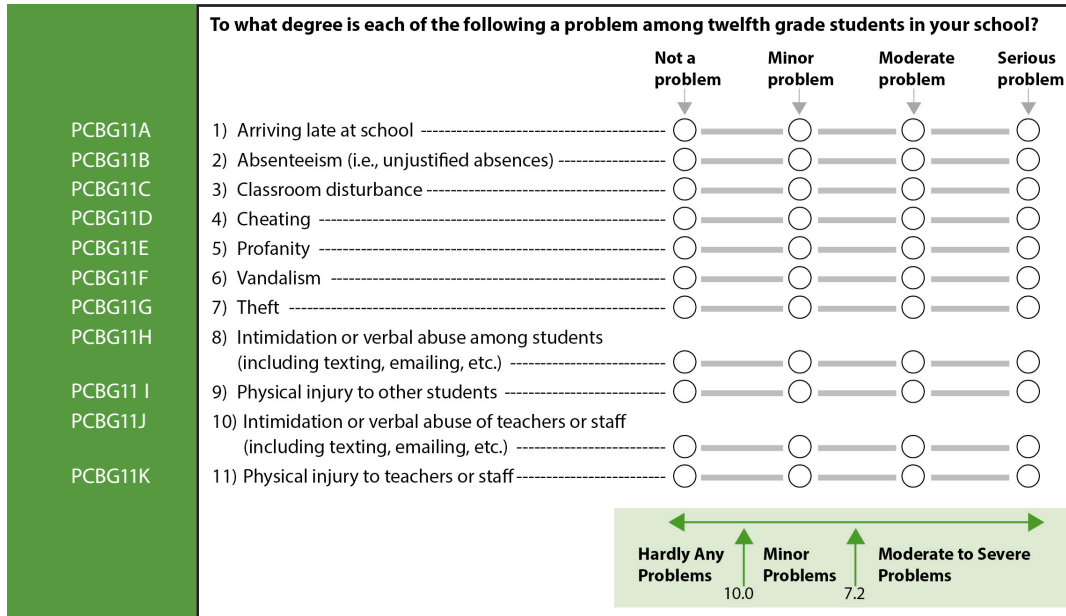


# School Discipline Problems–Principals’ Reports Scale, Physics

The School Discipline Problems–Principals’ Reports (DAS) scale was created based on principals’ responses concerning the eleven potential school problems described below.

## Items in the TIMSS Advanced 2015 School Discipline Problems–Principals’ Reports Scale, Physics



**Item Parameters for the TIMSS Advanced 2015 School Discipline Problems - Principals' Reports Scale, Physics**

Item	delta	tau_1	tau_2	tau_3	Infit
PCBG11A	1.17877	-3.21012	-0.16690	3.37702	1.21
PCBG11B	1.46046	-2.19399	-0.42850	2.62249	1.13
PCBG11C	0.18891	-1.99828	-0.62084	2.61912	0.93
PCBG11D	0.80313	-2.53161	-0.66242	3.19403	1.11
PCBG11E	-0.22664	-1.90441	-0.40045	2.30486	0.84
PCBG11F	-0.50647	0.20063	-1.22273	1.02210	0.76
PCBG11G	-0.43015	-0.05140	-1.18166	1.23306	0.69
PCBG11H	-0.06170	-1.19025	-1.00895	2.19920	0.75
PCBG11I	-0.69241	0.65883	-1.47382	0.81499	0.64
PCBG11J	-0.67545	0.54715	-1.66947	1.12232	0.67

**Scale Transformation Constants for the TIMSS Advanced 2015 School Discipline Problems - Principals' Reports Scale, Physics**

Scale Transformation Constants	
A = 7.709439	Transformed Scale Score = 7.709439 + 0.955134 • Logit Scale Score
B = 0.955134	

**Equivalence Table of the Raw Score and the Transformed Scale Score for the TIMSS Advanced 2015 School Discipline Problems - Principals' Reports Scale, Physics**

Raw Score	Transformed Scale Score	Cutpoint
0	3.54143	
1	4.62379	
2	5.12325	
3	5.44481	
4	5.68073	
5	5.86766	
6	6.02294	
7	6.15980	
8	6.28303	
10	6.50367	
11	6.60698	
12	6.70877	
14	6.91459	
15	7.02423	
16	7.13973	7.2
17	7.26373	
18	7.39914	
19	7.54913	
20	7.71713	
21	7.90633	
22	8.12018	
23	8.35907	
24	8.62458	
25	8.91866	
26	9.24592	
27	9.61214	
28	10.02711	10.0
29	10.50216	
30	11.04762	
31	11.67530	
32	12.44148	
33	13.73438	

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

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

**Cronbach's Alpha Reliability Coefficient and Principal Components Analysis of the Items in the TIMSS Advanced 2015 School Discipline Problems - Principals' Reports Scale, Physics**

Country	Cronbach's Alpha Reliability Coefficient	Percent of Variance Explained	Component Loadings for Each Item										
			PCBG11A	PCBG11B	PCBG11C	PCBG11D	PCBG11E	PCBG11F	PCBG11G	PCBG11H	PCBG11I	PCBG11J	PCBG11K
France	0.94	65	0.61	0.65	0.79	0.70	0.88	0.89	0.80	0.88	0.91	0.87	0.85
Italy	0.96	72	0.51	0.76	0.85	0.72	0.80	0.94	0.91	0.91	0.95	0.93	0.93
Lebanon	0.98	84	0.84	0.88	0.90	0.87	0.94	0.95	0.96	0.91	0.94	0.93	0.94
Norway	0.82	41	0.56	0.55	0.54	0.60	0.68	0.80	0.74	0.50	0.75	0.74	0.53
Portugal	0.95	66	0.55	0.77	0.84	0.72	0.77	0.90	0.89	0.87	0.89	0.87	0.81
Russian Federation	0.77	37	0.55	0.61	0.61	0.54	0.70	0.67	0.54	0.70	0.56	-	-
Slovenia	0.76	36	0.15	0.40	0.61	0.67	0.64	0.54	0.66	0.59	0.74	0.58	0.74
Sweden	0.84	42	0.50	0.54	0.61	0.59	0.67	0.77	0.70	0.68	0.69	0.78	0.50
United States	0.87	46	0.69	0.66	0.74	0.67	0.77	0.55	0.71	0.76	0.59	0.78	0.41
International Avg.	0.88	54	0.55	0.65	0.72	0.68	0.76	0.78	0.77	0.76	0.78	0.81	0.71

A dash (-) indicates comparable data not available.

**Relationship Between the TIMSS Advanced 2015 School Discipline Problems - Principals' 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 ( $\eta^2$ )
	(r)	(r <sup>2</sup> )	
France	0.12	0.01	0.00
Italy	0.23	0.05	0.03
Lebanon	0.07	0.00	0.00
Norway	0.07	0.00	0.01
Portugal	0.05	0.00	0.00
Russian Federation	0.05	0.00	0.01
Slovenia	0.18	0.03	0.03
Sweden	0.18	0.03	0.02
United States	0.16	0.03	0.01
International Median	0.12	0.01	0.01

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