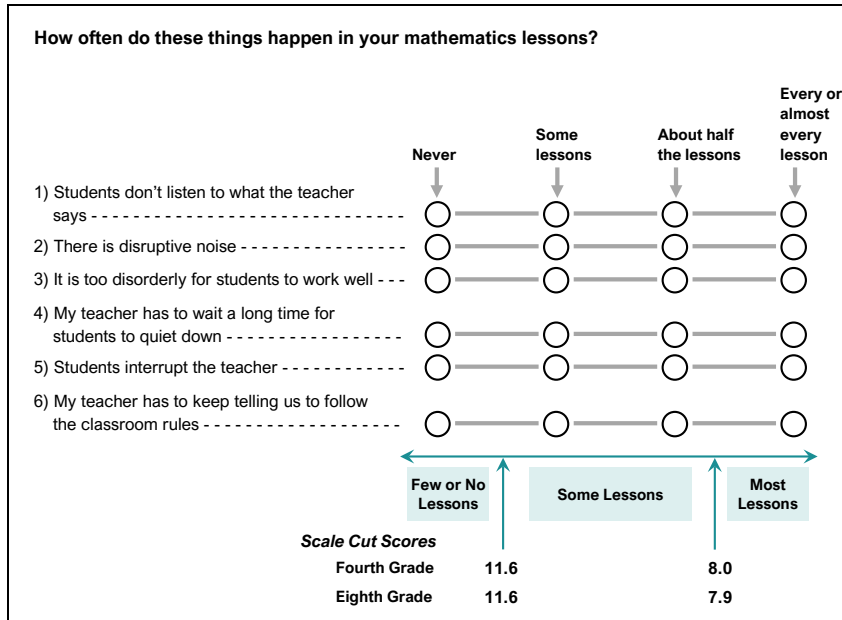


Exhibit 12.11: Disorderly Behavior During Mathematics Lessons

Students' Reports

About the Scale

Students were scored according to their responses to six statements on the *Disorderly Behavior During Mathematics Lessons* scale. Cut scores divide the scale into three categories. Students who reported disorderly behavior in **Few or No Lessons** had a score at or above the cut score corresponding to reporting that three of the six situations “never” happened in their mathematics lessons and the other three happened in “some lessons,” on average. Students who reported disorderly behavior in **Most Lessons** had a score at or below the cut score corresponding to reporting that three of the six situations happened in “every or almost every lesson” and the other three happened in “about half the lessons,” on average. All other students reported disorderly behavior in **Some Lessons**.



SOURCE: IEA's Trends in International Mathematics and Science Study - TIMSS 2019
Downloaded from <http://timss2019.org/download>

