

PIRLS 2011

The PIRLS 2011 Teacher Working Conditions Scale

The Teacher Working Conditions (TWC) scale was created based on teachers' responses concerning five potential problem areas described below. See [Creating and Interpreting TIMSS and PIRLS 2011 Context Questionnaire Scales](#) for more information on how the scales were formed.

Exhibit 1: Items in the PIRLS 2011 Teacher Working Conditions Scale

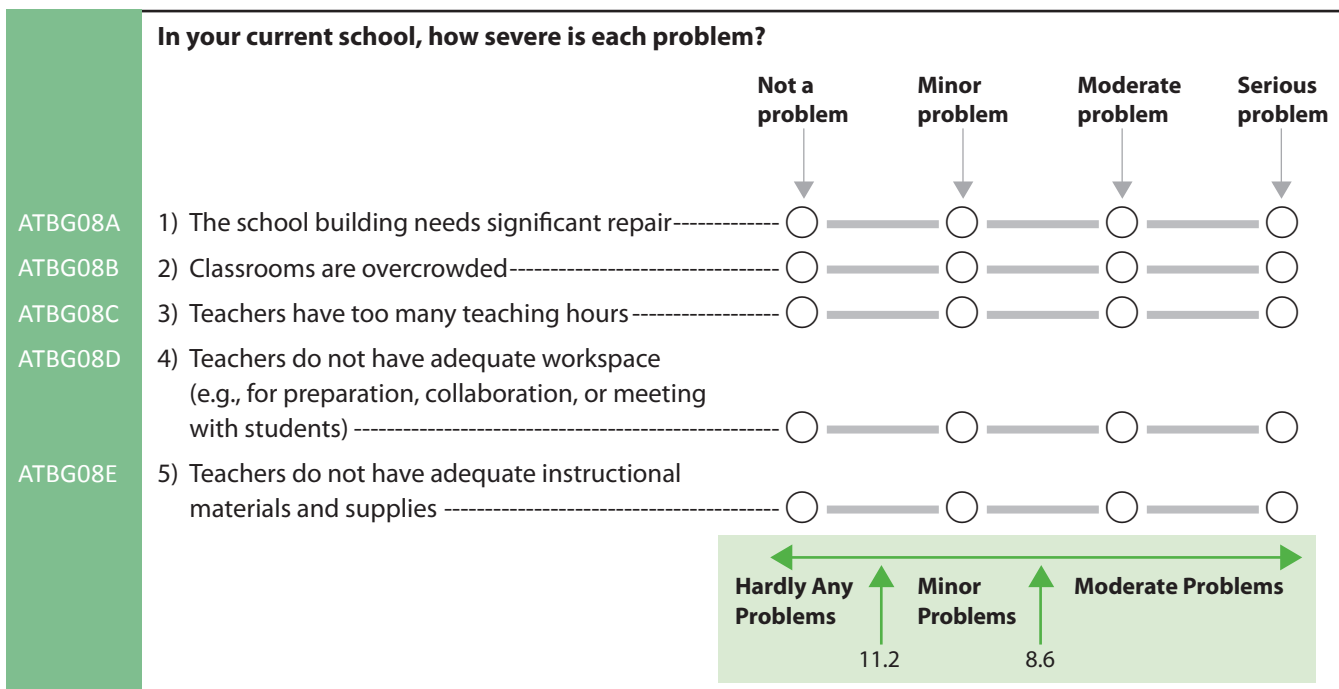


Exhibit 2: Item Parameters for the PIRLS 2011 Teacher Working Conditions Scale

Item	delta	tau_1	tau_2	tau_3
ATBG08A	-0.66159	-0.74926	0.06273	0.68653
ATBG08B	-0.78065	-0.80485	0.18908	0.61577
ATBG08C	-1.00020	-0.85184	0.28189	0.56995
ATBG08D	-0.50040	-0.58469	0.13990	0.44479
ATBG08E	-0.63945	-0.85567	-0.00701	0.86268

Exhibit 3: Scale Transformation Constants

Scale Transformation Constants

$$A = 10.01312$$

$$B = 1.87714$$

$$\text{Transformed Scale Score} = 10.01312 + 1.87714 \cdot \text{Logit Scale Score}$$

Exhibit 4: Equivalence Table of the Raw Score and the Transformed Scale Score

Raw Score	Transformed Scale Score	Cutpoint	Raw Score	Transformed Scale Score	Cutpoint
0	2.80680		8	8.91394	
1	4.95822		9	9.29764	
2	5.99451		10	9.70331	
3	6.70441		11	10.13731	
4	7.25826		12	10.64772	
5	7.72668		13	11.28856	11.2
6	8.14542		14	12.22786	
7	8.53267	8.6	15	14.22415	

Exhibit 5: Cronbach's Alpha Reliability Coefficient and Principal Components Analysis of the Items in the PIRLS 2011 Teacher Working Conditions Scale

