

# Supplementary Analysis

## 1. Demographics

Table S1. Demographic description of the sample by country.

	Country	N	Age (SD)	Male %	Higher education %	Collectivism <sup>1</sup>
By country						
Eastern	China	1677	24.7 (7.6)	42.7%	88.5%	0.075
Eastern	India	502	22.6 (6.1)	33.7%	63.7%	0.069
Eastern	Iran	235	31.0 (9.6)	55.1%	89.5%	0.059
Eastern	Japan	396	44.0 (10.8)	63.6%	68.2%	0.073
Eastern	Lebanon	20	34.1 (16.6)	50.0%	95.0%	0.069
Eastern	Malaysia	171	20.5 (2.4)	17.0%	54.4%	0.133
Eastern	North Macedonia	282	22.1 (3.8)	55.7%	26.6%	0.066
Eastern	Pakistan	423	22.7 (3.7)	36.4%	87.5%	0.078
Eastern	Thailand	91	19.4 (1.0)	22.0%	53.8%	0.079
Eastern	United Arab Emirates	80	24.8 (3.7)	33.8%	71.2%	—
Southern	Argentina	253	34.3 (14.7)	27.4%	79.0%	0.101
Southern	Chile	54	34.4 (13.3)	40.7%	70.4%	0.079
Southern	Colombia	278	27.8 (12.0)	41.0%	87.6%	0.090
Southern	Czechia	411	28.1 (9.6)	69.8%	50.4%	—
Southern	Ecuador	45	23.3 (4.5)	31.1%	97.7%	0.130
Southern	France	935	33.8 (13.9)	17.6%	71.9%	0.083
Southern	Hungary	941	21.7 (3.8)	21.0%	22.0%	0.100
Southern	Mexico	64	33.1 (5.6)	64.1%	100.0%	0.082
Southern	Peru	141	24.5 (11.4)	36.9%	47.5%	0.102
Southern	Philippines	282	20.3 (3.0)	33.7%	57.0%	0.127
Southern	Slovakia	560	22.4 (6.0)	11.6%	19.7%	—
Southern	Turkey	1369	24.6 (8.1)	24.0%	42.8%	0.069
Western	Australia	1164	21.7 (6.9)	28.2%	25.2%	0.032
Western	Austria	346	24.8 (8.5)	35.1%	27.8%	—
Western	Brazil	267	30.1 (12.1)	36.7%	70.4%	0.097
Western	Bulgaria	316	27.7 (11.0)	14.9%	36.4%	0.066
Western	Canada	751	23.0 (7.6)	40.9%	58.9%	0.029
Western	Croatia	250	21.9 (4.1)	17.2%	19.6%	—
Western	Denmark	1299	36.7 (15.9)	46.6%	57.1%	—
Western	Germany	2887	30.2 (11.6)	29.1%	21.2%	0.047
Western	Greece	515	26.1 (11.0)	20.4%	52.8%	—
Western	Italy	500	35.6 (13.9)	44.4%	61.3%	0.045
Western	Kazakhstan	122	33.5 (9.1)	29.5%	100.0%	0.106
Western	Netherlands	479	20.6 (2.8)	34.4%	18.4%	0.049
Western	New Zealand	214	26.2 (10.6)	21.5%	35.0%	0.032
Western	Poland	1416	30.0 (11.0)	32.5%	49.1%	0.059
Western	Portugal	716	28.5 (9.5)	36.6%	70.0%	—
Western	Romania	755	24.5 (8.5)	14.0%	28.2%	0.078
Western	Russia	426	31.4 (8.2)	35.4%	91.5%	0.071

Western	Serbia	485	27.1 (11.0)	25.6%	52.5%	0.028
Western	Singapore	102	22.6 (1.7)	23.5%	57.8%	0.030
Western	Spain	257	21.5 (6.8)	16.0%	99.2%	0.041
Western	Switzerland	549	23.0 (7.2)	29.9%	22.1%	0.067
Western	United Kingdom	865	25.2 (11.2)	23.2%	42.5%	0.075
Western	United States	3611	20.7 (4.9)	23.4%	22.9%	0.000
By region						
Eastern	—	3877	26.1 (9.7)	42.9%	75.2%	—
Southern	—	5333	26.3 (10.5)	27.2%	48.7%	—
Western	—	18292	25.9 (10.4)	28.4%	38.4%	—
All						
All	—	27502	26.0 (10.3)	30.3%	45.8%	—

<sup>1</sup>Distance from the US in collectivism. Some countries do not have a collectivism score.

