



## City Research Online

### City, University of London Institutional Repository

---

**Citation:** Eskin, M., Kujan, O., Voracek, M., Shaheen, A., Carta, M. G., Sun, J-M., Flood, C., Poyrazli, S., Janghorbani, M., Yoshimasu, K., Mechri, A., Khader, Y., Aidoudi, K., Bakhshi, S., Harlak, H., Ahmead, M., Moro, M. F., Nawafleh, H., Phillips, L., Abuderman, A., Tran, U. S. and Tsuno, K. (2016). Cross - national comparisons of attitudes towards suicide and suicidal persons in university students from 12 countries. *Scandinavian Journal of Psychology*, 57(6), pp. 554-563. doi: 10.1111/sjop.12318

This is the supplemental version of the paper.

This version of the publication may differ from the final published version.

---

**Permanent repository link:** <http://openaccess.city.ac.uk/15923/>

**Link to published version:** <http://dx.doi.org/10.1111/sjop.12318>

**Copyright and reuse:** City Research Online aims to make research outputs of City, University of London available to a wider audience. Copyright and Moral Rights remain with the author(s) and/or copyright holders. URLs from City Research Online may be freely distributed and linked to.

---

City Research Online:

<http://openaccess.city.ac.uk/>

[publications@city.ac.uk](mailto:publications@city.ac.uk)

---

Suicidal attitudes in 12 countries

**Table 1** Means and standard deviations of E-ATSS factor scores by country.

Countries	Acceptability		Punishment		Mental illness		Communicating		Hiding		Open reporting	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Austria	2.57	0.96	1.81	0.82	2.98	1.02	3.89	0.72	2.04	0.91	3.46	0.83
China	2.02	0.76	2.10	0.80	2.46	0.96	3.53	0.89	2.62	0.96	2.11	0.84
Iran	1.55	0.73	4.00	0.98	3.62	1.20	3.59	0.90	2.99	1.07	2.96	1.06
Italy	2.07	0.83	1.92	0.88	2.36	1.10	4.01	0.66	1.87	0.98	3.54	0.88
Japan	2.22	0.85	2.19	0.72	2.69	0.96	3.56	0.61	3.18	0.77	2.81	0.75
Jordan	1.83	0.82	4.06	0.94	3.99	1.09	3.96	0.87	3.15	1.12	3.53	1.09
Palestine	1.61	0.81	3.69	0.90	3.34	1.19	3.64	0.82	2.73	1.06	3.10	1.01
Saudi Arabia	2.10	1.15	3.51	1.16	3.27	1.30	3.62	1.18	2.97	1.22	3.07	1.11
Tunisia	1.41	0.67	3.86	0.83	3.47	1.18	3.75	0.78	2.90	1.05	3.06	0.92
Turkey	1.47	0.68	3.67	1.07	2.63	1.20	3.84	0.84	2.59	1.07	2.81	1.08
UK	2.50	0.92	1.86	0.88	2.66	1.11	3.94	0.79	1.92	0.88	3.57	0.82
USA	1.81	0.75	2.67	0.90	2.68	1.06	4.08	0.67	2.34	0.92	2.90	0.90
<i>Univariate F values<sup>a</sup></i>	74.84		352.80		81.00		25.77		70.95		90.57	

Acceptability: Acceptability of suicide; Punishment: Punishment after death; Mental illness: Suicide as a sign of mental illness; Communicating: Communicating psychological problems; Hiding: Hiding suicidal behavior; Open reporting: Open reporting and discussion of suicide

<sup>a</sup>*p* = 0.000 for all

Orderings of country E-ATSS factor scores from the lowest to the highest mean values:

Acceptability of suicide: Tunisia, Turkey, Iran, Palestine, United States, Jordan, China, Italy, Saudi Arabia, Japan, United Kingdom, Austria

Punishment after death: Austria, United Kingdom, Italy, China, Japan, United States, Saudi Arabia, Turkey, Palestine, Tunisia, Iran, Jordan

Suicide as a sign of mental illness: Italy, China, Turkey, United Kingdom, United States, Japan, Austria, Saudi Arabia, Palestine, Tunisia, Iran, Jordan

Communicating psychological problems: China, Japan, Iran, Palestine, Saudi Arabia, Tunisia, Turkey, Austria, Jordan, United Kingdom, Italy, United States

