysis after the submission of the pre-analysis plan as well as their timing.
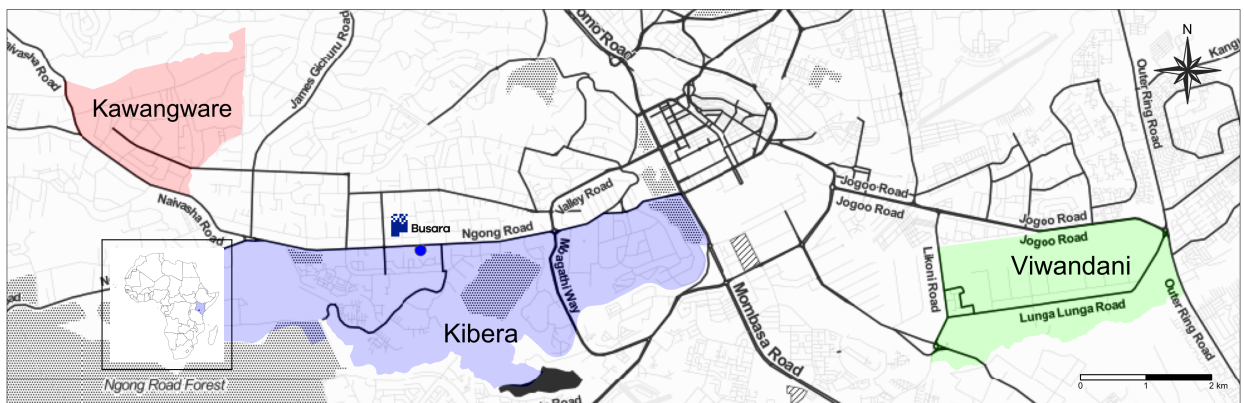
A.2. Sampling area

Figure A1: Map of Nairobi, Kenya, with shaded settlements of origin of participant pool
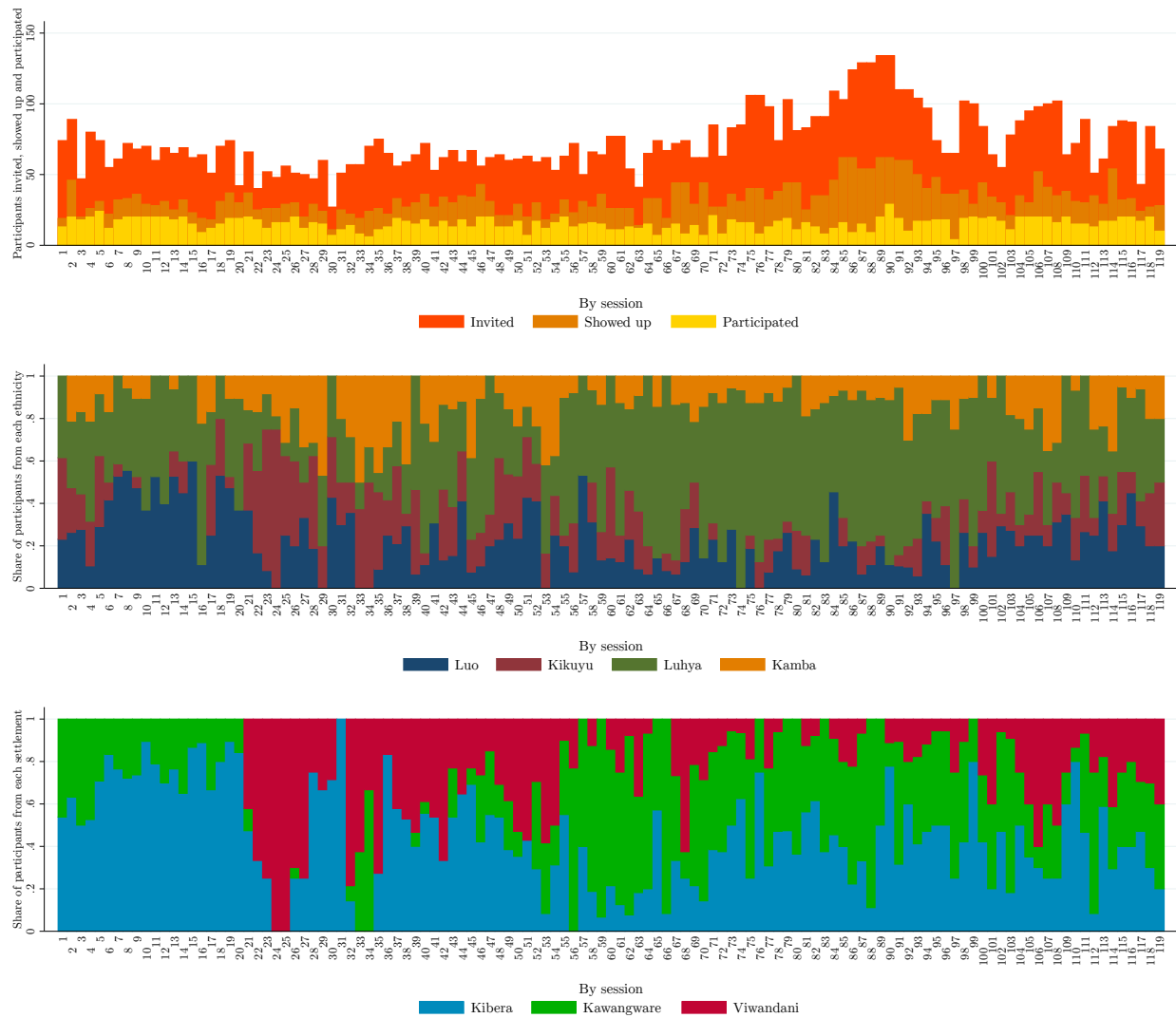
A.3. Sample selection

Figure A2: Show-up, ethnic and settlement session composition across experimental sessions (1–119)

Table A2: Sample selection

	(1) Kenya	(2) Nairobi	(3) Pool	(4) Sampled	(5) Contacted	(6) Reached	(7) Signed up	(8) Showed up	(9) Participated	(10) Final sample
					Female					
Mean	0.5049	0.4885	0.4556	0.5039	0.5146	0.5157	0.4499	0.4678	0.4637	0.4641
SD	(0.5000)	(0.4999)	(0.4980)	(0.5000)	(0.4998)	(0.4998)	(0.4975)	(0.4990)	(0.4988)	(0.4989)
P((i)=(i-1))		[0.0000]***	[0.0000]***	[0.0000]***	[0.0129]**	[0.8242]	[0.0000]***	[0.0846]*	[0.7792]	[0.9801]
Individuals	47,564,296	3,138,369	76,002	30,986	24,592	14,211	7,886	3,273	1,874	1,784
					Young (18–35)					
Mean	0.3057	0.4286	0.7636	0.8792	0.8742	0.8846	0.9105	0.9212	0.9584	0.9574
SD	(0.4607)	(0.4949)	(0.4249)	(0.3259)	(0.3317)	(0.3195)	(0.2854)	(0.2695)	(0.1998)	(0.2020)
P((i)=(i-1))		[0.0000]***	[0.0000]***	[0.0000]***	[0.0743]*	[0.0025]***	[0.0000]***	[0.0686]*	[0.0000]***	[0.8829]
Individuals	47,564,296	4,396,828	75,677	31,068	24,676	14,244	7,903	3,273	1,874	1,784
					Middle-Aged (36–50)					
Mean	0.1330	0.1623	0.1636	0.0999	0.1016	0.1040	0.0797	0.0776	0.0416	0.0426
SD	(0.3395)	(0.3687)	(0.3699)	(0.2999)	(0.3021)	(0.3052)	(0.2709)	(0.2676)	(0.1998)	(0.2020)
P((i)=(i-1))		[0.0000]***	[0.3373]	[0.0000]***	[0.5293]	[0.4487]	[0.0000]***	[0.7066]	[0.0000]***	[0.8829]
Individuals	47,564,296	4,396,828	75,677	31,068	24,676	14,244	7,903	3,273	1,874	1,784
					Luo					
Mean	0.1065		0.2062	0.2139	0.2228	0.2337	0.2187	0.2536	0.2396	0.2410
SD	(0.3085)		(0.4046)	(0.4101)	(0.4161)	(0.4232)	(0.4134)	(0.4351)	(0.4269)	(0.4278)
P((i)=(i-1))			[0.0000]***	[0.0065]***	[0.0116]**	[0.0138]**	[0.0111]**	[0.0001]***	[0.2636]	[0.9190]
Individuals	47,564,296		63,550	30,994	24,672	14,243	7,901	3,273	1,874	1,784
					Kikuyu					
Mean	0.1713		0.1707	0.2028	0.1864	0.1910	0.1742	0.1662	0.1708	0.1704
SD	(0.3768)		(0.3762)	(0.4021)	(0.3895)	(0.3931)	(0.3793)	(0.3723)	(0.3764)	(0.3761)
P((i)=(i-1))			[0.6791]	[0.0000]***	[0.0000]***	[0.2639]	[0.0019]***	[0.3109]	[0.6744]	[0.9773]
Individuals	47,564,296		63,550	30,994	24,672	14,243	7,901	3,273	1,874	1,784
					Luhya					
Mean	0.1435		0.3553	0.3950	0.4120	0.4024	0.4396	0.4397	0.4456	0.4467
SD	(0.3505)		(0.4786)	(0.4889)	(0.4922)	(0.4904)	(0.4964)	(0.4964)	(0.4972)	(0.4973)
P((i)=(i-1))			[0.0000]***	[0.0000]***	[0.0000]***	[0.0615]*	[0.0000]***	[0.9928]	[0.6811]	[0.9429]
Individuals	47,564,296		63,550	30,994	24,672	14,243	7,901	3,273	1,874	1,784
					Kamba					
Mean	0.0981		0.1163	0.1531	0.1599	0.1580	0.1628	0.1341	0.1430	0.1418
SD	(0.2974)		(0.3206)	(0.3601)	(0.3665)	(0.3647)	(0.3692)	(0.3408)	(0.3502)	(0.3490)
P((i)=(i-1))			[0.0000]***	[0.0000]***	[0.0282]**	[0.6244]	[0.3511]	[0.0001]***	[0.3732]	[0.9178]
Individuals	47,564,296		63,550	30,994	24,672	14,243	7,901	3,273	1,874	1,784
					Primary education					
Mean	0.4978	0.3325	0.2819	0.2911	0.2995	0.2940	0.2382	0.2135	0.1729	0.1749
SD	(0.5000)	(0.4711)	(0.4499)	(0.4543)	(0.4580)	(0.4556)	(0.4260)	(0.4098)	(0.3783)	(0.3800)
P((i)=(i-1))		[0.0000]***	[0.0000]***	[0.0039]***	[0.0335]**	[0.2628]	[0.0000]***	[0.0050]***	[0.0005]***	[0.8736]
Individuals	36,212,477	3,787,354	61,231	29,727	24,014	13,805	7,691	3,256	1,874	1,784
					Secondary education					
Mean	0.2453	0.3393	0.5205	0.5795	0.5698	0.5656	0.6080	0.6087	0.6307	0.6289
SD	(0.4302)	(0.4735)	(0.4996)	(0.4937)	(0.4951)	(0.4957)	(0.4882)	(0.4881)	(0.4827)	(0.4832)
P((i)=(i-1))		[0.0000]***	[0.0000]***	[0.0000]***	[0.0240]**	[0.4272]	[0.0000]***	[0.9423]	[0.1184]	[0.9097]
Individuals	36,212,477	3,787,354	61,231	29,727	24,014	13,805	7,691	3,256	1,874	1,784
					College education					
Mean	0.1052	0.2203	0.1765	0.1259	0.1272	0.1360	0.1504	0.1735	0.1937	0.1934
SD	(0.3068)	(0.4145)	(0.3813)	(0.3317)	(0.3332)	(0.3428)	(0.3575)	(0.3788)	(0.3953)	(0.3951)
P((i)=(i-1))		[0.0000]***	[0.0000]***	[0.0000]***	[0.6425]	[0.0142]**	[0.0037]***	[0.0024]***	[0.0707]*	[0.9806]
Individuals	36,212,477	3,787,354	61,231	29,727	24,014	13,805	7,691	3,256	1,874	1,784
Observations	47,564,300	4,397,073	76,002	31,073	24,678	14,246	7,904	3,273	1,874	1,784
Retention		9.24%	1.73%	40.88%	79.42%	57.73%	55.48%	41.41%	57.26%	95.20%

