

Supplementary Information

Cross-cultural invariances in the architecture of shame

Table S1

Sample size, order in which the scenarios were administered, method of stimuli administration, language of stimuli, and geographic location (Samples A-O)

Sample	Community	N	Order of scenarios	Method of stimuli administration			Language of stimuli	Method of stimuli translation	Geographic Location	
				Verbal (by researcher)	Written (self-administered)	Not recorded			Latitude	Longitude
A	Cotopaxi, Ecuador	40	A	40	0	0	Spanish	K	-0.87	-78.83
B	Morona-Santiago, Ecuador	41	A	41	0	0	Spanish	J	-1.90	-78.00
C	Coquimbo, Chile	44	A	0	44	0	Spanish	K	-30.25	-71.50
D	Drâa-Tafilalet, Morocco	75	A	75	0	0	Moroccan Arabic	L	31.52	-5.53
E	Enugu, Nigeria	80	A	68	12	0	Igbo	J	6.70	7.30
F	Chalkidiki, Greece	60	A	3	57	0	Greek	L	40.24	23.53
G	Ikland, Uganda	96	A	96	0	0	Icé-tód	J	3.65	34.28
H	Le Morne, Mauritius	80	A	75	2	3	Mauritian Creole	M	-20.47	57.34
I	La Gaulette, Mauritius	80	A	25	54	1	Mauritian Creole	M	-20.42	57.35
J	Dhading, Nepal	42	A	4	38	0	Nepali	J	27.70	85.20
K	Tuva, Russia	53	A	0	53	0	Tuvanian	J	50.59	97.52
L	Khövsgöl, Mongolia	40	A	0	40	0	Mongolian	J	51.14	100.51
M	Shaanxi, China	65	B	0	65	0	Northern Mandarin	J	34.17	107.15
N	Farming Communities, Japan	60	A	0	60	0	Japanese	J	33.56	132.82
O	Fishing Communities, Japan	43	A	0	43	0	Japanese	J	35.57	135.46

A: The 12 scenarios were randomly presented in 1 of 2 orders; from first to last: {2, 11, 3, 4, 7, 12, 6, 1, 8, 5, 9, 10}, or {3, 8, 2, 9, 12, 5, 11, 6, 1, 7, 10, 4}.

B: The 12 scenarios were presented in a single, fixed order; from first to last: {1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12}.

J: Translated and back-translated by different individuals.

K: Translated by one individual, revised by at least one other individual (native speaker(s) of local language).

L: Translated by one individual (native speaker of local language).

M: Independent translations by different individuals, which were then contrasted and reconciled.

Table S2a*Ratings of devaluation and shame, by scenario: Cotopaxi, Ecuador (Sample A)*

#	Scenario	Devaluation	Shame
12	You steal from members of your community. / He steals from members of his community.	3.20 (0.95)	3.40 (1.10)
5	You have sex with many women. / He has sex with many women.	3.05 (0.94)	3.75 (0.72)
9	You don't have many skills. / He doesn't have many skills.	2.65 (0.99)	2.65 (0.88)
6	You are sickly. / He is sickly.	2.50 (1.15)	2.85 (0.99)
3	You are lazy. / He is lazy.	2.45 (0.94)	2.25 (1.07)
8	You don't keep your promises. / He doesn't keep his promises.	2.45 (1.05)	2.70 (0.92)
10	You are a bad storyteller. / He is a bad storyteller.	2.40 (1.05)	2.85 (1.14)
4	No matter how hard you try, you can't produce enough to keep yourself well-fed. / No matter how hard he tries, he can't produce enough to keep himself well-fed.	2.30 (0.98)	2.60 (0.99)
7	You are not intelligent. / He is not intelligent.	2.30 (1.03)	2.85 (1.04)
1	You are stingy. / He is stingy.	2.25 (0.91)	2.70 (0.98)
2	You are ugly. / He is ugly.	2.00 (0.97)	2.15 (1.04)
11	You can't defend yourself very well, so people push you around. / He can't defend himself very well, so people push him around.	2.00 (1.03)	2.05 (0.89)

Note. Displayed are means, with standard deviations in parentheses. *Ns*: devaluation: 20; shame: 20. The male versions of the shame and devaluation scenarios are presented before and after the slash, respectively. The female versions of scenario # 5 read “men” instead of “women”. The female versions of the devaluation scenarios featured a female target, so the personal pronouns were female pronouns. Otherwise, the male and female scenarios were identical. Scenarios are displayed from highest to lowest mean devaluation scores. Scale range: 1–4.

Table S2b*Ratings of devaluation and shame, by scenario: Morona-Santiago, Ecuador (Sample B)*

#	Scenario	Devaluation	Shame
12	You steal from members of your community. / He steals from members of his community.	2.60 (1.14)	3.10 (1.26)
7	You are not intelligent. / He is not intelligent.	2.40 (1.05)	2.19 (1.03)
5	You have sex with many women. / He has sex with many women.	2.35 (1.31)	2.24 (1.22)
10	You are a bad storyteller. / He is a bad storyteller.	2.30 (1.13)	2.00 (1.05)
8	You don't keep your promises. / He doesn't keep his promises.	2.25 (1.12)	2.62 (0.97)
11	You can't defend yourself very well, so people push you around. / He can't defend himself very well, so people push him around.	2.25 (1.12)	1.90 (1.09)
4	No matter how hard you try, you can't produce enough to keep yourself well-fed. / No matter how hard he tries, he can't produce enough to keep himself well-fed.	2.20 (1.01)	2.24 (1.00)
1	You are stingy. / He is stingy.	2.05 (1.15)	2.10 (1.14)
3	You are lazy. / He is lazy.	2.00 (0.94)	1.76 (1.09)
9	You don't have many skills. / He doesn't have many skills.	1.90 (0.79)	2.00 (1.14)
6	You are sickly. / He is sickly.	1.85 (0.75)	1.76 (0.94)
2	You are ugly. / He is ugly.	1.60 (0.75)	1.52 (0.81)

Note. Displayed are means, with standard deviations in parentheses. *N*s: devaluation: 19–20; shame: 21. The male versions of the shame and devaluation scenarios are presented before and after the slash, respectively. The female versions of scenario # 5 read “men” instead of “women”. The female versions of the devaluation scenarios featured a female target, so the personal pronouns were female pronouns. Otherwise, the male and female scenarios were identical. Scenarios are displayed from highest to lowest mean devaluation scores. Scale range: 1–4.

Table S2c*Ratings of devaluation and shame, by scenario: Coquimbo, Chile (Sample C)*

#	Scenario	Devaluation	Shame
12	You steal from members of your community. / He steals from members of his community.	3.77 (0.53)	3.81 (0.68)
8	You don't keep your promises. / He doesn't keep his promises.	3.27 (0.98)	3.23 (0.97)
11	You can't defend yourself very well, so people push you around. / He can't defend himself very well, so people push him around.	2.95 (1.05)	2.77 (1.07)
3	You are lazy. / He is lazy.	2.73 (1.03)	3.05 (1.07)
1	You are stingy. / He is stingy.	2.68 (0.95)	2.50 (1.30)
5	You have sex with many women. / He has sex with many women.	2.64 (1.26)	3.00 (1.23)
4	No matter how hard you try, you can't produce enough to keep yourself well-fed. / No matter how hard he tries, he can't produce enough to keep himself well-fed.	2.45 (1.14)	2.45 (1.10)
9	You don't have many skills. / He doesn't have many skills.	1.86 (0.94)	2.38 (1.12)
6	You are sickly. / He is sickly.	1.82 (1.10)	1.55 (0.80)
10	You are a bad storyteller. / He is a bad storyteller.	1.64 (0.66)	2.41 (1.14)
7	You are not intelligent. / He is not intelligent.	1.50 (0.80)	2.77 (1.23)
2	You are ugly. / He is ugly.	1.32 (0.72)	1.57 (0.93)

Note. Displayed are means, with standard deviations in parentheses. *N*s: devaluation: 22; shame: 21–22. The male versions of the shame and devaluation scenarios are presented before and after the slash, respectively. The female versions of scenario # 5 read “men” instead of “women”. The female versions of the devaluation scenarios featured a female target, so the personal pronouns were female pronouns. Otherwise, the male and female scenarios were identical. Scenarios are displayed from highest to lowest mean devaluation scores. Scale range: 1–4.

