

Online Appendix

Table 1. Zero-order correlations among predictor and outcome variables in the US (below the diagonal) and South Korea (above the diagonal) and cultural differences

	Social hierarchy beliefs	Biological hierarchy beliefs	Individual orientation	Group orientation	Self-ingroup overlap	Roles/positions within groups
Social hierarchy beliefs		.746*** ¹ .748*** ²	.276*** .277***	.456*** ³ .457*** ⁴	.341*** ⁹ .345*** ¹⁰	.424*** ¹⁵ .421*** ¹⁶
Biological hierarchy beliefs	.667*** ¹ .619*** ²		.228*** .226***	.376*** ⁵ .374*** ⁶	.292*** ¹¹ .292*** ¹²	.335*** ¹⁷ .331***
Individual orientation	.296*** .258***	.217*** .135***		.402*** ⁷ .398*** ⁸	.278*** ¹³ .273*** ¹⁴	.405*** .403***
Group orientation	.310*** ³ .299*** ⁴	.242*** ⁵ .234*** ⁶	.238*** ⁷ .184*** ⁸		.879*** .880***	.743*** .744***
Self-ingroup overlap	.226*** ⁹ .220*** ¹⁰	.167*** ¹¹ .157*** ¹²	.060 ^{p=.175, 13} .038 ^{p=.518, 14}	.854*** .875***		.335*** .336***
Roles/positions within groups	.281*** ¹⁵ .287*** ¹⁶	.232*** ¹⁷ .245***	.360*** .303***	.750*** .776***	.297*** .374***	

Notes. Correlations in NEH cultures is reported in lower left of the diagonal and correlations in EA cultures is reported in upper right of the diagonal; coefficients in the first row in each cell show correlations in the total sample and coefficients in the second row in each cell show correlations among Whites in the US or Koreans in South Korea; all correlations were conducted using two-tailed tests and z differences were conducted using two-tailed tests.

* $p \leq .05$; ** $p \leq .01$; *** $p \leq .001$

¹ z difference = -2.51, $p = .012$; ² z difference = -3.29, $p = .001$; ³ z difference = -2.72, $p = .006$; ⁴ z difference = -2.48, $p = .013$; ⁵ z difference = -2.35, $p = .019$; ⁶ z difference = -2.08, $p = .038$; ⁷ z difference = -2.90, $p = .004$; ⁸ z difference = -3.16, $p = .002$; ⁹ z difference = -1.98, $p = .047$; ¹⁰ z difference = -1.83, $p = .068$; ¹¹ z difference = -2.09, $p = .036$; ¹² z difference = -1.91, $p = .056$; ¹³ z difference = -3.57, $p < .001$; ¹⁴ z difference = -3.25, $p = .001$; ¹⁵ z difference = -2.60, $p = .009$; ¹⁶ z difference = -2.06, $p = .039$; ¹⁷ z difference = -1.78, $p = .076$

Table 2a. The baseline measurement models for predictor and outcome variables in the US and South Korea