## 2. Additional analysis

### Effect of physical contact

In sum, when assessing the effect of physical force, we found inconclusive evidence for the effect of physical contact, regardless of dilemma type (trolley/speedboat). The summary of the results can be found in the tables below.

Table S2. The effect of physical contact on moral dilemma judgements on Trolley dilemmas

Exclusion	Cluster	BF	t	df	p	Cohen's d	Raw effect	89% CI
Exclusion	Eastern	4.11e-01	-0.22	121.63	0.828	0.03	0.07	[-0.36, 0.44]
	Southern	1.94e-01	0.46	388.70	0.643	0.04	-0.09	[-0.36, 0.21]
	Western	1.72e-01	0.18	512.54	0.857	0.01	-0.02	[-0.23, 0.17]
Include familiar	Eastern	1.76e-01	0.61	254.06	0.544	0.06	-0.12	[-0.4, 0.17]
	Southern	9.49e-02	1.17	756.54	0.244	0.08	-0.15	[-0.35, 0.06]
	Western	7.91e-02	0.73	1099.31	0.464	0.03	-0.07	[-0.2, 0.07]

### Comparing the standard switch and standard footbridge dilemmas

When comparing the standard switch and standard footbridge dilemmas in all clusters for the trolley and the speedboat tasks we found evidence for a difference between the two dilemmas in moral acceptability ratings. The summary results of each comparison separately can be found in Tables below.

Table S3. Comparing the Standard Switch and Standard Footbridge Dilemmas (all exclusion applied).

Dilemma	Cluster	t	Bf	df	p
Trolley	Eastern	4.81	2.49e+03	154.32	< .001
	Southern	10.38	2.32e+19	229.92	< .001
	Western	16.88	1.99e+54	780.55	< .001
Speedboat	Eastern	6.29	3.61e+05	130.68	< .001
	Southern	9.61	5.50e+15	335.65	< .001
	Western	14.58	4.01e+41	1618.57	< .001

Table S4. Comparing the Standard Switch and Standard Footbridge Dilemmas (familiarity exclusion not applied)

Dilemma	Cluster	t	Bf	df	p
Trolley	Eastern	6.79	8.73e+07	282.63	< .001
	Southern	14.59	3.91e+38	544.52	< .001
	Western	27.95	1.86e+148	2310.31	< .001
Speedboat	Eastern	7.30	8.06e+08	257.05	< .001
	Southern	11.03	6.30e+22	647.03	< .001
	Western	24.06	4.93e+116	4352.64	< .001

## Analysing familiar participants

As we registered, we conducted the analysis on familiar participants, the results can be found below.

Table S5. The effect of personal force on moral dilemma judgements (familiar participants).

Dilemma	Cluster	BF	t	df	p	Cohen's d	Raw effect	89% CI
Trolley	Eastern	1.65e+02	-3.65	437.72	<.001	0.35	0.73	[0.32, 0.98]
	Southern	1.76e+05	-5.35	721.33	<.001	0.40	0.82	[0.54, 1.04]
	Western	2.12e+03	-4.34	778.76	<.001	0.31	0.67	[0.38, 0.87]
Speedboat	Eastern	2.06e+00	-1.82	383.27	0.07	0.18	0.37	[0.01, 0.62]
	Southern	3.2e+03	-4.32	469.42	<.001	0.35	0.68	[0.37, 0.85]
	Western	5.4e+05	-5.56	707.92	<.001	0.40	0.81	[0.54, 1.01]

Table S6. The interaction of personal force and intention on moral dilemma judgements (familiar participants).

