

Safe and Orderly School-Teachers' Reports Scale, Physics

The Safe and Orderly School-Teachers' Reports (SOS) scale was created based on teachers' degree of agreement with the eight statements described below.

Items in the TIMSS Advanced 2015 Safe and Orderly School-Teachers' Reports Scale, Physics¹

Thinking about your current school, indicate the extent to which you agree or disagree with each of the following statements.

	Agree a lot	Agree a little	Disagree a little	Disagree a lot
PTBG07A 1) This school is located in a safe neighborhood	○	○	○	○
PTBG07B 2) I feel safe at this school	○	○	○	○
PTBG07C 3) This school's security policies and practices are sufficient	○	○	○	○
PTBG07D 4) The students behave in an orderly manner	○	○	○	○
PTBG07E 5) The students are respectful of the teachers	○	○	○	○
PTBG07F 6) The students respect school property	○	○	○	○
PTBG07G 7) This school has clear rules about student conduct	○	○	○	○
PTBG07H 8) This school's rules are enforced in a fair and consistent manner	○	○	○	○

Very Safe and Orderly 9.8 Safe and Orderly 6.4 Less than Safe and Orderly

¹ For the purpose of scaling, categories in which there were very few respondents were combined. The categories "Disagree a little" and "Disagree a lot" were combined for all variables. The scale statistics that are reported herein reflect analysis of the items following collapsing.

Item Parameters for the TIMSS Advanced 2015 Safe and Orderly School - Teachers' Reports Scale, Physics

Item	delta	tau_1	tau_2	Infit
PTBG07A	-0.79213	-1.28024	1.28024	1.62
PTBG07B	-1.54669	-1.28512	1.28512	0.91
PTBG07C	-0.40475	-1.47335	1.47335	0.97
PTBG07D	0.38110	-1.85404	1.85404	0.82
PTBG07E	0.25303	-2.01362	2.01362	0.81
PTBG07F	1.12283	-2.06225	2.06225	0.88
PTBG07G	0.11548	-1.62992	1.62992	1.02
PTBG07H	0.87113	-1.60812	1.60812	0.95

Scale Transformation Constants for the TIMSS Advanced 2015 Safe and Orderly School - Teachers' Reports Scale, Physics

Scale Transformation Constants	
A = 8.10253	Transformed Scale Score = 8.10253 + 0.992158 • Logit Scale Score
B = 0.992158	

Equivalence Table of the Raw Score and the Transformed Scale Score for the TIMSS Advanced 2015 Safe and Orderly School - Teachers' Reports Scale, Physics

Raw Score	Transformed Scale Score	Cutpoint
0	3.45082	
1	4.70451	
2	5.37921	
3	5.89100	
4	6.33230	6.4
5	6.74144	
6	7.14044	
7	7.54539	
8	7.96637	
9	8.41273	
10	8.88463	
11	9.37552	
12	9.88022	9.8
13	10.40751	
14	10.99267	
15	11.73382	
16	13.03341	

SOURCE: IEA's Trends in International Mathematics and Science Study – TIMSS 2015

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Cronbach's Alpha Reliability Coefficient and Principal Components Analysis of the Items in the TIMSS Advanced 2015 Safe and Orderly School - Teachers' Reports Scale, Physics

Country	Cronbach's Alpha Reliability Coefficient	Percent of Variance Explained	Component Loadings for Each Item							
			PTB6D7A	PTB6D7B	PTB6D7C	PTB6D7D	PTB6D7E	PTB6D7F	PTB6D7G	PTB6D7H
France	0.85	50	0.58	0.68	0.64	0.81	0.80	0.68	0.71	0.70
Italy	0.87	52	0.62	0.67	0.69	0.79	0.77	0.74	0.65	0.80
Lebanon	0.82	46	0.33	0.48	0.65	0.82	0.75	0.77	0.70	0.74
Norway	0.84	49	0.60	0.66	0.68	0.82	0.79	0.70	0.62	0.69
Portugal	0.84	49	0.34	0.63	0.67	0.76	0.84	0.80	0.71	0.73
Russian Federation	0.77	40	0.48	0.59	0.57	0.76	0.79	0.72	0.67	0.29
Slovenia	0.91	63	0.83	0.79	0.82	0.85	0.83	0.77	0.73	0.73
Sweden	0.83	48	0.42	0.59	0.75	0.79	0.80	0.76	0.58	0.76
United States	0.90	59	0.42	0.69	0.77	0.89	0.85	0.83	0.79	0.81
International Avg.	0.85	51	0.51	0.64	0.69	0.81	0.81	0.75	0.69	0.70

Relationship Between the TIMSS Advanced 2015 Safe and Orderly School - Teachers' Reports Scale, and TIMSS Advanced 2015 Physics Achievement

Country	Pearson's Correlation with Physics Achievement		Variance in Physics Achievement Accounted for by Difference Between Regions of the Scale (η^2)
	(r)	(r ²)	
France	0.08	0.01	0.01
Italy	0.03	0.00	0.00
Lebanon	0.07	0.00	0.01
Norway	0.11	0.01	0.02
Portugal	0.04	0.00	0.01
Russian Federation	0.03	0.00	0.00
Slovenia	0.19	0.04	0.04
Sweden	0.12	0.01	0.02
United States	0.25	0.06	0.12
International Median	0.08	0.01	0.01

SOURCE: IEA's Trends in International Mathematics and Science Study – TIMSS 2015