Exhibit 12.12: Disorderly Behavior During Mathematics Lessons

Students' Reports

Country	Few or No Lessons		Some Lessons		Most Lessons		Average Scale Score
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	
Japan	41 (1.8)	598 (2.4)	54 (1.6)	592 (2.3)	5 (0.5)	570 (6.9)	11.3 (0.09)
Armenia	37 (1.7)	504 (3.5)	52 (1.4)	505 (2.7)	11 (0.7)	479 (4.4)	11.0 (0.10)
Albania	35 (2.5)	503 (5.4)	59 (2.4)	496 (3.7)	6 (1.0)	446 (11.3)	10.9 (0.12)
Kazakhstan	33 (1.9)	524 (3.7)	60 (1.6)	509 (2.7)	7 (0.7)	492 (5.0)	10.8 (0.10)
Georgia	33 (1.8)	490 (5.2)	57 (1.6)	481 (4.1)	9 (1.0)	451 (7.8)	10.8 (0.10)
Kosovo	32 (1.5)	447 (3.8)	58 (1.4)	454 (3.1)	9 (0.8)	400 (7.1)	10.7 (0.07)
Bulgaria	30 (2.1)	532 (4.3)	60 (1.5)	519 (3.3)	10 (1.8)	461 (16.2)	10.6 (0.14)
North Macedonia	29 (2.1)	488 (6.8)	59 (2.1)	480 (5.6)	12 (0.9)	424 (8.8)	10.5 (0.09)
Azerbaijan	29 (1.9)	522 (3.5)	62 (1.7)	524 (3.0)	9 (0.7)	510 (5.9)	10.6 (0.08)
Saudi Arabia	27 (1.3)	418 (5.4)	62 (1.2)	398 (3.8)	11 (0.6)	367 (5.3)	10.4 (0.07)
Lithuania	26 (2.0)	551 (4.1)	67 (1.7)	542 (3.1)	7 (0.7)	516 (7.4)	10.6 (0.09)
Montenegro	26 (1.0)	457 (2.7)	62 (0.9)	459 (2.2)	12 (0.8)	424 (6.0)	10.4 (0.05)
Morocco	25 (2.2)	384 (8.2)	65 (2.1)	389 (4.6)	10 (0.8)	357 (6.6)	10.4 (0.11)
Serbia	24 (1.6)	511 (5.4)	65 (1.5)	512 (3.7)	11 (1.1)	485 (6.0)	10.3 (0.08)
United Arab Emirates	24 (0.9)	498 (2.6)	61 (0.8)	482 (1.9)	15 (0.4)	463 (3.3)	10.2 (0.05)
Russian Federation	24 (1.8)	576 (5.3)	60 (1.4)	570 (3.6)	16 (1.2)	546 (4.4)	10.1 (0.11)
Oman	23 (1.6)	449 (6.4)	64 (1.5)	431 (4.1)	13 (0.7)	413 (7.1)	10.2 (0.09)
Pakistan	23 (3.6)	356 (16.5)	67 (2.7)	326 (11.7)	10 (1.6)	292 (12.3)	10.3 (0.24)
Iran, Islamic Rep. of	22 (1.6)	430 (9.0)	61 (1.5)	450 (4.3)	17 (1.0)	443 (4.6)	10.1 (0.08)
Hong Kong SAR	21 (1.3)	607 (4.1)	67 (1.4)	602 (3.6)	12 (1.1)	591 (8.0)	10.2 (0.08)
Bosnia and Herzegovina	20 (1.4)	456 (3.8)	62 (1.2)	458 (2.6)	18 (1.1)	432 (3.8)	9.9 (0.08)
Turkey (5)	20 (1.3)	540 (6.3)	67 (1.0)	523 (4.6)	13 (0.9)	505 (7.5)	10.1 (0.07)
Hungary	19 (1.3)	537 (3.9)	70 (1.1)	524 (2.8)	11 (0.9)	498 (5.6)	10.2 (0.07)
Korea, Rep. of	19 (1.6)	601 (4.3)	73 (1.3)	600 (2.3)	8 (0.8)	596 (5.0)	10.3 (0.08)
Bahrain	19 (1.3)	491 (4.4)	65 (1.1)	480 (2.7)	16 (0.8)	467 (4.0)	10.0 (0.07)
Austria	18 (1.4)	556 (3.2)	65 (1.1)	541 (2.2)	16 (1.1)	516 (4.6)	9.9 (0.09)
Ireland	18 (1.3)	565 (4.1)	74 (1.3)	549 (2.5)	8 (0.7)	515 (6.9)	10.2 (0.06)
Chinese Taipei	18 (1.3)	602 (3.6)	72 (1.1)	599 (2.3)	10 (0.8)	598 (3.9)	10.1 (0.07)
Slovak Republic	17 (1.6)	523 (6.5)	66 (1.7)	512 (3.5)	17 (1.4)	489 (5.9)	9.8 (0.09)
Croatia	17 (1.3)	516 (4.3)	68 (1.5)	511 (2.3)	15 (1.6)	496 (4.9)	9.9 (0.09)
Qatar	17 (1.2)	460 (4.7)	66 (1.2)	455 (3.8)	17 (0.9)	429 (4.8)	9.8 (0.07)