	The United States (<i>n</i> = 508)				South Korea (<i>n</i> = 502)			
	Unst.	SE	St.	Model fit statistics ¹	Unst.	SE	St.	Model fit statistics ¹
Individual-orientation								
IND → ach1	1.63***	0.08	.81	Saturated	1.49***	0.09	.78	Saturated
IND → ach2	1.58***	0.08	.77		1.54***	0.08	.82	
IND → ach3	1.78***	0.08	.85		1.45***	0.08	.78	
Group-orientation								
GRP → selfin1	1.20***	0.15	.63	$\chi^2(2) = 0.22, p = .90$ RMSEA = 0 (0, .039) $p_{\text{close-fit}} = .97$ CFI = 1.00 SRMR = .004	1.09***	0.12	.66	$\chi^2(2) = 0.88, p = .64$ RMSEA = 0 (0, .070) $p_{\text{close-fit}} = .87$ CFI = 1.00 SRMR = .007
GRP → selfin2	0.66***	0.19	.32		0.80***	0.16	.46	
GRP → selfin3	0.96***	0.13	.50		1.09***	0.12	.59	
GRP → role1	0.77***	0.13	.39		0.79***	0.11	.49	
GRP → role2	0.98***	0.14	.43		0.52***	0.13	.28	
selfin1-selfin2 (error cov.)	0.66** ²	0.25	.17		0.17 ⁹	0.19	.06	
selfin2-selfin3 (error cov.)	1.45***	0.24	.36	0.53* ¹⁰	0.21	.17		
role1-role2 (error cov.)	1.25***	0.25	.28	0.72***	0.16	.24		
Social hierarchy beliefs								
SH → sh1	1.63***	0.10	.75	$\chi^2(1) = 0.05, p = .83$ RMSEA = 0 (0, .070) $p_{\text{close-fit}} = .91$ CFI = 1.00 SRMR = .001	1.52***	0.10	.69	$\chi^2(1) = 0.03, p = .86$ RMSEA = 0 (0, .065) $p_{\text{close-fit}} = .92$ CFI = 1.00 SRMR = .001
SH → sh2	1.68***	0.08	.76		1.52***	0.09	.70	
SH → sh3	1.64***	0.10	.86		1.73***	0.10	.88	
SH → sh4	2.11***	0.08	.88		1.58***	0.10	.76	
SH → sh5	1.79***	0.08	.84		1.40***	0.08	.70	
sh1-sh3 (error cov.)	-0.15 ³	0.16	-.04		-0.63*** ¹¹	0.21	-.15	
sh1-sh4 (error cov.)	0.13 ⁴	0.19	.02	0.12 ¹²	0.23	.03		
sh2-sh3 (error cov.)	0.10 ⁵	0.17	.02	0.14 ¹³	0.21	.03		
sh4-sh5 (error cov.)	-0.47** ⁶	0.16	-.10	-0.70***	0.19	-.17		
Biological hierarchy beliefs								
BH → bh1	1.16***	0.10	.66	$\chi^2(3) = 2.69, p = .44$ RMSEA = 0 (0, .072) $p_{\text{close-fit}} = .82$ CFI = 1.00 SRMR = .014	1.26***	0.10	.63	$\chi^2(3) = 2.97, p = .40$ RMSEA = 0 (0, .075) $p_{\text{close-fit}} = .79$ CFI = 1.00 SRMR = .016
BH → bh2	1.24***	0.11	.72		1.37***	0.10	.70	
BH → bh3	1.83***	0.13	.70		0.87***	0.13	.39	
BH → bh4	1.47***	0.12	.72		1.50***	0.10	.72	
BH → bh5	1.46***	0.11	.70		1.35***	0.10	.64	
bh2-bh3 (error cov.)	-0.37 ⁷	0.20	-.08		-0.44*** ¹⁴	0.16	-.10	
bh3-bh5 (error cov.)	0.28 ⁸	0.29	.05	0.42* ¹⁵	0.21	.09		

Notes. Unst. = Unstandardized coefficients; St. = Standardized coefficients; IND = individual-orientation (latent factor); ach1-ach3 = items on individual achievements (indicators); GRP = group-orientation (latent factor); selfin1-selfin3 = items on self-ingroup overlap (indicators); role1-role2 = items on

roles/positions within groups (indicators); SH = social hierarchy beliefs (latent factor); sh1-sh5 = items on social hierarchy beliefs (indicators); BH = biological hierarchy beliefs (latent factor); bh1-bh5 = items on biological hierarchy beliefs (indicators)

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

¹ The SB scaling method was applied and RMSEA was reported with 90% CI and $P_{\text{close-fit}}$

² $p = .009$; ³ $p = .352$; ⁴ $p = .484$; ⁵ $p = .535$; ⁶ $p = .003$; ⁷ $p = .059$; ⁸ $p = .322$; ⁹ $p = .352$; ¹⁰ $p = .012$; ¹¹ $p = .003$; ¹² $p = .617$; ¹³ $p = .496$; ¹⁴ $p = .004$; ¹⁵ $p = .041$

Table 2b Configural and metric invariance in measurement models for predictor and outcome variables