Table S2d*Ratings of devaluation and shame, by scenario: Drâa-Tafilalet, Morocco (Sample D)*

#	Scenario	Devaluation	Shame
8	You don't keep your promises. / He doesn't keep his promises.	4.50 (2.41)	5.05 (1.99)
12	You steal from members of your community. / He steals from members of his community.	4.24 (2.80)	4.95 (2.38)
11	You can't defend yourself very well, so people push you around. / He can't defend himself very well, so people push him around.	4.16 (2.25)	4.95 (2.22)
5	You have sex with many women. / He has sex with many women.	3.84 (2.73)	4.57 (2.30)
1	You are stingy. / He is stingy.	3.74 (2.41)	3.57 (1.86)
3	You are lazy. / He is lazy.	3.68 (1.85)	4.11 (2.12)
9	You don't have many skills. / He doesn't have many skills.	3.34 (1.58)	4.27 (2.06)
7	You are not intelligent. / He is not intelligent.	3.24 (2.19)	3.97 (2.07)
4	No matter how hard you try, you can't produce enough to keep yourself well-fed. / No matter how hard he tries, he can't produce enough to keep himself well-fed.	3.14 (2.21)	4.46 (2.08)
10	You are a bad storyteller. / He is a bad storyteller.	2.95 (2.20)	3.14 (1.84)
6	You are sickly. / He is sickly.	2.55 (1.94)	2.08 (1.50)
2	You are ugly. / He is ugly.	2.45 (1.97)	2.86 (1.69)

Note. Displayed are means, with standard deviations in parentheses. *N*s: devaluation: 38; shame: 36–37. The male versions of the shame and devaluation scenarios are presented before and after the slash, respectively. The female versions of scenario # 5 read “men” instead of “women”. The female versions of the devaluation scenarios featured a female target, so the personal pronouns were female pronouns. Otherwise, the male and female scenarios were identical. Scenarios are displayed from highest to lowest mean devaluation scores. Scale range: 1–7.

Table S2e*Ratings of devaluation and shame, by scenario: Enugu, Nigeria (Sample E)*

#	Scenario	Devaluation	Shame
12	You steal from members of your community. / He steals from members of his community.	3.90 (0.30)	3.85 (0.43)
1	You are stingy. / He is stingy.	3.68 (0.47)	3.75 (0.44)
5	You have sex with many women. / He has sex with many women.	3.65 (0.48)	3.80 (0.41)
8	You don't keep your promises. / He doesn't keep his promises.	3.65 (0.53)	3.78 (0.42)
11	You can't defend yourself very well, so people push you around. / He can't defend himself very well, so people push him around.	3.60 (0.59)	3.48 (0.78)
3	You are lazy. / He is lazy.	3.50 (0.64)	3.25 (0.95)
4	No matter how hard you try, you can't produce enough to keep yourself well-fed. / No matter how hard he tries, he can't produce enough to keep himself well-fed.	2.98 (0.97)	2.93 (0.83)
9	You don't have many skills. / He doesn't have many skills.	2.53 (0.78)	2.60 (0.59)
7	You are not intelligent. / He is not intelligent.	2.50 (0.78)	3.25 (0.81)
6	You are sickly. / He is sickly.	2.48 (0.91)	2.48 (0.91)
10	You are a bad storyteller. / He is a bad storyteller.	2.43 (0.81)	2.18 (0.78)
2	You are ugly. / He is ugly.	1.95 (1.01)	1.98 (0.97)

Note. Displayed are means, with standard deviations in parentheses. *N*s: devaluation: 40; shame: 40. The male versions of the shame and devaluation scenarios are presented before and after the slash, respectively. The female versions of scenario # 5 read “men” instead of “women”. The female versions of the devaluation scenarios featured a female target, so the personal pronouns were female pronouns. Otherwise, the male and female scenarios were identical. Scenarios are displayed from highest to lowest mean devaluation scores. Scale range: 1–4.

Table S2f*Ratings of devaluation and shame, by scenario: Chalkidiki, Greece (Sample F)*

#	Scenario	Devaluation	Shame
12	You steal from members of your community. / He steals from members of his community.	3.80 (0.61)	3.73 (0.69)
8	You don't keep your promises. / He doesn't keep his promises.	3.17 (0.99)	3.13 (1.01)
1	You are stingy. / He is stingy.	2.97 (0.96)	2.93 (0.94)
3	You are lazy. / He is lazy.	2.70 (0.99)	3.03 (1.16)
5	You have sex with many women. / He has sex with many women.	2.57 (1.28)	2.63 (1.43)
11	You can't defend yourself very well, so people push you around. / He can't defend himself very well, so people push him around.	2.40 (0.93)	3.03 (1.07)
4	No matter how hard you try, you can't produce enough to keep yourself well-fed. / No matter how hard he tries, he can't produce enough to keep himself well-fed.	1.97 (0.89)	3.33 (0.8)
9	You don't have many skills. / He doesn't have many skills.	1.90 (0.88)	2.33 (0.92)
6	You are sickly. / He is sickly.	1.73 (1.14)	2.10 (1.12)
10	You are a bad storyteller. / He is a bad storyteller.	1.73 (0.87)	2.20 (0.81)
7	You are not intelligent. / He is not intelligent.	1.62 (0.62)	2.33 (1.06)
2	You are ugly. / He is ugly.	1.43 (0.57)	1.80 (0.96)

Note. Displayed are means, with standard deviations in parentheses. *N*s: devaluation: 30; shame: 30. The male versions of the shame and devaluation scenarios are presented before and after the slash, respectively. The female versions of scenario # 5 read “men” instead of “women”. The female versions of the devaluation scenarios featured a female target, so the personal pronouns were female pronouns. Otherwise, the male and female scenarios were identical. Scenarios are displayed from highest to lowest mean devaluation scores. Scale range: 1–4.

Table S2g*Ratings of devaluation and shame, by scenario: Ikland, Uganda (Sample G)*

#	Scenario	Devaluation	Shame
12	You steal from members of your community. / He steals from members of his community.	3.38 (1.07)	3.15 (1.17)
5	You have sex with many women. / He has sex with many women.	3.23 (1.13)	2.90 (1.19)
7	You are not intelligent. / He is not intelligent.	2.41 (1.22)	2.33 (1.05)
3	You are lazy. / He is lazy.	2.38 (1.07)	2.03 (0.97)
11	You can't defend yourself very well, so people push you around. / He can't defend himself very well, so people push him around.	2.34 (1.18)	1.93 (0.97)
6	You are sickly. / He is sickly.	2.34 (1.20)	2.08 (1.12)
10	You are a bad storyteller. / He is a bad storyteller.	2.27 (1.18)	2.35 (1.08)
9	You don't have many skills. / He doesn't have many skills.	2.21 (1.16)	2.33 (1.05)
8	You don't keep your promises. / He doesn't keep his promises.	2.00 (1.06)	2.43 (1.17)
1	You are stingy. / He is stingy.	1.93 (1.16)	2.48 (1.01)
2	You are ugly. / He is ugly.	1.93 (0.95)	2.15 (0.98)
4	No matter how hard you try, you can't produce enough to keep yourself well-fed. / No matter how hard he tries, he can't produce enough to keep himself well-fed.	1.88 (1.18)	1.95 (1.08)

Note. Displayed are means, with standard deviations in parentheses. *N*s: devaluation: 56; shame: 40. The male versions of the shame and devaluation scenarios are presented before and after the slash, respectively. The female versions of scenario # 5 read “men” instead of “women”. The female versions of the devaluation scenarios featured a female target, so the personal pronouns were female pronouns. Otherwise, the male and female scenarios were identical. Scenarios are displayed from highest to lowest mean devaluation scores. Scale range: 1–4.

Table S2h*Ratings of devaluation and shame, by scenario: Le Morne, Mauritius (Sample H)*

#	Scenario	Devaluation	Shame
12	You steal from members of your community. / He steals from members of his community.	3.20 (1.11)	3.25 (1.13)
8	You don't keep your promises. / He doesn't keep his promises.	2.45 (1.06)	2.38 (0.98)
5	You have sex with many women. / He has sex with many women.	2.35 (1.17)	2.40 (1.17)
3	You are lazy. / He is lazy.	1.81 (1.02)	1.78 (0.95)
4	No matter how hard you try, you can't produce enough to keep yourself well-fed. / No matter how hard he tries, he can't produce enough to keep himself well-fed.	1.60 (0.90)	2.08 (1.16)
1	You are stingy. / He is stingy.	1.53 (0.91)	1.53 (0.91)
9	You don't have many skills. / He doesn't have many skills.	1.50 (0.88)	1.60 (0.87)
11	You can't defend yourself very well, so people push you around. / He can't defend himself very well, so people push him around.	1.48 (0.82)	2.08 (1.12)
2	You are ugly. / He is ugly.	1.40 (0.78)	1.73 (0.96)
7	You are not intelligent. / He is not intelligent.	1.33 (0.66)	1.79 (1.00)
10	You are a bad storyteller. / He is a bad storyteller.	1.25 (0.54)	1.70 (0.91)
6	You are sickly. / He is sickly.	1.13 (0.46)	1.50 (0.82)

Note. Displayed are means, with standard deviations in parentheses. *N*s: devaluation: 40; shame: 39–40. The male versions of the shame and devaluation scenarios are presented before and after the slash, respectively. The female versions of scenario # 5 read “men” instead of “women”. The female versions of the devaluation scenarios featured a female target, so the personal pronouns were female pronouns. Otherwise, the male and female scenarios were identical. Scenarios are displayed from highest to lowest mean devaluation scores. Scale range: 1–4.