Notes: This table illustrates the sampling funnel from the population to the final sample. Every block of four rows indicates a demographic variable. Within each block the first row indicates the sample mean. The second row in parentheses indicates the sample standard deviation. The third row indicates the p-value of a simple t-test of the block's statistic with that in the block to the left, i.e. one stage earlier in the sampling funnel. Significance is denoted by * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. The fourth row indicates the number of observations at that stage for which the demographic is known. Across demographics these can vary if not all statistics are available for all individuals. From left to right, the columns indicate how the potential sample narrows down into the actual sample. We start by reproducing statistics from the 2019 census in columns (1) and (2) from https://www.knbs.or.ke/publications/. Mother tongue information was not published for Nairobi. The Busara Center has a Nairobi-based participant pool described in column (3) as of the time of data collection. Based on the study's inclusion criteria, participants are sampled from this pool as shown in column (4). Enumerators would then call participants from this list until they had confirmed with enough participants for the next study session to more or less fill it. Column (5) shows demographics for all individuals ever contacted in this way. Column (6) features individuals who could be reached by phone call. Column (7) indicates those individuals who agreed to come. Column (8) describes those individuals who showed up to the session. Column (9) contains those individuals who started a session after dropping participants who were screened out for medical reasons or did not consent to the study. Column (10) concludes with the final sample after eliminating participants who left part way through the session or whose data were not properly recorded.

A.4. Schedule of tasks and treatments

The sessions followed the schedule of tasks and treatments that are outlined below. We randomized the game order at the session level so that either the dictator game and choose your dictator game precede the trust game – stage 1 and trust game – stage 2 or vice versa in both instructions and play. Figure A3 illustrates the average session timing by task order from the recorded time sheets. An example for the game screens that participants saw is provided in Figure A4.

1. Participant identification
2. Welcome
3. Consent and Nurse's Checklist
4. Vital Signs (Heart Rate, Blood Pressure, Temperature)
5. Nurse's Participant meetings
6. Send eligible participants to the lab and ineligible participants home
7. Demographics & Introduction to computer interface on zTree
8. Primer Profile
9. General session instructions
10. Dictator Game **or** Trust Game – Stage 1: Instructions and comprehension
11. Choose Your Dictator Game **or** Trust Game – Stage 2: Instructions and comprehension
12. Trust Game – Stage 1 **or** Dictator Game: Instructions and comprehension
13. Trust Game – Stage 2 **or** Choose Your Dictator Game: Instructions and comprehension
14. Salivette 1: White
15. **Placebo / Drug administration**
16. Slider Instructions
17. Vital Signs (Heart Rate, Blood Pressure)
18. Break
19. Re-Primer Profile
20. Salivette 2: Orange
21. Task 1: Dictator Game **or** Trust Game – Stage 1
22. Salivette 3: Blue
23. Task 2: Choose Your Dictator Game **or** Trust Game – Stage 2
24. Salivette 4: Green
25. Task 3: Trust Game – Stage 1 **or** Dictator Game
26. Salivette 5: Purple
27. Task 4: Trust Game – Stage 2 **or** Choose Your Dictator Game
28. Salivette 6: Red
29. Social Proximity Survey
30. Pill Guessing Module
31. Experimenter Demand Effects Module
32. Additional Demographics
33. Debrief

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Figure A3: Session Time Visualization

Figure A4: Example Screen

A.5. Sample balance

Table A3: Balance

Variable	(1) Placebo Mean/SE	(2) Hydrocortisone Mean/SE	(3) (1)-(2) Difference/SE
Female (%)	45.14	47.72	-2.58
	(1.65)	(1.69)	(2.36)
Age	24.92	24.57	0.35
	(0.17)	(0.17)	(0.24)
Mother tongue: Luo (%)	23.29	24.94	-1.65
	(1.41)	(1.46)	(2.03)
Mother tongue: Kikuyu (%)	15.34	18.79	-3.45*
	(1.20)	(1.32)	(1.78)
Mother tongue: Luhya (%)	46.14	43.17	2.97
	(1.66)	(1.67)	(2.35)
Mother tongue: Kamba (%)	15.23	13.10	2.13
	(1.19)	(1.14)	(1.65)
From Kibera (%)	46.91	45.33	1.58
	(1.66)	(1.68)	(2.36)
From Kawangware (%)	30.79	32.00	-1.21
	(1.53)	(1.58)	(2.20)
From Viwandani (%)	22.30	22.67	-0.37
	(1.38)	(1.41)	(1.98)
Years lived in Nairobi	12.72	12.66	0.06
	(0.28)	(0.27)	(0.39)
Average monthly income (KES)	7338.25	7585.77	-247.52
	(247.96)	(272.73)	(368.14)
Unemployed (%)	68.21	68.91	-0.69
	(1.55)	(1.56)	(2.20)
Self-employed (%)	15.12	14.58	0.54
	(1.19)	(1.19)	(1.69)
Attained some primary education (%)	18.43	16.51	1.92
	(1.29)	(1.25)	(1.80)
Attained some secondary education (%)	64.35	61.39	2.96
	(1.59)	(1.64)	(2.29)
Attained some college education (%)	17.11	21.64	-4.53**
	(1.25)	(1.39)	(1.87)
Number of children	0.90	0.88	0.03
	(0.04)	(0.04)	(0.06)
Married or cohabiting (%)	35.65	33.83	1.82
	(1.59)	(1.60)	(2.26)
Single, divorced or widowed (%)	63.91	65.83	-1.92
	(1.60)	(1.60)	(2.26)
Christian (%)	96.91	97.84	-0.93
	(0.58)	(0.49)	(0.76)
Principal component of asset list	-0.06	0.06	-0.12*
	(0.05)	(0.05)	(0.07)
N	906	878	
F-test of joint significance (p-value)			0.15
F-test, number of observations			1784

Notes: The value displayed for t-tests are the differences in the means across the groups. The value displayed for F-tests are p-values. ***, **, and * indicate significance at the 1, 5, and 10 percent critical level.
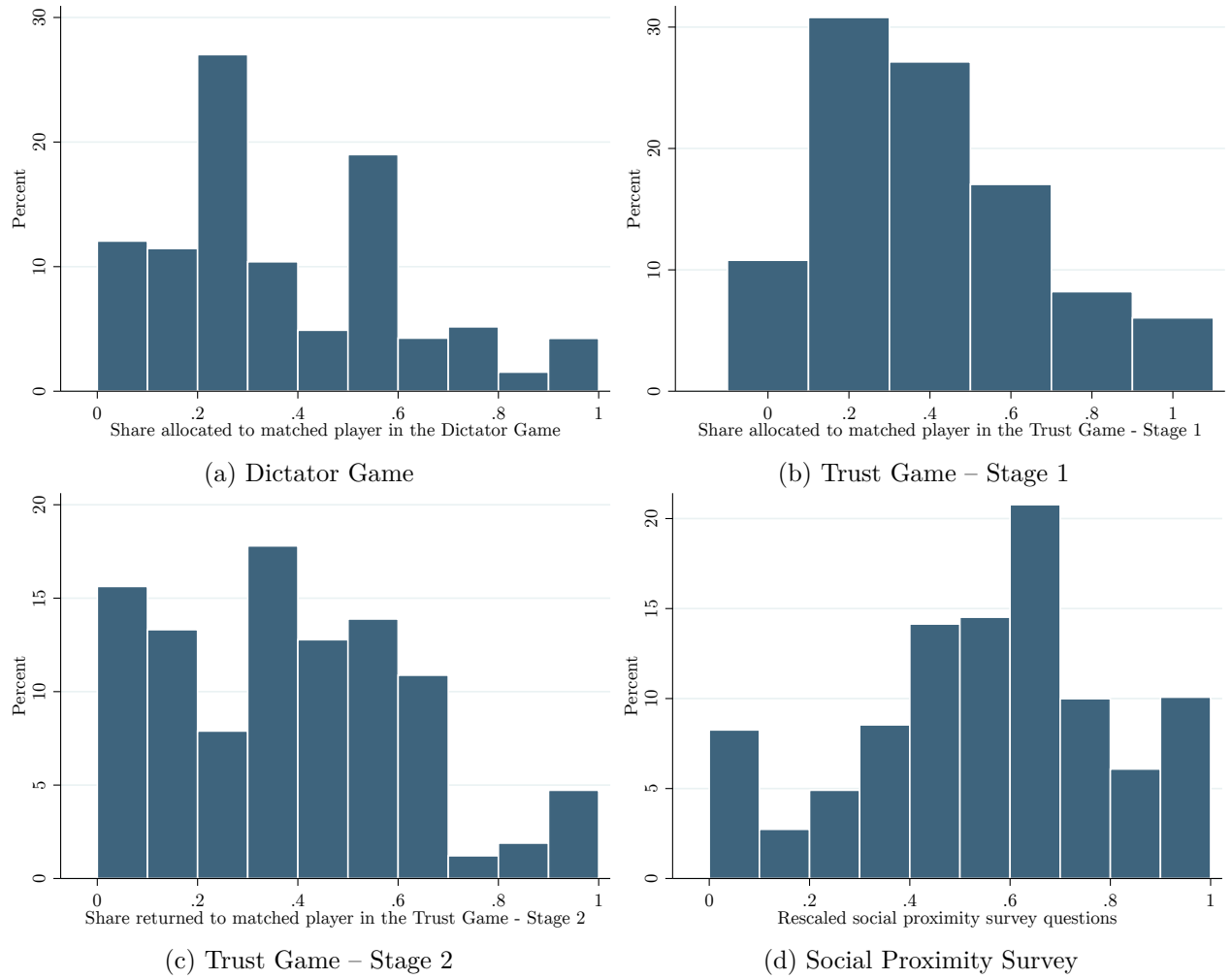
A.6. Distributions

