

Warfare Increases Egalitarianism and Parochialism

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Motivation

- Other-regarding preferences are common and may promote cooperation in large groups
 - Henrich et al. (2001), Camerer (2003), Fehr and Gächter (2002), Fehr and Fischbacher (2003)
- Inter-group conflict as a possible source of human prosociality and cooperation
 - Selective extinction of genes/cultures affecting human psychology and its responses to survival threat
 - Darwin (1873), Choi and Bowles (2007), Henrich (2004)
- Predicted properties
 - Parochialism: stronger group identity to harness outgroup hostility
 - Suppress within-group competition (inequality aversion)
 - Promote within-group cooperation

Related literature

- Intergroup competition intensifies group-based altruism in the lab
 - Bornstein (2003), Bornstein and Ben-Yossef (1994)
- Thoughts of death induce a greater adherence to social norms (terror management theory)
 - Greenberg et al. (1986), Pyszczynski et al (2004)
- Exposure to war increases collective action and political participation
 - Bellows and Miguel (2008), Blattman (2009), Punamaki et al (1997)
 - And altruistic behavior towards neighbors among farmers in Burundi (Voors et al. 2010)

This project

- Does individual exposure to warfare intensify other-regarding preferences and parochialism (ingroup bias)?
 - A series of binary dictator games
 - Varying identity of anonymous partner
- Are the individual-level effects temporary or lasting?
 - Republic of Georgia: short-term effects of war (6 months)
 - Sierra Leone (SL): long-term effects of war (10 years)
- Are the effects more enduring if violence experienced during childhood?
 - Georgia: sample of young children
 - SL: sample of adults (but a part of sample were adolescents during the war)
- Does it strengthen motivations to enforce an egalitarian norm? A shift in social norm?
 - SL: rejection rates in ultimatum game

Republic of Georgia



- A small Caucasus country
- Since 90s transition from central planning to market
- War in August 2008
 - A quick war with Russia over South Ossetia, a breakaway region
 - Largely based on aerial, artillery and tank fire strikes; no interpersonal fighting
 - Substantial human and material losses among civilians, more than 100 ths. IDPs (HRW 2009)
- Data collection
 - Data collection 6 months after war (Jan-Feb 2009)
 - 564 children across the age 3-11yrs

Summary statistics: Georgia

	All		7-11 years old		3-6 years old	
	Mean	(SD)	Mean	(SD)	Mean	(SD)
<i>Panel A: Warfare exposure</i>						
Non-affected	0.319	(0.466)	0.313	(0.464)	0.33	(0.471)
Affected & Non-IDP	0.442	(0.497)	0.488	(0.501)	0.351	(0.479)
Affected & IDP	0.239	(0.427)	0.199	(0.400)	0.319	(0.467)
<i>Panel B: Child's characteristics</i>						
Female	0.484	(0.500)	0.493	(0.501)	0.465	(0.500)
Age (years)	7.724	(2.068)	8.912	(1.345)	5.34	(0.834)
Has a sibling	0.862	(0.345)	0.87	(0.337)	0.847	(0.361)
Has a brother	0.558	(0.497)	0.585	(0.493)	0.5	(0.501)
Has a sister	0.541	(0.499)	0.531	(0.500)	0.563	(0.497)
Height (cm)	130.38	(13.24)	137.16	(9.42)	116.73	(8.41)
Lived in urban area before war	0.554	(0.498)	0.546	(0.499)	0.571	(0.496)
Lived in South Ossetia before war	0.22	(0.415)	0.199	(0.400)	0.262	(0.441)

Sierra Leone



Sierra Leone

- West African country: 5.3 mil., extremely poor
- Long and extremely bloody civil war (1991-2002)
 - Due to corruption, bad governance, diamonds and support of rebel groups from Liberia and Libya
 - Major atrocities committed by Revolutionary United Front (RUF) but also other groups including Sierra Leone Army -> major victims were civilians (50,000 killed, half of the population displaced)
 - Ethnic or religious affiliation did not play a major role in targeting the civilian population (Conibere et al 2004, Humphries and Weinstein 2006)
 - Villages [not individuals] were a major target
 - Some of them formed local fighting groups (CDF)

Sierra Leone

- Our sample
 - Bombali district – northern part of SL
 - 587 adult subjects from 20 different villages (based on previous data of BM on exposure to violence)
 - Data collected in July 2010 -> long-term effects of war
- Measuring exposure to violence
 - “Were any members of your household killed during the conflict?” (42% in our sample, 44% in BM)
 - “Were any members injured or maimed during the conflict?” (35% in our sample, 35% in BM)

Sierra Leone

	All		Teenagers during war		Adults during war	
	Mean	(SD)	Mean	(SD)	Mean	(SD)
<i>Panel A: Warfare exposure</i>						
Least affected	0.449	(0.498)	0.466	(0.500)	0.442	(0.497)
Mid-affected	0.334	(0.472)	0.294	(0.457)	0.350	(0.477)
Most affected	0.217	(0.412)	0.239	(0.428)	0.208	(0.406)
<i>Panel B: Adult's characteristics</i>						
Female	0.705	(0.456)	0.811	(0.392)	0.665	(0.473)
Age (years)	40.715	(13.688)	26.172	(3.802)	46.319	(11.875)
Attended school	0.261	(0.439)	0.356	(0.480)	0.224	(0.417)
Number of siblings	7.474	(4.784)	7.503	(4.605)	7.462	(4.856)
Religion - Christian	0.362	(0.481)	0.377	(0.486)	0.356	(0.479)
Religion - Muslim	0.631	(0.483)	0.623	(0.486)	0.634	(0.482)
Religion - other	0.007	(0.082)	0.000	(0.000)	0.009	(0.097)
Ethnicity - Temne	0.635	(0.482)	0.638	(0.482)	0.634	(0.482)
Ethnicity - Limba	0.286	(0.452)	0.294	(0.457)	0.283	(0.451)
Ethnicity - other	0.078	(0.269)	0.067	(0.252)	0.083	(0.276)
<i>Panel C: Frequency of (10,10) choice in the experimental games</i>						
Sharing game	0.416	(0.493)	0.417	(0.495)	0.415	(0.493)
Envy game	0.280	(0.449)	0.294	(0.457)	0.274	(0.446)
Costless sharing game	0.720	(0.449)	0.736	(0.442)	0.714	(0.453)
Costless envy game	0.421	(0.494)	0.423	(0.496)	0.419	(0.494)
N	587		163		424	