Table S2i*Ratings of devaluation and shame, by scenario: La Gaulette, Mauritius (Sample I)*

#	Scenario	Devaluation	Shame
12	You steal from members of your community. / He steals from members of his community.	3.46 (0.79)	3.23 (1.00)
5	You have sex with many women. / He has sex with many women.	3.33 (0.97)	3.00 (1.30)
8	You don't keep your promises. / He doesn't keep his promises.	2.65 (0.86)	2.48 (1.06)
3	You are lazy. / He is lazy.	2.28 (1.01)	1.78 (1.03)
10	You are a bad storyteller. / He is a bad storyteller.	2.00 (1.09)	1.95 (0.97)
11	You can't defend yourself very well, so people push you around. / He can't defend himself very well, so people push him around.	1.98 (1.14)	1.98 (1.03)
1	You are stingy. / He is stingy.	1.95 (1.01)	1.75 (1.06)
4	No matter how hard you try, you can't produce enough to keep yourself well-fed. / No matter how hard he tries, he can't produce enough to keep himself well-fed.	1.70 (0.94)	2.15 (1.10)
7	You are not intelligent. / He is not intelligent.	1.43 (0.81)	1.98 (1.03)
9	You don't have many skills. / He doesn't have many skills.	1.40 (0.81)	1.63 (0.84)
2	You are ugly. / He is ugly.	1.33 (0.66)	1.33 (0.76)
6	You are sickly. / He is sickly.	1.31 (0.77)	1.40 (0.84)

Note. Displayed are means, with standard deviations in parentheses. *N*s: devaluation: 39–40; shame: 39–40. The male versions of the shame and devaluation scenarios are presented before and after the slash, respectively. The female versions of scenario # 5 read “men” instead of “women”. The female versions of the devaluation scenarios featured a female target, so the personal pronouns were female pronouns. Otherwise, the male and female scenarios were identical. Scenarios are displayed from highest to lowest mean devaluation scores. Scale range: 1–4.

Table S2j*Ratings of devaluation and shame, by scenario: Dhading, Nepal (Sample J)*

#	Scenario	Devaluation	Shame
12	You steal from members of your community. / He steals from members of his community.	3.45 (1.00)	3.65 (0.81)
5	You have sex with many women. / He has sex with many women.	3.20 (1.20)	3.60 (0.82)
7	You are not intelligent. / He is not intelligent.	3.05 (1.07)	2.67 (1.02)
10	You are a bad storyteller. / He is a bad storyteller.	3.00 (1.14)	2.67 (1.32)
8	You don't keep your promises. / He doesn't keep his promises.	2.95 (1.00)	3.05 (0.97)
3	You are lazy. / He is lazy.	2.90 (1.04)	2.71 (1.19)
4	No matter how hard you try, you can't produce enough to keep yourself well-fed. / No matter how hard he tries, he can't produce enough to keep himself well-fed.	2.86 (1.06)	3.00 (1.18)
1	You are stingy. / He is stingy.	2.65 (0.99)	2.45 (1.10)
11	You can't defend yourself very well, so people push you around. / He can't defend himself very well, so people push him around.	2.35 (1.14)	2.55 (1.36)
2	You are ugly. / He is ugly.	2.33 (1.24)	2.05 (1.07)
9	You don't have many skills. / He doesn't have many skills.	2.14 (0.85)	2.86 (1.06)
6	You are sickly. / He is sickly.	1.90 (0.91)	2.48 (1.03)

Note. Displayed are means, with standard deviations in parentheses. *N*s: devaluation: 20–21; shame: 20–21. The male versions of the shame and devaluation scenarios are presented before and after the slash, respectively. The female versions of scenario # 5 read “men” instead of “women”. The female versions of the devaluation scenarios featured a female target, so the personal pronouns were female pronouns. Otherwise, the male and female scenarios were identical. Scenarios are displayed from highest to lowest mean devaluation scores. Scale range: 1–4.

Table S2k*Ratings of devaluation and shame, by scenario: Tuva, Russia (Sample K)*

#	Scenario	Devaluation	Shame
12	You steal from members of your community. / He steals from members of his community.	3.20 (1.22)	3.00 (1.20)
3	You are lazy. / He is lazy.	2.88 (1.17)	2.33 (1.14)
8	You don't keep your promises. / He doesn't keep his promises.	2.81 (1.17)	2.44 (1.22)
5	You have sex with many women. / He has sex with many women.	2.60 (1.26)	2.59 (1.28)
1	You are stingy. / He is stingy.	2.58 (1.24)	2.37 (1.28)
4	No matter how hard you try, you can't produce enough to keep yourself well-fed. / No matter how hard he tries, he can't produce enough to keep himself well-fed.	2.46 (1.07)	1.58 (0.90)
11	You can't defend yourself very well, so people push you around. / He can't defend himself very well, so people push him around.	2.46 (1.21)	2.15 (0.95)
7	You are not intelligent. / He is not intelligent.	2.31 (1.23)	2.04 (1.11)
2	You are ugly. / He is ugly.	2.23 (1.18)	1.81 (0.96)
9	You don't have many skills. / He doesn't have many skills.	2.23 (1.18)	2.07 (1.27)
10	You are a bad storyteller. / He is a bad storyteller.	2.19 (1.27)	2.33 (1.14)
6	You are sickly. / He is sickly.	1.92 (0.95)	1.77 (1.03)

Note. Displayed are means, with standard deviations in parentheses. *N*s: devaluation: 25–26; shame: 26–27. The male versions of the shame and devaluation scenarios are presented before and after the slash, respectively. The female versions of scenario # 5 read “men” instead of “women”. The female versions of the devaluation scenarios featured a female target, so the personal pronouns were female pronouns. Otherwise, the male and female scenarios were identical. Scenarios are displayed from highest to lowest mean devaluation scores. Scale range: 1–4.

Table S21*Ratings of devaluation and shame, by scenario: Khövsgöl, Mongolia (Sample L)*

#	Scenario	Devaluation	Shame
5	You have sex with many women. / He has sex with many women.	2.50 (1.24)	2.90 (1.37)
12	You steal from members of your community. / He steals from members of his community.	2.30 (1.26)	3.55 (1.10)
1	You are stingy. / He is stingy.	2.11 (0.81)	2.45 (1.28)
8	You don't keep your promises. / He doesn't keep his promises.	2.10 (0.97)	2.85 (0.99)
3	You are lazy. / He is lazy.	2.05 (1.00)	2.75 (1.12)
4	No matter how hard you try, you can't produce enough to keep yourself well-fed. / No matter how hard he tries, he can't produce enough to keep himself well-fed.	1.95 (1.05)	2.15 (0.93)
10	You are a bad storyteller. / He is a bad storyteller.	1.80 (1.06)	1.95 (1.15)
11	You can't defend yourself very well, so people push you around. / He can't defend himself very well, so people push him around.	1.70 (0.8)	2.26 (0.93)
7	You are not intelligent. / He is not intelligent.	1.70 (0.80)	2.60 (1.05)
6	You are sickly. / He is sickly.	1.50 (0.61)	1.65 (1.04)
2	You are ugly. / He is ugly.	1.40 (0.68)	1.35 (0.59)
9	You don't have many skills. / He doesn't have many skills.	1.20 (0.52)	1.80 (0.95)

Note. Displayed are means, with standard deviations in parentheses. *Ns*: devaluation: 19–20; shame: 19–20. The male versions of the shame and devaluation scenarios are presented before and after the slash, respectively. The female versions of scenario # 5 read “men” instead of “women”. The female versions of the devaluation scenarios featured a female target, so the personal pronouns were female pronouns. Otherwise, the male and female scenarios were identical. Scenarios are displayed from highest to lowest mean devaluation scores. Scale range: 1–4.

Table S2m*Ratings of devaluation and shame, by scenario: Shaanxi, China (Sample M)*

#	Scenario	Devaluation	Shame
12	You steal from members of your community. / He steals from members of his community.	3.55 (0.83)	3.38 (0.98)
8	You don't keep your promises. / He doesn't keep his promises.	2.88 (1.11)	3.22 (1.07)
5	You have sex with many women. / He has sex with many women.	2.70 (1.19)	3.16 (1.17)
3	You are lazy. / He is lazy.	2.03 (0.81)	2.41 (1.01)
4	No matter how hard you try, you can't produce enough to keep yourself well-fed. / No matter how hard he tries, he can't produce enough to keep himself well-fed.	1.67 (0.96)	2.63 (1.18)
1	You are stingy. / He is stingy.	1.52 (0.83)	2.25 (1.05)
10	You are a bad storyteller. / He is a bad storyteller.	1.48 (0.80)	2.28 (0.99)
11	You can't defend yourself very well, so people push you around. / He can't defend himself very well, so people push him around.	1.45 (0.90)	2.44 (1.19)
9	You don't have many skills. / He doesn't have many skills.	1.45 (0.67)	2.53 (0.92)
7	You are not intelligent. / He is not intelligent.	1.30 (0.68)	2.03 (0.82)
2	You are ugly. / He is ugly.	1.18 (0.46)	1.84 (0.99)
6	You are sickly. / He is sickly.	1.06 (0.35)	1.97 (0.97)

Note. Displayed are means, with standard deviations in parentheses. *N*s: devaluation: 33; shame: 32. The male versions of the shame and devaluation scenarios are presented before and after the slash, respectively. The female versions of scenario # 5 read “men” instead of “women”. The female versions of the devaluation scenarios featured a female target, so the personal pronouns were female pronouns. Otherwise, the male and female scenarios were identical. Scenarios are displayed from highest to lowest mean devaluation scores. Scale range: 1–4.