Models		$\Delta\chi^2$ ¹	Δ RMSEA	Δ CFI	Δ SRMR	χ^2	df	p	RMSEA	CFI	SRMR
Individual-orientation	All loadings are equal (H ₀)	--	--	--	--	6.92	5	.23	.028	1	.032
	All loadings are freed (vs. H ₀)	4.62 ³	.008	0	.014	3.63	3	.30	.020	1	.018
	ach1 = 1	--	--	--	--	--	--	--	--	--	--
	IND → ach2 is freed (vs. H ₀)	0.50 ⁴	.002	0	0	5.86	4	.21	.030	1	.032
	IND → ach3 is freed (vs. H ₀)	4.54* ⁵	.013 [†]	0	.012	4.47	4	.35	.015	1	.020
Group-orientation	All loadings/error covs are equal (H ₀)	--	--	--	--	28.10	11	.003	.056	.98	.050
	All loadings/error covs are freed (vs. H ₀)	26.93***	.056 [†]	.02 [†]	.043 [†]	1.06	4	.90	0	1	.007
	All loadings are freed (vs. H ₀)	15.28*** ⁶	.013 ^(†)	.01 [†]	.015	13.41	7	.06	.043	.99	.035
	selfin1 = 1	--	--	--	--	--	--	--	--	--	--
	GRP → selfin2 is freed (vs. H ₀)	4.68* ⁷	.004	.01 [†]	.003	23.65	10	.01	.052	.99	.047
	GRP → selfin3 is freed (vs. H ₀)	2.83 ⁸	.001	.02 [†]	0	25.17	10	.005	.055	.98	.050
	GRP → role1 is freed (vs. H ₀)	1.60 ⁹	.001	.02 [†]	0	26.51	10	.003	.057	.98	.050
	GRP → role2 is freed (vs. H ₀)	9.29***	.014 ^(†)	.01 [†]	.009	19.03	10	.04	.042	.99	.041
Social hierarchy beliefs	All loadings/error covs are equal (H ₀)	--	--	--	--	19.12	10	.04	.043	1	.055
	All loadings/error covs are freed (vs. H ₀)	20.58*** ¹⁰	.043 [†]	0	.054 [†]	0.08	2	.96	0	1	.001
	All loadings are freed (vs. H ₀)	18.23***	.043	0	.041 [†]	5.26	6	.51	0	1	.014
	SH → sh1 is freed (vs. H ₀)	0.64 ¹¹	.002	0	.001	18.15	9	.03	.045	1	.056
	SH → sh2 is freed (vs. H ₀)	1.20 ¹²	0	0	.002	17.53	9	.01	.043	1	.053
	sh3 = 1	--	--	--	--	--	--	--	--	--	--
	SH → sh4 is freed (vs. H ₀)	9.45***	.017 [†]	0	.017	12.15	9	.21	.026	1	.038
	SH → sh5 is freed (vs. H ₀)	1.78 ¹³	0	0	.003	17.50	9	.04	.043	1	.052
Biological hierarchy beliefs	All loadings/error covs are equal (H ₀)	--	--	--	--	31.38	12	.002	.057	.99	.080
	All loadings/error covs are freed (vs. H ₀)	29.54***	.057 [†]	.01 [†]	.064 [†]	5.59	6	.47	0	1	.016
	All loadings are freed (vs. H ₀)	29.14***	.057 [†]	.01 [†]	.063 [†]	6.29	8	.62	0	1	.017
	BH → bh1 is freed (vs. H ₀)	2.71 ¹⁴	.001	0	.003	29.68	11	.002	.058	.99	.077
	BH → bh2 is freed (vs. H ₀)	0.32 ¹⁵	.001	0	.003	29.97	11	.002	.058	.99	.077
	BH → bh3 is freed (vs. H ₀)	36.56***	.057 [†]	.01 [†]	.057 [†]	7.76	11	.73	0	1	.023
	bh4 = 1	--	--	--	--	--	--	--	--	--	--
	BH → bh5 is freed (vs. H ₀)	0.36 ¹⁶	.003	.01 [†]	.001	30.69	11	.001	.060	.99	.081