Dilemma	Cluster	BF	F	df	p	Partial $\eta^2$	Raw effect
Trolley	Eastern	5.35e+01	-0.500	[-0.66, -0.2]	0.001	0.043	-2.00
	Southern	7.06e+05	-0.463	[-0.57, -0.32]	<.001	0.047	-1.85
	Western	4.95e+18	-0.288	[-0.33, -0.24]	<.001	0.019	-1.15
Speedboat	Eastern	7.49e-01	-0.001	[-0.21, 0.21]	0.993	0.000	-0.01
	Southern	2.42e+01	-0.355	[-0.48, -0.1]	0.003	0.016	-1.42
	Western	2.15e+04	-0.143	[-0.18, -0.09]	<.001	0.005	-0.57

## Oxford utilitarianism Scale

As we registered, we first plot statistics of the Oxford Utilitarianism Scale in each cultural clusters. We applied no exclusion criteria during this analysis. Note however, that due to a technical mistake, some hungarian participants did not see one of the items in the OUS, hence, they were excluded from this analysis.

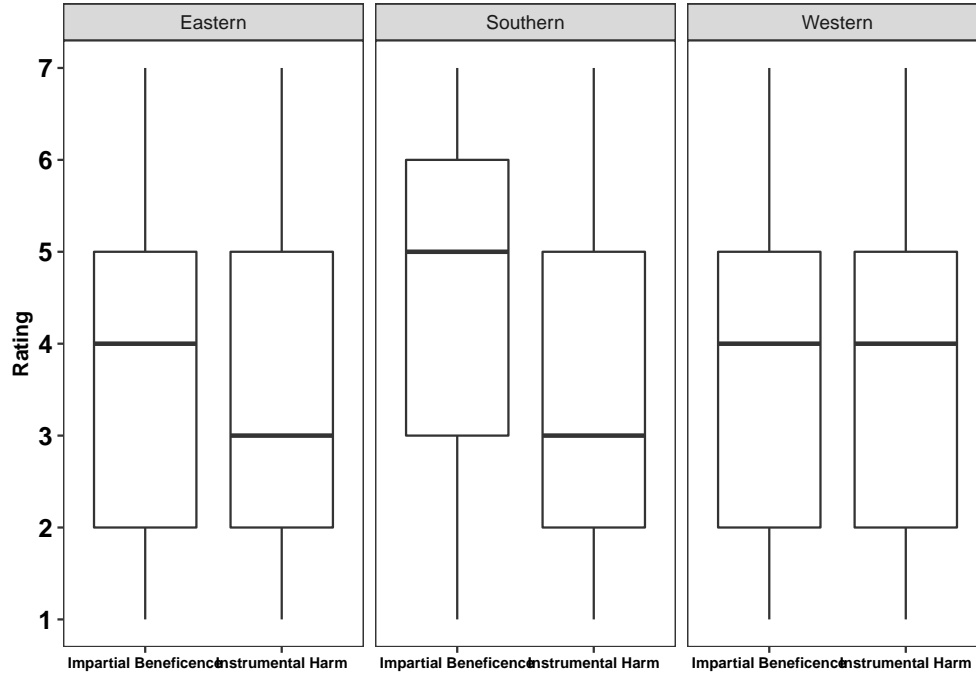


Figure S1: Results on the Oxford Utilitarianism Scale

As registered, we also report means and confidence intervals for each cultural cluster and each subscale of the Oxford Utilitarianism Scale.

Table S7. Means and confidence intervals of the Oxford Utilitarianism Scale.)

Cluster	Instrumental Harm		Impartial Beneficence	
	Mean	95% CI	Mean	95% CI
Eastern	3.404114	[3.44,3.37]	3.701470	[3.74,3.67]
Southern	3.339469	[3.37,3.3]	4.219580	[4.25,4.19]
Western	3.500703	[3.52,3.48]	4.013701	[4.03,4]

We also reported correlations between each Oxford Utilitarianism Scale subscales and moral acceptability ratings on each moral dilemma. Results suggests a higher correlation between acceptability ratings and the Instrumental Harm scale, anda somewhat lower correlation between Impartial Beneficence and acceptability ratings.

Table S8. Correlational analysis of the Oxford Utilitarianism Scale subscales with moral accaptability ratings on moral dilemmas.)