Figure A5: Distributions of allocations in the dictator and trust games and survey responses in the social proximity survey.

Appendix B. Additional results

B.1. Choose your dictator game: Linear probability versus conditional logit

Table B1 compares the results of the choose your dictator game in two different specifications, a linear probability model based on OLS and a conditional logit specification. While the interpretation of coefficient magnitude differs, significance levels are comparable.

B.2. Trust game – stage 2: By amount allocated

This section breaks up the trust game – stage 2 results by how much was allocated to the player in trust game – stage 1. This allows us to look for biases in scenarios where Player 1 was (not) particularly trusting. The first column of Table B2 presents the results of the trust game – stage 2

Table B1: Choose your dictator game: Linear probability versus conditional logit

| | Choose your dictator game LPM and logit | |
| | (1) | (2) |
	Choose Your Dictator Game Linear Probability	Choose Your Dictator Game Conditional Logit
Constant	0.6231***	
	(0.0061)	
Same ethnicity	0.0611***	0.0607***
	(0.0097)	(0.0097)
Hydrocortisone × Same ethnicity	0.0228*	0.0234*
	(0.0135)	(0.0136)
Same gender	−0.0104	−0.0104
	(0.0094)	(0.0093)
Hydrocortisone × Same gender	−0.0327**	−0.0328**
	(0.0132)	(0.0132)
Same age group	0.0444**	0.0445**
	(0.0219)	(0.0222)
Hydrocortisone × Same age group	−0.0400***	−0.0403***
	(0.0145)	(0.0145)
Matched player is Luo	−0.0091	−0.0091
	(0.0081)	(0.0081)
Matched player is Kikuyu	−0.0318***	−0.0319***
	(0.0082)	(0.0082)
Matched player is Luhya	−0.0220***	−0.0220***
	(0.0083)	(0.0083)
Matched player is female	0.0054	0.0053
	(0.0066)	(0.0066)
Matched player is middle-aged	0.0318	0.0320
	(0.0214)	(0.0217)
Matched player is old	0.0364	0.0366
	(0.0225)	(0.0229)
Participants	1,784	1,784
Decisions per participant	6	6
Decisions	10,704	10,704

Notes: The table presents the results of the choose your dictator game in both a linear probability and conditional logit specification. Standard errors clustered at the participant level are reported in parentheses. Significance is denoted by * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

results using allocated amount fixed effects, i.e. an amount-specific intercept, while the remaining columns present separate estimations for each possible amount allocated in stage 1.

B.3. Social proximity: By components

We report estimates for by each of three components of the social proximity index: likelihood to be friends, trust and perceived closeness.

B.4. Multiple Hypothesis Testing

Table B4 reports the results of the main specification after column-wise correcting for multiple hypothesis testing.

Table B2: Trust game – stage 2 by amount allocated

	(1) Trust Game 2 Amount FE	(2) Trust Game 2 120 KES	(3) Trust Game 2 240 KES	(4) Trust Game 2 360 KES	(5) Trust Game 2 480 KES	(6) Trust Game 2 600 KES
Sample mean	0.3804	0.3919	0.3767	0.3783	0.3718	0.3833
Sample standard deviation	(0.2477)	(0.2557)	(0.2419)	(0.2455)	(0.2443)	(0.2504)
Panel A: Average hydrocortisone effect[a]						
Hydrocortisone effect	−0.0103	−0.0114	−0.0071	−0.0093	−0.0103	−0.0136
	(0.0095)	(0.0100)	(0.0096)	(0.0098)	(0.0099)	(0.0102)
Panel B: Average coethnicity effect[b]						
Coethnicity effect	0.0015	−0.0002	0.0010	0.0043	0.0037	−0.0012
	(0.0022)	(0.0035)	(0.0031)	(0.0031)	(0.0030)	(0.0031)
Panel C: Interaction of hydrocortisone and coethnicity[c]						
Interaction effect	−0.0019	−0.0054	−0.0102*	0.0065	−0.0012	0.0007
	(0.0042)	(0.0066)	(0.0061)	(0.0058)	(0.0058)	(0.0058)
Participants	1,784	1,784	1,784	1,784	1,784	1,784
Decisions per participant	30	6	6	6	6	6
Decisions	53,520	10,704	10,704	10,704	10,704	10,704

Notes: [a] The average hydrocortisone effect is calculated as in equation (2). [b] The average coethnicity effect is calculated as in equation (3). [c] The interaction effect is given by $\hat{\beta}_3$ in equation (1). All terms are described in the text. In this specification, we control for the interaction of a same-gender and same-age group indicator with hydrocortisone as well as gender, age group and ethnicity fixed effects of both players. Standard errors clustered at the participant level are reported in parentheses. Significance is denoted by * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table B3: Social proximity by components

	(1) Social Proximity	(2) Likely to be friends	(3) Trust	(4) Closeness
Sample mean	0.5481	3.4385	2.9713	2.7088
Sample standard deviation	(0.2575)	(1.2287)	(1.2661)	(1.5245)
Panel A: Average hydrocortisone effect[a]				
Hydrocortisone effect	0.0123	0.0978**	0.0313	0.0232
	(0.0099)	(0.0450)	(0.0477)	(0.0584)
Panel B: Average coethnicity effect[b]				
Coethnicity effect	0.0817***	0.3066***	0.3607***	0.3908***
	(0.0052)	(0.0251)	(0.0268)	(0.0306)
Panel C: Interaction of hydrocortisone and coethnicity[c]				
Interaction effect	−0.0051	0.0090	−0.0385	−0.0388
	(0.0101)	(0.0496)	(0.0523)	(0.0591)
Participants	1,784	1,784	1,784	1,784
Decisions per participant	4	4	4	4
Decisions	7,136	7,136	7,136	7,136

Notes: [a] The average hydrocortisone effect is calculated as in equation (2). [b] The average coethnicity effect is calculated as in equation (3). [c] The interaction effect is given by $\hat{\beta}_3$ in equation (1). All terms are described in the text. In this specification, we control for the interaction of a same-gender and same-age group indicator with hydrocortisone as well as gender, age group and ethnicity fixed effects of both players. Social proximity refers to the average measures of likelihood to be friends, trust and closeness rescaled to lie between 0 and 1. Likelihood to be friends and trust are set on Likert scales from 1 to 5 while closeness is set on a Likert scale from 0 to 5. Standard errors clustered at the participant level are reported in parentheses. Significance is denoted by * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

B.5. Player 1 fixed effects

In addition to the main specification, equation (1), we estimate a similar specification with player 1 fixed effects in place of controls for player 1 characteristics. The estimates full estimates are
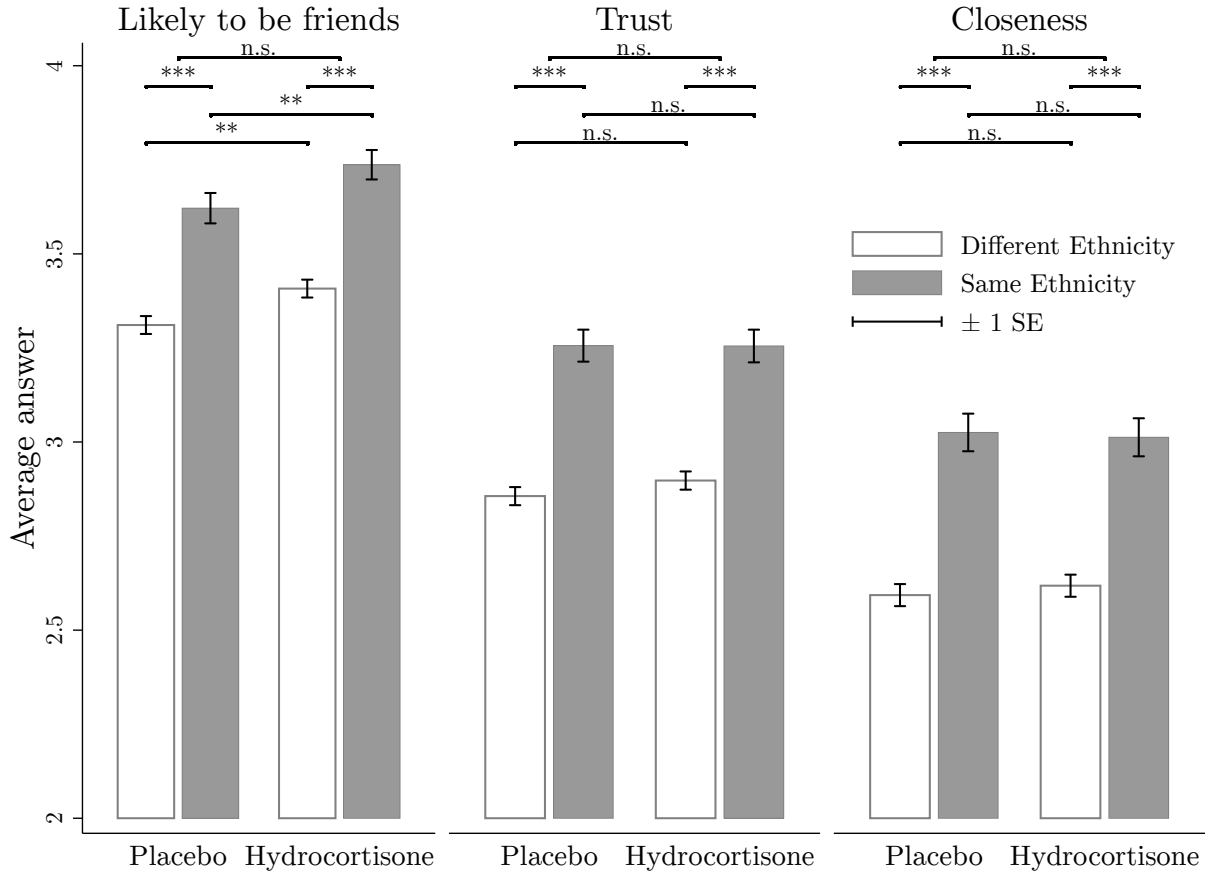
Figure B1: Mean comparison of social proximity survey components

reported in Table B5.

