

PIRLS 2011

The PIRLS 2011 Students Motivated to Read Scale

The Students Motivated to Read (SMR) scale was created based on students' degree of agreement with six statements 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 Students Motivated to Read Scale

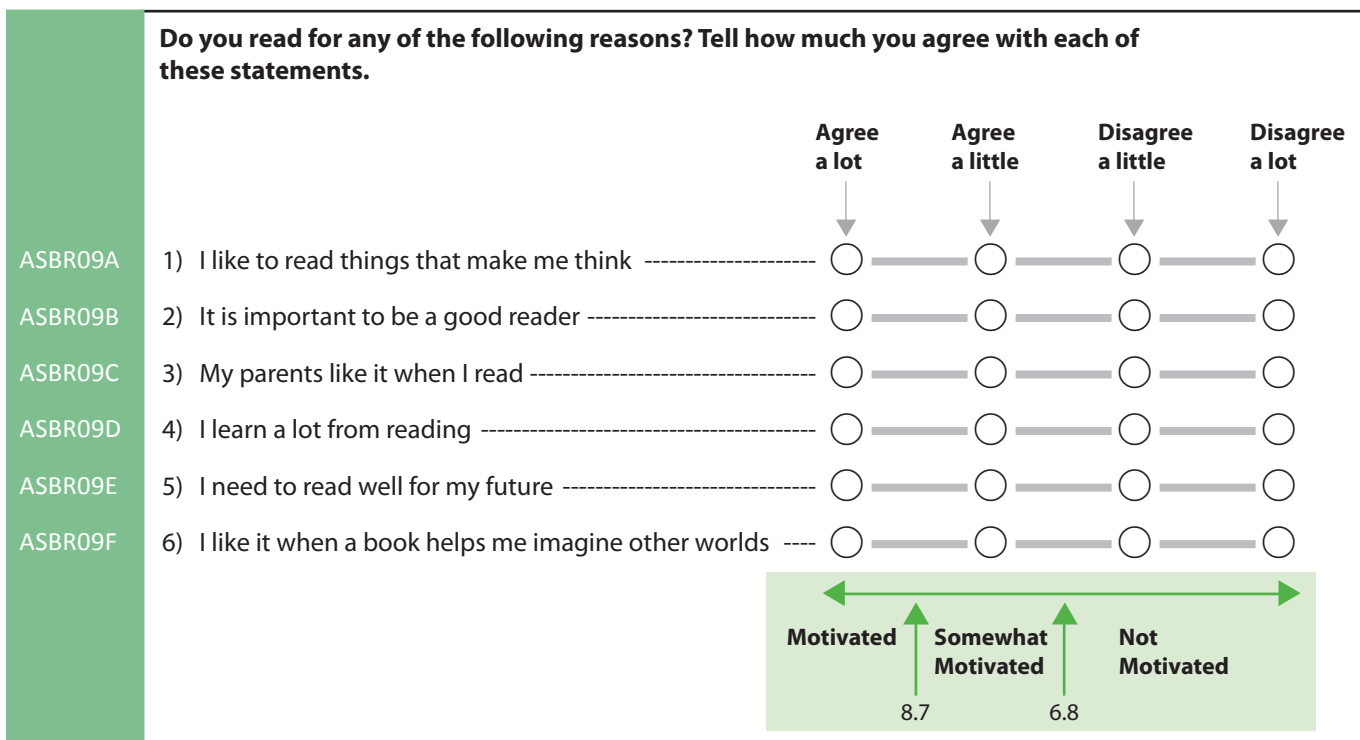


Exhibit 2: Item Parameters for the PIRLS 2011 Students Motivated to Read Scale

Item	delta	tau_1	tau_2	tau_3
ASBR09A	-1.41984	-0.30401	-0.48448	0.78849
ASBR09B	-2.27492	0.06072	-0.50288	0.44216
ASBR09C	-2.26079	-0.21717	-0.41908	0.63625
ASBR09D	-2.10920	-0.21573	-0.46836	0.68409
ASBR09E	-2.20461	-0.06157	-0.37418	0.43575
ASBR09F	-1.89491	0.03682	-0.46535	0.42853

Exhibit 3: Scale Transformation Constants

Scale Transformation Constants

$$A = 10.41039$$

$$B = 1.72171$$

$$\text{Transformed Scale Score} = 10.41039 + 1.72171 \cdot \text{Logit Scale Score}$$

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	2.45311		10	7.03829	
1	3.91273		11	7.31395	
2	4.58798		12	7.60737	
3	5.04954		13	7.93542	
4	5.41349		14	8.31489	
5	5.72676		15	8.78118	8.7
6	6.01131		16	9.40220	
7	6.27254		17	10.35006	
8	6.52866		18	12.36858	
9	6.78134	6.8			

Exhibit 5: Cronbach's Alpha Reliability Coefficient and Principal Components Analysis of the Items in the PIRLS 2011 Students Motivated to Read Scale