Table S2n*Ratings of devaluation and shame, by scenario: Farming Communities, Japan (Sample N)*

#	Scenario	Devaluation	Shame
12	You steal from members of your community. / The person steals from members of his/her community.	3.62 (0.80)	3.66 (0.83)
5	You have sex with many women. / The person has sex with many members of the opposite sex.	3.35 (0.80)	3.15 (0.97)
3	You are lazy. / The person is lazy.	3.11 (0.89)	3.09 (1.09)
8	You don't keep your promises. / The person doesn't keep his/her promises.	3.11 (0.93)	3.27 (1.13)
11	You can't defend yourself very well, so people push you around. / The person can't defend himself/herself very well, so people push him/her around.	2.26 (1.02)	3.09 (1.07)
1	You are stingy. / The person is stingy.	2.26 (0.90)	2.33 (1.11)
4	No matter how hard you try, you can't produce enough to keep yourself well-fed. / No matter how hard the person tries, he/she can't produce enough to keep himself/herself well-fed.	2.11 (1.19)	2.97 (1.02)
2	You are ugly. / The person is ugly.	1.81 (0.90)	3.00 (0.97)
7	You are not intelligent. / The person is not intelligent.	1.78 (0.89)	2.78 (1.01)
10	You are a bad storyteller. / The person is a bad storyteller.	1.67 (0.83)	2.70 (1.02)
9	You don't have many skills. / The person doesn't have many skills.	1.46 (0.90)	2.18 (0.92)
6	You are sickly. / The person is sickly.	1.41 (0.80)	2.06 (0.86)

Note. Displayed are means, with standard deviations in parentheses. Ns: devaluation: 26–27; shame: 32–33. The shame and devaluation scenarios are presented before and after the slash, respectively. As data collection was through self-administered questionnaires sent by mail, we used gender-neutral pronouns and instructed respondents to imagine someone of their same sex and age. Scenarios are displayed from highest to lowest mean devaluation scores. Scale range: 1–4.

Table S2o*Ratings of devaluation and shame, by scenario: Fishing Communities, Japan (Sample O)*

#	Scenario	Devaluation	Shame
12	You steal from members of your community. / The person steals from members of his/her community.	3.56 (0.78)	3.88 (0.44)
8	You don't keep your promises. / The person doesn't keep his/her promises.	3.22 (0.94)	3.60 (0.58)
3	You are lazy. / The person is lazy.	3.18 (1.01)	3.32 (0.99)
5	You have sex with many women. / The person has sex with many members of the opposite sex.	2.89 (1.18)	3.20 (0.87)
11	You can't defend yourself very well, so people push you around. / The person can't defend himself/herself very well, so people push him/her around.	2.33 (1.14)	2.92 (1.00)
1	You are stingy. / The person is stingy.	2.33 (1.14)	2.52 (1.00)
2	You are ugly. / The person is ugly.	1.94 (0.83)	2.58 (1.02)
7	You are not intelligent. / The person is not intelligent.	1.83 (0.86)	2.40 (1.04)
10	You are a bad storyteller. / The person is a bad storyteller.	1.78 (0.94)	2.36 (0.95)
4	No matter how hard you try, you can't produce enough to keep yourself well-fed. / No matter how hard the person tries, he/she can't produce enough to keep himself/herself well-fed.	1.72 (0.83)	2.84 (1.25)
9	You don't have many skills. / The person doesn't have many skills.	1.61 (0.92)	2.08 (0.88)
6	You are sickly. / The person is sickly.	1.50 (0.86)	2.16 (1.07)

Note. Displayed are means, with standard deviations in parentheses. *N*s: devaluation: 17–18; shame: 24–25. The shame and devaluation scenarios are presented before and after the slash, respectively. As data collection was through self-administered questionnaires sent by mail, we used gender-neutral pronouns and instructed respondents to imagine someone of their same sex and age. Scenarios are displayed from highest to lowest mean devaluation scores. Scale range: 1–4.

Table S3*Within-community agreement on devaluation and shame, by community (Samples A–O)*

Sample	Community	Within-community agreement on devaluation	Within-community agreement on shame
A	Cotopaxi, Ecuador	ICC(2,20) = .83	ICC(2,20) = .86
B	Morona-Santiago, Ecuador	ICC(2,20) = .44	ICC(2,21) = .74
C	Coquimbo, Chile	ICC(2,22) = .93	ICC(2,22) = .80
D	Drâa-Tafilalet, Morocco	ICC(2,38) = .79	ICC(2,37) = .84
E	Enugu, Nigeria	ICC(2,40) = .98	ICC(2,40) = .97
F	Chalkidiki, Greece	ICC(2,30) = .95	ICC(2,30) = .92
G	Ikland, Uganda	ICC(2,56) = .89	ICC(2,40) = .79
H	Le Morne, Mauritius	ICC(2,40) = .96	ICC(2,40) = .94
I	La Gaulette, Mauritius	ICC(2,40) = .95	ICC(2,40) = .95
J	Dhading, Nepal	ICC(2,20) = .82	ICC(2,21) = .56
K	Tuva, Russia	ICC(2,26) = .18	ICC(2,27) = .35
L	Khövsgöl, Mongolia	ICC(2,19) = .81	ICC(2,20) = .91
M	Shaanxi, China	ICC(2,33) = .97	ICC(2,32) = .92
N	Farming Communities, Japan	ICC(2,27) = .95	ICC(2,33) = .92
O	Fishing Communities, Japan	ICC(2,18) = .95	ICC(2,25) = .93

Table S4*Correlations between shame and devaluation within and between communities (Samples A–O)*

Shame	Devaluation														
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
(A) Cotopaxi, Ecuador	<u>.86</u>	.58	.24	.21	.29	.34	.74	.55	.64	.55	.24	.59	.58	.41	.29
(B) Morona-Santiago, Ecuador	.66	<u>.80</u>	.72	.68	.61	.75	<u>.53</u>	.84	.72	.71	.70	.61	.84	.64	.60
(C) Coquimbo, Chile	<u>.57</u>	.82	<u>.81</u>	.88	.80	.82	<u>.59</u>	.82	.82	.80	.89	.72	.85	.83	.83
(D) Drâa-Tafilalet, Morocco	<u>.31</u>	.64	.73	<u>.87</u>	.71	.63	<u>.33</u>	.68	.62	<u>.55</u>	.73	<u>.50</u>	.68	.67	.63
(E) Enugu, Nigeria	<u>.41</u>	.65	.83	.89	<u>.92</u>	.83	<u>.45</u>	.69	.72	<u>.56</u>	.76	.77	.69	.78	.74
(F) Chalkidiki, Greece	<u>.36</u>	.62	.92	.78	.85	<u>.83</u>	<u>.30</u>	.71	.65	<u>.56</u>	.84	.67	.71	.73	.68
(G) Ikländ, Uganda	.83	<u>.57</u>	<u>.44</u>	<u>.44</u>	.61	<u>.76</u>	<u>.77</u>	.77	.64	<u>.54</u>	<u>.60</u>	.76	<u>.60</u>	<u>.57</u>	
(H) Le Morne, Mauritius	.64	.71	.76	.65	.62	.72	.69	<u>.93</u>	.84	.69	.78	.64	.91	.80	.75
(I) La Gaulette, Mauritius	.75	.84	.72	.70	.69	.71	.75	.88	<u>.92</u>	.82	.73	.81	.91	.81	.71
(J) Dhading, Nepal	.88	.74	.65	.60	.61	.63	.76	.82	.84	<u>.69</u>	.63	.69	.86	.72	<u>.60</u>
(K) Tuva, Russia	.68	.63	.68	.72	.70	.82	.71	.79	.87	.67	<u>.76</u>	.68	.82	.77	.82
(L) Khövsgöl, Mongolia	.63	.80	.81	.82	.83	.85	.66	.84	.85	.82	.89	<u>.83</u>	.86	.88	.85
(M) Shaanxi, China	.73	.66	.82	.79	.74	.79	<u>.58</u>	.91	.88	.63	.76	.70	<u>.94</u>	.81	.75
(N) Farming Communities, Japan	<u>.29</u>	<u>.56</u>	.62	<u>.58</u>	<u>.52</u>	<u>.56</u>	<u>.47</u>	.76	.73	.73	.78	.62	.75	<u>.80</u>	<u>.77</u>
(O) Fishing Communities, Japan	<u>.45</u>	<u>.54</u>	.86	.75	.77	.82	<u>.49</u>	.90	.85	.68	.92	.76	.90	.95	<u>.94</u>

Coefficients are Pearson's *r*s. All the correlations, except the underlined ones, meet the false discovery rate (FDR) threshold of $P < .05$. N = number of scenarios = 12. Grey cells: within-community correlations. Shame ratings and devaluation ratings were given by different participants.