Czech Republic	16 (1.7)	552 (5.1)	67 (1.6)	535 (2.6)	17 (1.2)	508 (4.8)	9.9 (0.09)
Latvia	15 (1.3)	561 (3.3)	72 (1.0)	547 (2.8)	12 (0.9)	526 (5.5)	10.0 (0.08)
Finland	15 (1.1)	538 (4.0)	77 (1.0)	532 (2.6)	8 (0.7)	525 (5.1)	10.2 (0.05)
Northern Ireland	14 (1.2)	592 (5.4)	77 (1.2)	566 (2.8)	9 (0.9)	527 (7.2)	10.0 (0.06)
Kuwait	14 (1.5)	393 (8.0)	68 (1.6)	393 (5.1)	18 (0.9)	375 (6.6)	9.6 (0.07)
Poland	13 (1.1)	527 (5.3)	67 (1.1)	525 (2.7)	19 (1.2)	505 (4.1)	9.6 (0.08)
England	11 (1.1)	587 (8.2)	74 (1.1)	558 (3.3)	14 (1.1)	530 (5.1)	9.8 (0.07)
Cyprus	11 (0.8)	552 (4.8)	73 (1.0)	535 (3.0)	15 (1.2)	507 (4.0)	9.7 (0.06)
Belgium (Flemish)	11 (1.2)	547 (4.3)	80 (1.2)	533 (1.9)	9 (0.7)	514 (5.3)	9.9 (0.06)
Norway (5)	11 (1.0)	549 (6.2)	79 (0.9)	545 (2.3)	10 (0.8)	532 (6.1)	10.0 (0.06)
Portugal	11 (0.8)	533 (4.9)	72 (0.9)	529 (2.5)	17 (1.0)	503 (4.9)	9.7 (0.05)
France	10 (0.9)	509 (6.1)	74 (1.2)	488 (3.1)	16 (1.1)	455 (5.1)	9.6 (0.06)
Sweden	10 (1.3)	537 (5.9)	75 (1.3)	523 (2.8)	15 (1.3)	507 (4.6)	9.7 (0.09)
United States	9 (0.6)	558 (5.3)	70 (0.7)	542 (2.7)	21 (0.8)	511 (3.2)	9.4 (0.04)
South Africa (5)	9 (0.7)	387 (7.7)	68 (0.8)	374 (3.7)	23 (0.7)	378 (4.5)	9.2 (0.05)
Netherlands	8 (0.9)	539 (4.9)	80 (1.0)	539 (2.2)	11 (1.0)	530 (4.9)	9.7 (0.06)
Canada	7 (0.5)	531 (6.0)	77 (0.6)	514 (2.0)	16 (0.6)	491 (3.3)	9.5 (0.03)
Malta	7 (0.4)	511 (4.3)	73 (0.7)	513 (1.6)	19 (0.6)	493 (3.0)	9.4 (0.02)
Germany	7 (0.7)	534 (6.1)	72 (1.1)	527 (2.4)	20 (1.1)	512 (4.0)	9.3 (0.06)
Australia	7 (0.8)	542 (6.4)	76 (0.9)	522 (2.6)	17 (1.1)	479 (5.5)	9.5 (0.06)
Denmark	7 (1.0)	533 (6.6)	80 (1.2)	527 (1.9)	13 (1.0)	512 (5.6)	9.7 (0.06)
Spain	7 (0.6)	513 (6.5)	77 (1.0)	508 (2.0)	16 (1.0)	478 (4.2)	9.4 (0.05)
Italy	7 (0.8)	518 (4.8)	72 (1.1)	518 (2.7)	22 (1.1)	506 (3.8)	9.2 (0.05)
New Zealand	6 (0.5)	525 (6.6)	73 (1.1)	495 (2.9)	21 (1.0)	455 (4.0)	9.3 (0.05)
Philippines	6 (0.9)	309 (8.9)	78 (1.4)	305 (6.5)	16 (1.4)	274 (8.5)	9.3 (0.07)
Chile	5 (0.5)	449 (6.4)	61 (1.1)	448 (2.9)	34 (1.3)	433 (3.7)	8.7 (0.05)
Singapore	- -	- -	- -	- -	- -	- -	- -
International Average	18 (0.2)	511 (0.8)	68 (0.2)	502 (0.5)	14 (0.1)	478 (0.8)	
Benchmarking Participants							
Dubai, UAE	24 (1.4)	549 (3.2)	62 (1.3)	545 (2.1)	14 (0.9)	531 (4.0)	10.3 (0.09)
Abu Dhabi, UAE	18 (1.1)	456 (5.5)	65 (1.1)	444 (2.4)	17 (0.7)	420 (3.9)	9.9 (0.06)
Moscow City, Russian Fed.	18 (1.3)	613 (2.9)	65 (1.2)	593 (2.4)	17 (1.2)	573 (3.6)	9.9 (0.08)
Quebec, Canada	10 (1.2)	546 (5.2)	76 (1.1)	532 (2.7)	14 (1.0)	517 (3.9)	9.7 (0.07)
Madrid, Spain	7 (0.9)	524 (6.5)	79 (1.1)	523 (1.9)	14 (1.0)	494 (5.0)	9.5 (0.07)
Ontario, Canada	6 (0.7)	539 (13.5)	77 (1.0)	515 (3.4)	17 (1.0)	493 (5.1)	9.4 (0.05)

