

## Exhibit P10.3: Students Value Physics

Reported by Physics Students

Students were scored according to their degree of agreement with nine statements on the *Students Value Physics* scale. Students who **Strongly Value Physics** had a score on the scale of at least 11.3, which corresponds to their “agreeing a lot” with five of the nine statements and “agreeing a little” with the other four, on average. Students who **Do Not Value Physics** had a score no higher than 8.2, which corresponds to their “disagreeing a little” with five of the nine statements and “agreeing a little” with the other four, on average. All other students **Value Physics**.

Country	Strongly Value Physics		Value Physics		Do Not Value Physics		Average Scale Score
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	
Portugal	44 (1.6)	489 (4.9)	50 (1.6)	456 (5.5)	7 (0.8)	400 (8.0)	11.0 (0.08)
Lebanon	43 (2.6)	431 (6.5)	50 (1.9)	399 (5.3)	7 (1.1)	394 (10.1)	11.0 (0.13)
United States	35 (2.1)	483 (8.7)	55 (1.9)	422 (11.0)	11 (0.8)	368 (14.1)	10.5 (0.09)
Russian Federation	28 (1.4)	549 (6.6)	48 (1.1)	514 (7.2)	24 (1.5)	446 (8.7)	9.9 (0.09)
Norway	27 (1.2)	538 (6.4)	62 (1.1)	507 (4.5)	11 (0.7)	439 (8.3)	10.2 (0.05)
Sweden	21 (0.8)	492 (7.0)	66 (0.8)	456 (5.9)	13 (0.7)	386 (9.3)	9.9 (0.03)
Italy	12 (0.8)	435 (10.2)	56 (1.0)	386 (7.0)	32 (1.1)	333 (7.1)	9.1 (0.05)
France	10 (0.5)	431 (6.2)	65 (0.9)	382 (3.9)	25 (0.9)	331 (4.7)	9.2 (0.03)
Slovenia	4 (0.6)	563 (16.3)	75 (1.3)	538 (2.8)	21 (1.0)	503 (7.1)	9.0 (0.03)
International Avg.	25 (0.5)	490 (2.9)	58 (0.4)	451 (2.1)	17 (0.3)	400 (3.0)	

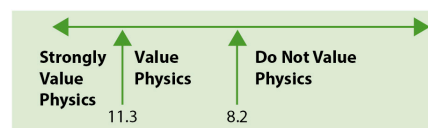
This TIMSS Advanced questionnaire scale was established in 2015 based on the combined response distribution of all countries that participated in TIMSS Advanced 2015. To provide a point of reference for country comparisons, the scale centerpoint of 10 was located at the mean of the combined distribution. The units of the scale were chosen so that 2 scale score points corresponded to the standard deviation of the distribution.

( ) Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.

How much do you agree with these statements about the physics you are studying?

	Agree a lot	Agree a little	Disagree a little	Disagree a lot
1) Learning physics will help me get ahead in the world-----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2) It is important to do well in my physics class -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3) The physics I am studying is not useful for my future* -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4) My parents are pleased that I am taking physics -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5) Doing well in physics will help me get into the university of my choice ----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6) Learning physics does not seem to be a worthwhile exercise*-----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7) My parents think that it is important that I do well in my physics class -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8) I like telling people I am studying physics -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9) Learning physics will give me more job opportunities -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

\*Reverse coded



## Exhibit P10.3: Students Value Physics (Continued)

## Students Value Physics by Gender

Reported by Physics Students

Country	Strongly Value Physics		Value Physics		Do Not Value Physics	
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement
<b>Portugal</b>						
Females	37 (3.6)	485 (8.9)	54 (4.2)	446 (8.1)	9 (2.3)	399 (14.3)
Males	46 (2.0)	490 (6.1)	49 (1.7)	460 (5.8)	6 (0.8)	401 (9.9)
<b>Lebanon</b>						
Females	45 (3.1)	431 (8.4)	49 (2.8)	412 (7.5)	6 (1.3)	397 (25.4)
Males	42 (3.1)	431 (7.9)	50 (2.5)	392 (7.7)	7 (1.3)	393 (16.5)
<b>United States</b>						
Females	27 (2.5)	450 (11.4)	61 (2.5)	406 (15.0)	12 (1.5)	334 (16.8)
Males	40 (2.3)	497 (8.6)	51 (2.2)	435 (10.2)	10 (1.0)	395 (17.1)
<b>Russian Federation</b>						
Females	20 (1.4)	548 (8.9)	46 (1.5)	517 (8.1)	34 (2.0)	443 (10.0)
Males	34 (1.7)	549 (7.0)	50 (1.3)	512 (7.7)	16 (1.3)	449 (11.1)
<b>Norway</b>						
Females	21 (1.6)	522 (9.4)	66 (1.8)	492 (6.4)	14 (1.3)	425 (10.9)
Males	29 (1.5)	543 (7.0)	60 (1.3)	513 (4.8)	10 (0.8)	447 (9.7)
<b>Sweden</b>						
Females	21 (1.6)	477 (9.2)	64 (1.4)	451 (6.8)	15 (1.0)	392 (9.3)
Males	21 (1.0)	502 (7.8)	67 (1.2)	460 (6.3)	12 (0.7)	381 (13.5)
<b>Italy</b>						
Females	11 (0.8)	397 (14.8)	56 (1.4)	368 (7.7)	34 (1.4)	328 (8.4)
Males	13 (1.2)	460 (12.5)	57 (1.1)	402 (8.3)	30 (1.4)	337 (9.4)
<b>France</b>						
Females	8 (0.6)	395 (8.2)	64 (1.3)	365 (4.5)	29 (1.2)	321 (5.2)
Males	12 (0.8)	452 (7.0)	66 (1.2)	396 (4.6)	22 (1.2)	342 (5.7)
<b>Slovenia</b>						
Females	3 (0.9)	545 (44.4)	71 (2.6)	517 (7.5)	26 (2.4)	488 (10.2)
Males	5 (0.8)	568 (16.1)	76 (1.5)	546 (3.9)	19 (1.4)	512 (9.6)
<b>International Avg.</b>						
Females	21 (0.7)	472 (5.9)	59 (0.8)	442 (2.8)	20 (0.6)	392 (4.5)
Males	27 (0.6)	499 (3.1)	58 (0.5)	457 (2.3)	15 (0.4)	406 (4.0)

This TIMSS Advanced questionnaire scale was established in 2015 based on the combined response distribution of all countries that participated in TIMSS Advanced 2015. To provide a point of reference for country comparisons, the scale centerpoint of 10 was located at the mean of the combined distribution. The units of the scale were chosen so that 2 scale score points corresponded to the standard deviation of the distribution.

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