Country	Cronbach's Alpha Reliability Coefficient	Percent of Variance Explained	Factor Loadings for Each Item					
			ASBR09A	ASBR09B	ASBR09C	ASBR09D	ASBR09E	ASBR09F
Australia	0.79	49	0.69	0.70	0.64	0.78	0.70	0.69
Austria	0.74	45	0.62	0.70	0.59	0.75	0.70	0.65
Azerbaijan	0.70	44	0.38	0.66	0.72	0.76	0.74	0.65
Belgium (French)	0.75	46	0.63	0.73	0.61	0.75	0.69	0.64
Bulgaria	0.79	51	0.65	0.73	0.68	0.77	0.74	0.71
Canada	0.74	45	0.66	0.68	0.62	0.75	0.62	0.67
Chinese Taipei	0.86	60	0.73	0.83	0.70	0.82	0.83	0.72
Colombia	0.75	46	0.58	0.73	0.66	0.75	0.67	0.66
Croatia	0.73	44	0.64	0.61	0.60	0.76	0.66	0.69
Czech Republic	0.72	44	0.57	0.68	0.67	0.76	0.68	0.64
Denmark	0.68	39	0.63	0.63	0.57	0.73	0.57	0.59
England	0.78	49	0.69	0.72	0.65	0.77	0.67	0.68
Finland	0.77	47	0.70	0.63	0.64	0.77	0.66	0.69
France	0.72	42	0.65	0.68	0.55	0.72	0.63	0.63
Georgia	0.73	44	0.60	0.71	0.65	0.71	0.58	0.71
Germany	0.69	40	0.58	0.65	0.56	0.71	0.65	0.65
Hong Kong SAR	0.85	58	0.72	0.81	0.65	0.80	0.83	0.76
Hungary	0.76	47	0.65	0.72	0.64	0.72	0.65	0.73

Exhibit 5: Cronbach's Alpha Reliability Coefficient and Principal Components Analysis of the Items in the PIRLS 2011 Students Motivated to Read Scale (Continued)

Country	Cronbach's Alpha Reliability Coefficient	Percent of Variance Explained	Factor Loadings for Each Item					
			ASBR09A	ASBR09B	ASBR09C	ASBR09D	ASBR09E	ASBR09F
Indonesia	0.57	35	0.41	0.64	0.65	0.64	0.67	0.48
Iran, Islamic Rep. of	0.71	42	0.48	0.70	0.61	0.68	0.71	0.68
Ireland	0.77	47	0.67	0.69	0.62	0.78	0.68	0.66
Israel	0.79	50	0.68	0.77	0.63	0.78	0.69	0.66
Italy	0.70	41	0.63	0.65	0.63	0.73	0.53	0.67
Lithuania	0.72	44	0.60	0.67	0.57	0.75	0.69	0.66
Malta	0.75	47	0.50	0.75	0.65	0.79	0.67	0.70
Morocco	0.73	43	0.52	0.65	0.70	0.72	0.72	0.63
Netherlands	0.73	44	0.64	0.69	0.65	0.75	0.64	0.60
New Zealand	0.78	48	0.68	0.73	0.64	0.76	0.65	0.69
Northern Ireland	0.76	46	0.70	0.66	0.63	0.77	0.65	0.66
Norway	0.71	42	0.65	0.65	0.54	0.71	0.69	0.62
Oman	0.74	45	0.51	0.69	0.72	0.74	0.70	0.65
Poland	0.81	52	0.71	0.75	0.63	0.81	0.70	0.72
Portugal	0.77	47	0.62	0.72	0.65	0.75	0.67	0.70
Qatar	0.75	46	0.46	0.73	0.72	0.77	0.73	0.62
Romania	0.72	48	0.45	0.75	0.72	0.76	0.74	0.68
Russian Federation	0.65	39	0.58	0.64	0.55	0.71	0.63	0.61
Saudi Arabia	0.73	43	0.52	0.67	0.66	0.73	0.71	0.65
Singapore	0.79	50	0.65	0.77	0.59	0.78	0.76	0.66
Slovak Republic	0.73	47	0.49	0.74	0.65	0.76	0.73	0.70
Slovenia	0.71	45	0.43	0.69	0.65	0.76	0.76	0.68
Spain	0.75	46	0.59	0.73	0.61	0.76	0.68	0.69
Sweden	0.72	43	0.64	0.72	0.59	0.72	0.60	0.64
Trinidad and Tobago	0.75	46	0.62	0.70	0.67	0.74	0.64	0.69
United Arab Emirates	0.76	46	0.58	0.70	0.66	0.76	0.71	0.64
United States	0.77	47	0.66	0.73	0.64	0.76	0.67	0.66
Sixth Grade Participants								
Botswana	0.71	42	0.49	0.70	0.68	0.70	0.68	0.62
Honduras	0.74	45	0.55	0.73	0.65	0.76	0.68	0.64
Kuwait	0.72	43	0.41	0.71	0.70	0.75	0.73	0.59
Morocco	0.74	44	0.61	0.67	0.67	0.71	0.72	0.61
Benchmarking Participants								
Alberta, Canada	0.75	46	0.65	0.68	0.64	0.76	0.63	0.69
Ontario, Canada	0.74	44	0.66	0.69	0.59	0.75	0.64	0.66
Quebec, Canada	0.71	41	0.64	0.65	0.61	0.72	0.60	0.63
Maltese - Malta	0.75	46	0.49	0.74	0.65	0.78	0.67	0.70
Eng/Afr (5) - RSA ^o	0.78	48	0.55	0.74	0.67	0.75	0.73	0.71

