

TIMSS 2011

The TIMSS 2011 Students Confident in Mathematics Scale, Fourth Grade

The Students Confident in Mathematics (SCM) scale was created based on students' degree of agreement with the seven statements described below. See [Creating and Interpreting Context Questionnaire Scales](#), [PI L 2011 C1333](#), [11/11/11](#) for more information on how the scales were formed.

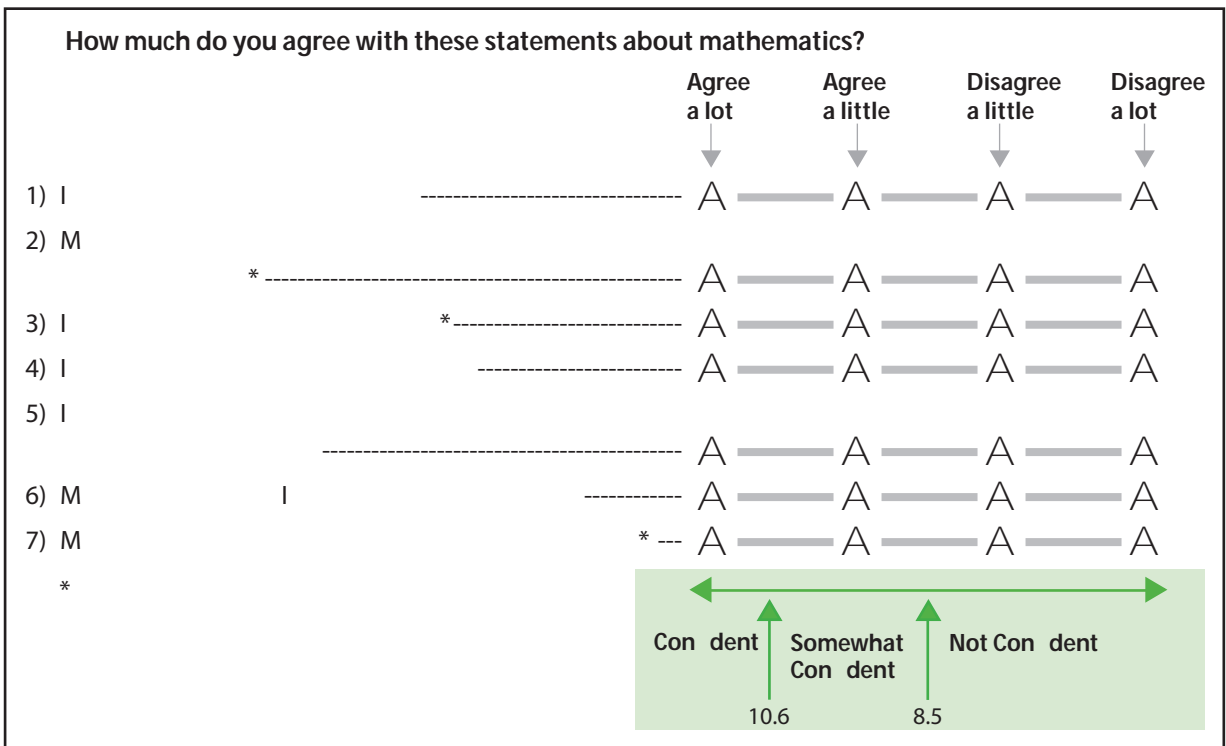


Exhibit 3: Scale Transformation Constants

Scale Transformation Constants	
A = 10.01830	= 10.01830 + 1.58282 L
B = 1.58282	

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	3.34397		11	8.64408	
1	4.97714		12	8.87883	
2	5.74890		13	9.11728	
3	6.27973		14	9.36542	
4	6.69957		15	9.63103	
5	7.05574		16	9.92558	
6	7.37059		17	10.26443	
7	7.65659		18	10.67906	10.6
8	7.92178		19	11.22909	
9	8.17204		20	12.06421	
10	8.41228	8.5	21	13.85435	

Exhibit 5: Cronbach's Alpha Reliability Coefficient and Principal Components Analysis of the Items in the TIMSS 2011 Students Confidence in Mathematics Scale, Fourth Grade

C	Cronbach's Alpha Reliability Coefficient	Percentage Validated	Fac Loadings						
			ASBM03A	ASBM03B*	ASBM03C*	ASBM03D	ASBM03E	ASBM03F	ASBM03G*
A	0.76	43	0.72	0.49	0.57	0.72	0.78	0.77	0.44
A	0.86	55	0.78	0.72	0.77	0.78	0.78	0.63	0.72
A	0.87	57	0.79	0.74	0.74	0.79	0.70	0.75	0.76
A	0.70	39	0.67	0.52	0.28	0.74	0.76	0.78	0.46
B	0.65	33	0.46	0.58	0.49	0.65	0.61	0.61	0.60
B (F)	0.86	60	0.83	0.76	0.84	0.74		0.67	0.79
C	0.77	44	0.77	0.54	0.62	0.77	0.72	0.60	0.59
C	0.86	55	0.80	0.66	0.71	0.78	0.78	0.76	0.67
C	0.88	60	0.83	0.71	0.77	0.80	0.79	0.82	0.70
C	0.87	56	0.78	0.74	0.77	0.81	0.65	0.72	0.76
D	0.85	54	0.81	0.74	0.77	0.79	0.80	0.53	0.68
E	0.83	51	0.78	0.68	0.76	0.77	0.75	0.48	0.70
F	0.89	60	0.84	0.73	0.81	0.81	0.78	0.71	0.75
G	0.75	41	0.69	0.63	0.72	0.67	0.54	0.61	0.63
G	0.89	62	0.83	0.78	0.81	0.81	0.77	0.75	0.75
H K A	0.87	56	0.80	0.70	0.78	0.78	0.74	0.71	0.73
H	0.88	60	0.79	0.74	0.78	0.80	0.77	0.80	0.73

Exhibit 6: Relationship Between the TIMSS 2011 Students' Confidence in Mathematics Scale, Fourth Grade, and TIMSS 2011 Mathematics Achievement (Continued)

Country	Pearson's Correlation		Variance in Mathematics Achievement Explained by Confidence in Mathematics Scale (r ²)
	(r)	(r ²)	
Algeria	0.27	0.07	0.08
Algeria	0.31	0.09	0.09
Algeria	0.30	0.09	0.08
Algeria	0.42	0.17	0.16
Algeria	0.17	0.03	0.02
Algeria	0.48	0.23	0.22
Algeria	0.27	0.07	0.07
Algeria	0.44	0.20	0.18
Algeria	0.40	0.16	0.16
Algeria	0.25	0.06	0.06
Algeria	0.47	0.22	0.22
Algeria	0.28	0.08	0.07
Algeria	0.34	0.12	0.12
Algeria	0.31	0.09	0.08
Algeria	0.39	0.15	0.14
Algeria	0.41	0.17	0.17
Algeria	0.46	0.21	0.21
Algeria	0.31	0.10	0.11
Algeria	0.42	0.17	0.16
Algeria	0.35	0.12	0.12
Algeria	0.24	0.06	0.06
Algeria	0.46	0.21	0.19
Algeria	0.42	0.18	0.18
Algeria	0.42	0.18	0.16
Algeria	0.44	0.19	0.18
Algeria	0.40	0.16	0.16
Algeria	0.31	0.10	0.08
Algeria	0.19	0.04	0.03
Algeria	0.24	0.06	0.06
Algeria	0.44	0.19	0.18
Algeria	0.26	0.07	0.07
Algeria	0.39	0.15	0.15
Algeria	0.25	0.06	0.06
Algeria	0.36	0.13	0.13