Notes. IND = individual-orientation (latent factor); ach1-ach3 = items on individual achievements (indicators); GRP = group-orientation (latent factor); selfin1-selfin3 = items on self-ingroup overlap (indicators); role1-role2 = items on roles/positions within groups (indicators); SH = social hierarchy beliefs (latent factor);

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sh1-sh5 = items on social hierarchy beliefs (indicators); BH = biological hierarchy beliefs (latent factor); bh1-bh5 = items on biological hierarchy beliefs (indicators)

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$, † Significant differences based on cutoff points suggested by Chen (2007)

¹ The SB-scaled χ^2 difference computation procedure for LISREL 8 users (Bryant & Satorra, 2012) was used; ² The SB scaling method was applied

³ $p = .099$; ⁴ $p = .480$; ⁵ $p = .033$; ⁶ $p = .004$; ⁷ $p = .030$; ⁸ $p = .092$; ⁹ $p = .206$; ¹⁰ $p = .008$; ¹¹ $p = .424$; ¹² $p = .273$; ¹³ $p = .182$; ¹⁴ $p = .100$; ¹⁵ $p = .572$; ¹⁶ $p = .548$

Table 3. Descriptive statistics (means & standard deviations) and cultural differences between the US and South Korea and between Whites in the US and Koreans in South Korea

	US	Korea	US vs. Korea	US-W	Korea-K	US-W vs. Korea-K
Social hierarchy beliefs	3.09 (1.85)	4.11 (1.64)	$F(1, 1008) = 85.49, p < .001, \eta^2_p = .08$	3.10 (1.73)	4.10 (1.67)	$F(1, 772) = 64.41, p < .001, \eta^2_p = .08$
Biological hierarchy beliefs	2.42 (1.58)	3.66 (1.46)	$F(1, 1008) = 167.54, p < .001, \eta^2_p = .14$	2.54 (1.57)	3.65 (1.47)	$F(1, 772) = 99.14, p < .001, \eta^2_p = .11$
Individual orientation	4.67 (1.80)	5.40 (1.63)	$F(1, 1008) = 46.38, p < .001, \eta^2_p = .04$	4.66 (1.73)	5.39 (1.66)	$F(1, 772) = 33.60, p < .001, \eta^2_p = .04$
Group orientation	4.65 (1.33)	5.28 (1.14)	$F(1, 1008) = 65.70, p < .001, \eta^2_p = .06$	4.49 (1.35)	5.28 (1.15)	$F(1, 772) = 74.72, p < .001, \eta^2_p = .09$
Self-ingroup overlap	4.63 (1.53)	5.23 (1.35)	$F(1, 1008) = 44.20, p < .001, \eta^2_p = .04$	4.52 (1.52)	5.24 (1.36)	$F(1, 772) = 46.46, p < .001, \eta^2_p = .06$
Roles/positions within groups	4.67 (1.81)	5.34 (1.44)	$F(1, 1008) = 42.65, p < .001, \eta^2_p = .04$	4.45 (1.76)	5.33 (1.45)	$F(1, 772) = 57.78, p < .001, \eta^2_p = .07$

Note. US-W = Whites in the US; Korea-K = Koreans in South Korea

Table 4a. The two-predictor and three-predictor structural models for social and biological hierarchy beliefs in the US and South Korea

