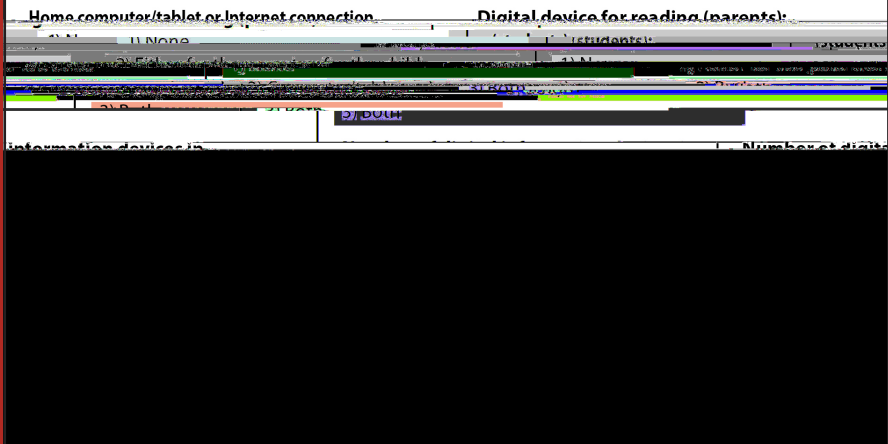


The (DDH) scale is a created based on a series of items concerning the availability of home electronic devices below.

Items in the PIRLS 2016 *Digital Devices in the Home* Scale

A DG05D' A BH16'		A DH15'
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1 D .F , 3 Grade 4 PIRLS 2016 Digital Devices

Item Parameters for the PIRLS 2016 Digital Devices in the HomeScale

Item	delta	tau_1	tau_2	tau_3	tau_4	Infit
ASDG05D	-1.01084	0.19104	-0.19104			0.97
ASBH16	0.78901	-2.55418	-0.25050	0.94345	1.86123	1.01
ASDH15	0.22183	0.40387	-0.40387			1.04

Scale Transformation Constants for the PIRLS 2016 Digital Devices in the HomeScale

Scale Transformation Constants	
A = 8.607915	Transformed Scale Score = 8.607915 + 1.618512 • Logit Scale Score
B = 1.618512	

Raw Score	Transformed Scale Score	Cutpoint
0	3.92341	
1	5.90375	6.0
2	6.97819	
3	7.91040	
4	8.78694	
594		

SOURCE: IEA's Progress in International Reading Literacy Study (PIRLS) 2016

Cronbach's Alpha Reliability Coefficient and Principal Components Analysis of the Items in the PIRLS 2016 Digital Devices in the Home Scale

Country	Cronbach's Alpha Reliability Coefficient	Percent Variance Explained	Component Loadings for E		
			ASDG1	ASBH16	ASDH15
Australia	0.32	43	0.58	0.71	0.68
Austria	0.38	45	0.48	0.78	0.72
Azerbaijan	0.77	68	0.80	0.82	0.86
Bahrain	0.38	45	0.62	0.69	0.70
Belgium (Flemish)	0.25	40	0.46	0.74	0.68
Belgium (French)	0.33	44	0.60	0.72	0.66
Bulgaria	0.58	57	0.77	0.76	0.73
Canada	0.34	44	0.58	0.71	0.69
Chile	0.61	57	0.68	0.79	0.78
Chinese Taipei	0.36	44	0.60	0.69	0.70
Czech Republic	0.35	44	0.57	0.76	0.65
Denmark	0.18	39	0.49	0.70	0.66
Egypt	0.70	62	0.74	0.79	0.84
England	-	-	-	-	-
Finland	0.21	39	0.44	0.70	0.70
France	0.30	42	0.59	0.69	0.67
Georgia	0.63	58	0.75	0.77	0.76
Germany	0.41	46	0.58	0.72	0.72
Hong Kong SAR	0.27	41	0.49	0.70	0.70
Hungary	0.50	53	0.73	0.70	0.75

