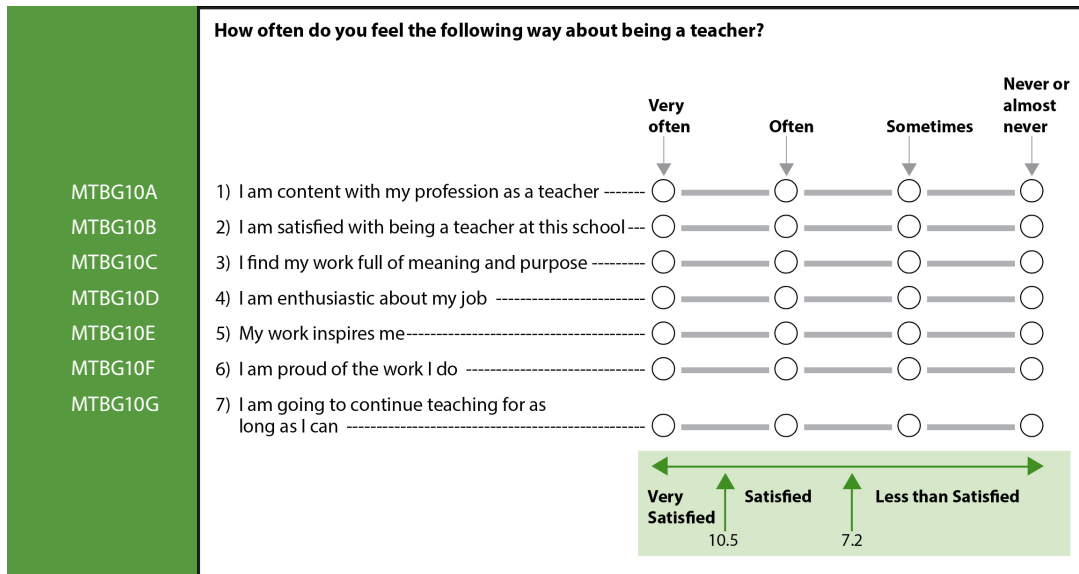


Teacher Job Satisfaction Scale, Advanced Mathematics

The Teacher Job Satisfaction (TJS) scale was created based on how often teachers responded positively to the seven statements described below.

Items in the TIMSS Advanced 2015 Teacher Job Satisfaction Scale, Advanced Mathematics¹



¹ For the purpose of scaling, categories in which there were very few respondents were combined. The categories “Sometimes” and “Never or almost never” were combined for all variables. The scale statistics that are reported herein reflect analysis of the items following collapsing.

Item Parameters for the TIMSS Advanced 2015 Teacher Job Satisfaction Scale, Advanced Mathematics

Item	delta	tau_1	tau_2	Infit
MTBG10A	0.02623	-1.95127	1.95127	0.88
MTBG10B	-0.43330	-1.84194	1.84194	1.13
MTBG10C	-0.61209	-1.77591	1.77591	1.01
MTBG10D	0.27416	-1.46188	1.46188	0.86
MTBG10E	0.59966	-1.80856	1.80856	0.82
MTBG10F	-0.16519	-1.70772	1.70772	1.04
MTBG10G	0.31053	-1.31610	1.31610	1.30

Scale Transformation Constants for the TIMSS Advanced 2015 Teacher Job Satisfaction Scale, Advanced Mathematics

Scale Transformation Constants

$$A = 8.820804$$

$$B = 0.846688$$

$$\text{Transformed Scale Score} = 8.820804 + 0.846688 \cdot \text{Logit Scale Score}$$

Equivalence Table of the Raw Score and the Transformed Scale Score for the TIMSS Advanced 2015 Teacher Job Satisfaction Scale, Advanced Mathematics

Raw Score	Transformed Scale Score	Cutpoint
0	4.98060	
1	6.05555	
2	6.65040	
3	7.11867	7.2
4	7.54548	
5	7.96186	
6	8.39462	
7	8.84453	
8	9.28947	
9	9.70621	
10	10.10676	
11	10.51404	10.5
12	10.96709	
13	11.54630	
14	12.61485	

SOURCE: IEA's Trends in International Mathematics and Science Study – TIMSS 2015

Cronbach's Alpha Reliability Coefficient and Principal Components Analysis of the Items in the TIMSS Advanced 2015 Teacher Job Satisfaction Scale, Advanced Mathematics

Country	Cronbach's Alpha Reliability Coefficient	Percent of Variance Explained	Component Loadings for Each Item							
			MTBG10A	MTBG10B	MTBG10C	MTBG10D	MTBG10E	MTBG10F	MTBG10G	
France	0.92	69	0.85	0.82	0.85	0.88	0.82	0.78	0.81	
Italy	0.90	63	0.84	0.75	0.75	0.87	0.82	0.83	0.67	
Lebanon	0.82	51	0.77	0.69	0.78	0.76	0.66	0.65	0.66	
Norway	0.93	70	0.86	0.76	0.86	0.87	0.91	0.83	0.76	
Portugal	0.87	56	0.79	0.67	0.68	0.84	0.79	0.76	0.70	
Russian Federation	0.91	66	0.83	0.80	0.77	0.83	0.84	0.82	0.79	
Russian Federation 6hr+	0.90	62	0.81	0.76	0.77	0.82	0.81	0.78	0.76	
Slovenia	0.92	68	0.82	0.75	0.82	0.91	0.88	0.82	0.74	
Sweden	0.89	61	0.78	0.72	0.70	0.83	0.87	0.78	0.78	
United States	0.92	68	0.85	0.81	0.85	0.88	0.88	0.75	0.73	
International Avg.	0.90	63	0.82	0.75	0.78	0.85	0.83	0.78	0.74	

Relationship Between the TIMSS Advanced 2015 Teacher Job Satisfaction Scale, and TIMSS Advanced 2015 Advanced Mathematics Achievement

Country	Pearson's Correlation with Advanced Mathematics Achievement		Variance in Advanced Mathematics Achievement Accounted for by Difference Between Regions of the Scale (η^2)
	(r)	(r ²)	
France	0.05	0.00	0.00
Italy	0.04	0.00	0.01
Lebanon	-0.01	0.00	0.00
Norway	0.18	0.03	0.04
Portugal	0.06	0.00	0.00
Russian Federation	0.22	0.05	0.03
Russian Federation 6hr+	0.08	0.01	0.00
Slovenia	0.13	0.02	0.02
Sweden	0.05	0.00	0.00
United States	-0.03	0.00	0.00
International Median	0.05	0.00	0.00

SOURCE: IEA's Trends in International Mathematics and Science Study – TIMSS 2015