	All in the US (n = 508)			Whites in the US (n = 292)			All in South Korea (n = 502)			Koreans in South Korea (n = 482)		
	Unst.	SE	St.	Unst.	SE	St.	Unst.	SE	St.	Unst.	SE	St.
Two-predictor model												
IND → SH	0.22**	0.07	.20	0.18** ²	0.07	.18	-0.13	0.11	-.14	-0.12 ¹⁴	0.11	-.12
IND → BH	0.12*	0.06	.14	0.05 ³	0.07	.05	-0.09	0.08	-.11	-0.08 ¹⁵	0.08	-.11
GRP → SH	0.59***	0.18	.23	0.51** ⁴	0.17	.25	1.59***	0.31	.77	1.54***	0.30	.76
GRP → BH	0.52**	0.17	.26	0.52** ⁵	0.17	.29	1.07***	0.24	.62	1.04***	0.23	.62
IND-GRP (cov.)	0.54***	0.14	.47	0.47** ⁶	0.16	.37	0.68***	0.13	.61	0.70***	0.14	.60
SH-BH (error cov.)	1.69***	0.19	.64	1.42***	0.18	.61	1.07***	0.16	.59	1.09***	0.17	.59
Total variance in SH		13%			13%			49%			48%	
Total variance in BH		12%			10%			31%			31%	
Model fit statistics ¹	$\chi^2(117) = 188.40, p < .001$			$\chi^2(117) = 161.22, p < .001$			$\chi^2(117) = 228.76, p < .001$			$\chi^2(117) = 215.16, p < .001$		
	RMSEA = .035 (.025, .044)			RMSEA = .036 (.021, .049)			RMSEA = .044 (.035, .052)			RMSEA = .042 (.033, .050)		
	$p_{\text{close-fit}} = 1.00$			$p_{\text{close-fit}} = .96$			$p_{\text{close-fit}} = .89$			$p_{\text{close-fit}} = .94$		
	CFI = .99, SRMR = .045			CFI = .99, SRMR = .053			CFI = .98, SRMR = .041			CFI = .99, SRMR = .041		
Three-predictor model												
ACH → SH	0.24***	0.07	.21	0.20** ⁷	0.07	.19	-0.05	0.09	-.05	-0.04 ¹⁶	0.09	-.04
ACH → BH	0.13*	0.07	.14	0.04 ⁸	0.08	.04	-0.03	0.07	-.04	-0.02 ¹⁷	0.07	-.03
SELFIN → SH	0.25	0.16	.16	0.23 ⁹	0.26	.16	0.20	0.18	.14	0.20 ¹⁸	0.17	.15
SELFIN → BH	0.16	0.15	.13	0.05 ¹⁰	0.26	.04	0.19	0.14	.16	0.19 ¹⁹	0.12	.17
ROLE → SH	0.17	0.15	.12	0.16 ¹¹	0.21	.13	0.76***	0.23	.58	0.74***	0.23	.56
ROLE → BH	0.19	0.14	.17	0.29 ¹²	0.22	.28	0.46**	0.17	.41	0.45** ²⁰	0.16	.41
ACH-SELFIN (cov.)	0.36*	0.14	.19	0.33 ¹³	0.18	.18	0.64***	0.14	.40	0.66***	0.15	.39
ACH-ROLE (cov.)	1.09***	0.17	.50	0.85***	0.19	.40	1.00***	0.15	.58	1.01***	0.15	.57
SELFIN-ROLE (cov.)	0.96***	0.17	.61	1.14***	0.22	.74	0.74***	0.13	.63	0.76***	0.13	.63
SH-BH (error cov.)	1.65***	0.19	.63	1.41***	0.18	.60	1.18***	0.14	.65	1.21***	0.15	.66
Total variance in SH		15%			14%			42%			41%	
Total variance in BH		13%			11%			26%			26%	
Model fit statistics ¹	$\chi^2(115) = 184.14, p < .001$			$\chi^2(115) = 158.67, p < .001$			$\chi^2(115) = 227.35, p < .001$			$\chi^2(115) = 213.64, p < .001$		
	RMSEA = .034 (.025, .043)			RMSEA = .036 (.021, .049)			RMSEA = .044 (.036, .053)			RMSEA = .042 (.033, .051)		
	$p_{\text{close-fit}} = 1.00$			$p_{\text{close-fit}} = .96$			$p_{\text{close-fit}} = .87$			$p_{\text{close-fit}} = .93$		
	CFI = .99, SRMR = .039			CFI = .99, SRMR = .050			CFI = .98, SRMR = .040			CFI = .99, SRMR = .040		

Notes. Unst. = Unstandardized coefficients; St. = Standardized coefficients; IND = individual-orientation; GRP = group-orientation; SH = social hierarchy beliefs; BH = biological hierarchy beliefs; ACH = individual achievements; SELFIN = self-ingroup overlap; ROLE = roles/positions within groups