Dilemma	Cluster	Impartial Beneficence		Instrumental Harm		df
		r	p	r	p	
Trolley	Eastern	0.45	<.001	0.16	<.001	3875
	Southern	0.44	<.001	0.05	<.001	4860
	Western	0.42	<.001	0.08	<.001	17077
Speedboat	Eastern	0.41	<.001	0.20	<.001	3875
	Southern	0.40	<.001	0.08	<.001	4860
	Western	0.40	<.001	0.12	<.001	17077

## Exploratory analysis on overall utilitarianism and collectivism

Although not part of the planned analysis, we hypothesized that country-level collectivism would be negatively associated with utilitarian responding (i.e., higher moral acceptability ratings). We found no evidence for this hypothesis, regardless of familiarity exclusion or dilemma context. Interestingly, however, we found strong evidence for the association between vertical individualism and average moral acceptability ratings on moral dilemmas, regardless of dilemma context or exclusion criteria. The positive association means that higher levels of vertical individualism is associated with higher acceptance of the utilitarian response option. Although we hypothesized that it would be collectivism that makes people *more* emotional and therefore, less utilitarian, we speculate that individualism made people *less* emotional and therefore, more utilitarian.

In all of the regression models below, we added the random intercept of countries.

Table S9. Is the interaction of personal force and intention affected by individualism/collectivism on Trolley dilemmas?

Variable	With familiarity exclusion			No familiarity exclusion		
	BF	b	p	BF	b	p
Country-level collectivism	3.0e-01	-2.76	0.409	3.8e-01	-3.82	0.216
H. Collectivism	8.0e-02	-0.02	0.491	4.0e-02	0.00	0.861
H. Individualism	2.9e+00	0.06	0.005	2.1e+01	0.05	<.001
V. Collectivism	1.6e-01	0.03	0.135	4.0e-02	-0.01	0.679
V. Individualism	3.6e+13	0.15	<.001	1.9e+23	0.12	<.001

Table S10. Is the interaction of personal force and intention affected by individualism/collectivism on Speedboat dilemmas?

Variable	With familiarity exclusion			No familiarity exclusion		
	BF	b	p	BF	b	p
Country-level collectivism	7.5e-01	-6.50	0.048	7.2e-01	-5.25	0.041
H. Collectivism	7.0e-02	-0.01	0.62	4.0e-02	0.00	0.756
H. Individualism	6.0e-02	0.00	0.876	6.0e-02	0.01	0.335
V. Collectivism	8.0e-02	0.02	0.423	8.0e-02	-0.01	0.253
V. Individualism	6.2e+09	0.13	<.001	1.1e+17	0.10	<.001

With exclusions

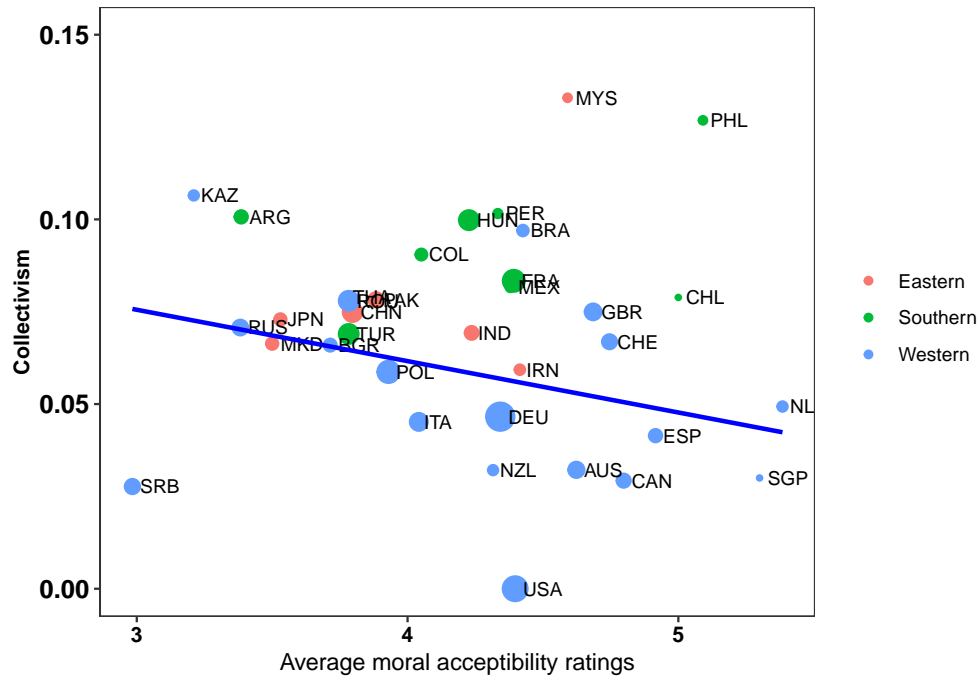


Figure S2: Correlation between country-level individualism/collectivism and moral acceptability ratings on the Trolley dilemmas (higher moral acceptability means higher acceptability of the utilitarian choice).