Appendix C. Robustness checks

C.1. Randomization inference

In this section, we reproduce our results using randomization inference. We re-assign all levels of treatment assignment (pill, ethnicity, gender, and age pairing) 10,000 times and obtain the randomization inference *p*-value as the share of pseudo treatment assignments that resulted in more extreme results than ours. The results are practically identical.

C.2. Political coalitions

We explore political coalitions as an alternative in-group definition in a robustness check. Political coalitions change over time. Table C2 reports the estimates using the 2013 and 2017 election configuration (Luo, Luhya, and Kamba in a coalition and Kikuyu in another), which is the coalition at the time the experiments took place. Previous studies, such as Hjort (2014) and Berge, Bjorvatn, Galle, Miguel, Posner, Tungodden and Zhang (2020), use the coalition structure from the 2007 election (Luo and Luhya in a coalition and Kikuyu and Kamba in another). For comparability to

Table B4: Multiple Hypothesis Testing Correction

	(1) Choose Your Dictator Game	(2) Dictator Game	(3) Trust Game 1	(4) Trust Game 2	(5) Social Proximity
Sample mean	0.2870	0.3591	0.3984	0.3804	0.5481
Sample standard deviation	(0.4524)	(0.2490)	(0.2670)	(0.2477)	(0.2575)
Panel A: Average hydrocortisone effect[a]					
Hydrocortisone effect		-0.0157	-0.0225**	-0.0103	0.0123
		[0.1873]	[0.0328]	[0.6224]	[0.3768]
Panel B: Average coethnicity effect[b]					
Coethnicity effect	0.0724***	0.0188***	0.0297***	0.0015	0.0817***
	[0.0001]	[0.0001]	[0.0001]	[0.7352]	[0.0001]
Panel C: Interaction of hydrocortisone and coethnicity[c]					
Interaction effect	0.0228*	0.0014	-0.0178**	-0.0019	-0.0051
	[0.0857]	[0.8447]	[0.0336]	[0.6578]	[0.6152]
Participants	1,784	1,784	1,784	1,784	1,784
Decisions per participant	3	6	6	30	4
Decisions	5,352	10,704	10,704	53,520	7,136

Notes: [a] The average hydrocortisone effect is calculated as in equation (2). [b] The average coethnicity effect is calculated as in equation (3). [c] The interaction effect is given by $\hat{\beta}_3$ in equation (1). All terms are described in the text. In this specification, we control for the interaction of a same-gender and same-age group indicator with hydrocortisone as well as gender, age group and ethnicity fixed effects of both players. Standard errors clustered at the participant level. The p-values are column-wise corrected for multiple hypothesis testing following List, Shaikh and Xu (2019) using 10,000 bootstrap draws and are reported in brackets. Significance is denoted by * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

these studies and because ethnic preference may be affected by past coalitions as well, we also report estimates using these coalitions. These are reported in Table C3.

C.3. Additional covariates

We estimate a number of specifications that include session fixed effects (Table C4) and imbalanced participant characteristics (Table C5).

C.4. Comprehension

Participants were asked 23 comprehension questions relating to the four tasks (listed in Table C6 – correct answers are bolded; questions prefixed F are asked as recapitulation right before the games start). We recorded whether participants gave the correct answer to each question on first attempt (shares by question reported in Figure C1 and proportions of participants by the share of incorrect first answers in Figure C2). Table C7 shows the at our regression results are robust when dropping participants who got half or more of the game-specific comprehension questions wrong on first attempt. Since the social proximity survey did not have comprehension questions, we use comprehension scores across all games to get a sense of alertness and commitment to the study. We also tracked usage of a 'repeat' button for the headphone-delivered audio instructions. In total, 92% of the sample use the repeat button twice or less often, consistent with good comprehension.

Table B5: Estimates from specification with player 1 fixed effects

	(1) Dictator Game	(2) Trust Game 1	(3) Trust Game 2	(4) Social Proximity
Constant	0.3331***	0.3166***	0.3861***	0.5194***
	(0.0106)	(0.0142)	(0.0069)	(0.0116)
Same ethnicity	0.0177***	0.0389***	0.0038	0.0844***
	(0.0055)	(0.0060)	(0.0028)	(0.0071)
Same ethnicity × Hydrocortisone	0.0015	−0.0178**	−0.0021	−0.0052
	(0.0074)	(0.0084)	(0.0041)	(0.0101)
Same gender	0.0040	−0.0077	0.0026	0.0404***
	(0.0052)	(0.0059)	(0.0028)	(0.0068)
Same gender × Hydrocortisone	−0.0042	0.0086	−0.0013	−0.0168*
	(0.0071)	(0.0085)	(0.0042)	(0.0095)
Same age group	0.0045	0.0469***	−0.0119*	0.0079
	(0.0106)	(0.0138)	(0.0068)	(0.0123)
Same age group × Hydrocortisone	−0.0045	0.0017	−0.0005	−0.0029
	(0.0080)	(0.0093)	(0.0046)	(0.0106)
Matched player is Luo	−0.0001	0.0050	0.0001	0.0073
	(0.0048)	(0.0056)	(0.0028)	(0.0054)
Matched player is Kikuyu	−0.0009	0.0042	−0.0032	−0.0020
	(0.0048)	(0.0053)	(0.0028)	(0.0053)
Matched player is Luhya	0.0008	0.0038	−0.0008	0.0136**
	(0.0049)	(0.0055)	(0.0029)	(0.0058)
Matched player is female	0.0035	0.0122***	0.0016	0.0180***
	(0.0036)	(0.0043)	(0.0021)	(0.0047)
Matched player is middle-aged	0.0166*	0.0630***	−0.0075	−0.0350***
	(0.0098)	(0.0133)	(0.0065)	(0.0108)
Matched player is old	0.0329***	0.0817***	−0.0026	−0.0378***
	(0.0102)	(0.0138)	(0.0067)	(0.0118)
Participants	1,784	1,784	1,784	1,784
Decisions per participant	6	6	30	4
Decisions	10,704	10,704	53,520	7,136

Notes: This table presents the full regression output of our main specification. All terms are described in the text. In this specification, we control for the interaction of a same-gender and same-age group indicator with hydrocortisone as well as gender, age group and ethnicity fixed effects of both players. Social proximity refers to the average measures of likelihood to be friends, trust and closeness rescaled to lie between 0 and 1. Standard errors clustered at the participant level are reported in parentheses. Significance is denoted by * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table C1: Randomization inference

	(1) Choose Your Dictator Game	(2) Dictator Game	(3) Trust Game 1	(4) Trust Game 2	(5) Social Proximity
	Randomization inference p-values				
Sample mean	0.5740	0.3591	0.3984	0.3804	0.5481
Sample standard deviation	(0.4945)	(0.2490)	(0.2670)	(0.2477)	(0.2575)
Panel A: Average hydrocortisone effect[a]					
Hydrocortisone effect		−0.0159*	−0.0208**	−0.0101	0.0123
		[0.0895]	[0.0143]	[0.2680]	[0.2090]
Panel B: Average coethnicity effect[b]					
Coethnicity effect	0.0668***	0.0188***	0.0297***	0.0015	0.0817***
	[0.0000]	[0.0000]	[0.0000]	[0.4945]	[0.0000]
Panel C: Interaction of coethnicity and hydrocortisone[c]					
Interaction effect	0.0228*	0.0014	−0.0178**	−0.0019	−0.0051
	[0.0919]	[0.8446]	[0.0311]	[0.6478]	[0.6136]
Participants	1,784	1,784	1,784	1,784	1,784
Decisions per participant	6	6	6	30	4
Decisions	10,704	10,704	10,704	53,520	7,136

Notes: [a] The average hydrocortisone effect is calculated as in equation (2). [b] The average coethnicity effect is calculated as in equation (3). [c] The interaction effect is given by $\hat{\beta}_3$ in equation (1). All terms are described in the text. In this specification, we control for the interaction of a same-gender and same-age group indicator with hydrocortisone as well as gender, age group and ethnicity fixed effects of both players. The sample mean and standard deviation for the choose your dictator game refer to the share of decisions in which an in-group member was chosen among the decisions where one was available. Social proximity refers to the average measures of likelihood to be friends, trust and closeness rescaled to lie between 0 and 1. The p-values in brackets are obtained from 10,000 randomization inference draws and significance denoted by * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table C2: Political coalitions in 2017 as the measure of in-group