Measuring other-regarding pref.

- 4 binary choices in dictator games
 - Protocol for children developed by Fehr et al. 2008
 - Prevalence of selfishness, inequality aversion, generosity, spitefulness
 - One-shot and anonymous setting

	Children in Georgia				Adults in Sierra Leone			
	<u>Option A</u>		<u>Option B</u>		<u>Option A</u>		<u>Option B</u>	
	Own payoff	Partner's payoff	Own payoff	Partner's payoff	Own payoff	Partner's payoff	Own payoff	Partner's payoff
<i>Costly games</i>								
Sharing game	1	1	2	0	10	10	15	5
Envy game	1	1	2	3	10	10	13	16
<i>Costless games</i>								
Sharing game	1	1	1	0	10	10	10	5
Envy game	1	1	1	2	10	10	10	15

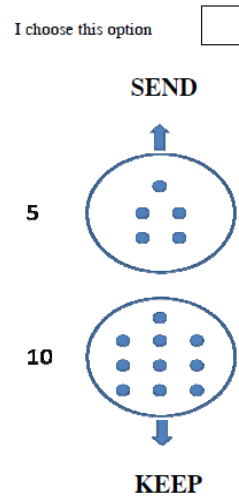
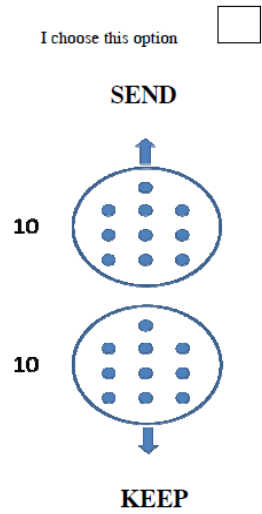
Measuring parochialism

- Parochialism - ingroup favoritism
 - Georgia
 - Ingroup partner: an anonymous child from the same class
 - Outgroup partner: a child from an unknown class
 - Sierra Leone
 - Ingroup partner: an anonymous person from the same village
 - Outgroup partner: an anonymous person from the same village
- Payments
 - Children: tokens to be exchanged for sweets, toys, etc.
 - Adults: money (10 tokens=\$1.25=daily wage)
- Survey data
 - Wealth, ethnicity, religion, gender, education, family size, etc.