Table S5*Devaluation correlations between communities (Samples A–O)*

Devaluation	Devaluation														
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
(A) Cotopaxi, Ecuador		<u>.51</u>	<u>.46</u>	<u>.36</u>	<u>.42</u>	<u>.54</u>	.84	.74	.73	<u>.51</u>	<u>.48</u>	<u>.53</u>	.75	<u>.58</u>	<u>.50</u>
(B) Morona-Santiago, Ecuador			<u>.56</u>	.63	<u>.58</u>	<u>.53</u>	.61	<u>.58</u>	.68	.80	<u>.55</u>	.66	.64	<u>.54</u>	<u>.48</u>
(C) Coquimbo, Chile				.89	.94	<u>.95</u>	<u>.43</u>	.82	.79	<u>.48</u>	.87	.71	.82	.84	.84
(D) Drâa-Tafilalet, Morocco					.91	.86	<u>.37</u>	.73	.74	<u>.51</u>	.80	.64	.75	.77	.80
(E) Enugu, Nigeria						.91	<u>.43</u>	.71	.79	<u>.51</u>	.82	.80	.73	.84	.81
(F) Chalkidiki, Greece							<u>.46</u>	.85	.82	<u>.54</u>	.90	.74	.85	.86	.89
(G) Ikland, Uganda								.66	.75	<u>.54</u>	<u>.47</u>	<u>.53</u>	.66	.60	<u>.54</u>
(H) Le Morne, Mauritius									.90	.68	.88	.71	.99	.90	.88
(I) La Gaulette, Mauritius										.76	.81	.87	.94	.93	.87
(J) Dhading, Nepal											.72	.80	.74	.72	.65
(K) Tuva, Russia												.75	.87	.92	.93
(L) Khövsgöl, Mongolia													.77	.86	.76
(M) Shaanxi, China														.91	.89
(N) Farming Communities, Japan															.97
(O) Fishing Communities, Japan															

Coefficients are Pearson's r s. All the correlations, except the underlined ones, meet the false discovery rate (FDR) threshold of $P < .05$. N on which the correlations are based = number of scenarios = 12.

Table S6*Shame correlations between communities (Samples A–O)*

Shame	Shame														
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
(A) Cotopaxi, Ecuador		.62	<u>.40</u>	<u>.15</u>	<u>.39</u>	<u>.17</u>	.84	<u>.51</u>	.73	.78	<u>.55</u>	<u>.53</u>	<u>.58</u>	<u>.16</u>	<u>.26</u>
(B) Morona-Santiago, Ecuador			.80	.65	.67	.73	.74	.84	.86	.81	.67	.81	.83	<u>.56</u>	.67
(C) Coquimbo, Chile				.84	.81	.80	<u>.59</u>	.78	.84	.77	.81	.95	.82	.72	.81
(D) Drâa-Tafilalet, Morocco					.73	.76	<u>.32</u>	.69	.71	.66	<u>.50</u>	.71	.79	.67	.70
(E) Enugu, Nigeria						.76	<u>.51</u>	.60	.71	.62	.66	.88	.70	<u>.48</u>	.69
(F) Chalkidiki, Greece							<u>.30</u>	.71	.67	.62	<u>.50</u>	.78	.73	.60	.77
(G) Ikland, Uganda								.68	.78	.73	.83	.67	.67	<u>.39</u>	<u>.48</u>
(H) Le Morne, Mauritius									.91	.81	.68	.78	.85	.85	.86
(I) La Gaulette, Mauritius										.93	.75	.86	.91	.73	.78
(J) Dhading, Nepal											.65	.78	.91	<u>.54</u>	.65
(K) Tuva, Russia												.81	.71	<u>.53</u>	.67
(L) Khövsgöl, Mongolia													.78	.67	.82
(M) Shaanxi, China														.64	.80
(N) Farming Communities, Japan															.90
(O) Fishing Communities, Japan															

Coefficients are Pearson's *r*s. All the correlations, except the underlined ones, meet the false discovery rate (FDR) threshold of $P < .05$. N on which the correlations are based = number of scenarios = 12.

Supplementary Note 1.

One reviewer inquired about the variance of the shame and devaluation ratings within vs. between communities. We note that our main analyses are based on correlations because correlations are precisely the metric required to establish whether individuals agree both within and between communities in their relative shame and devaluation ratings and the relationship between them. We also note that absolute values of shame and devaluation ratings are not directly comparable across our samples. This is because response biases are likely to exist in our samples, and, moreover, there are likely—but unknown—cultural differences in the type and degree of response biases across our samples. By contrast, our correlational analyses control for, and therefore are not susceptible to, probable response biases. Nevertheless, in order to address the question raised by the reviewer, we conducted a regression on each of the shame and devaluation response items to quantify the percentage of variation attributable to community. We regressed scenario-specific devaluation or shame ratings on participant sex and method of administration, with or without community as an additional predictor. Participant age was not included as predictor because age data are not available for Shaanxi, China. We find that community accounts for only 7–23% of the variation in shame ratings (mean = 15.5%) and 12–27% of the variation in devaluation ratings (mean = 17.4%) (See Tables S7a and S7b). This indicates that, although individuals generally agree in their judgments across our samples, most of the variation that does occur occurs within communities rather than between communities, confirming that judgments are indeed not greatly different across communities. We note, however, that the percentage of variation in shame and devaluation ratings attributed to community in our regressions includes likely cross-cultural response biases in type of response generally, meaning that these percentages probably overestimate actual differences in shame and devaluation between communities.

Tables S7a and S7b

Regression analyses: Scenario-specific devaluation or shame ratings regressed on participant sex and method of administration, with or without community as additional predictor.

(a) Devaluation ratings

Y	Sum of Squares	F	p-value	R ² wo Site (a)	R ² w Site (b)	R ² wSite - R ² woSite
scenario # 1	13.65	11.37	3E-22	0.01	0.28	0.27
scenario # 2	4.02	4.32	3E-07	0.01	0.13	0.12
scenario # 3	8.78	7.70	1E-14	0.01	0.21	0.20
scenario # 4	7.03	5.47	1E-09	0.002	0.15	0.15
scenario # 5	7.03	4.59	9E-08	0.01	0.14	0.13
scenario # 6	6.60	6.58	4E-12	0.04	0.21	0.17
scenario # 7	8.45	7.88	6E-15	0.03	0.22	0.20
scenario # 8	8.12	6.53	5E-12	0.03	0.20	0.17
scenario # 9	5.58	5.68	4E-10	0.04	0.19	0.15
scenario # 10	6.47	5.42	1E-09	0.01	0.16	0.15
scenario # 11	12.97	10.06	1E-19	0.003	0.25	0.25
scenario # 12	5.84	4.99	1E-08	0.01	0.15	0.14

(a) R² when scenario-specific devaluation ratings are regressed on participant sex and method of administration. Note: participant age is not included as predictor because age data are not available for Shaanxi, China. (b) R² when scenario-specific devaluation ratings are regressed on participant sex, method of administration, and community. Note: Devaluation ratings were standardized with a range of 0–1, separately for each scenario, because scale ranges differed across sites.

(b) Shame ratings

Y	Sum of Squares	F	p-value	R ² wo Site (a)	R ² w Site (b)	R ² wSite - R ² woSite
scenario # 1	11.76	9.28	6E-18	0.002	0.24	0.23
scenario # 2	6.51	6.18	3E-11	0.003	0.17	0.17
scenario # 3	10.56	7.94	5E-15	0.03	0.23	0.20
scenario # 4	8.37	6.25	2E-11	0.01	0.18	0.17
scenario # 5	7.00	4.97	1E-08	0.07	0.20	0.13
scenario # 6	7.22	5.01	1E-08	0.003	0.15	0.14
scenario # 7	6.46	5.17	5E-09	0.01	0.16	0.14
scenario # 8	7.70	6.43	9E-12	0.01	0.18	0.17
scenario # 9	5.61	4.94	2E-08	0.01	0.15	0.14
scenario # 10	3.83	2.36	4E-03	0.01	0.08	0.07
scenario # 11	11.25	8.38	5E-16	0.005	0.22	0.22
scenario # 12	2.70	2.28	5E-03	0.01	0.08	0.07

(a) R² when scenario-specific shame ratings are regressed on participant sex and method of administration. Note: participant age is not included as predictor because age data are not available for Shaanxi, China. (b) R² when scenario-specific shame ratings are regressed on participant sex, method of administration, and community. Note: Shame ratings were standardized with a range of 0–1, separately for each scenario, because scale ranges differed across sites.

Supplementary Note 2.

Predicting between-community correlations in shame, devaluation, and the shame-devaluation link

The strength of between-community correlations in shame and devaluation ratings vary across community pairs (Table S5 [devaluation correlations]; Table S6 [shame correlations]; Table S4, off-diagonal values [shame-devaluation correlations]), and indicate the degree of similarity in relative shame and devaluation scores between communities. One question that arises when evaluating hypotheses about species-wide cognitive adaptations is the extent to which similarities across populations reflect, instead, shared cultural norms due to, for example, geographic diffusion, or shared religious or linguistic ancestry. Our sample of 15 communities was chosen to represent a diverse set of cultures. In order to quantify the degree to which similarities in our sample reflect cultural proximity, we examined the association between inter-community correlations in shame, devaluation, and shame-devaluation on the one hand, and three metrics of cultural proximity—geographic distance, language family affiliation, and religious affiliation—on the other hand. Whilst these metrics do not completely capture the diverse sources of cultural variation around the globe, they nevertheless represent three important and widely acknowledged sources of variation—cultural diffusion of ideas between neighbouring groups, ancient cultural affinities reflected in deep language ancestry, and the impact of major world religions (Inglehart & Welzel, 2010).