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

¹ The SB scaling method was applied and RMSEA was reported with 90% CI and $P_{\text{close-fit}}$; ² $p = .008$; ³ $p = .478$; ⁴ $p = .002$; ⁵ $p = .002$; ⁶ $p = .004$; ⁷ $p = .007$; ⁸ $p = .596$; ⁹ $p = .384$; ¹⁰ $p = .834$; ¹¹ $p = .430$; ¹² $p = .180$; ¹³ $p = .072$; ¹⁴ $p = .271$; ¹⁵ $p = .294$; ¹⁶ $p = .660$; ¹⁷ $p = .719$; ¹⁸ $p = .238$; ¹⁹ $p = .126$; ²⁰ $p = .005$

Table 4b. Cultural differences in the two-predictor and three predictor structural models for social and biological hierarchy beliefs

	US vs. Korea							US-W vs. Korea-K				
	Δdf	df	$\Delta\chi^2$ ¹	χ^2 ²	RMSEA	CFI	SRMR	$\Delta\chi^2$ ¹	χ^2 ²	RMSEA	CFI	SRMR
Two-predictor model												
All parameter estimates are equal (H ₀)	--	288	--	631.38	.049	.98	.074	--	578.31	.051	.97	.061
All parameter estimated are freed (vs. H ₀)	54	234	230.28***	416.16	.039	.99	.041	155.48***	421.81	.046	.98	.041
All paths are freed (vs. H ₀)	47	241	210.32***	434.78	.040	.99	.046	138.48***	436.22	.046	.98	.045
The path from IND to SH is freed (vs. H ₀)	44	244	199.45***	443.32	.040	.99	.048	128.26***	444.81	.046	.98	.047
The path from IND to BH is freed (vs. H ₀)	44	244	199.31***	443.97	.040	.99	.048	127.99***	445.87	.046	.98	.048
The path from GRP to SH is freed (vs. H ₀)	44	244	199.12***	444.24	.040	.99	.049	128.43***	446.30	.046	.98	.048
The path from GRP to BH is freed (vs. H ₀)	44	244	199.00***	444.28	.040	.99	.048	127.44***	446.97	.046	.98	.048
Three-predictor model												
All parameter estimates are equal (H ₀)	--	286	--	624.38	.048	.98	.072	--	575.07	.051	.97	.060
All parameter estimates are freed (vs. H ₀)	56	230	231.02***	410.44	.039	.99	.040	157.04***	418.07	.046	.98	.040
All paths are freed (vs. H ₀)	49	237	211.09***	428.56	.040	.99	.045	140.08***	432.12	.046	.98	.044
The path from ACH to SH is freed (vs. H ₀)	44	242	194.50***	441.08	.040	.99	.053	125.66***	445.40	.047	.98	.053
The path from ACH to BH is freed (vs. H ₀)	44	242	194.92***	440.94	.040	.99	.052	126.14***	444.47	.047	.98	.052
The path from SELFIN to SH is freed (vs. H ₀)	44	242	195.80***	441.16	.040	.99	.052	126.28***	445.27	.047	.98	.052
The path from SELFIN to BH is freed (vs. H ₀)	44	242	195.53***	440.77	.040	.99	.052	126.35***	445.22	.047	.98	.052
The path from ROLE to SH is freed (vs. H ₀)	44	242	196.56***	439.82	.040	.99	.052	128.08***	442.96	.046	.98	.051
The path from ROLE to BH is freed (vs. H ₀)	44	242	194.48***	441.60	.040	.99	.052	125.40***	445.92	.047	.98	.052

Notes. IND = individual-orientation; GRP = group-orientation; SH = social hierarchy beliefs; BH = biological hierarchy beliefs; ACH = individual achievements; SELFIN = self-ingroup overlap; ROLE = roles/positions within groups

¹ The SB scaled χ^2 difference computation procedure for LISREL 8 users (Bryant & Satorra, 2012) was used.

² The SB scaling method was applied.