Choice situation: Georgia

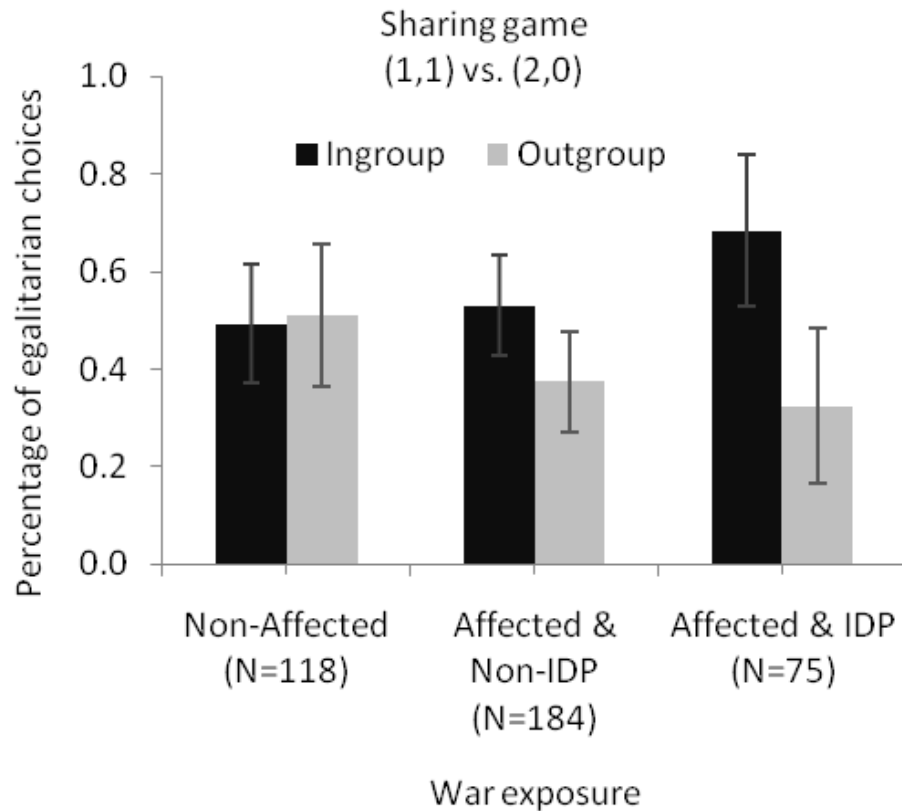


Choice situation: Sierra Leone

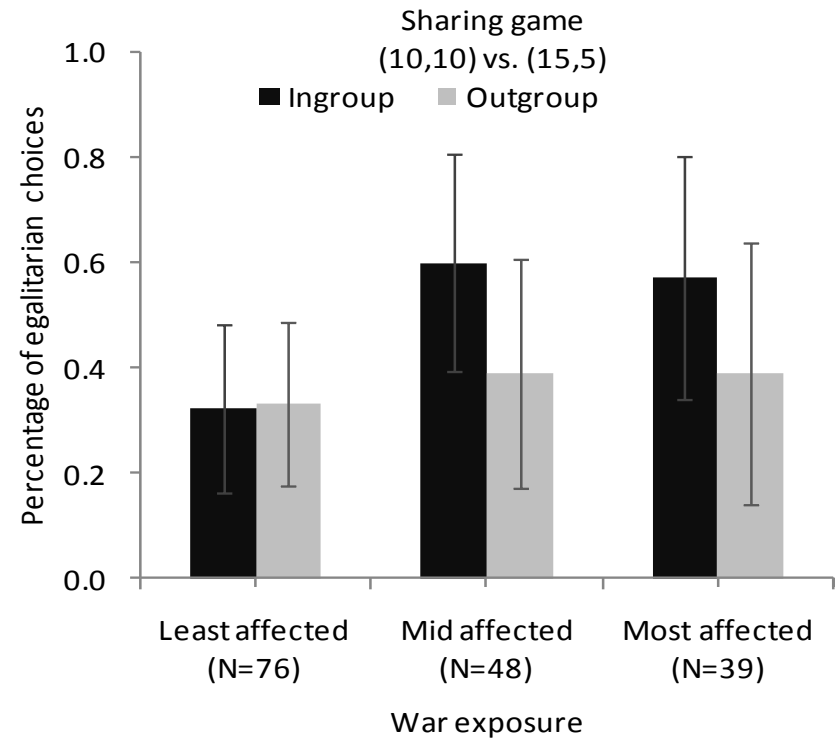


Exposure to warfare during childhood and adolescence

Georgia: 7-11 yr-old children

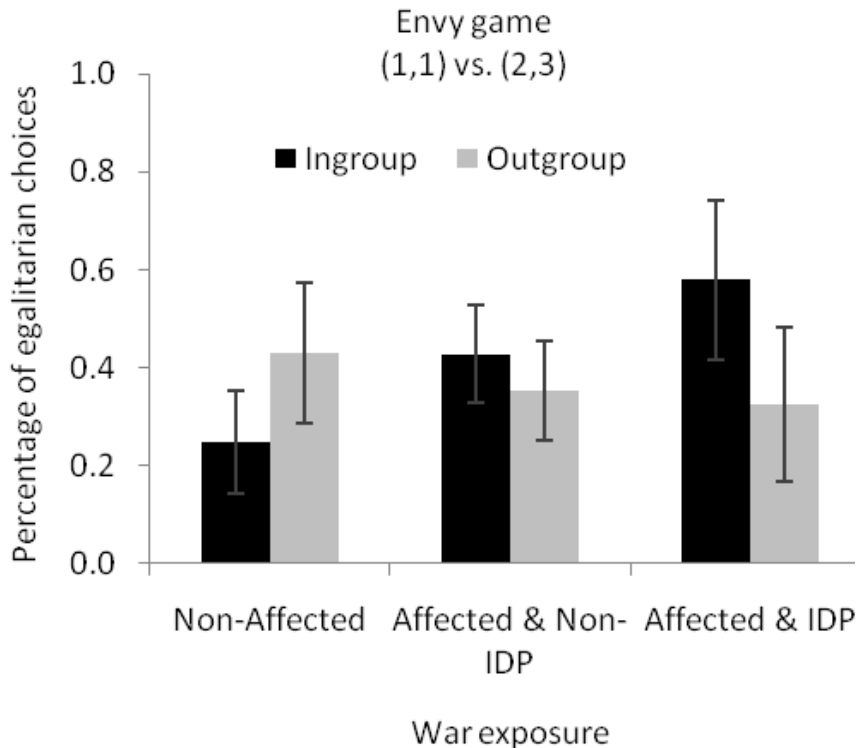


Sierra Leone: 6-20 yr-old during the war

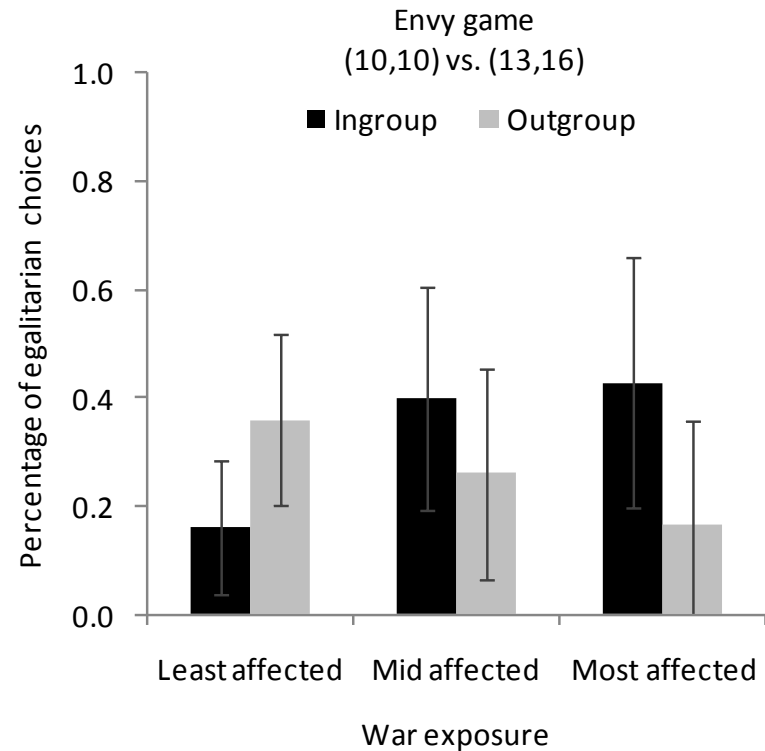


Exposure to warfare during childhood and adolescence

Georgia: 7-11 yr-old children



Sierra Leone: 6-20 yr-old during the war



Dependent variable: Egalitarian choice in the sharing game

probit (ME), p-values in parentheses

Sierra Leone

Dependent variable	Egalitarian choice in the sharing game: 10/10 vs. 15/5					
	Teenagers during war			Adult during war		
	All	Ingroup	Outgroup	All	Ingroup	Outgroup
	(1)	(2)	(3)	(4)	(5)	(6)
Ingroup	0.0118 (0.923)			0.0273 (0.716)		
War index==1	0.0540 (0.702)	0.286** (0.0317)	0.111 (0.440)	0.0599 (0.471)	0.0616 (0.432)	0.0539 (0.516)
