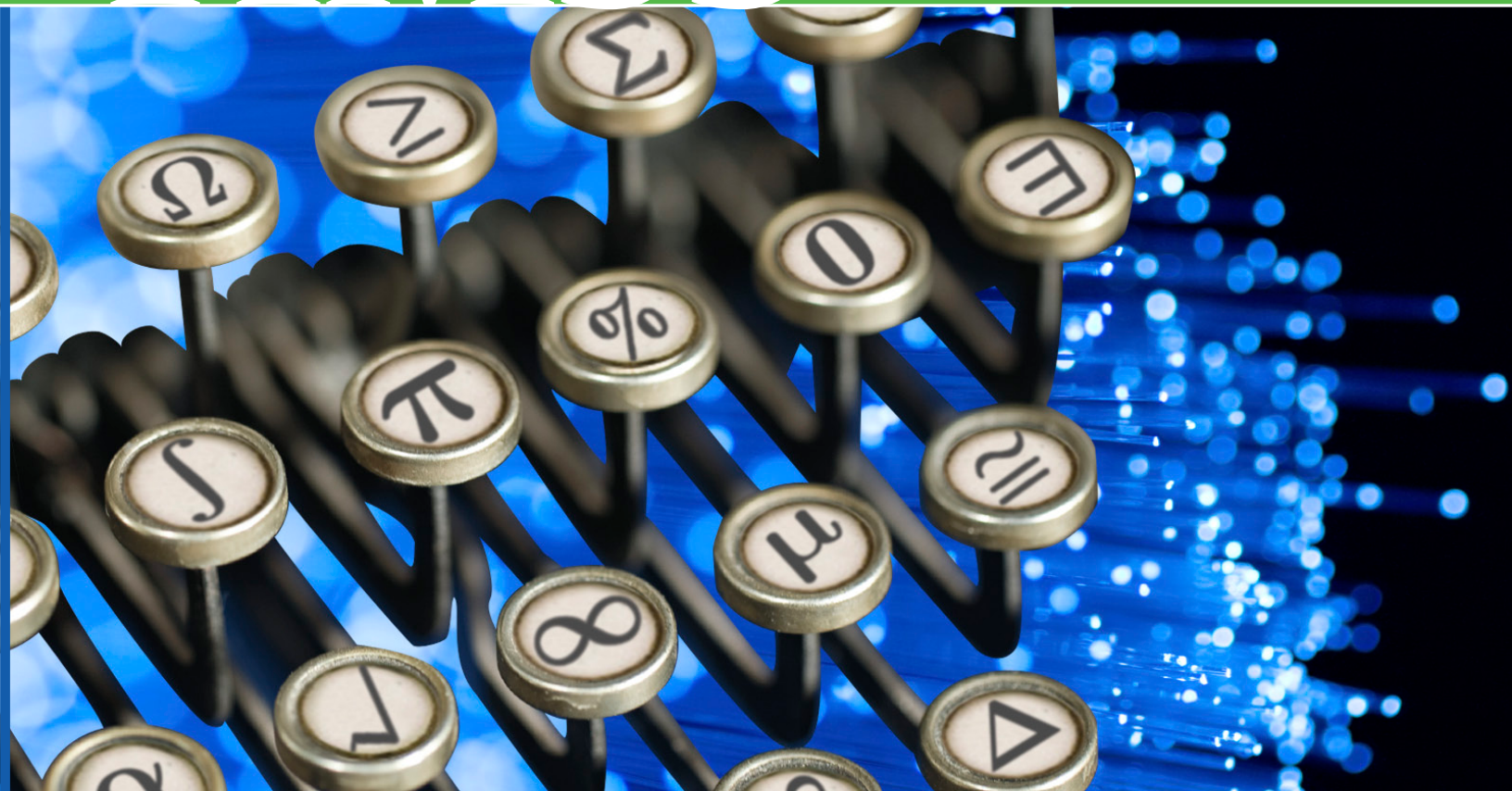


TRENDS IN INTERNATIONAL MATHEMATICS AND SCIENCE STUDY

TIMSS



TIMSS Advanced 2008 User Guide

for the International Database

Supplement 3

Variables Derived from the Student, Teacher,
and School Questionnaire Data



TIMSS & PIRLS
International Study Center
Lynch School of Education, Boston College