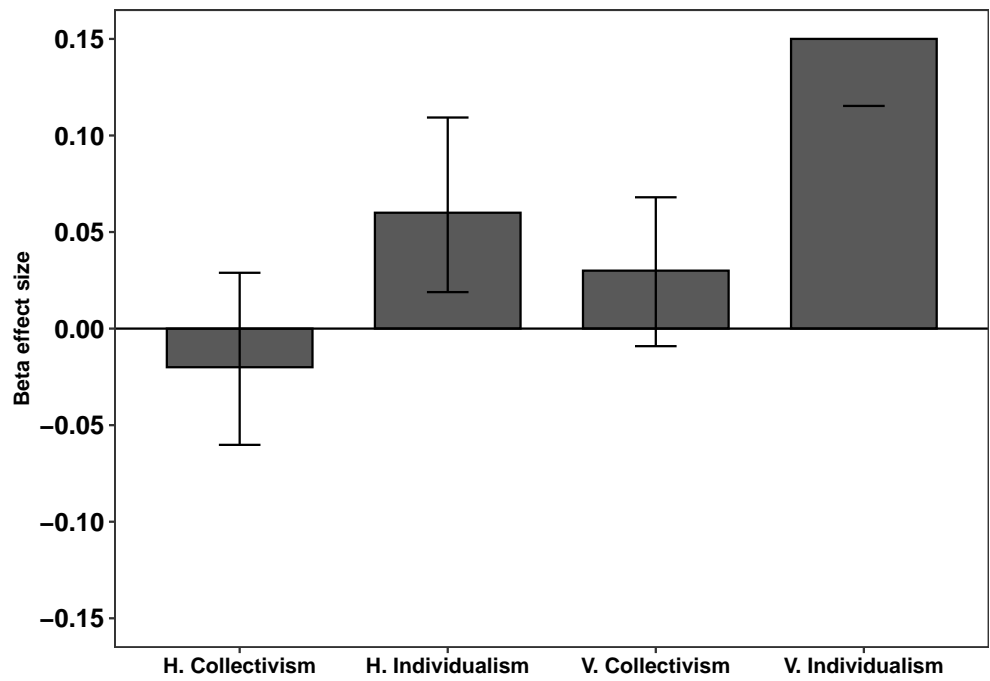


Figure S3: Personal level individualism/collectivism effects on moral acceptability ratings (trolley dilemmas)