War index==2	0.0196 (0.895)	0.264* (0.0692)	0.0933 (0.542)	0.103 (0.247)	0.174* (0.0787)	0.0960 (0.283)
Ingroup*War index==1	0.199 (0.306)			-0.00766 (0.946)		
Ingroup*War index==2	0.231 (0.258)			0.0491 (0.707)		
Female	0.0432 (0.693)	-0.0990 (0.520)	0.165 (0.281)	0.0257 (0.645)	0.0499 (0.531)	0.00546 (0.947)
Age	-0.00869 (0.412)	-0.0219 (0.172)	0.00310 (0.832)	0.000413 (0.845)	0.000829 (0.775)	-0.000761 (0.817)
Attended school	0.0698 (0.485)	0.0101 (0.939)	0.138 (0.391)	-0.0122 (0.852)	0.0920 (0.364)	-0.106 (0.237)
Number of brothers	-0.0182 (0.290)	0.0251 (0.304)	-0.0647** (0.0329)	-0.00199 (0.839)	-0.00462 (0.762)	-0.00145 (0.910)
Number of sisters	-0.0179 (0.360)	-0.0457* (0.0860)	-0.0181 (0.589)	-0.00992 (0.354)	-0.0277* (0.0678)	0.00896 (0.559)
Muslim religion	0.0381 (0.723)	-0.0318 (0.828)	0.144 (0.363)	-0.0218 (0.742)	0.0275 (0.767)	-0.0877 (0.373)
Temne ethnicity	-0.0174 (0.870)	0.110 (0.441)	-0.170 (0.310)	-0.0738 (0.267)	-0.133 (0.162)	-0.0210 (0.833)
Observations	158	82	76	414	210	204