Country	Cronbach's Alpha Reliability Coefficient	Percent of Variance Explained	Factor Loadings for Each Item				
			ATBG08A	ATBG08B	ATBG08C	ATBG08D	ATBG08E
Australia	0.82	58	0.76	0.77	0.72	0.83	0.72
Austria	0.75	51	0.67	0.78	0.53	0.76	0.79
Azerbaijan	0.50	35	0.25	0.58	0.69	0.74	0.58
Belgium (French)	0.66	43	0.68	0.64	0.40	0.81	0.67
Bulgaria	0.69	46	0.52	0.57	0.76	0.74	0.76
Canada	0.72	47	0.61	0.72	0.63	0.76	0.70
Chinese Taipei	0.79	54	0.67	0.75	0.75	0.80	0.71
Colombia	0.77	52	0.77	0.79	0.49	0.81	0.71
Croatia	0.76	51	0.72	0.66	0.57	0.83	0.78
Czech Republic	0.65	44	0.47	0.69	0.68	0.72	0.73
Denmark	0.70	46	0.72	0.78	0.51	0.66	0.69
England	0.72	48	0.71	0.73	0.63	0.70	0.68
Finland	0.64	42	0.65	0.57	0.54	0.78	0.69
France	0.66	43	0.56	0.50	0.64	0.78	0.74
Georgia	0.68	44	0.66	0.64	0.58	0.74	0.69
Germany	0.78	54	0.70	0.72	0.67	0.79	0.77
Hong Kong SAR	0.78	54	0.69	0.72	0.76	0.77	0.71
Hungary	0.74	51	0.52	0.73	0.76	0.79	0.74
Indonesia	0.70	46	0.68	0.73	0.63	0.75	0.57
Iran, Islamic Rep. of	0.65	42	0.61	0.57	0.52	0.82	0.68

Exhibit 5: Cronbach's Alpha Reliability Coefficient and Principal Components Analysis of the Items in the PIRLS 2011 Teacher Working Conditions Scale (Continued)

Country	Cronbach's Alpha Reliability Coefficient	Percent of Variance Explained	Factor Loadings for Each Item				
			ATBG08A	ATBG08B	ATBG08C	ATBG08D	ATBG08E
Ireland	0.76	52	0.69	0.77	0.58	0.83	0.68
Israel	0.72	48	0.65	0.72	0.49	0.82	0.75
Italy	0.73	49	0.73	0.70	0.45	0.79	0.76
Lithuania	0.58	38	0.51	0.66	0.41	0.78	0.65
Malta	0.74	50	0.60	0.65	0.76	0.81	0.68
Morocco	0.68	45	0.57	0.57	0.64	0.80	0.73
Netherlands	0.68	44	0.62	0.64	0.70	0.71	0.65
New Zealand	0.75	50	0.63	0.76	0.69	0.75	0.71
Northern Ireland	0.78	53	0.76	0.77	0.62	0.80	0.69
Norway	0.73	48	0.69	0.69	0.60	0.80	0.68
Oman	0.77	52	0.60	0.75	0.75	0.77	0.73
Poland	0.66	42	0.63	0.65	0.48	0.80	0.64
Portugal	0.77	53	0.75	0.66	0.58	0.84	0.78
Qatar	0.74	50	0.63	0.76	0.61	0.77	0.74
Romania	0.79	54	0.63	0.77	0.74	0.80	0.75
Russian Federation	0.68	45	0.62	0.66	0.48	0.81	0.73
Saudi Arabia	0.79	55	0.71	0.74	0.64	0.83	0.77
Singapore	0.83	60	0.71	0.76	0.78	0.84	0.79
Slovak Republic	0.66	43	0.57	0.58	0.69	0.78	0.66
Slovenia	0.67	44	0.67	0.51	0.61	0.78	0.71
Spain	0.74	49	0.65	0.67	0.65	0.81	0.72
Sweden	0.75	50	0.71	0.62	0.64	0.82	0.73
Trinidad and Tobago	0.77	52	0.67	0.74	0.56	0.85	0.76
United Arab Emirates	0.74	49	0.61	0.68	0.65	0.81	0.74
United States	0.76	51	0.68	0.74	0.66	0.82	0.66
Sixth Grade Participants							
Botswana	0.69	46	0.72	0.79	0.47	0.76	0.59
Honduras	0.70	46	0.62	0.55	0.66	0.78	0.76
Kuwait	0.83	60	0.83	0.70	0.69	0.80	0.82
Morocco	0.74	50	0.66	0.61	0.63	0.82	0.80
Benchmarking Participants							
Alberta, Canada	0.77	52	0.62	0.79	0.74	0.77	0.64
Ontario, Canada	0.65	42	0.62	0.59	0.47	0.76	0.76
Quebec, Canada	0.68	44	0.61	0.72	0.61	0.70	0.66
Maltese - Malta	0.73	49	0.61	0.61	0.72	0.79	0.74
Eng/Afr (5) - RSA ^o	0.80	63	0.72	0.83	0.71	0.90	-
Andalusia, Spain	0.75	50	0.75	0.69	0.59	0.81	0.70

Exhibit 5: Cronbach's Alpha Reliability Coefficient and Principal Components Analysis of the Items in the PIRLS 2011 Teacher Working Conditions Scale (Continued)