To assess whether cultural diffusion or other geographically-patterned factors impact the strength of shame/devaluation correlations between communities, we constructed a geographic distance matrix representing great circle distances between all community pairs based on community longitude and latitude (Table S1), calculated using the `spDists` function in the ‘`sp`’ (Pebesma, Bivand, Pebesma, RColorBrewer, & Collate, 2012) package in R (R Core Team, 2014).

Likewise, to investigate the impact of deep cultural ancestry on shame/devaluation correlations between communities, we constructed a distance matrix representing shared language family affiliation for the predominant language spoken by the community of interest (Hammarström, Forkel, Haspelmath, & Bank, 2015). Communities with different languages from different language families were assigned a distance of 2, those with different languages from the same language family were assigned a distance of 1, and those speaking the same language were assigned a value of 0.

Finally, to investigate the impact of major world religions on shame/devaluation correlations between communities, we constructed a distance matrix representing shared religious affiliations between communities. Communities with different world religions (i.e. Christianity, Islam, Hinduism, Buddhism) were assigned a distance of 2, communities with religion variants from the same world religion but different denominations or with influence from a different religion or denomination were assigned a distance of 1, and communities with the same religious affiliation were assigned a value of 0.

We quantified the association between pairwise community shame/devaluation correlations on the one hand, and geographic distance, language family affiliation, and religious affiliation on the other hand, by calculating correlations and partial correlations between the matrices using Mantel and partial Mantel tests (Mantel, 1967; Smouse, Long, & Sokal, 1986) in the ‘`vegan`’ (Oksanen, Kindt, Legendre, O’Hara, Stevens, Oksanen, & Suggests, 2007) package in R (R Core Team, 2014). Statistical significance was assessed using 1,000 random permutations.

None of the cultural proximity measures predicted the strength of inter-community correlations in shame, devaluation, or shame-devaluation, either on their own, or after controlling for the other cultural distance metrics (Table S8).

Table S8

Results of Mantel and partial Mantel tests of association between shame/devaluation correlations and geographic distance, language family affiliation, and religious affiliation.

Inter-community correlation	Predictor	Control	Statistic	p-value
Shame	Geography	–	–0.02	0.57
	Language	–	–0.23	0.99
	Religion	–	0.06	0.30
	Geography	Language	0.01	0.50
	Geography	Religion	–0.04	0.60
	Language	Geography	–0.23	0.98
	Language	Religion	–0.25	0.99
	Religion	Geography	0.07	0.30
Devaluation	Religion	Language	0.07	0.30
	Geography	–	–0.16	0.88
	Language	–	–0.16	0.86
	Religion	–	0.04	0.40
	Geography	Language	–0.14	0.87
	Geography	Religion	–0.18	0.90
	Language	Geography	–0.14	0.85
	Language	Religion	–0.17	0.88
Shame–devaluation	Religion	Geography	0.10	0.23
	Religion	Language	0.10	0.24
	Geography	–	–0.13	0.87
	Language	–	–0.20	0.95
	Religion	–	0.03	0.43
	Geography	Language	–0.11	0.80
	Geography	Religion	–0.15	0.85
	Language	Geography	–0.19	0.96
Language	Religion	–0.21	0.96	
	Religion	Geography	0.08	0.28
	Religion	Language	0.08	0.30

Supplementary Note 3. Descriptions of communities (Samples A–O)

Cotopaxi, Ecuador (Quechua)

The Quechua (also known as Kichwa, in Peru) are an Amerind indigenous people (Cavalli-Sforza, Menozzi, and Piazza 1994:316-342) living mainly on the Andes mountains in South America. In Ecuador, most are located in the Andes region and some in the Amazon region. The Quechua in Ecuador number around 2.2 million people. They live in villages, in extended-family households, and their economy is based on agriculture, pastoralism, and some eco-tourism. They speak the Quechua language (which belongs to the Quechua language family), and Spanish as a second language. Historically, the Quechua may have spoken a pre-Incaic language such as Puruhá, but due to the Inca and Spaniard conquests the Quechua language was adopted.

Participants were sampled from two communities: Tingo Pucará and Curingue, with a population of approximately 100 people each. These communities are part of the Guangaje parish, in Pujilí town of the Cotopaxi province situated in the central sierra of Ecuador. Both communities are located in a *paramo* (a treeless plateau), at 12,000 feet above sea level—an alpine tundra environment.

The Quechua have usually practiced Catholicism, but in recent years some of them, especially in the Tingo Pucará community, have converted to other Christian denominations. They attend church on Saturdays, while people from the Curingue community do it on Sundays. The people of these communities are very well organized as a political group. They have a patrilocal pattern of residence, and choose their leaders among members of their patriline.

Participants were sampled through *social networks*. The researcher and the local leader organized a general meeting where the study date was agreed upon and announced. The study was conducted verbally in Spanish, but a few participants requested, and were given, additional clarifications of the stimuli in Quechua.

Morona-Santiago, Ecuador (Shuar)

The Shuar number ~100,000 persons, living mostly in over 650 Shuar communities in Morona-Santiago and Zamora-Chinchi provinces, Ecuador. Shuar territory includes the 600-800 m. high Upano Valley, bordered by the Andean foothills to the west and the rugged, sparsely populated, 2,225 m high Cordillera de Cutucú to the east. This is a tropical low-montane forest, with average temperatures of 24°C, and ~2200 mm rainfall annually. Participants for this study lived at the western edge of Shuar territory in the Andean foothills, about 10 km east of Parque Nacional Sangay, at an elevation of ~1100 m.

Traditionally, the Shuar lived in scattered nuclear family clusters organized around matrilineal post-marital residence, with men often later returning to be near their father and brothers in times of war (Harner 1984; Hendricks 1994; Karsten 1935; Rubenstein 2001; Stirling 1928). Shuar economy was based on subsistence horticulture, fishing, hunting, and foraging (Harner, 1984; Karsten, 1935; Rubenstein, 2001; Stirling, 1938). They have an Iroquois kinship classification system, bilateral descent, but no strong lineage structure. Although organized into more centralized communities since the 1960s for political reasons, matrilineal post-marital residence and ties of kinship and affinity organize social relationships, and nuclear family houses remain the basic units of production. The Shuar continue to interpret the world through a culturally distinctive, recognizably Shuar worldview.

Participants for this study are a convenience sample of adults. Shuar is the first language of participants, but the study was conducted in Spanish, in which all participants were fluent. Among this sample, subsistence horticulture, fishing and some hunting is augmented with a mixed economy of small-scale agro-pastoralism, sale of forest products, and occasional day wage labor.

Coquimbo, Chile

Tongoy is a small coastal fishing village located on the semi-arid coast of Northern-Central Chile. Tongoy belongs to the municipality of Coquimbo, but holds a strong claim for administrative independence given its relative isolation from the main regional administrative centres. Tongoy has experienced the destruction of most of its fishing gear and boats following the tsunamis (most recently, in 2015) and large storms associated with the El Niño cycles. The number of permanent residents is about 5,000. The local residents tend to live in extended family households, and single parents are common. Residents are chiefly Christian, with Catholics and Evangelicals being among the most numerous groups. Their language is Spanish. Tongoy's economy is based on artisanal fishing and diving, tourism, small-scale aquaculture and wage labour. Artisanal fishermen and divers in particular are grouped in organizations or unions that in small coastal towns can be sources of social prestige since being a union member allows exclusive user rights to specific areas of the seafloor where they can target shellfish or algae.

Drâa-Tafilalet, Morocco (Amazigh)

Tinghir is a village located in a Tamazight-speaking oasis on the southern slopes of the high Atlas Mountains in the Drâa-Tafilalet region of Morocco. In 2014, the village housed approximately 900 individuals. Traditionally, villagers depended mainly on subsistence oasis agriculture, but labour migration to Europe and other Moroccan urban centres has been a pervasive phenomenon since the 1960s. In the past, most migrants were men who usually left their wives and children in their native village, either alone or with their families, and sent them remittances regularly. Female migration and family reunification, however, have become increasingly common in the past decades. Like in the rest of Morocco, villagers are predominantly Sunni Muslims belonging to the Maliki school of Jurisprudence. Traditionally, descent is patrilineal and post-marital residence is patrilocal.

Enugu, Nigeria (Igbo)

The study was carried out among rural farmers in Nsukka, a northern Igbo community in the State of Enugu. The Igbo are one of the largest ethnic groups in Nigeria and occupy the five states in the Southeast region of the country. They speak Igbo, a member of the Niger–Congo family of languages. The people of Nsukka speak a local dialect of Igbo.