Hiding suicidal behavior: Italy, United Kingdom, Austria, United States, Turkey, China, Palestine, Tunisia, Saudi Arabia, Iran, Jordan, Japan

Open reporting and discussion of suicide: China, Turkey, Japan, United States, Iran, Saudi Arabia, Tunisia, Palestine, Austria, Jordan, Italy, United Kingdom

Suicidal attitudes in 12 countries

**Table 2** Means and standard deviations of E-SRSPS factor scores by country.

Countries	Social acceptance		Helping		Disclosure disapproval		Emotional involvement	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Austria	3.89	0.62	4.31	0.55	2.22	0.68	2.70	0.86
China	3.91	0.63	3.96	0.58	2.80	0.71	3.54	0.73
Iran	3.94	0.77	4.15	0.65	2.68	0.74	3.38	0.83
Italy	4.03	0.60	4.27	0.53	2.53	0.70	3.20	0.90
Japan	3.32	0.67	3.83	0.60	3.09	0.66	2.71	0.75
Jordan	3.70	0.76	4.06	0.79	3.17	0.73	3.63	0.84
Palestine	3.68	0.86	3.92	0.82	3.00	0.74	3.49	0.83
Saudi Arabia	3.62	1.12	3.72	1.12	3.21	1.03	3.49	1.05
Tunisia	4.01	0.63	4.21	0.63	2.62	0.71	3.16	0.81
Turkey	4.26	0.63	4.29	0.58	2.35	0.81	3.77	0.92
UK	3.97	0.61	3.97	0.53	2.22	0.69	2.36	0.89
USA	4.10	0.64	4.03	0.52	2.60	0.70	3.03	0.85
<i>Univariate F values<sup>a</sup></i>	35.08		27.79		60.92		73.79	

<sup>a</sup>*p* = 0.000 for all

Orderings of country E-SRSPS factor scores from the lowest to the highest mean values:

Social acceptance: Japan, Saudi Arabia, Palestine, Jordan, Austria, China, Iran, United Kingdom, Tunisia, Italy, United States, Turkey

Helping: Saudi Arabia, Japan, Palestine, China, United Kingdom, Jordan, United States, Iran, Tunisia, Italy, Turkey, Austria

Disclosure disapproval: United Kingdom, Austria, Turkey, Italy, United States, Tunisia, Iran, China, Palestine, Japan, Saudi Arabia, Jordan

Emotional involvement: United Kingdom, Austria, Japan, United States, Tunisia, Italy, Iran, Saudi Arabia, Palestine, China, Jordan, Turkey

Suicidal attitudes in 12 countries

**Table 3** Post-hoc comparisons of country E-ATSS factor scores\* (above the diagonal) and E-SRSPS factor scores\*\* (below the diagonal) with Scheffe tests

	1	2	3	4	5	6	7	8	9	10	11	12
1. Austria		1,2,3,4,5,6	1,2,3,4,5,6	1,3	1,2,4,5,6	1,2,3,5	1,2,3,4,5,6	1,2,3,5,6	1,2,3,5,6	1,2,3,5,6		1,2,6
2. China	2,3,4		1,2,3,5,6	4,5,6	5,6	2,3,4,5,6	1,2,3,6	2,3,5,6	1,2,3,5,6	1,2,4,6	1,4,5,6	2,4,6
3. Iran	3,4	2		1,2,3,4,5,6	1,2,3	1,3,4,6	2	1,2,3		2,3,4,5	1,2,3,4,5,6	2,3,4,5
4. Italy	3,4	2,3,4			4,5,6	2,3,5	1,2,3,4,5,6	2,3,4,5,6	1,2,3,4,5,6	1,2,5,6	1	2,5,6
5. Japan	1,2,3	1,3,4	1,2,3,4	1,2,3,4		1,2,3,4,6	1,2,3,5	2,3	1,2,3	1,2,5	5,6	1,2,4,5
6. Jordan	1,2,3,4	1,3	1,3,4	1,2,3,4	1,4		1,2,3,4,5,6	2,3,6	1,3,6	1,2,3,5,6	1,2,3,5	2,3,5,6
7. Palestine	1,2,3,4	1	1,2,3	1,2,3,4	1,4			1		3	1,2,3,5,6	2,3,4,5
8. Saudi Arabia	1,2,3,4	1,2,3	1,2,3	1,2,3,4	4	2	2		1,2	1,3,5	1,2,3,5,6	2,3,4,5
9. Tunisia	3,4	2,4	4		1,2,3,4	1,3,4	1,2,3,4	1,2,3,4		3,5	1,2,3,5,6	1,2,3,4,5
10. Turkey	1,4	1,2,3,4	1,3,4	1,4	1,2,3,4	1,2,3	1,2,3,4	1,2,3,4	1,3,4		1,2, 5,6	1,2
11. UK	2	3,4	3,4	2,4	1,3,4	3,4	3,4	1,3,4	3,4	2,4		1,2,6
12. USA	2,3,4	4	4	2	1,3	1,3,4	1,3,4	1,2,3,4		2,4	3,4	

