

Appendix 9E: PIRLS 2021 Group Adaptive Design Outcomes

PIRLS 2021 Average Percent of Item Non-Response and Posterior Standard Deviations by Booklet Difficulty

Country	Booklet Design	Average Percent of Item Non-Response				Posterior Standard Deviation			
		Overall	More Difficult Booklet Average	Less Difficult Booklet Average	Difference	Overall	More Difficult Booklet Average	Less Difficult Booklet Average	Difference
Albania	50/50	5.9	7.7	3.8	-3.9	0.34	0.32	0.36	+0.04
Australia	50/50	3.5	4.9	2.2	-2.7	0.28	0.26	0.31	+0.05
Austria	50/50	6.1	8.2	4.0	-4.2	0.24	0.22	0.26	+0.03
Azerbaijan	50/50	13.8	16.8	10.8	-6.0	0.29	0.29	0.28	-0.01
Bahrain	50/50	10.3	13.2	7.4	-5.8	0.30	0.30	0.30	+0.00
Belgium (Flemish)	50/50	4.8	6.8	2.8	-4.0	0.23	0.23	0.23	+0.01
Belgium (French)	50/50	9.2	12.9	5.7	-7.1	0.25	0.24	0.26	+0.02
Brazil	50/50	16.3	20.1	12.7	-7.4	0.33	0.34	0.33	-0.01
Bulgaria	50/50	4.8	6.3	3.2	-3.1	0.28	0.26	0.31	+0.05
Chinese Taipei	50/50	3.7	5.2	2.2	-3.0	0.24	0.23	0.25	+0.02
Croatia	50/50	3.0	4.5	1.4	-3.2	0.24	0.22	0.25	+0.03
Cyprus	50/50	8.1	11.7	4.5	-7.1	0.26	0.25	0.28	+0.03
Czech Republic	50/50	5.1	7.1	3.1	-4.0	0.24	0.23	0.25	+0.02
Denmark	50/50	4.8	6.7	2.9	-3.8	0.24	0.23	0.25	+0.02
Egypt	30/70	26.5	32.2	24.3	-8.0	0.38	0.42	0.36	-0.05
England	50/50	3.5	4.5	2.5	-2.0	0.28	0.25	0.31	+0.06
Finland	70/30	5.1	6.1	2.8	-3.3	0.24	0.23	0.26	+0.02
France	50/50	9.1	12.3	5.9	-6.3	0.25	0.23	0.26	+0.03
Georgia	50/50	8.8	11.2	6.5	-4.7	0.27	0.25	0.28	+0.03
Germany	50/50	7.0	9.5	4.5	-5.0	0.25	0.24	0.25	+0.01
Hong Kong SAR	70/30	4.3	5.5	1.9	-3.6	0.25	0.24	0.29	+0.05
Hungary	50/50	2.7	3.8	1.6	-2.3	0.25	0.23	0.26	+0.02
Iran, Islamic Rep. of	30/70	17.4	22.8	15.3	-7.5	0.30	0.32	0.30	-0.02
Ireland	70/30	2.3	2.7	1.4	-1.3	0.27	0.25	0.31	+0.06
Israel	50/50	7.6	10.2	5.0	-5.1	0.26	0.26	0.26	+0.01
Italy	50/50	5.1	7.1	3.0	-4.0	0.23	0.22	0.24	+0.02
Jordan	30/70	21.9	29.2	18.9	-10.3	0.36	0.39	0.34	-0.05

PIRLS 2021 Average Percent of Item Non-Response and Posterior Standard Deviations by Booklet Difficulty (Continued)