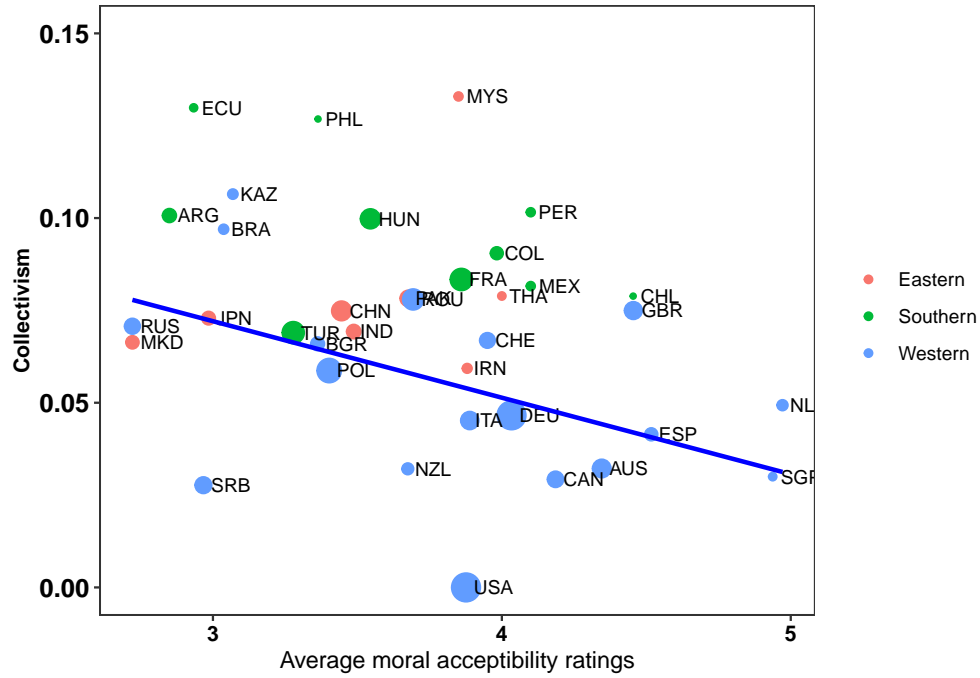


Figure S4: Correlation between country-level individualism/collectivism and moral accessibility ratings on the Speedboat dilemmas (higher moral acceptability means higher acceptability of the utilitarian choice)

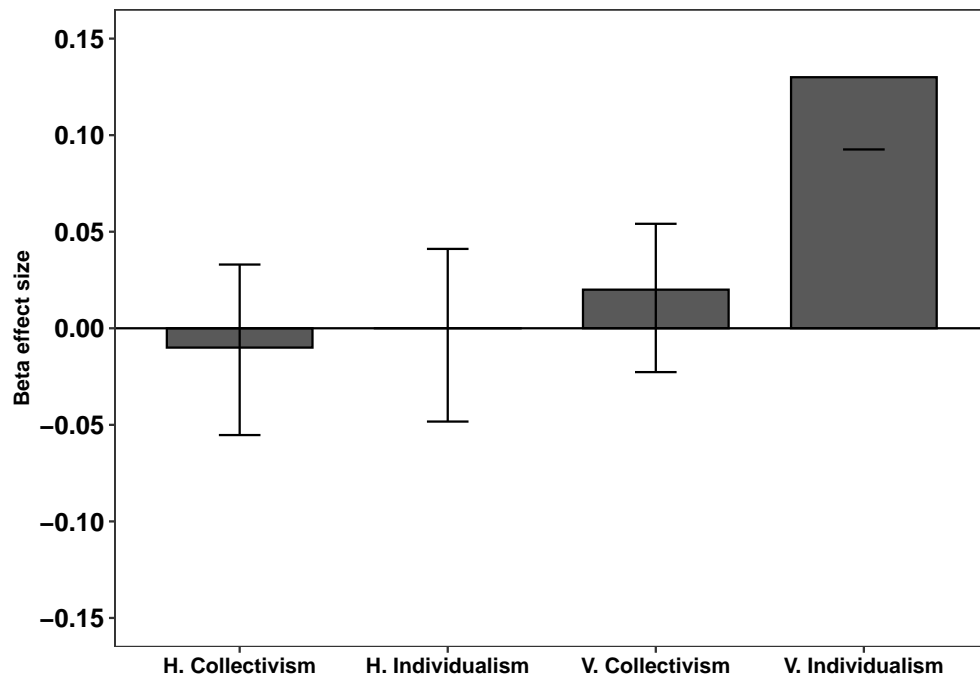


Figure S5: Personal level individualism/collectivism effects on moral acceptability ratings (speedboat dilemmas)