Country	Cronbach's Alpha Reliability Coefficient	Percent of Variance Explained	Factor Loadings for Each Item				
			ATBG08A	ATBG08B	ATBG08C	ATBG08D	ATBG08E
Abu Dhabi, UAE	0.76	52	0.61	0.70	0.63	0.84	0.78
Dubai, UAE	0.68	45	0.48	0.69	0.67	0.81	0.65
Florida, US	0.76	52	0.74	0.60	0.64	0.83	0.75
prePIRLS Participants							
Botswana	0.64	43	0.73	0.70	0.32	0.73	0.70
Colombia	0.77	52	0.77	0.79	0.49	0.81	0.71
South Africa	0.69	52	0.77	0.74	0.60	0.77	–

A dash (–) indicates that the item was not administered or comparable data was not available.

◊ Republic of South Africa (RSA) tested 5th grade students receiving instruction in English (ENG) or Afrikaans (AFR).

Exhibit 6: Relationship Between the PIRLS 2011 Teacher Working Conditions Scale and PIRLS 2011 Achievement

Country	Pearson's Correlation with Reading Achievement		Variance in Reading Achievement Accounted for by Difference Between Regions of the Scale (η^2)
	(r)	(r^2)	
Australia	0.06	0.00	0.01
Austria	0.02	0.00	0.00
Azerbaijan	0.07	0.00	0.00
Belgium (French)	0.05	0.00	0.00
Bulgaria	–0.04	0.00	0.01
Canada	0.02	0.00	0.00
Chinese Taipei	–0.01	0.00	0.00
Colombia	0.27	0.07	0.06
Croatia	–0.08	0.01	0.01
Czech Republic	–0.04	0.00	0.00
Denmark	–0.01	0.00	0.00
England	–0.02	0.00	0.00
Finland	–0.02	0.00	0.00
France	–0.01	0.00	0.00
Georgia	0.01	0.00	0.01
Germany	0.08	0.01	0.02
Hong Kong SAR	0.04	0.00	0.00
Hungary	–0.13	0.02	0.01
Indonesia	0.08	0.01	0.01
Iran, Islamic Rep. of	0.05	0.00	0.01
Ireland	0.07	0.01	0.01
Israel	0.02	0.00	0.00
Italy	0.05	0.00	0.01
Lithuania	–0.03	0.00	0.00

Exhibit 6: Relationship Between the PIRLS 2011 Teacher Working Conditions Scale and PIRLS 2011 Achievement (Continued)

Country	Pearson's Correlation with Reading Achievement		Variance in Reading Achievement Accounted for by Difference Between Regions of the Scale (η^2)
	(r)	(r ²)	
Malta	0.08	0.01	0.00
Morocco	0.24	0.06	0.07
Netherlands	0.01	0.00	0.00
New Zealand	0.08	0.01	0.01
Northern Ireland	0.05	0.00	0.00
Norway	-0.02	0.00	0.00
Oman	0.15	0.02	0.02
Poland	-0.08	0.01	0.00
Portugal	-0.02	0.00	0.00
Qatar	0.06	0.00	0.00
Romania	0.03	0.00	0.00
Russian Federation	0.06	0.00	0.00
Saudi Arabia	0.05	0.00	0.00
Singapore	0.00	0.00	0.00
Slovak Republic	0.01	0.00	0.00
Slovenia	-0.01	0.00	0.00
Spain	0.03	0.00	0.00
Sweden	0.04	0.00	0.00
Trinidad and Tobago	0.03	0.00	0.00
United Arab Emirates	0.17	0.03	0.02
United States	0.08	0.01	0.00
International Median	0.03	0.00	0.00
Sixth Grade Participants			
Botswana	0.19	0.03	0.03
Honduras	0.26	0.07	0.05
Kuwait	-0.01	0.00	0.00
Morocco	0.17	0.03	0.06
Benchmarking Participants			
Alberta, Canada	0.03	0.00	0.00
Ontario, Canada	-0.02	0.00	0.00
Quebec, Canada	0.10	0.01	0.01
Maltese - Malta	-0.03	0.00	0.00
Eng/Afr (5) - RSA ^o	0.46	0.21	0.21
Andalusia, Spain	-0.04	0.00	0.00
Abu Dhabi, UAE	0.18	0.03	0.01
Dubai, UAE	0.21	0.04	0.04
Florida, US	0.05	0.00	0.01

Exhibit 6: Relationship Between the PIRLS 2011 Teacher Working Conditions Scale and PIRLS 2011 Achievement (Continued)

Country	Pearson's Correlation with Reading Achievement		Variance in Reading Achievement Accounted for by Difference Between Regions of the Scale (η^2)
	(r)	(r ²)	
prePIRLS Participants			
Botswana	0.20	0.04	0.04
Colombia	0.28	0.08	0.06
South Africa	0.33	0.11	0.12

◊ Republic of South Africa (RSA) tested 5th grade students receiving instruction in English (ENG) or Afrikaans (AFR).