Dependent variable: Egalitarian choice in the envy game

probit (ME), p-values in parentheses

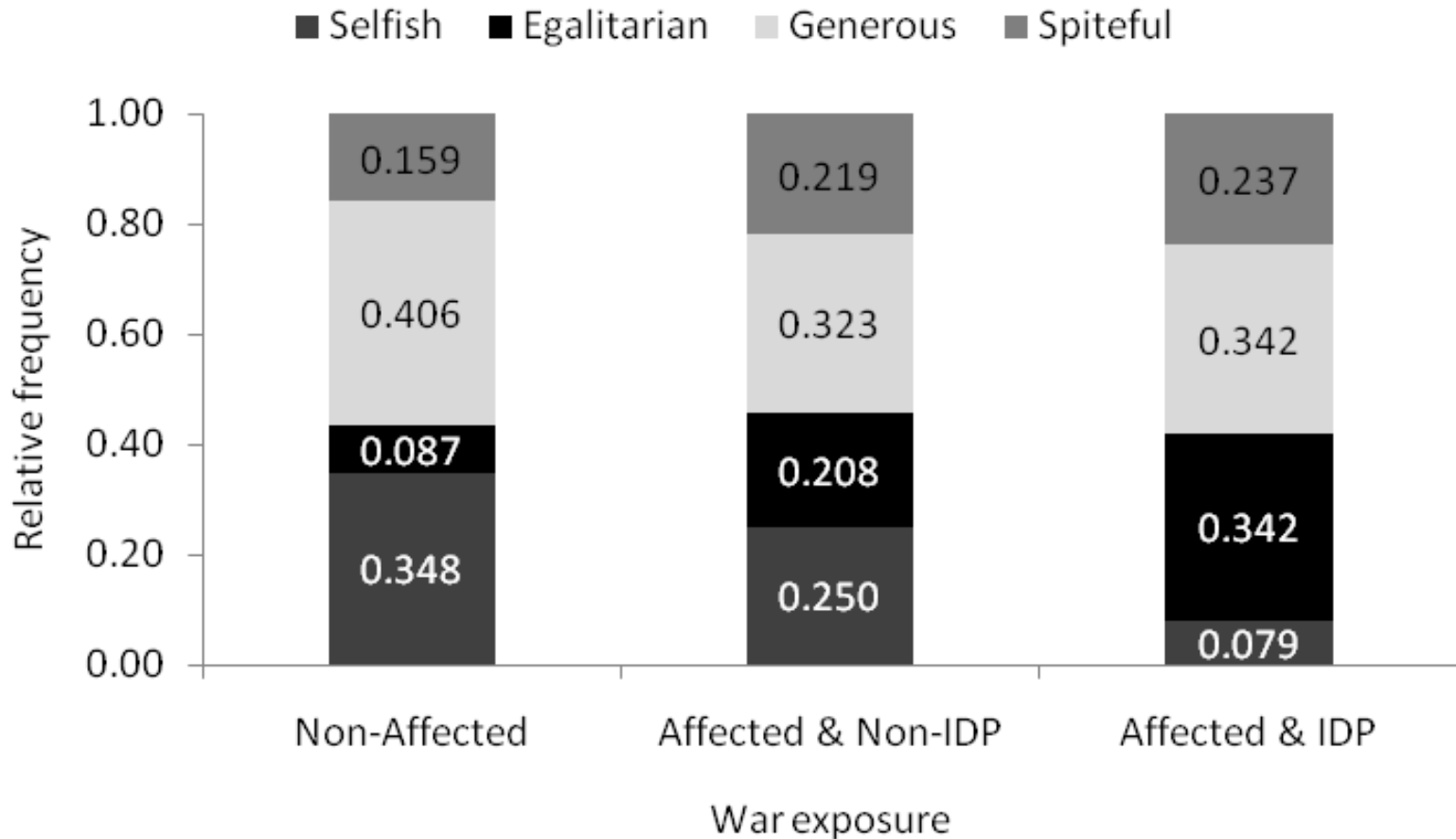
Sierra Leone

Dependent variable	Egalitarian choice in the envy game: 10/10 vs. 13/16					
	Teenagers during war			Adult during war		
	All	Ingroup	Outgroup	All	Ingroup	Outgroup
	(1)	(2)	(3)	(4)	(5)	(6)
Ingroup	-0.206*			0.0469		
	(0.0729)			(0.476)		
War index==1	-0.0752	0.253**	-0.125	0.0558	0.00695	0.0615
	(0.544)	(0.0447)	(0.331)	(0.460)	(0.921)	(0.402)
War index==2	-0.214*	0.313**	-0.237**	-0.0572	0.0386	-0.0520
	(0.0850)	(0.0257)	(0.0412)	(0.467)	(0.673)	(0.491)
Ingroup*War index==1	0.355*			-0.0524		
	(0.0662)			(0.589)		
Ingroup*War index==2	0.535***			0.102		
	(0.00921)			(0.417)		
Female	-0.0998	-0.196	-0.0548	0.0545	0.0454	0.0679
	(0.343)	(0.166)	(0.729)	(0.276)	(0.528)	(0.344)
Age	0.000853	0.00818	-0.00879	0.00240	0.00336	0.00182
	(0.930)	(0.574)	(0.498)	(0.201)	(0.200)	(0.513)
Attended school	-0.00629	-0.0276	0.0791	0.113*	0.195**	0.0542
	(0.944)	(0.800)	(0.591)	(0.0613)	(0.0401)	(0.488)
Number of brothers	-0.00612	-0.00743	-0.00185	0.000478	0.00579	-0.000982
	(0.694)	(0.747)	(0.934)	(0.956)	(0.687)	(0.927)
Number of sisters	-0.00413	3.96e-05	-0.00100	-0.00381	-0.00231	-0.00602
	(0.822)	(0.999)	(0.974)	(0.681)	(0.866)	(0.632)
Muslim religion	0.0675	-0.139	0.381***	0.113**	0.0998	0.130
	(0.490)	(0.297)	(0.00553)	(0.0446)	(0.214)	(0.107)
Temne ethnicity	0.0165	0.0753	-0.233	-0.0638	-0.0805	-0.0603
	(0.864)	(0.559)	(0.137)	(0.279)	(0.345)	(0.477)
Observations	158	82	76	415	210	205