*** $p \leq .001$

Figure 1. Standardized parameter estimates in the two-predictor structural models for social and biological hierarchy beliefs

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

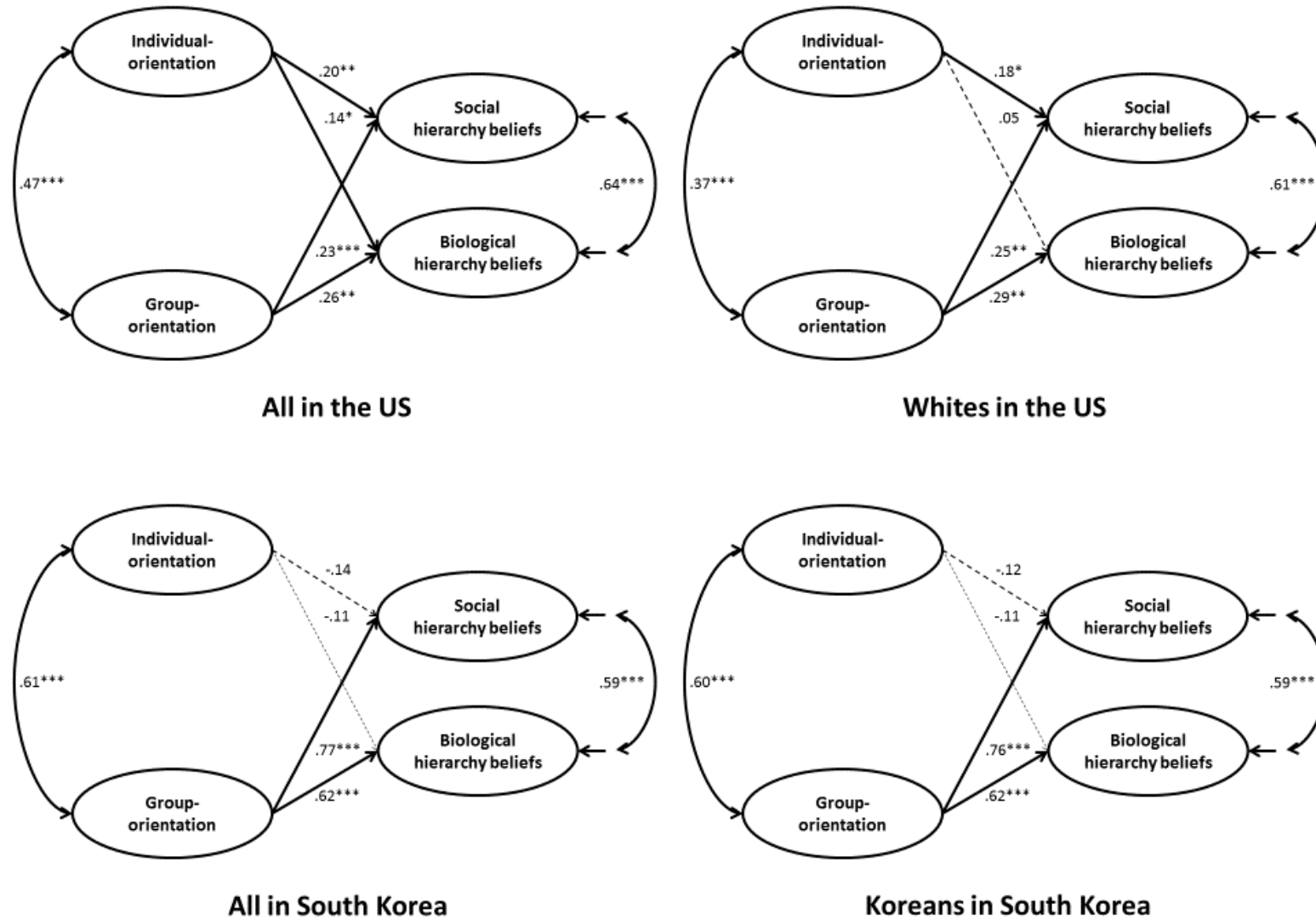


Figure 2. Standardized parameter estimates in the three-predictor structural models for social and biological hierarchy beliefs

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