	(1) Choose Your Dictator Game	(2) Dictator Game	(3) Trust Game 1	(4) Trust Game 2	(5) Social Proximity
Sample mean	0.5740	0.3591	0.3984	0.3804	0.5481
Sample standard deviation	(0.4945)	(0.2490)	(0.2670)	(0.2477)	(0.2575)
Panel A: Average hydrocortisone effect[a]					
Hydrocortisone effect		−0.0157*	−0.0226**	−0.0103	0.0123
		(0.0093)	(0.0093)	(0.0095)	(0.0099)
Panel B: Average political coalition effect[b]					
Political coalition effect	0.0601***	0.0165***	0.0256***	0.0018	0.0578***
	(0.0092)	(0.0048)	(0.0056)	(0.0030)	(0.0064)
Panel C: Interaction of hydrocortisone and political coalition[c]					
Interaction effect	−0.0176	0.0000	0.0001	0.0026	−0.0133
	(0.0135)	(0.0104)	(0.0109)	(0.0092)	(0.0114)
Participants	1,784	1,784	1,784	1,784	1,784
Decisions per participant	6	6	6	30	4
Decisions	10,704	10,704	10,704	53,520	7,136

Notes: [a] The average hydrocortisone effect is calculated as in equation (2). [b] The average coethnicity effect is calculated as in equation (3). [c] The interaction effect is given by $\hat{\beta}_3$ in equation (1). All terms are described in the text. In this specification, we control for the interaction of a same-gender and same-age group indicator with hydrocortisone as well as gender, age group and ethnicity fixed effects of both players. The sample mean and standard deviation for the choose your dictator game refer to the share of decisions in which an in-group member was chosen among the decisions where one was available. Social proximity refers to the average measures of likelihood to be friends, trust and closeness rescaled to lie between 0 and 1. As an alternative in-group definition we employ the 2017 political coalitions of Kikuyu only versus Luo, Luhya, and Kamba. Standard errors clustered at the participant level are reported in parentheses. Significance is denoted by * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table C3: Political coalitions in 2007 as the measure of in-group

	(1) Choose Your Dictator Game	(2) Dictator Game	(3) Trust Game 1	(4) Trust Game 2	(5) Social Proximity
Sample mean	0.5740	0.3591	0.3984	0.3804	0.5481
Sample standard deviation	(0.4945)	(0.2490)	(0.2670)	(0.2477)	(0.2575)
Panel A: Average hydrocortisone effect[a]					
Hydrocortisone effect		−0.0156*	−0.0225**	−0.0104	0.0123
		(0.0093)	(0.0093)	(0.0095)	(0.0099)
Panel B: Average political coalition effect[b]					
Political coalition effect	0.0415***	0.0097**	0.0199***	−0.0005	0.0536***
	(0.0061)	(0.0038)	(0.0044)	(0.0027)	(0.0044)
Panel C: Interaction of hydrocortisone and political coalition[c]					
Interaction effect	−0.0094	0.0026	−0.0197**	0.0048	−0.0054
	(0.0116)	(0.0070)	(0.0083)	(0.0052)	(0.0084)
Participants	1,784	1,784	1,784	1,784	1,784
Decisions per participant	6	6	6	30	4
Decisions	10,704	10,704	10,704	53,520	7,136

Notes: [a] The average hydrocortisone effect is calculated as in equation (2). [b] The average coethnicity effect is calculated as in equation (3). [c] The interaction effect is given by $\hat{\beta}_3$ in equation (1). All terms are described in the text. In this specification, we control for the interaction of a same-gender and same-age group indicator with hydrocortisone as well as gender, age group and ethnicity fixed effects of both players. The sample mean and standard deviation for the choose your dictator game refer to the share of decisions in which an in-group member was chosen among the decisions where one was available. Social proximity refers to the average measures of likelihood to be friends, trust and closeness rescaled to lie between 0 and 1. As an alternative in-group definition we employ the 2007 political coalitions of Kikuyu and Kamba versus Luo and Luhya. Standard errors clustered at the participant level are reported in parentheses. Significance is denoted by * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table C4: Session fixed effects

	(1) Choose Your Dictator Game	(2) Dictator Game	(3) Trust Game 1	(4) Trust Game 2	(5) Social Proximity
Sample mean	0.5740	0.3591	0.3984	0.3804	0.5481
Sample standard deviation	(0.4945)	(0.2490)	(0.2670)	(0.2477)	(0.2575)
Panel A: Average hydrocortisone effect[a]					
Hydrocortisone effect		−0.0140	−0.0209**	−0.0099	0.0132
		(0.0089)	(0.0090)	(0.0090)	(0.0095)
Panel B: Average coethnicity effect[b]					
Coethnicity effect	0.0736***	0.0187***	0.0300***	0.0015	0.0817***
	(0.0069)	(0.0039)	(0.0044)	(0.0022)	(0.0052)
Panel C: Interaction of hydrocortisone and coethnicity[c]					
Interaction effect	0.0213	0.0016	−0.0179**	−0.0020	−0.0050
	(0.0133)	(0.0074)	(0.0084)	(0.0042)	(0.0102)
Participants	1,784	1,784	1,784	1,784	1,784
Decisions per participant	6	6	6	30	4
Decisions	10,704	10,704	10,704	53,520	7,136

Notes: [a] The average hydrocortisone effect is calculated as in equation (2). [b] The average coethnicity effect is calculated as in equation (3). [c] The interaction effect is given by $\hat{\beta}_3$ in equation (1). All terms are described in the text. In this specification, we control for the interaction of a same-gender and same-age group indicator with hydrocortisone as well as gender, age group and ethnicity fixed effects of both players. The sample mean and standard deviation for the choose your dictator game refer to the share of decisions in which an in-group member was chosen among the decisions where one was available. Social proximity refers to the average measures of likelihood to be friends, trust and closeness rescaled to lie between 0 and 1. Standard errors clustered at the participant level are reported in parentheses. Significance is denoted by * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table C5: Controlling for imbalanced participant characteristics

	(1) Dictator Game	(2) Trust Game 1	(3) Trust Game 2	(4) Social Proximity
Sample mean	0.3591	0.3984	0.3804	0.5481
Sample standard deviation	(0.2490)	(0.2670)	(0.2477)	(0.2575)
Panel A: Average hydrocortisone effect[a]				
Hydrocortisone effect	−0.0163*	−0.0231**	−0.0100	0.0113
	(0.0093)	(0.0093)	(0.0095)	(0.0098)
Panel B: Average coethnicity effect[b]				
Coethnicity effect	0.0188***	0.0297***	0.0015	0.0817***
	(0.0038)	(0.0043)	(0.0022)	(0.0052)
Panel C: Interaction of hydrocortisone and coethnicity[c]				
Interaction effect	0.0014	−0.0179**	−0.0019	−0.0050
	(0.0074)	(0.0084)	(0.0042)	(0.0101)
Participants	1,784	1,784	1,784	1,784
Decisions per participant	6	6	30	4
Decisions	10,704	10,704	53,520	7,136

Notes: [a] The average hydrocortisone effect is calculated as in equation (2). [b] The average coethnicity effect is calculated as in equation (3). [c] The interaction effect is given by $\hat{\beta}_3$ in equation (1). All terms are described in the text. In this specification, we control for the interaction of a same-gender and same-age group indicator with hydrocortisone as well as gender, age group and ethnicity fixed effects of both players. Social proximity refers to the average measures of likelihood to be friends, trust and closeness rescaled to lie between 0 and 1. Standard errors clustered at the participant level are reported in parentheses. Significance is denoted by * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

	Dictator Game
1	How many participants take part in the task? [1, **2**, 3, 4]
2	In this task, Participant 2 does not make any decisions. Payoffs are determined fully by Participant 1's choice. [**True**, False]
3	Now, imagine you are Participant 1, and Participant 2 has the following characteristics: {Gender: [Male or Female]; Age: [Youth, Middle Aged, or Old]; Mother tongue: [Luo, Kikuyu, Luhya, Kamba]}. As Participant 1, you will now decide how much of the KSH 200 to allocate to Participant 2. If you decide to allocate KSH 50 to Participant 2. How much money do you keep? [0, 20, 50, **150**, 200]
4	How much money does Participant 2 receive? [0, 20, **50**, 150, 200]
F1	How many KSH will Participant 1 receive to allocate between himself/herself and Participant 2? [0, 40, 100, **200**, 400]
F2	There are two participants in this task: Participant 1 and Participant 2. Participant 1 receives 200 KSH. Participant 1 then decides how to allocate the 200 KSH between himself/herself and Participant 2. Will you have the role of Participant 1 or Participant 2 in this task? [**Participant 1**, Participant 2]

	Choose Your Dictator Game
1	As Participant 2, you choose one person to be Participant 1 in the task. How many people do you choose from to be Participant 1? [1, **2**, 3, 4].
2	What information will Participant 1 have about you? [**Age group**, **gender**, name, **mother tongue**, height]
3	Now, imagine you choose Person A to be Participant 1 and he/she decides to allocate KSH 15 to you. How much money do you receive? [0, **15**, 100, 185, 200]
4	How much money does Person A receive? [0, 15, 100, **185**, 200]
F1	Imagine you choose Person A to be Participant 1. Person A and Person B both receive 200 KSH and decide, how much to allocate to you. Will you receive the allocation of Person A or Person B? [**Person A**, Person B]

	Trust Game – Stage 1
1	The amount of money allocated by Participant 1 for Participant 2 is multiplied by three. [**True**, False]
2	In the task, Participant 1 chooses how much of KSH 200 to allocate to Participant 2. This amount is multiplied by three. Participant 2 decides how much of this increased amount to send to Participant 1. Whose role will you play in this task? [**Participant 1**, Participant 2]

Continued on next page

3   Now, imagine you are Participant 1, and Participant 2 has the following characteristics: {Gender: [Male or Female]; Age: [Youth, Middle Aged, or Old]; Mother tongue: [Luo, Kikuyu, Luhya, Kamba]}. You receive KSH 200. You can choose to allocate any of the following amounts to Participant 2: KSH 0, 40, 80, 120, 160 or 200. Imagine you choose to allocate KSH 40 to Participant 2. Remember, this amount is multiplied by three. How much money does Participant 2 receive? [0, 40, **120**, 200, 240, 360, 480].

4   Imagine Participant 2 chooses to return KSH 40 to you. Remember, you still have KSH 160 that you kept in the first part of the task. How much money do you receive in total? [40, 160, **200**, 240, 280].