Other-regarding types

Ingroup treatment

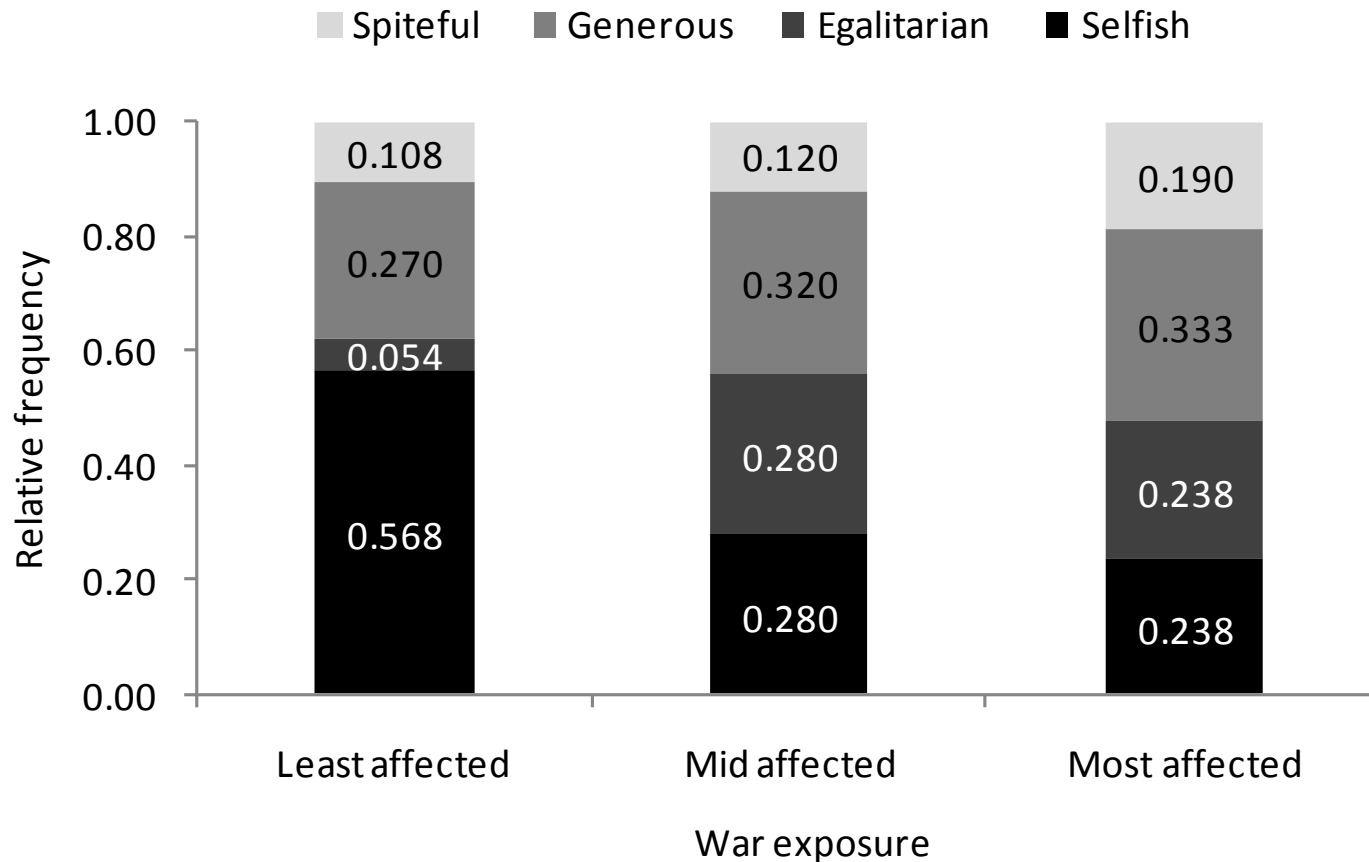
Georgia: 7-11 yr-old children



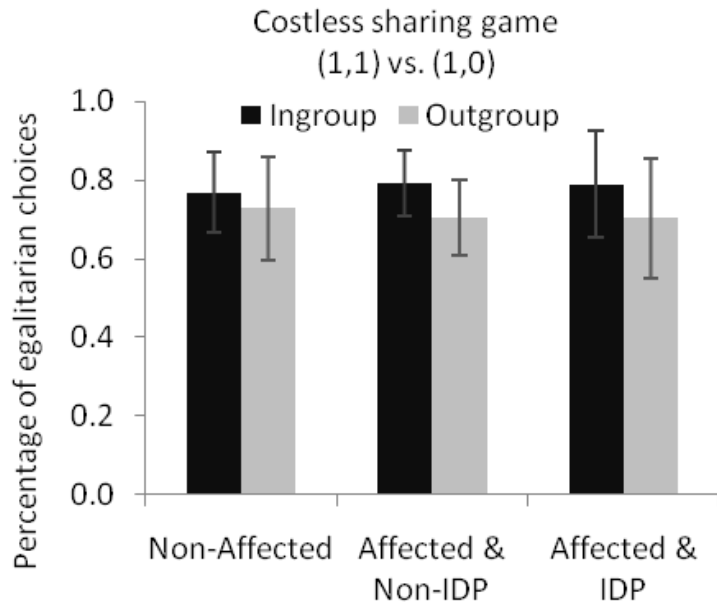
Other-regarding types

Ingroup treatment

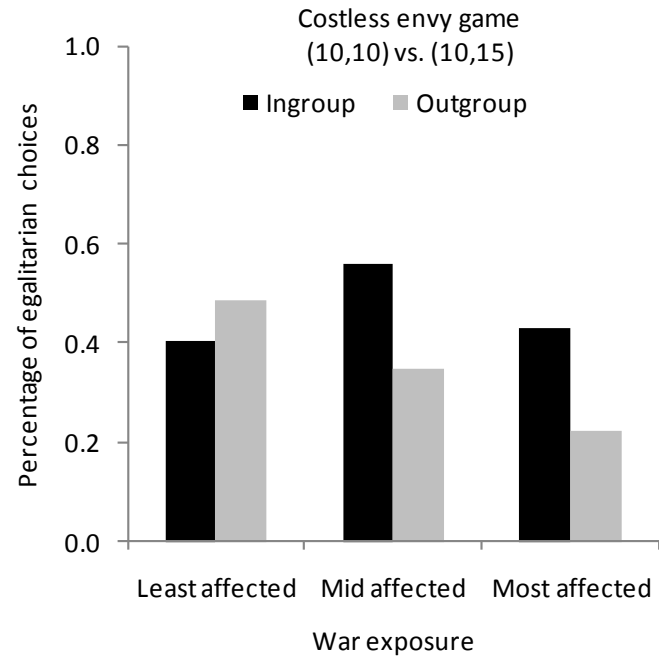
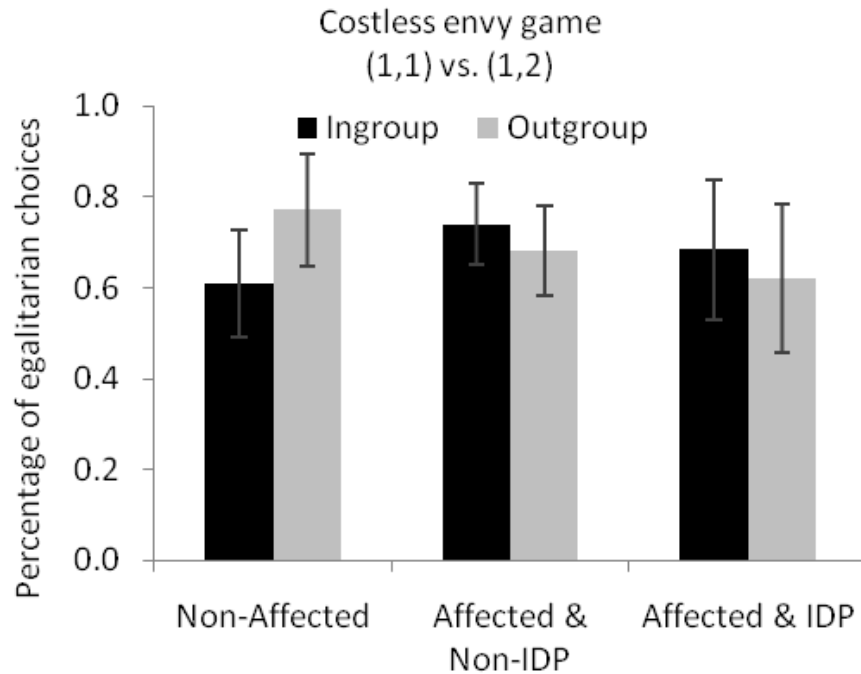
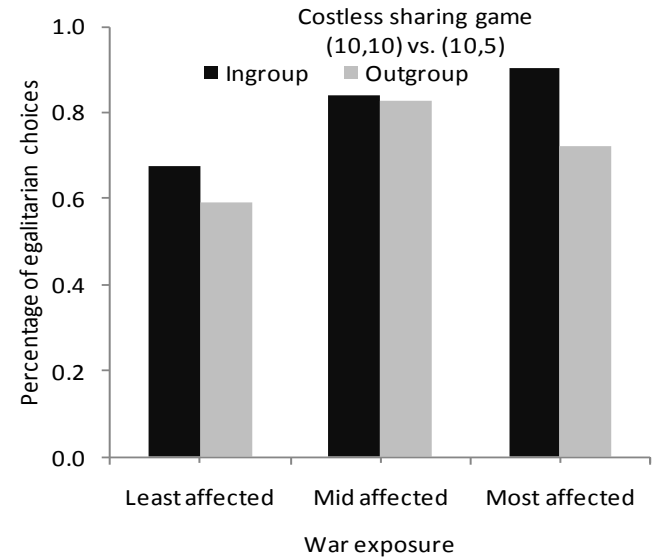
Sierra Leone: 6-20 yr-old during the war



