



**Item Parameters for the TIMSS 2015 Scaled Scores Confidence in Biology Scale, Eighth Grade**

Item	Difficulty	Discrimination	Guessing	Upper Asymptote	Lower Asymptote
2	-0.730	-1.2237	-0.7	1.70031	0.2
2 *	0.0220	-1.03	-0.272	1.232	1.00
2 *	0.2702	-1.0	-0.137	1.2223	0.
2	-0.22073	-1.370	-0.22017	1.177	0.1
2	0.300	-1.211	0.0032	1.17	1.02
2	0.217	-1.372	-0.02	1.117	1.0
2 *	0.037	-0.212	-0.371	1.1203	1.01
2 *	-0.017	-0.711	-0.377	0.	1.07

**Scale Transformation Constants for the TIMSS 2015 Scaled Scores Confidence in Biology Scale, Eighth Grade**

72	
1.737	

**Equivalence Table of Raw and Transformed Scale Scores for the TIMSS 2015 Students' Confidence in Biology Scale, Eighth Grade**

Raw Score	Transformed Score	Scale Score
0	2.71	
1	3.02	
2	3.22	
3	3.40	
4	3.57	
5	3.73	
6	3.87	
7	4.00	
8	4.13	
9	4.22	
10	4.27	
11	4.33	
12	4.40	
13	4.45	
14	4.47	
15	4.49	
16	4.50	
17	4.51	
18	4.52	
19	4.53	
20	4.54	11.1
21	4.55	
22	4.56	
23	4.57	
24	4.58	

**Cronbach's Alpha Reliability Coefficient and Principal Components Analysis of the Items in the TIMSS 2015 Student Confidence in Biology Scale, Eighth Grade**

**Relationship Between the TIMSS 2015 Students' Confidence in Biology Scale, Eighth Grade, and TIMSS 2015 Science Achievement**

Country	Pearson's Correlation Coefficient		Significance Level (p-value)
	(1)	(2)	
Algeria	0.3	0.13	0.1
Armenia	0.2	0.07	0.0
Bahrain	0.20	0.0	0.0
Bulgaria	0.3	0.17	0.1
Chile	0.2	0.0	0.0
China	0.	0.20	0.21
China (East)	0.32	0.10	0.0
China (West)	0.1	0.02	0.02
Cyprus	0.2	0.07	0.07
France	0.30	0.0	0.0
<b>Total (N = 10)</b>	<b>0.2</b>	<b>0.0</b>	<b>0.0</b>

Table 15.19. Relationship Between the TIMSS 2015 Students' Confidence in Biology Scale, Eighth Grade, and TIMSS 2015 Science Achievement