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Supplement 3

Variables Derived from the Student, Teacher, and School Questionnaire Data

Overview

This supplement contains documentation on all the derived variables contained in the TIMSS Advanced 2008 data files that are based on background questionnaire variables. These variables were used to report background data in the *TIMSS Advanced 2008 International Report*, and are made available as part of this database to be used in secondary analyses. This supplement has six sections corresponding to each background questionnaire from which reporting variables are derived.

- Section 1: Advanced Mathematics Student Questionnaire
- Section 2: Physics Student Questionnaire
- Section 3: Advanced Mathematics Teacher Questionnaire
- Section 4: Physics Teacher Questionnaire
- Section 5: School Questionnaire (Advanced Mathematics Schools)
- Section 6: School Questionnaire (Physics Schools)

Each section lists the derived variables in the order that they appear in the international reports. The following information is provided for each derived variable:

- Derived Variable Name, Variable Label, and Population
- Title of International Report Exhibit
- Report Location and Population
- Questionnaire Location
- Source Variables
- A procedural description of how the derived variable was computed, including missing data rules

Derived Variable Naming Convention

The derived variables are named according to the variable-naming convention in the TIMSS Advanced 2008 international database (see Chapter 4).

Variables Derived from Advanced Mathematics Student Background Data (Section 1)

There are two types of derived variables:

- Variables related to general student background (MSDG****)
- Variables related to mathematics learning and instruction (MSDM****)

Variables Derived from Physics Student Background Data (Section 2)

There are two types of derived variables:

- Variables related to general student background (PSDG****)
- Variables related to physics learning and instruction (PSDP****)

**Variables Derived from Advanced Mathematics Teacher Background Data
(Section 3)**

There is only one type of derived variable:

- Variables related to advanced mathematics classes and teaching mathematics (MTDM****)

**Variables Derived from Physics Teacher Background Data
(Section 4)**

There is only one type of derived variable:

- Variables related to physics classes and teaching physics (PTDP****)

**Variables Derived from Advanced Mathematics School Background Data
(Section 5)**

There are two types of derived variables:

- Variables related to general school background (MCDG****)
- Variables related to mathematics instruction (MCDM****)

**Variables Derived from Physics School Background Data
(Section 6)**

There are two types of derived variables:

- Variables related to general school background (PCDG****)
- Variables related to physics instruction (PCDP****)

Section 1

Advanced Mathematics
Student Questionnaire

Derived Variable Name: MSDGBORN Variable Label: Students and Parents Born in Country Subject: M	
Title of International Report Exhibit:	Students and Parents Born in the Country with Trends
Report Location:	4.3
Questionnaire Location:	SQM3_7AB, 8A
Source Variable:	MS2GMBRN, MS2GFBRN, MS2GBORN
Procedure:	Based on students' responses to the following questions: Was your mother (or stepmother or female guardian) born in <country>? (SQM3_7A, MS2GMBRN) Was your father (or stepfather or male guardian) born in <country>? (SQM3_7B, MS2GFBRN) Were you born in <country>? (SQM3_8A, MS2GBORN) Response options: Yes = 1; No = 2 Derived variable is computed by combining the responses to the above source questions and has three categories: 1 = Both Parents and the Child Born in Country (SQM3_7A=YES and SQM3_7B=YES and SQM3_8A=YES) 2 = At Least One of the Parents or the Child Born in the Country (At least one and not more than two "Yes" for these source variables) 3 = Neither Parent Nor the Child Born in Country (SQM3_7A=NO and SQM3_7B=NO and SQM3_8A=NO) The derived variable is coded as "MISSING" if there are 2 or more source questions with missing data.