This TIMSS context questionnaire scale was established in 2019 based on the combined response distribution of all countries that participated in TIMSS 2019. 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.

A dash (-) indicates comparable data not available.

Exhibit 12.13: Disorderly Behavior During Mathematics Lessons

Students' Reports

Country	Few or No Lessons		Some Lessons		Most Lessons		Average Scale Score
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	
Japan	60 (1.8)	599 (3.0)	38 (1.7)	588 (3.3)	2 (0.3)	--	11.8 (0.09)
Kazakhstan	42 (1.4)	499 (4.1)	55 (1.3)	480 (3.7)	3 (0.4)	476 (12.2)	11.2 (0.05)
Ireland	35 (1.4)	548 (2.9)	55 (1.3)	516 (3.1)	10 (0.8)	490 (5.5)	10.6 (0.06)
Russian Federation	33 (1.8)	556 (5.8)	58 (1.5)	540 (4.8)	9 (0.8)	521 (6.2)	10.6 (0.09)
Chinese Taipei	32 (1.5)	615 (3.4)	60 (1.2)	612 (3.1)	9 (0.8)	607 (6.5)	10.6 (0.08)
Romania	31 (1.8)	506 (6.5)	60 (1.5)	473 (4.3)	9 (0.8)	438 (7.8)	10.5 (0.08)
Oman	26 (1.1)	423 (3.8)	66 (0.9)	411 (3.2)	8 (0.6)	400 (6.9)	10.3 (0.06)
United Arab Emirates	25 (0.9)	501 (3.5)	62 (0.7)	472 (1.8)	13 (0.5)	440 (3.7)	10.2 (0.04)
Lithuania	25 (1.5)	534 (4.0)	65 (1.3)	518 (3.2)	10 (1.0)	508 (7.1)	10.4 (0.08)
Turkey	25 (1.7)	513 (6.4)	64 (1.2)	490 (4.8)	11 (0.9)	490 (7.6)	10.3 (0.09)
France	25 (2.0)	489 (3.9)	64 (1.6)	482 (2.8)	11 (1.1)	475 (5.4)	10.2 (0.10)
Iran, Islamic Rep. of	25 (1.1)	461 (5.4)	65 (0.9)	443 (3.5)	11 (0.7)	429 (6.5)	10.2 (0.06)
Korea, Rep. of	25 (1.8)	600 (4.7)	66 (1.4)	608 (3.3)	9 (0.9)	620 (5.2)	10.3 (0.09)
Israel	24 (1.3)	548 (6.5)	63 (1.3)	519 (4.6)	12 (0.7)	483 (6.5)	10.2 (0.06)
Georgia	23 (1.6)	474 (6.9)	68 (1.6)	460 (4.2)	9 (0.8)	446 (10.8)	10.2 (0.08)
Hungary	23 (1.5)	533 (5.0)	66 (1.3)	516 (3.2)	11 (0.9)	488 (6.4)	10.2 (0.08)
United States	23 (1.2)	555 (5.3)	63 (1.0)	514 (4.8)	14 (0.8)	482 (5.3)	10.0 (0.07)
Jordan	22 (1.1)	437 (6.0)	65 (1.1)	424 (3.8)	12 (0.8)	391 (6.1)	10.0 (0.06)
Saudi Arabia	21 (0.9)	403 (4.6)	66 (1.0)	395 (2.7)	12 (0.7)	382 (4.6)	10.0 (0.05)
Finland	21 (1.4)	509 (3.6)	69 (1.2)	511 (2.8)	10 (0.8)	499 (4.9)	10.1 (0.07)
Hong Kong SAR	21 (1.5)	577 (5.6)	64 (1.2)	583 (4.0)	16 (1.1)	563 (7.8)	9.9 (0.09)
Lebanon	21 (1.3)	438 (4.3)	64 (1.4)	429 (3.2)	15 (1.2)	426 (7.0)	9.9 (0.07)