## Without familiarity exclusion

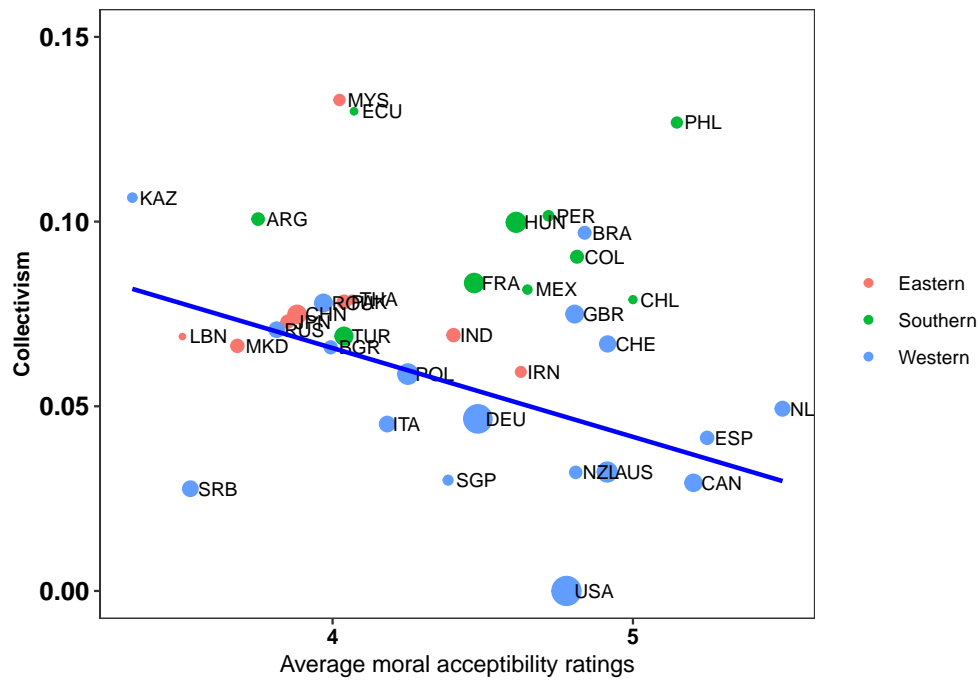


Figure S6: Correlation between country-level individualism/collectivism and moral acceptability ratings on the Trolley dilemmas (higher moral acceptability means higher acceptability of the utilitarian choice)

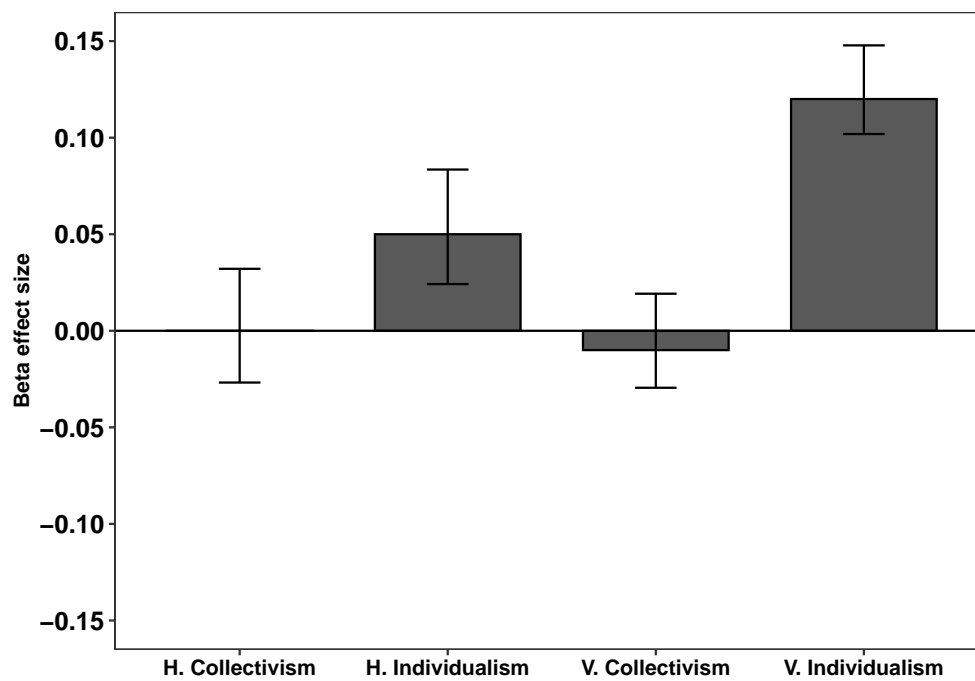


Figure S7: Personal level individualism/collectivism effects on moral acceptability ratings (trolley dilemmas)