Derived Variable Name: MSDMPATM Variable Label: Std Reason Positive Affect Toward Math Subject: M	
Title of International Report Exhibit:	Students' Reasons for Studying Advanced Mathematics - Students Have Positive Affect Toward Mathematics
Report Location:	4.11
Questionnaire Location:	SQM3_13abc
Source Variable:	MS2MWSEC, MS2MWSWM, MS2MWSMI
Procedure:	Based on students' responses to the following question: Why are you studying advanced mathematics? 1. I enjoy solving mathematical problems (SQM3_13a, MS2MWSEC) 2. I usually do well in mathematics (SQM3_13b, MS2MWSWM) 3. Advanced mathematics lessons are interesting (SQM3_13c, MS2MWSMI) Response options: Very Important = 1; Important = 2; Unimportant = 3; Very Unimportant = 4 Derived variable is computed by averaging the responses to the above source questions and has four categories: 1 = Very Important (Average is less than 1.75) 2 = Important (Average is greater than or equal to 1.75 and less than or equal to 2.5) 3 = Unimportant (Average is greater than 2.5 and less than or equal to 3.25) 4 = Very Unimportant (Average is greater than 3.25 and less than or equal to 4) The derived variable is coded as "MISSING" if there are 2 or more source questions with missing data.

Derived Variable Name: MSDMGTT	Variable Label: Std Reason Good Teacher and Teaching	Subject: M
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Title of International Report Exhibit:	Students' Reasons for Studying Advanced Mathematics - Good Teachers and Teaching
Report Location:	4.12
Questionnaire Location:	SQM3_13fi
Source Variable:	MS2MWSGT, MS2MWSWT
Procedure:	Based on students' responses to the following question:

Why are you studying advanced mathematics?

1. Advanced mathematics has good teachers (SQM3_13f, MS2MWSGT)

2. I like the way advanced mathematics is taught in my school (SQM3_13i, MS2MWSWT)

Response options: Very Important = 1; Important = 2; Unimportant = 3; Very Unimportant = 4

Derived variable is computed by averaging the responses to the above source questions and has four categories:

1 = Very Important (Average is less than 1.75)

2 = Important (Average is greater than or equal to 1.75 and less than or equal to 2.5)

3 = Unimportant (Average is greater than 2.5 and less than or equal to 3.25)

4 = Very Unimportant (Average is greater than 3.25 and less than or equal to 4)



Derived Variable Name: MSDMAFO	Variable Label: Std Reason Advice from Others	Subject: M
Title of International Report Exhibit:	Students' Reasons for Studying Advanced Mathematics - Advice from Others	
Report Location:	4.13	
Questionnaire Location:	SQM3_13gklm	
Source Variable:	MS2MWSPA, MS2MWSTA, MS2MWSFA, MS2MWSMA	
Procedure:	Based on students' responses to the following question: Why are you studying advanced mathematics? 1. My parents advised me to study advanced mathematics (SQM3_13g, MS2MWSPA) 2. A teacher advised me to study advanced mathematics (SQM3_13k, MS2MWSTA) 3. My friends also are studying advanced mathematics (SQM3_13l, MS2MWSFA) 4. The <study coordinator/mentor> of my school advised me to study advanced mathematics (SQM3_13m, MS2MWSMA) Response options: Very Important = 1; Important = 2; Unimportant = 3; Very Unimportant = 4 Derived variable is computed by averaging the responses to the above source questions and has four categories: 1 = Very Important (Average is less than 1.75) 2 = Important (Average is greater than or equal to 1.75 and less than or equal to 2.5) 3 = Unimportant (Average is greater than 2.5 and less than or equal to 3.25) 4 = Very Unimportant (Average is greater than 3.25 and less than or equal to 4) The derived variable is coded as "MISSING" if there are 2 or more source questions with missing data.	