5   How much money does Participant 2 keep? Remember, Participant 2 received KSH 120 and returned KSH 40. [40, **80**, 120, 160, 200]

F1   The amount of money allocated by Participant 1 for Participant 2 is multiplied by three. [**True**, False]

F2   In the task, Participant 1 chooses how much of 200 KSH to allocate to Participant 2. This amount is multiplied by three. Participant 2 decides how much of this increased amount to send to Participant 1. Whose role will you play in this task? [**Participant 1**, Participant 2]

Trust Game – Stage 2

1   In this task, how much does Participant 1 receive to allocate between himself/herself and you? [0, 80, 160, **200**, 240, 400]

2   If you receive 240 KSH from Participant 1, and return 120 KSH to Participant 1, how much do you keep? [0, 80, **120**, 200, 240]

3   Imagine you chose to return 40 KSH to Participant 1, after you received 120 KSH. How much would you keep in total? [0, 40, **80**, 100, 120]

4   In this task, Participant 1 chooses how much of 200 KSH to allocate to Participant 2. This amount is multiplied by three. Participant 2 decides how much of this increased amount to return to Participant 1. Whose role will you play in this task? [Participant 1, **Participant 2**].

F1   In the task, Participant 1 chooses how much of 200 KSH to allocate to Participant 2. This amount is multiplied by three. Participant 2 decides how much of this increased amount to send to Participant 1. Whose role will you play in this task? [Participant 1, **Participant 2**]

Notes: This table lists the comprehension questions by game. Questions without an F are asked during the instruction phase and questions with an F are final questions right before the games themselves.
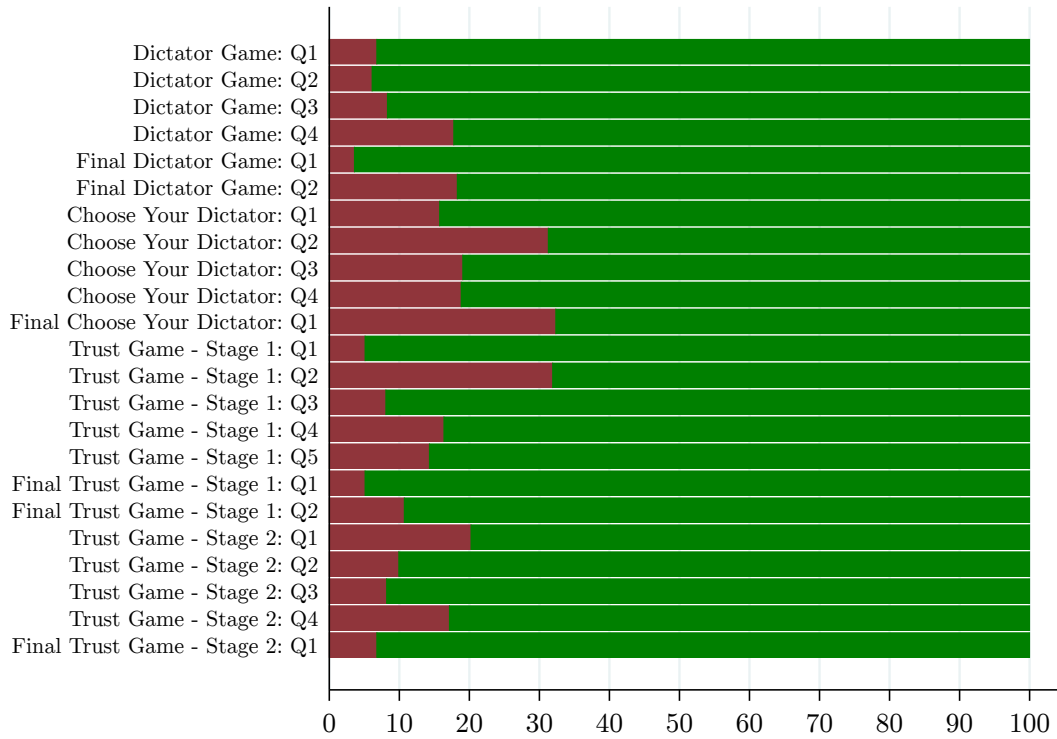
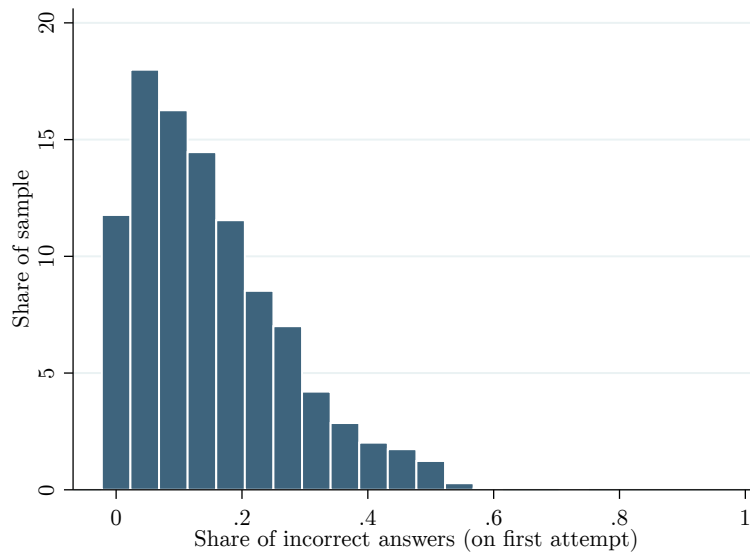Figure C1: Share of correct (green) and incorrect (red) comprehension questions on first attempt by question

Figure C2: Incorrect comprehension questions on first attempt by participant

C.5. Response times

Tables C8, C9, and C10 display our results when dropping the 20% fastest decisions in terms of profile view time, time until initial decision, and time until leaving the decision screen, respectively.

Table C7: Estimates restricting sample to good comprehension

	(1) Choose Your Dictator Game	(2) Dictator Game	(3) Trust Game 1	(4) Trust Game 2	(5) Social Proximity
Sample mean	0.5725	0.3554	0.3969	0.3771	0.5479
Sample standard deviation	(0.4948)	(0.2458)	(0.2662)	(0.2449)	(0.2572)
Panel A: Average hydrocortisone effect[a]					
Hydrocortisone effect		−0.0138	−0.0238**	−0.0121	0.0150
		(0.0094)	(0.0094)	(0.0096)	(0.0099)
Panel B: Average coethnicity effect[b]					
Coethnicity effect	0.0704***	0.0198***	0.0310***	0.0025	0.0826***
	(0.0075)	(0.0039)	(0.0044)	(0.0023)	(0.0052)
Panel C: Interaction of hydrocortisone and coethnicity[c]					
Interaction effect	0.0246*	0.0021	−0.0164*	−0.0018	−0.0050
	(0.0145)	(0.0076)	(0.0085)	(0.0042)	(0.0102)
Participants	1,508	1,699	1,738	1,704	1,770
Decisions per participant	6	6	6	30	4
Decisions	9,048	10,194	10,428	51,120	7,080

Notes: [a] The average hydrocortisone effect is calculated as in equation (2). [b] The average coethnicity effect is calculated as in equation (3). [c] The interaction effect is given by $\hat{\beta}_3$ in equation (1). All terms are described in the text. In this specification, we control for the interaction of a same-gender and same-age group indicator with hydrocortisone as well as gender, age group and ethnicity fixed effects of both players. The sample mean and standard deviation for the choose your dictator game refer to the share of decisions in which an in-group member was chosen among the decisions where one was available. Social proximity refers to the average measures of likelihood to be friends, trust and closeness rescaled to lie between 0 and 1. Standard errors clustered at the participant level are reported in parentheses. Significance is denoted by * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table C8: Dropping fastest decisions: Profile view

	(1) Choose Your Dictator Game	(2) Dictator Game	(3) Trust Game 1	(4) Trust Game 2	(5) Social Proximity
Sample mean	0.5793	0.3605	0.3957	0.3802	0.5508
Sample standard deviation	(0.4937)	(0.2459)	(0.2639)	(0.2466)	(0.2525)
Panel A: Average hydrocortisone effect[a]					
Hydrocortisone effect		−0.0128	−0.0238**	−0.0093	0.0088
		(0.0097)	(0.0098)	(0.0098)	(0.0100)
Panel B: Average coethnicity effect[b]					
Coethnicity effect	0.0796***	0.0200***	0.0283***	−0.0006	0.0836***
	(0.0076)	(0.0045)	(0.0051)	(0.0031)	(0.0063)
Panel C: Interaction of hydrocortisone and coethnicity[c]					
Interaction effect	0.0266*	0.0075	−0.0217**	−0.0062	−0.0127
	(0.0148)	(0.0088)	(0.0099)	(0.0058)	(0.0123)
Participants	1,772	1,758	1,759	1,778	1,784
Decisions per participant	5	5	5	24	3
Decisions	8,564	8,564	8,564	42,820	5,709

Notes: [a] The average hydrocortisone effect is calculated as in equation (2). [b] The average coethnicity effect is calculated as in equation (3). [c] The interaction effect is given by $\hat{\beta}_3$ in equation (1). All terms are described in the text. In this specification, we control for the interaction of a same-gender and same-age group indicator with hydrocortisone as well as gender, age group and ethnicity fixed effects of both players. The sample mean and standard deviation for the choose your dictator game refer to the share of decisions in which an in-group member was chosen among the decisions where one was available. Social proximity refers to the average measures of likelihood to be friends, trust and closeness rescaled to lie between 0 and 1. Standard errors clustered at the participant level are reported in parentheses. Significance is denoted by * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table C9: Dropping fastest decisions: Initial decision

	(1) Choose Your Dictator Game	(2) Dictator Game	(3) Trust Game 1	(4) Trust Game 2	(5) Social Proximity
Sample mean	0.5768	0.3653	0.4024	0.3945	0.5445
Sample standard deviation	(0.4941)	(0.2438)	(0.2612)	(0.2391)	(0.2499)
Panel A: Average hydrocortisone effect[a]					
Hydrocortisone effect		−0.0165*	−0.0266***	−0.0095	0.0088
		(0.0092)	(0.0092)	(0.0090)	(0.0095)
Panel B: Average coethnicity effect[b]					
Coethnicity effect	0.0758***	0.0179***	0.0257***	−0.0001	0.0775***
	(0.0077)	(0.0047)	(0.0051)	(0.0026)	(0.0065)
Panel C: Interaction of hydrocortisone and coethnicity[c]					
Interaction effect	0.0194	0.0107	−0.0165*	−0.0030	−0.0106
	(0.0150)	(0.0091)	(0.0099)	(0.0050)	(0.0126)
Participants	1,775	1,775	1,783	1,783	1,783
Decisions per participant	5	5	5	24	3
Decisions	8,564	8,564	8,564	42,820	5,777