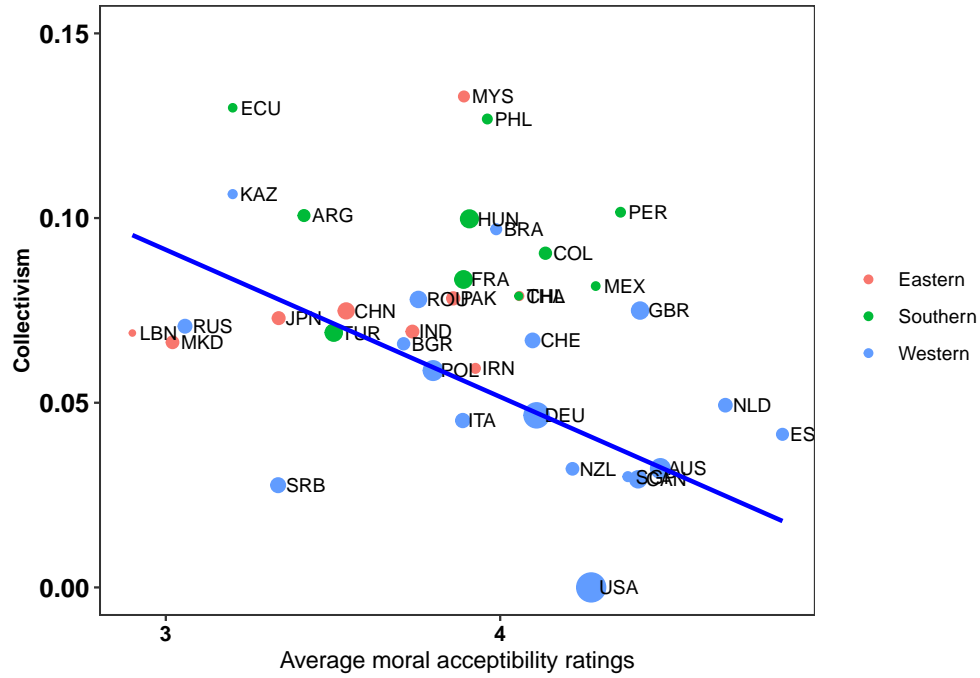


Figure S8: Correlation between country-level individualism/collectivism and moral accessibility ratings on the Speedboat dilemmas (higher moral acceptability means higher acceptability of the utilitarian choice)

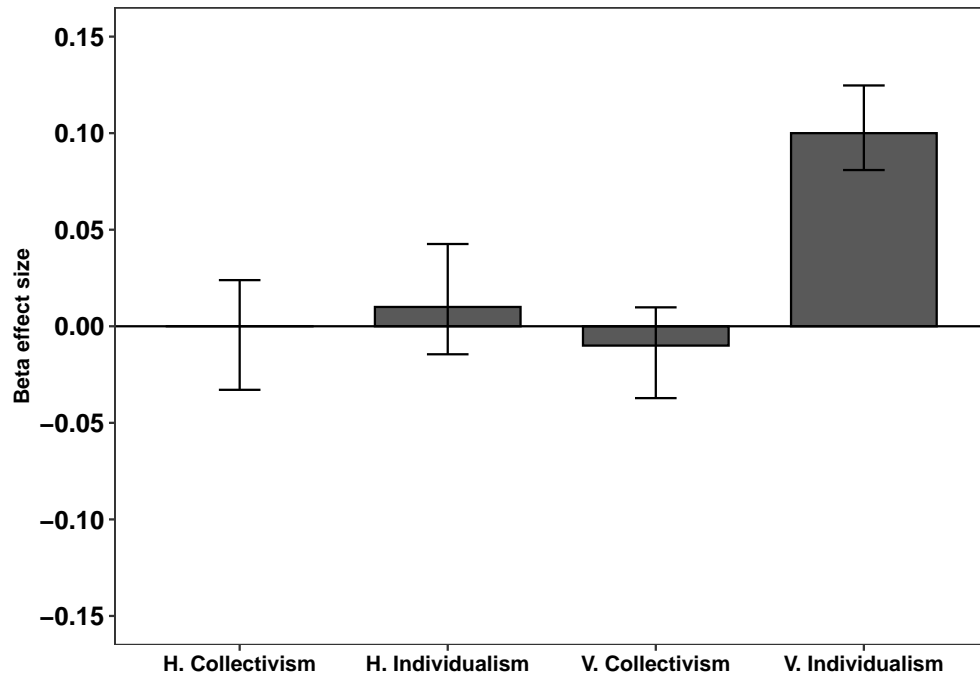


Figure S9: Personal level individualism/collectivism effects on moral acceptability ratings (speedboat dilemmas)