The people of Nsukka are predominantly Catholic, with a few of the inhabitants practicing the Traditional African Religion—the religion of the people prior to colonization by the British. They live in clusters of villages, reckon descent patrilineally, and have a patrilocal pattern of post-marital residence. However, there are some cases of neolocal residence where capable couples build their own houses and live separately from their parents, but most often within the community. The residents live in extended family households, and this influences mate selection, marriages, and other aspects of social life. Participants were recruited via convenience sampling.

Chalkidiki, Greece

Ierissos is a small coastal town located in the Athos peninsula in the Chalkidiki district of Northern Greece. The area has been inhabited since antiquity, but had to be entirely rebuilt following a devastating earthquake in 1932. The landscape is very diverse, progressively changing from deciduous forests to shrub-covered hills, to sandy beaches. The land is rocky, but not barren. Some of the most common cultivars include olive trees and durum wheat. The climate is Mediterranean, with hot and dry summers and cold and rainy winters.

The approximately 3,500 inhabitants are overwhelmingly Orthodox Christians. Most households consist of nuclear families, although it is common for more than two generations to live together.

Parents typically work hard to build a home for their children or bequeath their own to them, with the expectation that they will move in with them to be cared for towards the end of their lives. Elderly homes are rare and frowned upon in Greece. Post-marital residence is mostly patrilocal, with the couple typically moving into a separate floor in the husband's family house. Extended families tend to stay in close proximity, often in adjacent plots of land. Relatives, especially close kin, are heavily involved in the couple's life and play an active role in child-rearing and financial decision-making. Ritual kinship, particularly in the form of godparents and wedding sponsors, is retained throughout one's life and plays a very important role in creating social ties. Descent is bilateral, and inheritance is equally partible. A significant share of the parents' wealth is transferred to the children upon their marriage. It is common for the child who takes in and cares for the elder parents (typically the youngest one), to inherit the house.

Most locals work in fishing, shipbuilding, farming, logging, mining, and construction in the nearby monastic community of Athos. Over the last decades, the area has experienced significant and rapid tourist development, and thus an increasing number of inhabitants are employed in trade and the service sector.

Participants were recruited through a combination of random and snowball sampling. Surveys were administered by a local research assistant in the Greek language.

Ikland, Uganda (Ik)

The Ik people of North-eastern Uganda are an ethnic group of former hunter-gatherers who speak Icé-tód, an isolate Nilo-Saharan language. They are culturally distinct from neighbouring pastoralist peoples such as the Karimojong and the Turkana. The Ik people became notorious following Colin Turnbull's ethnography *The Mountain People*, in which he described them as "unfriendly, uncharitable, inhospitable and generally mean as any people can be" (1972, p. 32). Turnbull documented a period of famine in 1965-1966, during which social networks and sharing practices broke down to the point of societal collapse.

Today, the Ik practice a mixed subsistence strategy involving seasonal cultivation of maize, sorghum, and millet alongside year-round gathering, hunting and honey collection. Their social organization can be classified as *delayed return* (Woodburn, 1982). Horticulture has become more important in recent generations due to territory encroachment and violence related to cattle raids, which culminated in defensive retreat into villages on the Morungole escarpment bordering Kenya.

The Ik are predominantly patrilineal and patrilocal, and have an Omaha kinship terminology system. Marriage and inheritance practices are flexible, due to a relatively mobile lifestyle. Kin of the paternal and maternal clan are considered important, and may be called upon for help in times of difficulty. Cooperation and sharing between Ik people are both rigorous and extensive, as is typical for hunter-gatherer peoples. The Ik do not, however, practice *demand sharing* of the kind typically observed among *immediate-return* hunter-gatherers (Woodburn, 1982).

As resources are scarce, ritual occasions are rare. However, specialists (*Nkwa*) perform rituals involving stone-throwing or the inspection of goat intestines to appease the nature spirits responsible for adverse events, to foretell the future, or to heal. Nature spirits known as *kijawiká* bring misfortune to those who are unwilling to share their resources.

Data were collected via convenience sampling in the village of Lokinene and surrounding villages (a community of approximately 500 people), in the Timu parish of Ikland.

Rivière Noire, Mauritius Mauritius is an island nation in the Indian Ocean that forms part of the Mascarene archipelago, located on the tropic of Capricorn, approximately 500 miles East of Madagascar. Having gone through Dutch, French, and British rule, it gained independence in 1968.

Today, its mere 788 square miles of land are home to 1.3 million people, making it one of the most densely populated countries on Earth.

The Mauritian landscape is dominated by a mountain range cutting across the main island. The climate is tropical, with a hot and wet season between November and March and a moderate, relatively drier season between April and October. The combination of this hilly topography and high precipitation produces several rivers, lakes, and reservoirs that provide a fresh water supply for drinking and irrigation, and the fertile volcanic soil favours agricultural activities. Indeed, Mauritian history has been shaped by the production of sugar cane (Xygalatas et al., 2017), which to this day dominates all arable land. Until recently, Mauritius was entirely dependent on sugar export, but since independence its economy has diversified and the island has experienced rapid economic development.

Mauritius is one of the world's most diverse societies. The numerous ethnic groups that inhabit Mauritius consist of people descended from African slaves, Asian indentured labourers, and European colonial landowners, as well as people of mixed origin (Eriksen, 2007). These groups are subdivided into multiple ethnic-religious groups. Almost half of the population are Hindus, slightly over 30% are Christians, and 17% are Muslims, subdivided into numerous denominations of these religions. There are also smaller groups of adherents of Buddhism, Taoism, and Judaism. This ethnic diversity is also reflected in the linguistic landscape of Mauritius. The Mauritian Creole language is the lingua franca on the island, but English and French are widely spoken, and a variety of ancestral languages are used at home and in places of worship.

Data were collected from two different populations in the Rivière Noire district, Creoles from the village of *Le Morne*, and Marathis living in the village of *La Gaulette*.

Le Morne. Creoles make up approximately 28% of the population, and are predominantly Catholic. They are descendants of slaves from various places in continental Africa and Madagascar, who were brought by French colonizers to work in sugar cane plantations. As their ancestors were historically excluded from land ownership, Mauritian Creoles generally cannot rely on inherited land. They typically occupy smaller lots and live in nuclear domestic units. Post-marital residence is neolocal, while descent and inheritance are cognatic. In contrast with other ethnic groups in Mauritius, Creoles have no strong preference for endogamous marriage. On the contrary, marriages with fair-skinned people are encouraged, as they contribute to upward social mobility.

Our sample was obtained in *Le Morne*, a fishing village on the Southwest coast. *Le Morne* is home to approximately 1,300 inhabitants, who are predominantly (over 80%) Creole. Most of the local villagers work in fishing, farming, and as unskilled manual labourers in the nearby tourist resorts (e.g. as gardeners or cleaners). Participants were recruited through a combination of random and snowball sampling.

La Gaulette. Marathi Indians are one of the smallest ethno-religious groups in Mauritius, consisting of about 20,000 people, descendent from indentured labourers who arrived during the 19th and 20th century from the Indian state of Maharashtra. Today, they live scattered mostly in rural areas in the central and southern parts of the island.

Most Marathis live in extended households with multiple nuclear families forming the core. These households typically include the husband's parents and unmarried siblings and cousins who reside on the same plot of land. As all Indo-Mauritians, Marathis have a strong preference for endogamous marriage. They have a patrilineal descent and inheritance system where land is passed down from father to son. Post-marital residence is thus patrilocal, although neolocality is becoming increasingly common in urban areas.

Our sample was obtained at the coastal village of La Goulette in the Southwest, which is home to 700 Marathis and an overall population of 2,300, mostly Afro-Mauritian Catholics. Traditionally, locals made their living through fishing and small-scale agriculture, but today many are employed in the service sector and/or the tourism industry. Participants were recruited through a combination of random and snowball sampling.

Dhading, Nepal

The Nepali people sampled in this study are from the town of Naubise, located in the Dhading district, about 30 km from the capital city of Kathmandu. Naubise is in a valley, and, despite its proximity, access to Kathmandu requires passing over the Himalayan foothills on a two-lane highway. The total population of Naubise is 25,000 individuals, but the individuals are dispersed over a large area, and many people leave the area to find work. Most of the people of Naubise are farmers at varying scales, and some community members operate small shops or restaurants. Households frequently consist of extended families. People living in Naubise speak Nepali, which is part of the Indo-European language family. Most people in the community (and in the sample) are ethnic Nepalis, but there are also members of other ethnic groups, such as Newar, Tibetan, Tamang, etc. living in Naubise. Most Nepali people practice Hinduism. Descent is bilateral in this community. For the most part, women live with their husband's family post-marriage. Participants were recruited through convenience sampling in the most populous part of town close to the local market, which attracts people living in several different areas of Naubise.