Egypt	18 (1.0)	427 (7.0)	69 (1.0)	418 (4.8)	13 (0.7)	389 (8.9)	9.8 (0.05)
England	18 (1.5)	554 (6.9)	63 (1.2)	519 (5.6)	19 (1.2)	481 (7.1)	9.7 (0.08)
Norway (9)	17 (1.4)	509 (4.4)	72 (1.4)	504 (2.7)	10 (0.9)	496 (6.1)	10.1 (0.07)
Qatar	16 (1.1)	465 (8.6)	67 (1.1)	446 (4.1)	16 (0.9)	415 (5.7)	9.7 (0.07)
Bahrain	16 (0.8)	494 (5.9)	68 (0.8)	480 (2.5)	16 (0.9)	473 (4.4)	9.6 (0.05)
Italy	15 (1.6)	513 (4.5)	67 (1.5)	497 (3.1)	18 (1.5)	487 (4.3)	9.5 (0.09)
Kuwait	15 (0.9)	407 (7.0)	69 (0.9)	408 (4.9)	16 (1.1)	387 (5.3)	9.6 (0.07)
Cyprus	14 (1.3)	524 (5.6)	69 (1.2)	500 (1.9)	17 (1.2)	491 (6.0)	9.6 (0.08)
Morocco	12 (0.7)	405 (5.6)	73 (0.8)	388 (2.3)	15 (0.8)	382 (3.1)	9.5 (0.05)
Sweden	11 (0.9)	506 (5.7)	72 (1.1)	505 (2.7)	17 (1.3)	495 (4.5)	9.5 (0.07)
Australia	11 (0.9)	565 (7.5)	65 (1.1)	520 (3.9)	24 (1.1)	493 (4.2)	9.2 (0.06)
Portugal	11 (1.5)	510 (6.5)	64 (1.7)	499 (3.8)	25 (1.8)	499 (5.2)	9.2 (0.10)
South Africa (9)	9 (0.5)	421 (5.0)	71 (0.5)	388 (2.3)	19 (0.5)	384 (3.0)	9.2 (0.04)
New Zealand	9 (0.9)	514 (7.4)	69 (1.6)	485 (3.2)	23 (1.8)	464 (6.5)	9.2 (0.09)
Chile	8 (0.9)	452 (6.6)	72 (1.2)	442 (3.1)	20 (1.3)	435 (3.8)	9.3 (0.07)
Malaysia	7 (0.5)	507 (6.0)	85 (0.5)	460 (3.1)	8 (0.5)	428 (6.4)	9.6 (0.04)
Singapore	--	--	--	--	--	--	--
International Average	21 (0.2)	502 (0.9)	65 (0.2)	485 (0.6)	13 (0.2)	466 (1.0)	
Benchmarking Participants							
Moscow City, Russian Fed.	29 (1.6)	586 (5.0)	62 (1.4)	574 (4.6)	10 (0.8)	553 (7.8)	10.4 (0.08)
Dubai, UAE	28 (1.3)	558 (3.5)	63 (1.2)	533 (2.4)	10 (0.6)	500 (5.1)	10.4 (0.06)
Abu Dhabi, UAE	19 (1.0)	472 (5.6)	64 (0.9)	434 (3.4)	17 (0.8)	414 (4.6)	9.8 (0.06)
Quebec, Canada	17 (1.7)	554 (4.7)	68 (1.6)	546 (3.9)	15 (1.3)	525 (7.4)	9.7 (0.10)
Ontario, Canada	17 (1.6)	553 (6.2)	66 (1.8)	531 (4.2)	17 (1.9)	504 (8.5)	9.7 (0.10)
Western Cape, RSA (9)	13 (1.5)	495 (8.7)	65 (1.4)	442 (4.5)	22 (1.5)	413 (5.1)	9.3 (0.09)
Gauteng, RSA (9)	11 (1.0)	464 (7.9)	68 (1.1)	420 (3.0)	20 (1.1)	403 (4.3)	9.3 (0.07)

This TIMSS context questionnaire scale was established in 2019 based on the combined response distribution of all countries that participated in TIMSS 2019. 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.

A dash (-) indicates comparable data not available. A tilde (~) indicates insufficient data to report achievement.