Country	Booklet Design	Average Percent of Item Non-Response				Posterior Standard Deviation			
		Overall	More Difficult Booklet Average	Less Difficult Booklet Average	Difference	Overall	More Difficult Booklet Average	Less Difficult Booklet Average	Difference
Kazakhstan	50/50	2.4	3.4	1.5	-1.9	0.24	0.23	0.24	+0.01
Kosovo	50/50	9.6	11.9	7.3	-4.6	0.28	0.29	0.27	-0.02
Latvia	50/50	5.4	7.0	3.8	-3.2	0.26	0.24	0.28	+0.04
Lithuania	50/50	2.6	3.4	1.7	-1.7	0.24	0.23	0.25	+0.03
Macao SAR	50/50	3.4	5.0	1.9	-3.1	0.26	0.24	0.28	+0.04
Malta	50/50	3.9	5.2	2.6	-2.6	0.25	0.25	0.26	+0.01
Montenegro	50/50	12.6	16.6	8.4	-8.2	0.26	0.25	0.27	+0.02
Morocco	30/70	13.0	16.5	11.5	-4.9	0.33	0.37	0.32	-0.05
Netherlands	50/50	4.2	5.9	2.5	-3.4	0.25	0.23	0.27	+0.04
New Zealand*	50/50, 30/70	5.6	6.9	4.4	-2.5	0.26	0.25	0.27	+0.01
North Macedonia	50/50	12.3	15.4	9.2	-6.2	0.28	0.28	0.28	-0.00
Northern Ireland	70/30	2.8	3.4	1.5	-1.9	0.27	0.25	0.31	+0.06
Norway (5)	50/50	4.1	5.7	2.4	-3.3	0.25	0.24	0.26	+0.02
Oman	30/70	11.8	16.9	9.7	-7.2	0.32	0.32	0.31	-0.01
Poland	70/30	6.9	8.5	3.4	-5.1	0.25	0.24	0.29	+0.05
Portugal	50/50	4.9	6.8	3.0	-3.8	0.23	0.23	0.24	+0.01
Qatar	50/50	6.6	8.4	4.8	-3.7	0.27	0.27	0.27	+0.00
Russian Federation	70/30	2.9	3.7	1.2	-2.4	0.24	0.23	0.26	+0.03
Saudi Arabia	30/70	6.1	8.3	5.2	-3.1	0.27	0.28	0.27	-0.01
Serbia	50/50	7.6	9.9	5.4	-4.5	0.25	0.23	0.27	+0.04
Singapore	70/30	0.8	1.0	0.5	-0.5	0.26	0.25	0.29	+0.04
Slovak Republic	50/50	4.3	5.8	2.7	-3.1	0.24	0.23	0.25	+0.02
Slovenia	50/50	5.6	7.6	3.4	-4.2	0.23	0.23	0.24	+0.01
South Africa	30/70	16.8	20.1	15.5	-4.6	0.42	0.47	0.39	-0.08
Spain	50/50	6.2	8.8	3.6	-5.2	0.23	0.23	0.24	+0.01
Sweden	50/50	4.5	6.3	2.7	-3.6	0.25	0.24	0.26	+0.02
Turkiye	50/50	4.2	6.0	2.4	-3.6	0.27	0.25	0.28	+0.03
United Arab Emirates	50/50	4.5	5.9	3.5	-2.4	0.30	0.29	0.31	+0.02

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Uzbekistan	50/50	9.5	12.7	6.4	-6.3	0.28	0.28	0.28	-0.01
International Average		7.2	9.5	5.2	-4.3	0.27	0.26	0.28	+0.02
Benchmarking Participants									
Alberta, Canada	50/50	3.6	4.6	2.5	-2.1	0.25	0.24	0.26	+0.02
British Columbia, Canada	50/50	3.8	5.2	2.4	-2.8	0.25	0.24	0.26	+0.02
Newfoundland & Labrador, Canada	50/50	6.6	9.0	4.2	-4.8	0.25	0.25	0.26	+0.01
Quebec, Canada	50/50	3.6	5.1	2.1	-3.0	0.23	0.22	0.25	+0.02
Moscow City, Russian Federation	70/30	1.4	1.8	0.5	-1.4	0.24	0.23	0.27	+0.04
South Africa (6)	30/70	4.4	6.2	3.6	-2.6	0.33	0.35	0.32	-0.03
Abu Dhabi, UAE	30/70	5.0	6.8	4.2	-2.6	0.34	0.34	0.34	-0.01
Dubai, UAE	50/50	2.7	3.6	1.8	-1.8	0.27	0.25	0.28	+0.03

* New Zealand used a 30/70 rotation for the Maori-medium stratum.
The United States was excluded from this analysis.