\* E-ATSS factors: 1. Acceptability of suicide, 2. Punishment after death, 3. Suicide as a sign of mental illness, 4. Communicating psychological problems, 5. Hiding suicidal behavior, 6. Open reporting and discussion of suicide.

\*\* E-SRSPS factors: 1. Social acceptance, 2. Helping, 3. Disclosure disapproval, 4. Emotional involvement

Suicidal attitudes in 12 countries

**Table 4** Pearson product moment correlation coefficients among and across attitudes to suicide and suicidality factors.

Factors	Attitudes towards suicide factors						Reactions to suicidality factors			
	1	2	3	4	5	6	1	2	3	4
Attitudes towards suicide factors										
1.Acceptability of suicide	—						− 0.21***	− 0.20***	0.01	− 0.27***
2.Punishment after death	− 0.38***	—					0.11***	0.13***	0.20***	0.32***
3.Suicide as a sign of mental illness	− 0.17***	0.50***	—				0.06***	0.12***	0.16***	0.19***
4.Communicating psychological problems	− 0.16***	0.16***	0.21***	—			0.32***	0.37***	0.04**	0.20***
5.Hiding suicidal behavior	− 0.03*	0.31***	0.21***	0.05**	—		− 0.04**	− 0.01	0.23***	0.11***
6.Open reporting and discussion of suicide	0.15***	0.05**	0.12***	0.23***	− 0.03*	—	0.06***	0.14***	0.03*	− 0.02
Reactions to suicidality factors										
1.Social acceptance							—			
2.Helping							0.65***	—		
3.Disapproval of suicidal disclosure							− 0.02	0.07***	—	
4.Emotional involvement							0.30***	0.40***	0.35***	—
Country suicide rate (N = 12)	0.39	− 0.58**	− 0.54**	0.01	− 0.11	− 0.28	− 0.21	0.02	− 0.22	− 0.52**

\* p < 0.05; \*\* p < 0.01; \*\*\* p < 0.001

Suicidal attitudes in 12 countries

**Table 5** One-way MANCOVA on E-ATSS factors by gender and suicidality

Factors	Gender				Univariate F values	Suicidal Status				Univariate F values
	Women		Men			Suicidal		Not suicidal		
	M	SD	M	SD		M	SD	M	SD	
<i>Attitudes towards suicide factors</i>										
Acceptability of suicide	1.75	0.84	2.02	0.92	108.88*	2.26	0.97	1.70	0.79	464.10*
Punishment after death	3.15	1.29	2.90	1.30	32.23*	2.78	1.27	3.15	1.30	81.58*
Suicide as a sign of mental illness	3.13	1.23	2.99	1.23	9.80**	2.87	1.18	3.15	1.24	52.77*
Communicating psychological problems	3.77	0.82	3.74	0.87	1.75	3.56	0.86	3.84	0.81	123.01*
Hiding suicidal behavior	2.58	1.11	2.70	1.08	23.96*	2.59	1.11	2.64	1.09	1.39
Open reporting and discussion of suicide	3.05	1.04	3.00	1.06	3.81	3.10	1.03	3.00	1.05	11.38***
<i>Reactions to suicidality factors</i>										
Social acceptance	3.98	0.69	3.81	0.78	70.85*	3.81	0.80	3.95	0.70	39.54*
Helping a suicidal friend	4.18	0.61	4.04	0.72	56.37*	4.03	0.73	4.15	0.63	35.19*
Disapproval of suicidal disclosure	2.64	0.79	2.71	0.78	18.97*	2.58	0.81	2.70	0.78	22.55*
Emotional involvement	3.32	0.90	3.20	0.93	15.17*	3.01	0.95	3.38	0.88	178.12*