Notes: [a] The average hydrocortisone effect is calculated as in equation (2). [b] The average coethnicity effect is calculated as in equation (3). [c] The interaction effect is given by $\hat{\beta}_3$ in equation (1). All terms are described in the text. In this specification, we control for the interaction of a same-gender and same-age group indicator with hydrocortisone as well as gender, age group and ethnicity fixed effects of both players. The sample mean and standard deviation for the choose your dictator game refer to the share of decisions in which an in-group member was chosen among the decisions where one was available. Social proximity refers to the average measures of likelihood to be friends, trust and closeness rescaled to lie between 0 and 1. Standard errors clustered at the participant level are reported in parentheses. Significance is denoted by * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table C10: Dropping fastest decisions: Final decision

	(1) Choose Your Dictator Game	(2) Dictator Game	(3) Trust Game 1	(4) Trust Game 2	(5) Social Proximity
Sample mean	0.5720	0.3634	0.3993	0.3910	0.5468
Sample standard deviation	(0.4949)	(0.2427)	(0.2630)	(0.2409)	(0.2503)
Panel A: Average hydrocortisone effect[a]					
Hydrocortisone effect		−0.0117	−0.0249***	−0.0069	0.0080
		(0.0094)	(0.0096)	(0.0092)	(0.0095)
Panel B: Average coethnicity effect[b]					
Coethnicity effect	0.0719***	0.0145***	0.0268***	0.0000	0.0818***
	(0.0077)	(0.0045)	(0.0052)	(0.0025)	(0.0061)
Panel C: Interaction of hydrocortisone and coethnicity[c]					
Interaction effect	0.0213	0.0092	−0.0206**	−0.0035	−0.0110
	(0.0150)	(0.0088)	(0.0100)	(0.0048)	(0.0120)
Participants	1,778	1,771	1,777	1,784	1,783
Decisions per participant	5	5	5	24	3
Decisions	8,564	8,564	8,564	42,820	6,124

Notes: [a] The average hydrocortisone effect is calculated as in equation (2). [b] The average coethnicity effect is calculated as in equation (3). [c] The interaction effect is given by $\hat{\beta}_3$ in equation (1). All terms are described in the text. In this specification, we control for the interaction of a same-gender and same-age group indicator with hydrocortisone as well as gender, age group and ethnicity fixed effects of both players. The sample mean and standard deviation for the choose your dictator game refer to the share of decisions in which an in-group member was chosen among the decisions where one was available. Social proximity refers to the average measures of likelihood to be friends, trust and closeness rescaled to lie between 0 and 1. Standard errors clustered at the participant level are reported in parentheses. Significance is denoted by * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

C.6. Parents of same mother tongue

We restrict the sample to participants whose mother tongue matches that of both their parents. Of the 1784 participants, 133 do not share their mother tongue with both their parents.

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Table C11: Parental mother tongue

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	(1) Choose Your Dictator Game	(2) Dictator Game	(3) Trust Game 1	(4) Trust Game 2	(5) Social Proximity
Sample mean	0.5734	0.3561	0.3960	0.3771	0.5484
Sample standard deviation	(0.4946)	(0.2474)	(0.2656)	(0.2477)	(0.2603)
Panel A: Average hydrocortisone effect[a]					
Hydrocortisone effect			−0.0183*	−0.0206**	−0.0104	0.0098
			(0.0096)	(0.0096)	(0.0098)	(0.0104)
Panel B: Average coethnicity effect[b]					
Coethnicity effect	0.0713***	0.0164***	0.0298***	0.0010	0.0845***
	(0.0072)	(0.0040)	(0.0045)	(0.0023)	(0.0054)
Panel C: Interaction of hydrocortisone and coethnicity[c]					
Interaction effect	0.0147	0.0004	−0.0140	−0.0040	−0.0090
	(0.0140)	(0.0077)	(0.0087)	(0.0044)	(0.0106)
Participants	1,651	1,651	1,651	1,651	1,651
Decisions per participant	6	6	6	30	4
Decisions	9,906	9,906	9,906	49,530	6,604

Notes: [a] The average hydrocortisone effect is calculated as in equation (2). [b] The average coethnicity effect is calculated as in equation (3). [c] The interaction effect is given by $\hat{\beta}_3$ in equation (1). All terms are described in the text. In this specification, we control for the interaction of a same-gender and same-age group indicator with hydrocortisone as well as gender, age group and ethnicity fixed effects of both players. The sample mean and standard deviation for the choose your dictator game refer to the share of decisions in which an in-group member was chosen among the decisions where one was available. Social proximity refers to the average measures of likelihood to be friends, trust and closeness rescaled to lie between 0 and 1. Standard errors clustered at the participant level are reported in parentheses. Significance is denoted by * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

C.7. Influential outliers

We identify influential observations using Welsch Distance, which is computed for an observation i as the residual r_i of an observation, scaled by its leverage score h_i and the number of observations n as follows: $W_i = r_i \frac{\sqrt{h_i(n-1)}}{1-h_i}$. The cutoff is $3\sqrt{k}$, where k denotes the number of regressors (Belsley, Kuh and Welsch, 1980). For the five games, we thereby exclude 34, 40, 21, 111, and 12 observations, respectively.

Table C12: Estimates excluding influential outliers under the Welsch distance cutoff

	(1) Choose Your Dictator Game	(2) Dictator Game	(3) Trust Game 1	(4) Trust Game 2	(5) Social Proximity
Sample mean	0.5743	0.3569	0.3973	0.3792	0.5483
Sample standard deviation	(0.4945)	(0.2465)	(0.2660)	(0.2464)	(0.2570)
Panel A: Average hydrocortisone effect[a]					
Hydrocortisone effect		−0.0157*	−0.0223**	−0.0115	0.0129
		(0.0092)	(0.0093)	(0.0094)	(0.0099)
Panel B: Average coethnicity effect[b]					
Coethnicity effect	0.0726***	0.0195***	0.0286***	0.0011	0.0817***
	(0.0069)	(0.0038)	(0.0043)	(0.0022)	(0.0052)
Panel C: Interaction of hydrocortisone and coethnicity[c]					
Interaction effect	0.0253*	0.0013	−0.0180**	−0.0019	−0.0035
	(0.0134)	(0.0073)	(0.0084)	(0.0042)	(0.0102)
Participants	1,784	1,783	1,784	1,784	1,784
Decisions per participant	6	6	6	30	4
Decisions	10,686	10,664	10,683	53,409	7,124

Notes: [a] The average hydrocortisone effect is calculated as in equation (2). [b] The average coethnicity effect is calculated as in equation (3). [c] The interaction effect is given by $\hat{\beta}_3$ in equation (1). All terms are described in the text. In this specification, we control for the interaction of a same-gender and same-age group indicator with hydrocortisone as well as gender, age group and ethnicity fixed effects of both players. The sample mean and standard deviation for the choose your dictator game refer to the share of decisions in which an in-group member was chosen among the decisions where one was available. Social proximity refers to the average measures of likelihood to be friends, trust and closeness rescaled to lie between 0 and 1. Standard errors clustered at the participant level are reported in parentheses. Significance is denoted by * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

C.8. Heterogeneity by education

To account for effects of education, we split the sample by whether or not the participant reported having reached secondary education.

Table C13: Participants without any secondary education

	(1) Choose Your Dictator Game	(2) Dictator Game	(3) Trust Game 1	(4) Trust Game 2	(5) Social Proximity
Sample mean	0.5722	0.3453	0.3873	0.3693	0.5422
Sample standard deviation	(0.4948)	(0.2421)	(0.2660)	(0.2482)	(0.2617)
Panel A: Average hydrocortisone effect[a]					
Hydrocortisone effect			−0.0196*	−0.0316***	−0.0037	0.0125
			(0.0114)	(0.0118)	(0.0122)	(0.0126)
Panel B: Average coethnicity effect[b]					
Coethnicity effect	0.0710***	0.0191***	0.0279***	0.0019	0.0836***
	(0.0087)	(0.0047)	(0.0053)	(0.0027)	(0.0067)
Panel C: Interaction of hydrocortisone and coethnicity[c]					
Interaction effect	0.0372**	0.0021	−0.0254**	0.0001	−0.0101
	(0.0169)	(0.0091)	(0.0101)	(0.0052)	(0.0131)
Participants	1,122	1,122	1,122	1,122	1,122
Decisions per participant	6	6	6	30	4
Decisions	6,732	6,732	6,732	33,660	4,488

Notes: [a] The average hydrocortisone effect is calculated as in equation (2). [b] The average coethnicity effect is calculated as in equation (3). [c] The interaction effect is given by $\hat{\beta}_3$ in equation (1). All terms are described in the text. In this specification, we control for the interaction of a same-gender and same-age group indicator with hydrocortisone as well as gender, age group and ethnicity fixed effects of both players. The sample mean and standard deviation for the choose your dictator game refer to the share of decisions in which an in-group member was chosen among the decisions where one was available. Social proximity refers to the average measures of likelihood to be friends, trust and closeness rescaled to lie between 0 and 1. Standard errors clustered at the participant level are reported in parentheses. Significance is denoted by * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table C14: Participants with some secondary education or more

	(1) Choose Your Dictator Game	(2) Dictator Game	(3) Trust Game 1	(4) Trust Game 2	(5) Social Proximity
Sample mean	0.5770	0.3825	0.4173	0.3993	0.5580
Sample standard deviation	(0.4942)	(0.2586)	(0.2676)	(0.2456)	(0.2501)
Panel A: Average hydrocortisone effect[a]					
Hydrocortisone effect			−0.0116	−0.0086	−0.0236	0.0092
			(0.0160)	(0.0152)	(0.0150)	(0.0160)
Panel B: Average coethnicity effect[b]					
Coethnicity effect	0.0748***	0.0185***	0.0325***	0.0012	0.0790***
	(0.0114)	(0.0066)	(0.0076)	(0.0037)	(0.0082)
Panel C: Interaction of hydrocortisone and coethnicity[c]					
Interaction effect	−0.0031	0.0014	−0.0051	−0.0052	0.0045
	(0.0223)	(0.0127)	(0.0149)	(0.0070)	(0.0161)
Participants	662	662	662	662	662
Decisions per participant	6	6	6	30	4
Decisions	3,972	3,972	3,972	19,860	2,648

Notes: [a] The average hydrocortisone effect is calculated as in equation (2). [b] The average coethnicity effect is calculated as in equation (3). [c] The interaction effect is given by $\hat{\beta}_3$ in equation (1). All terms are described in the text. In this specification, we control for the interaction of a same-gender and same-age group indicator with hydrocortisone as well as gender, age group and ethnicity fixed effects of both players. The sample mean and standard deviation for the choose your dictator game refer to the share of decisions in which an in-group member was chosen among the decisions where one was available. Social proximity refers to the average measures of likelihood to be friends, trust and closeness rescaled to lie between 0 and 1. Standard errors clustered at the participant level are reported in parentheses. Significance is denoted by * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

C.9. First encountered player of same or different ethnicity

To account for order effects, we restrict our sample by whether the first player encountered in each game was of the same ethnicity as the participant.