Georgia: 7-11 yr-old children

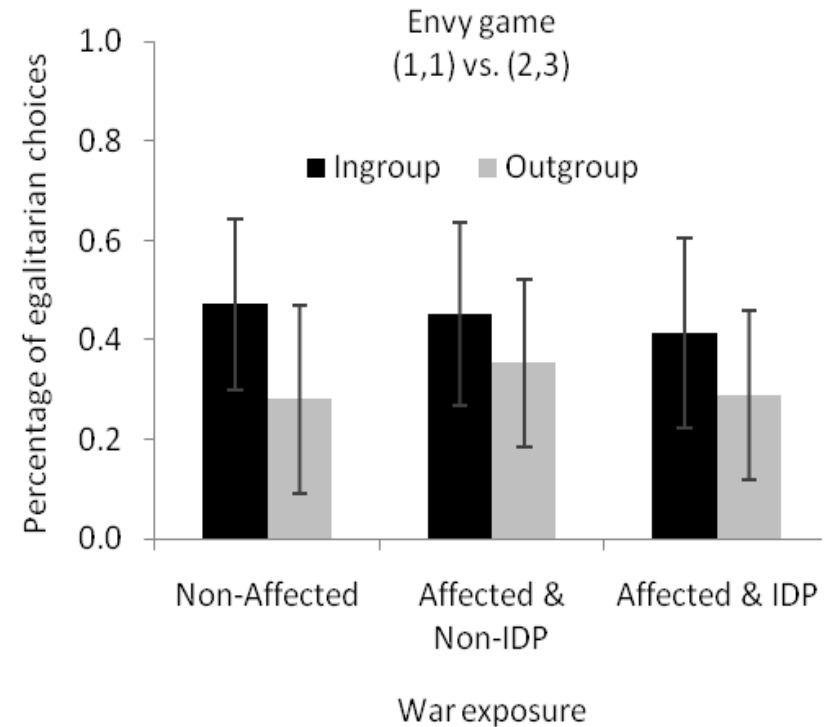
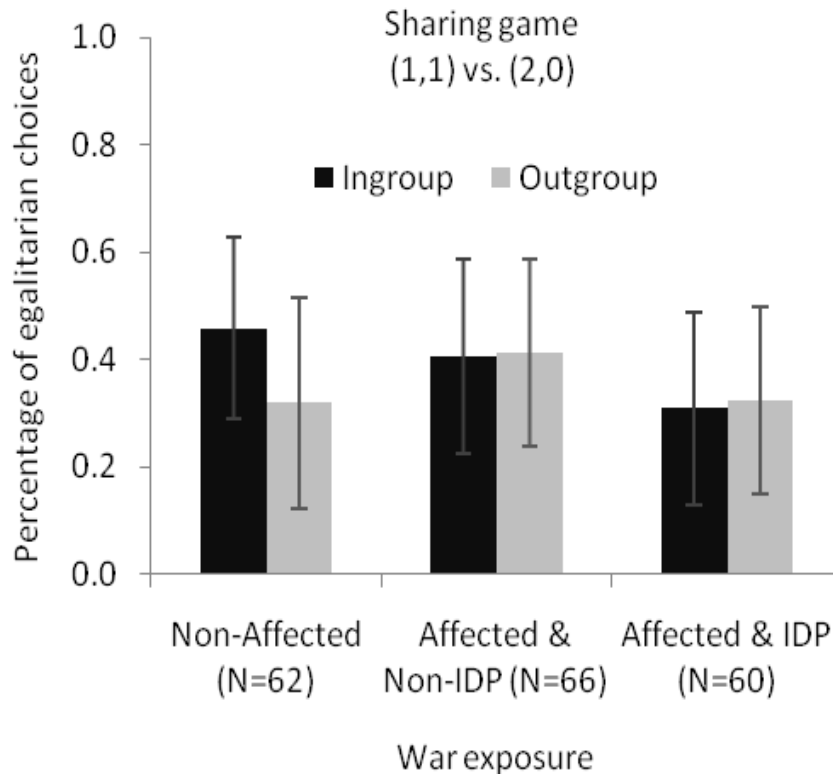