\*  $p = 0.000$ ; \*\*  $p = 0.002$ ; \*\*\*  $p = 0.001$

Suicidal attitudes in 12 countries

**Table 6** Predictors of social reactions to suicidality factor scores.

<i>Predicted and Predictor variables by step no</i>	<i>B</i>	<i>R<sup>2</sup></i>	<i>t</i>	<i>P=</i>	<i>95% CI for β</i>
Social acceptance of a suicidal friend					
1. Communicating psychological problems	0.321	0.103	25.27	0.000	0.265 — 0.310
2. Acceptability of suicide	– 0.157	0.127	– 12.38	0.000	– 0.155 to – 0.112
3. Hiding suicidal behavior	– 0.058	0.130	– 4.65	0.000	– 0.057 to – 0.023
4. Punishment after death	0.031	0.131	2.13	0.033	0.001 — 0.035
5. Suicide as a sign of mental illness	– 0.039	0.132	– 2.67	0.008	– 0.042 to – 0.006
Helping					
1. Communicating psychological problems	0.365	0.133	29.30	0.000	0.283 — 0.323
2. Acceptability of suicide	– 0.148	0.154	– 11.87	0.000	– 0.136 to – 0.098
3. Open reporting and discussion of suicide	0.095	0.163	7.39	0.000	0.047 — 0.081
4. Hiding suicidal behavior	– 0.029	0.163	– 2.35	0.019	– 0.034 to – 0.003
Disapproval of suicidal disclosure					
1. Hiding suicidal behavior	0.227	0.052	17.39	0.000	0.147 — 0.185
2. Punishment after death	0.139	0.069	10.21	0.000	0.070 — 0.104
3. Acceptability of suicide	0.083	0.075	5.97	0.000	0.050 — 0.099
4. Suicide as a sign of mental illness	0.065	0.078	4.35	0.000	0.023 — 0.061
Emotional involvement in a suicidal friend					
1. Punishment after death	0.323	0.104	25.45	0.000	0.213 — 0.249
2. Acceptability of suicide	– 0.172	0.130	– 12.78	0.000	– 0.204 to – 0.150
3. Communicating psychological problems	0.136	0.147	10.78	0.000	0.120 — 0.174
4. Open reporting and discussion of suicide	– 0.044	0.149	– 3.39	0.001	– 0.061 to – 0.016

Suicidal attitudes in 12 countries

**Table 7** The associations of having accepting versus rejecting attitudes to suicide and suicidal persons to suicidal behavior and psychological distress.

Outcome variables	Combination of accepting versus rejecting attitudes to suicide and suicidal person <sup>c</sup>								$\chi^2$	P=
	<i>Reject S &amp; Reject P</i>		<i>Accept S &amp; Reject P</i>		<i>Reject S &amp; Accept P</i>		<i>Accept S &amp; Accept P</i>			
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%		
Suicide ideation <sup>a</sup>	32	6.2	244	47.4	101	19.6	138	26.8	215.27	0.000
Suicide attempt <sup>a</sup>	13	9.1	88	61.5	15	10.5	27	18.9	79.90	0.000
Any suicidal behavior <sup>a</sup>	32	6.1	250	47.8	103	19.7	138	26.4	220.07	0.000
<b>GHQ-12<sup>a</sup></b>										
>3	112	12.3	352	38.7	316	34.7	130	14.3	33.44	0.000
>4	83	11.0	312	41.2	256	33.8	106	14.0	47.48	0.000
>5	68	10.6	262	41.0	217	34.0	92	14.4	35.03	0.000
<b>Country suicide rate<sup>b</sup></b>										
Low suicide rate	95	16.7	203	35.7	236	41.5	34	6.0	197.30	0.000
Medium suicide rate	95	12.5	184	24.3	350	46.2	128	16.9		
High suicide rate	32	9.8	162	49.4	40	12.2	94	28.7		
<b>From the sample<sup>a</sup></b>										
Significantly more suicidal behavior	78	11.3	306	44.2	179	25.9	129	18.6	100.49	0.000

df: <sup>a</sup> = 3, <sup>b</sup> = 6

<sup>c</sup> Accept S: Accepting suicide; Reject P: Rejecting person; Reject S: rejecting suicide; Accept P: Accepting person