	Variance in Reading Achievement Accounted for by the Difference Between Reading Achievement and Reading Proficiency		
Australia			0.01
Austria			0.02
Azerbaijan			0.06
Bahrain			0.02
Belgium (Flemish)			0.01
Belgium (French)			0.00
Bulgaria	0.36	0.13	0.09
Canada	0.12	0.01	0.01
Chile	0.23	0.05	0.04
Chinese Taipei	0.20	0.04	0.02
Czech Republic	0.14	0.02	0.03
Denmark	0.10	0.01	0.00
Egypt		0.13	0.09
England		-	-
Finland	0.14	0.02	0.02
France	0.03	0.00	0.00
Georgia	0.17	0.03	0.01
Germany	0.01	0.00	0.00
Hong Kong SAR	0.10	0.01	0.00
Hungary	0.26	0.07	0.04
Iran, Islamic Rep. of	0.32	0.10	0.07
Ireland		0.01	0.01
Israel		0.03	0.04
Italy	0.07	0.01	0.00
Kazakhstan		0.04	0.02
Kuwait		0.01	0.01
Latvia		0.03	0.02
Lithuania		0.05	0.04
Macao SAR		0.02	0.01
Malta	0.11	0.01	0.01
Morocco		0.10	0.07
Netherlands		0.01	0.00
New Zealand	0.18	0.03	0.02
Northern Ireland		0.01	0.01
Norway (5)		0.01	0.01
Oman		0.05	0.03
Poland		0.03	0.03
Portugal		0.04	0.03
Qatar		0.06	0.03
Russian Federation	0.28	0.08	0.04
Saudi Arabia		0.02	0.01
Singapore	0.27	0.07	0.05
Slovak Republic		0.11	
Slovenia	0.18	0.03	
South Africa	0.22	0.05	0.04
Spain	0.21	0.04	0.03
Sweden		0.02	
Trinidad and Tobago	0.27	0.07	0.04
United Arab Emirates	0.18	0.03	0.01
United States		-	-
International Median	0.17	0.03	0.02
Benchmarking Participants			
Buenos Aires, Argentina	0.24	0.06	0.04
Ontario, Canada	0.11		
Quebec, Canada	0.11	0.01	0.01
Denmark (3)	0.13	0.02	0.01
Norway (4)	0.16	0.03	0.02
Moscow City, Russian Fed.	0.15	0.02	0.01
Eng/Afr/Zulu - RSA (5)	0.37	0.14	0.08
Andalusia, Spain	0.18	0.03	0.02
Madrid, Spain	0.20		
Abu Dhabi, UAE	0.19	0.04	0.02
Dubai, UAE	0.14	0.02	0.01

A dash (-) indicates comparable data not available.

Relationship Between the PIRLS 2016 Digital Devices in the Home Scale and ePIRLS 2016 Online Informational Reading Achievement

Country	Pearson's Correlation with ePIRLS Achievement		Variance in ePIRLS Achievement Accounted for by Difference Between Region of the Scale (%)
	(r)	(r ²)	
Canada	0.19	0.04	0.02
Chinese Taipei	0.24	0.06	0.03
Denmark	0.10	0.01	0.00
Georgia	0.16	0.03	0.01
Ireland	0.15	0.02	0.01
Israel	0.18	0.03	0.03
Italy	0.13	0.02	0.01
Norway	0.12	0.01	0.01
Portugal	0.26	0.07	0.04
Singapore	0.29	0.08	0.06
Slovenia	0.20	0.04	0.03
Sweden	0.14	0.02	0.01
United Arab Emirates	0.18	0.03	0.01
United States	-	-	-
International Median	0.18	0.03	0.01
Benchmarking Participants			
Abu Dhabi, UAE	0.20	0.04	0.02
Dubai, UAE	0.14	0.02	0.01

A dash (-) indicates comparable data not available.