Tuva, Russia

The Tuvans live approximately in the geographic centre of the Asian landmass, in the southern part of East Siberia, Russia. The population of the Tuvan Republic is about 310,000. Most of its inhabitants are Tuvans, but there are minorities of Russians, Tartars, Khakasses and other ethnicities. The study was conducted among ethnically Tuvan participants in Kungurtug, a remote highland village in the eastern part of the Tuvan Republic bordering on Mongolia, and in herder settlements in the vicinity of Kungurtug. The local economy is based mostly on herding in the mountains, seasonal gathering and hunting in the surrounding taiga and fishing in the lakes and rivers. The Kungurtug Tuvans (about 1,500 people) speak a local dialect of Tuvan, a member of the Turkic language family. Although Tuvans are bilingual by schooling and many of them can speak Russian fluently, in everyday life they speak Tuvan almost exclusively. Many practice Buddhism combined with animism and shamanistic rites, and some are agnostic. Descent rules are either bilateral or patrilineal. As many dwellers live outside the village grazing sheep during summer, participants were recruited through convenience sampling.

Khövsgöl, Mongolia

The Darhad are a group of nomadic pastoralists that live in the extreme north of Mongolia's Khövsgöl Province on the frontier between Mongolia and the Russian Federation. The Darhad ethnic group is one of Mongolia's minority tribal groups and consists of approximately 17,000 members. They live both in villages and in the countryside, in seasonally mobile groups of extended kin. The Darhad's main economic activity is based around herding cattle, yaks, horses, sheep, and goats. They also supplement their income through gathering timber and other forest products.

The Darhad Valley has a subarctic climate and some of the harshest winter conditions in Mongolia. The valley's three *sum*, or county administrations, Ulaan Uul, Renchinkhlumbe, and Tsaagan Nuur are among Mongolia's most remote administrative districts and there is only limited access to transportation and communication infrastructure. The local ecology is a mixture of short

grass steppe, alpine tundra, temperate forest, and boreal forest that is interspersed by numerous lakes and rivers.

The local population reckon descent bilaterally, and they use the Omaha kinship system. While the population has a neolocal residential system, herding families will change their camping location between four and six times per year and often camp along with flexible groups of close and extended kin. The population speaks the Darhad dialect of the Mongolian language, which is part of the Mongolic family of languages.

The study participants were recruited through convenience sampling from the administrative village of Renchinkhlumbe sum.

Shaanxi, China

XiZhai is a village in Shaanxi province, Midwestern China—a location with a temperate monsoon climate. The population size is about 1,100. XiZhai residents live in extended-family households, and their economy is based on farming. The main agricultural products are maize and wheat. The local language is Xifu, a sub-dialect of Zhongyuan Mandarin—a member of the Sino-Tibetan family of languages. XiZhai villagers are ethnic Han; they are mostly non-religious, although a minority of them are Buddhist or Christian. XiZhai villagers are patrilocal. They have a Sudanese kinship terminology. Descent is unilineal, reckoned via the father's line. Participants were recruited through convenience sampling

Farming Communities, Japan

Data were collected from farming communities in rural and urban areas: From Uchiko town and Matsuyama city (Ehime Prefecture), from Shimanto city, Kami city, Okawa village, Shimanto town, and Kuroshio town (Kochi Prefecture), and from Fukuchiyama city, Maizuru city, Ayabe city, Kyotango city, and Kyotamba town (Kyoto Prefecture). Ehime and Kochi Prefectures are located in Shikoku island, while Kyoto Prefecture is located in Honshu island (the mainland of Japan). These communities have a temperate climate. The local people live in extended-family, nuclear family, or single-person households. Their economy is based mainly on farming, self-employment, and wage labour. They speak the Japanese language, a member of the Japonic language family. Prevalent religions in these areas are Buddhism and Shintoism (an indigenous religion).

Data collection was through self-administered questionnaires sent by mail. Based on the 2010 Population Census of Japan (Statistics Bureau, Ministry of Internal Affairs and Communications of Japan, 2010), we randomly sampled communities (*cho* or *chomoku*) from farming areas (i.e., communities where at least 25% of residents were farmers) from the three aforementioned prefectures. Our sampling goal was to contact at least 250 households in farming communities in each prefecture (i.e., at least 750 households in the three prefectures). The sampling process included the present study and one other study, to be reported elsewhere. We employed a mail delivery service that mailed one questionnaire to each of 853 potential participant households in 18 farming communities. The cover letter of the study indicated that the questionnaire should be completed by one (and only one) household member aged 20 or above. If more than one household member met the age criterion, the respondent had to be the household member most deeply involved with their local community. For the present study, we obtained 60 completed questionnaires from 16 communities in 12 villages, town, or cities.

Fishing Communities, Japan

Data were collected from fishing communities in rural or urban areas: From Uwajima city, Ikata town, and Ainan town (Ehime Prefecture), from Tosashimizu city, Otsuki town, and Kuroshio town (Kochi

Prefecture), and from Maizuru city, Miyazu city, and Ine town (Kyoto Prefecture). Ehime and Kochi Prefectures are located in Shikoku island, while Kyoto Prefecture is located in Honshu island (the mainland of Japan). These communities have a temperate climate. People in these communities live in extended-family, nuclear family, or one-person households. Their economy is based mainly on fishing, farming, self-employment, and wage labour. They speak the Japanese language, a member of the Japonic language family. Prevalent religions in these areas are Buddhism and Shintoism (an indigenous religion).

Data collection was through self-administered questionnaires sent by mail. Based on the 2010 Population Census of Japan (Statistics Bureau, Ministry of Internal Affairs and Communications of Japan, 2010), we randomly sampled communities (*cho* or *chomoku*) from fishing areas (i.e., communities where at least 25% of residents were fishers) from the three aforementioned prefectures. Our sampling goal was to contact at least 250 households in fishing communities in each prefecture (i.e., at least 750 households in the three prefectures). The sampling process included the present study and one other study, to be reported elsewhere. We employed a mail delivery service that mailed one questionnaire to each of 864 potential participant households in 16 fishing communities. The cover letter of the study indicated that the questionnaire should be completed by one (and only one) household member aged 20 or above. If more than one household member met the age criterion, the respondent had to be the household member most deeply involved with their local community. For the present study, we obtained 43 completed questionnaires from 16 communities in 9 town or cities.

References

- Cavalli-Sforza, L., Menozzi, P., & Piazza, A. (1994). *The history and geography of human genes*. Princeton University Press.
- Eriksen, T. H. (2007). Creolization in anthropological theory and in Mauritius. In C. Sewart (Eds.), *Creolization: History, ethnography, theory* (pp. 153–177). Walnut Creek, CA: Left Coast Press.
- Hammarström, H., Forkel, R., Haspelmath, M., & Bank, S. (2015). Glottolog 2.3. *Leipzig: Max Planck Institute for Evolutionary Anthropology*. Available online at <http://glottolog.org>.
- Harner, M. J. (1984). *The Jivaro: People of the sacred waterfalls* (Vol. 648). University of California Press.
- Hendricks, S. W. (1994). *To drink of death: The narrative of a Shuar warrior*. University of Arizona Press.
- Inglehart, R., & Welzel, C. (2010). Changing mass priorities: The link between modernization and democracy. *Perspectives on Politics*, 8(2), 551-567.
- Karsten, R. (1935). Headhunters of Western Amazonas. The Life and Culture of the Jivaro Indians of Eastern Ecuador. *Helsingfors: Societas Scientiarum Fennica, (Commentationes Humanarum i Herorum, Vol. 7, Nr. 1). Weibliche Identität in Mythos und Gesellschaft*, 353.
- Mantel, N. (1967). The detection of disease clustering and a generalized regression approach. *Cancer Research*, 27(2), 209–220.
- Oksanen, J., Kindt, R., Legendre, P., O’Hara, B., Stevens, M. H. H., Oksanen, M. J., & Suggests, M. A. S. S. (2007). The vegan package. *Community ecology package*, 10, 631-637.
- Pebesma, E., Bivand, R., Pebesma, M. E., RColorBrewer, S., & Collate, A. A. A. (2012). Package ‘sp’. *The Comprehensive R Archive Network*.
- Rubenstein, S. (2001). Colonialism, the Shuar Federation, and the Ecuadorian state. *Environment and Planning D: Society and Space*, 19(3), 263-293.
- Smouse, P. E., Long, J. C., & Sokal, R. R. (1986). Multiple-regression and correlation extensions of the Mantel Test of matrix correspondence. *Systematic Zoology*, 35(4), 627–632. <http://dx.doi.org/10.2307/2413122>.

- Statistics Bureau, Ministry of Internal Affairs and Communications of Japan (2010). *Population Census of Japan, 2010*. Portal Site of Official Statistics of Japan: http://www.e-stat.go.jp/estat/html/kokusei/GL08020101-000001039448.html#t1_000001047504. (accessed 9 April 2015).
- Stirling, M. W. (1938). *Historical and ethnographical material on the Jivaro Indians* (Vol. 117). US Government Printing Office.
- Team, R. C. (2013). R: A language and environment for statistical computing.
- Turnbull, C. M. (1972). *The Mountain People*. New York, NY: Simon and Schuster.
- Woodburn, J. (1982). Egalitarian societies. *Man*, 17 (3), 431–451
- Xygalatas, D., Kotherová, S., Maño, P., Kundt, R., Cigán, J., Kundtová Klocová, E., & Lang, M. (2017). Big Gods in Small Places: The Random Allocation Game in Mauritius. *Religion, Brain and Behavior*. DOI:10.1080/2153599X.2016.1267033