Exhibit 5: Cronbach's Alpha Reliability Coefficient and Principal Components Analysis of the Items in the PIRLS 2011 Students Motivated to Read Scale (Continued)

Country	Cronbach's Alpha Reliability Coefficient	Percent of Variance Explained	Factor Loadings for Each Item					
			ASBR09A	ASBR09B	ASBR09C	ASBR09D	ASBR09E	ASBR09F
Andalusia, Spain	0.74	45	0.57	0.73	0.59	0.76	0.68	0.69
Abu Dhabi, UAE	0.76	47	0.57	0.71	0.68	0.77	0.73	0.62
Dubai, UAE	0.76	46	0.61	0.70	0.63	0.76	0.69	0.67
Florida, US	0.78	50	0.64	0.76	0.65	0.77	0.71	0.70
prePIRLS Participants								
Botswana	0.70	40	0.58	0.64	0.66	0.65	0.63	0.65
Colombia	0.75	46	0.57	0.74	0.65	0.76	0.66	0.66
South Africa	0.75	45	0.49	0.71	0.73	0.73	0.66	0.69

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

Exhibit 6: Relationship Between the PIRLS 2011 Students Motivated to Read 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	0.07	0.00	0.01
Austria	0.03	0.00	0.01
Azerbaijan	0.19	0.03	0.03
Belgium (French)	0.02	0.00	0.01
Bulgaria	0.17	0.03	0.05
Canada	0.01	0.00	0.00
Chinese Taipei	0.24	0.06	0.07
Colombia	0.16	0.03	0.04
Croatia	-0.01	0.00	0.00
Czech Republic	0.04	0.00	0.01
Denmark	-0.06	0.00	0.00
England	-0.01	0.00	0.01
Finland	0.05	0.00	0.01
France	0.04	0.00	0.01
Georgia	0.21	0.04	0.05
Germany	-0.02	0.00	0.01
Hong Kong SAR	0.13	0.02	0.02
Hungary	0.17	0.03	0.04
Indonesia	0.21	0.05	0.05
Iran, Islamic Rep. of	0.12	0.01	0.02
Ireland	0.01	0.00	0.01
Israel	0.01	0.00	0.00
Italy	0.03	0.00	0.01
Lithuania	-0.01	0.00	0.01

Exhibit 6: Relationship Between the PIRLS 2011 Students Motivated to Read 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	0.16	0.03	0.04
Morocco	0.26	0.07	0.06
Netherlands	0.07	0.00	0.02
New Zealand	0.02	0.00	0.02
Northern Ireland	0.01	0.00	0.01
Norway	-0.02	0.00	0.00
Oman	0.25	0.06	0.07
Poland	0.07	0.00	0.02
Portugal	0.11	0.01	0.01
Qatar	0.23	0.05	0.06
Romania	0.17	0.03	0.07
Russian Federation	-0.01	0.00	0.01
Saudi Arabia	0.29	0.08	0.08
Singapore	0.12	0.01	0.02
Slovak Republic	0.10	0.01	0.01
Slovenia	-0.01	0.00	0.01
Spain	0.05	0.00	0.01
Sweden	-0.08	0.01	0.00
Trinidad and Tobago	0.17	0.03	0.04
United Arab Emirates	0.16	0.03	0.03
United States	0.03	0.00	0.01
International Median	0.07	0.00	0.01
Sixth Grade Participants			
Botswana	0.48	0.23	0.22
Honduras	0.02	0.00	0.00
Kuwait	0.18	0.03	0.05
Morocco	0.22	0.05	0.04
Benchmarking Participants			
Alberta, Canada	-0.01	0.00	0.01
Ontario, Canada	-0.01	0.00	0.00
Quebec, Canada	-0.05	0.00	0.00
Maltese - Malta	0.16	0.03	0.04
Eng/Afr (5) - RSA ^o	0.20	0.04	0.06
Andalusia, Spain	0.06	0.00	0.01
Abu Dhabi, UAE	0.20	0.04	0.03
Dubai, UAE	0.09	0.01	0.02
Florida, US	0.01	0.00	0.01

Exhibit 6: Relationship Between the PIRLS 2011 Students Motivated to Read 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	0.49	0.24	0.21
Colombia	0.18	0.03	0.04
South Africa	0.34	0.12	0.13

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