Sierra Leone: 6-20 yr-old during the war



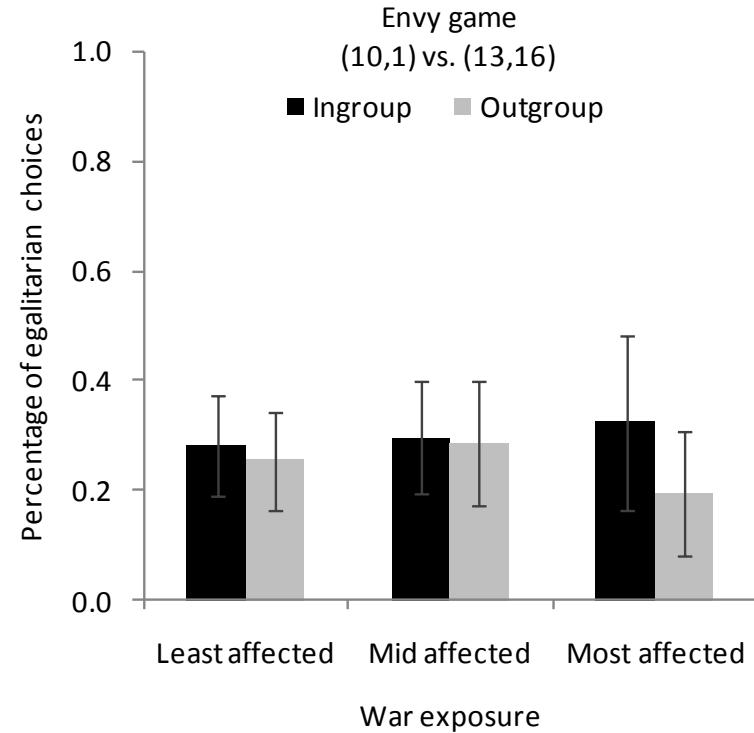
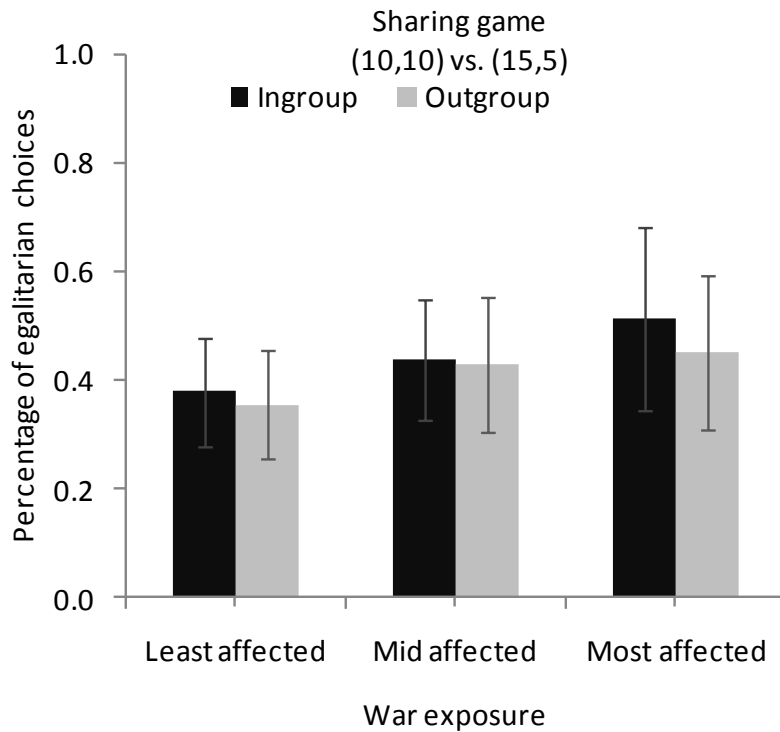
Small children in Georgia: no effects

Georgia: 3-6 yr-old children



Exposure to warfare during adulthood: smaller effects

Sierra Leone: more than 20 yr-old during the war



Robustness checks

- Georgia
 - Selective targeting:
 - quite unlikely given the bombing
 - Controlling for observables
 - Regional differences in social norms
 - Urban vs. rural areas (market integration)
 - Exploiting only within-region differences in exposure to violence
- Sierra Leone
 - Selective targeting
 - No evidence of selective targeting (Bellows and Miguel 2008)
 - Controlling for observable characteristics
 - Stronger results for a younger cohort that is less likely to be singled out
 - Regional differences in social norms (village FE)

Concluding remarks

- Individual exposure to violence increases
 - Inequality aversion
 - Parochialism
- Consistent with evolutionary theories of human cooperation emphasizing intergroup conflict
- The individual effects seem to be
 - Both short-term as well as long-term
 - Robust across completely different settings
 - More enduring if war is experienced during young age

Concluding remarks

- Understanding post-conflict recovery
 - the results may explain positive effects on local cooperation in post-conflict societies...
 - ...but this may be at the expense of regard for people outside of one's social group

Thank you!