Table C15: Participants for which the first match of the game is with a non-coethnic

	(1) Dictator Game	(2) Trust Game 1	(3) Trust Game 2	(4) Social Proximity
Sample mean	0.3600	0.3953	0.3775	0.5537
Sample standard deviation	(0.2475)	(0.2644)	(0.2482)	(0.2582)
Panel A: Average hydrocortisone effect[a]				
Hydrocortisone effect	−0.0148	−0.0256**	−0.0104	0.0213*
	(0.0106)	(0.0105)	(0.0110)	(0.0113)
Panel B: Average coethnicity effect[b]				
Coethnicity effect	0.0244***	0.0350***	−0.0003	0.0952***
	(0.0045)	(0.0051)	(0.0025)	(0.0061)
Panel C: Interaction of hydrocortisone and coethnicity[c]				
Interaction effect	−0.0009	−0.0140	−0.0029	−0.0010
	(0.0086)	(0.0099)	(0.0048)	(0.0119)
Participants	1,355	1,327	1,346	1,341
Decisions per participant	6	6	30	4
Decisions	8,130	7,962	40,380	5,364

Notes: [a] The average hydrocortisone effect is calculated as in equation (2). [b] The average coethnicity effect is calculated as in equation (3). [c] The interaction effect is given by $\hat{\beta}_3$ in equation (1). All terms are described in the text. In this specification, we control for the interaction of a same-gender and same-age group indicator with hydrocortisone as well as gender, age group and ethnicity fixed effects of both players. Social proximity refers to the average measures of likelihood to be friends, trust and closeness rescaled to lie between 0 and 1. Standard errors clustered at the participant level are reported in parentheses. Significance is denoted by * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table C16: Participants for which the first match of the game is with a coethnic

	(1) Dictator Game	(2) Trust Game 1	(3) Trust Game 2	(4) Social Proximity
Sample mean	0.3564	0.4075	0.3894	0.5311
Sample standard deviation	(0.2535)	(0.2743)	(0.2458)	(0.2549)
Panel A: Average hydrocortisone effect[a]				
Hydrocortisone effect	−0.0199	−0.0150	−0.0098	−0.0145
	(0.0193)	(0.0198)	(0.0188)	(0.0204)
Panel B: Average coethnicity effect[b]				
Coethnicity effect	0.0019	0.0164**	0.0067	0.0395***
	(0.0075)	(0.0080)	(0.0045)	(0.0099)
Panel C: Interaction of hydrocortisone and coethnicity[c]				
Interaction effect	0.0093	−0.0291*	0.0010	−0.0213
	(0.0143)	(0.0153)	(0.0085)	(0.0190)
Participants	429	457	438	443
Decisions per participant	6	6	30	4
Decisions	2,574	2,742	13,140	1,772

Notes: [a] The average hydrocortisone effect is calculated as in equation (2). [b] The average coethnicity effect is calculated as in equation (3). [c] The interaction effect is given by $\hat{\beta}_3$ in equation (1). All terms are described in the text. In this specification, we control for the interaction of a same-gender and same-age group indicator with hydrocortisone as well as gender, age group and ethnicity fixed effects of both players. Social proximity refers to the average measures of likelihood to be friends, trust and closeness rescaled to lie between 0 and 1. Standard errors clustered at the participant level are reported in parentheses. Significance is denoted by * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Appendix D. Summary of safety protocols

Despite a large literature on the role of ethnic identity in social interactions, there remains significant equipoise when it comes to the effect of coethnicity, in particular when paired with stress, as we detail in the introduction. We do not foresee a plausible risk that the findings of the study may be misused by any interested party. This study underwent thorough ethical review by Princeton and KEMRI IRB. The IRBs of Harvard, Northwestern, Bocconi, and the NBER ceded ongoing IRB review to Princeton after initial approval. These IRBs covered the PIs as per their affiliation at the time of data collection. The use of hydrocortisone was approved by the Kenyan Pharmacy and Poisons Board. The dosage of 20mg is very low. It is not uncommon in hospital settings where hydrocortisone is used to abate allergic reactions to administer dosages on the order of 500mg or 1000mg. In order to minimize the risk of side effects, the study sample was restricted to participants aged 18-40 who were in good health (as assessed by a team of trained nurses using a detailed health screening that can be found below and that was developed with the IRB, as well as vital signs). The nurses were all fluent and medically conversant to have patient conversations in both English and Swahili. Pregnant or breastfeeding women were excluded from the study. The determination was based on self-report and a number of probing questions in a private setting between a female nurse and the participant. Participants were informed of the potential side effects of hydrocortisone and a nurse was present at all times during the study in case of adverse events. They were given a prescription for 20mg hydrocortisone regardless of their treatment status should they need it for their records or later medical purposes. On it was indicated a phone number they could call in case they developed adverse side effects after study completion. The phone was kept by one of the nurses at any time during the study and for one month after the completion of data collection. An IRB-approved adverse event protocol was in place (see below) and the study team made arrangements with one of the local hospitals that would receive study participants and bill the costs of any tests to the study budget that were needed in order to determine whether symptoms might be linked to hydrocortisone administration. If a link to hydrocortisone could not be excluded, the study would bear the cost of treatment. In order to protect participants' privacy, no other medical diagnosis was shared by the hospital, only symptoms and the possibility of a link to study participation. Adverse events related to the study (mainly dizziness and nausea) were extremely rare, in line with expected occurrence according to the medication's leaflet, and reported to the IRBs immediately. There were no serious adverse events. The study design did not expose staff or non-participants to any discernible harm. The researchers declare no financial conflict of interest. One of the researchers, Johannes Haushofer, holds a non-remunerated advisory position at the Busara Center for Behavioral Economics and another, Moritz Poll, was employed at the Busara Center and coordinated study implementation on the ground. Neither of them, nor the Busara Center stand to gain directly from the study findings.

Consent was obtained in Swahili and participants could choose between consent forms in English, Swahili or both. There was ample room for questions and participants were informed that they could withdraw from the study at any point without having to state a reason and without any repercussions. Participants withdrawing from the study would receive their full show-up and

transportation fee, as well as any experimental payouts they had earned up to that point. In practice, all study withdrawals happened around the time of consenting. If participants did not consent to participating, withdrew shortly after, or were ineligible due to the medical screening or occasionally due to capacity constraints, they were still paid their full show-up and transportation fee. The determination of whether a participant who did not pass the medical screening would remain part of the participant pool for potential later reinvitation was at the discretion of the nurses and guided by whether the disqualifying characteristic was likely permanent (pregnancy, chronic disease, etc.) or likely to be resolved on another day (vital signs slightly out of range, use of alcohol in the past 24 hours etc.). In case of capacity constraints, participants to be sent away were selected at random, so not to induce sample selection on punctuality, and were offered to reschedule.

Appendix E. Comparison to related studies

Table E1: Comparison to other studies in this literature

	This study	Berge et al. (2020)	Blum et al. (2021)	Habyarimana et al. (2007)
Location	Kibera, Kawangware, and Viwandani (Nairobi, Kenya)	Kibera and Viwandani (Nairobi, Kenya)	Kibera and Kawangware (Nairobi, Kenya)	Kawempe (Kampala, Uganda)
Games played	CYD, DG, TG, Social Proximity	CYD, DG, PGG, IAT	CYD, DG, PGG, AMP, FAAT, WMT	DG, Puzzle Game, Network Game, Prisoners' Dilemma
Sample size	1,784	1,362	182	300
Observations per participant	60 (6 CYD, 6 DG, 36 TG, 12 Social Proximity)	10 (2 CYD, 3 DG, 3 PGG, 2 IAT)	9 game rounds (2 CYD, 3 DG, 4 PGG) + 170 attribution tasks (90 AMP, 40 FAAT, 40 WMT)	24 (12 DG, 3 Puzzle Game, 1 Network Game, 8 Prisoners' Dilemma)
Ethnic groups	Luo, Kikuyu, Luhya, Kamba	Luo (pooled with Luhya and Kisii), Kikuyu	Luo, Kikuyu	10+ different groups
Information	Profiles (age group, gender, mother tongue)	Profiles (education, age, hometown) and No information	Profiles (photo, age, education, hometown) and No information	Profiles (photo) and No information
Proxy for ethnicity	Mother tongue	Hometown	Hometown	Self-reported; perceived coethnicity from photos
Audio profiles	Audio	Audio	Audio	No[a]
Coethnicity effects found in at least one version of the game	CYD, DG, TG, Social Proximity	CYD, IAT	CYD (profiled version only), AMP, WMT	DG (profiled version only), Network Game, Prisoners' Dilemma

Notes: Information is based on the main specifications reported in each paper. DG is the dictator game. In Habyarimana et al. (2007), there are two recipients in each round. CYD is the choose your dictator game. PGG is the public goods game. TG is the trust game. IAT is the implicit association task. AMP is the Affect Misattribution Procedure. FAAT is the Face Anger Attribution Task. WMT is the Weapon Misidentification Task. Profiled version means they were given information on the other player. [a] Habyarimana et al. (2009) report additional rounds in which a small part of the sample is introduced to the player they play with by means of a video that features them speaking either the lingua franca or their tribal language.

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