Derived Variable Name: MSDGUSCA Variable Label: Calculator Use During the TIMSS Test Subject: M	
Title of International Report Exhibit:	Trends in Students' Reports of Calculator Use During the TIMSS Advanced Mathematics Test
Report Location:	5.21
Questionnaire Location:	*Achievement Booklet*
Source Variable:	MUS01, MUS03
Procedure:	Based on the students' responses to the calculator survey question at the end of the achievement booklet: Did you use a calculator in answering any of the questions in this booklet? (MUS01) Response options: Yes = 1; No = 2 In doing the questions, I estimate that I used the calculator? (MUS03) Response options: 1 = Very little (for fewer than 5 questions); 2 = Somewhat (for between 5 and 10 questions); 3 = Quite a lot (for more than 10 questions) Derived variable is computed by combining the responses to the above source questions and has four categories: 1 = Used Calculator Quite a Lot (More than 10 Questions); (MUS01=Yes and MUS03=Quite a lot) 2 = Used Calculator Somewhat (5–10 Questions); (MUS01=Yes and MUS03=Somewhat) 3 = Used Calculator Very Little (Less than 5 Questions); (MUS01=Yes and MUS03=Very little) 4 = Did Not Use a Calculator (MUS01=No)

Section 2

Physics Student
Questionnaire

Derived Variable Name: PSDGBORN Variable Label: Students and Parents Born in Country Subject: P	
Title of International Report Exhibit:	Students and Parents Born in the Country with Trends
Report Location:	10.3
Questionnaire Location:	SQP3_7AB, 8A
Source Variable:	PS2GMBRN, PS2GFBRN, PS2GBORN
Procedure:	Based on students' responses to the following questions: Was your mother (or stepmother or female guardian) born in <country>? (SQP3_7A, PS2GMBRN) Was your father (or stepfather or male guardian) born in <country>? (SQP3_7B, PS2GFBRN) Were you born in <country>? (SQP3_8A, PS2GBORN) Response options: Yes = 1; No = 2 Derived variable is computed by combining the responses to the above source questions and has three categories: 1 = Both Parents and the Child Born in Country (SQP3_7A=YES and SQP3_7B=YES and SQP3_8A=YES) 2 = At Least One of the Parents or the Child Born in the Country (At least one and not more than two "Yes" for these source variables) 3 = Neither Parent Nor the Child Born in Country (SQP3_7A=NO and SQP3_7B=NO and SQP3_8A=NO) The derived variable is coded as "MISSING" if there are 2 or more source questions with missing data.

Derived Variable Name: PSDPPATP	Variable Label: Std Reason Positive Affect Toward Phys	Subject: P
Title of International Report Exhibit:	Students' Reasons for Studying Physics - Students Have Positive Affect Toward Physics	
Report Location:	10.11	
Questionnaire Location:	SQP3_13abc	
Source Variable:	PS2PWSEC, PS2PWSWP, PS2PWSPI	
Procedure:	Based on students' responses to the following question: Why are you studying physics? 1. I enjoy conducting experiments or investigations for physics (SQP3_13a, PS2PWSEC) 2. I usually do well in physics (SQP3_13b, PS2PWSWP) 3. Physics lessons are interesting (SQP3_13c, PS2PWSPI) Response options: Very Important = 1; Important = 2; Unimportant = 3; Very Unimportant = 4 Derived variable is computed by averaging the responses to the above source questions and has four categories: 1 = Very Important (Average is less than 1.75) 2 = Important (Average is greater than or equal to 1.75 and less than or equal to 2.5) 3 = Unimportant (Average is greater than 2.5 and less than or equal to 3.25) 4 = Very Unimportant (Average is greater than 3.25 and less than or equal to 4) The derived variable is coded as "MISSING" if there are 2 or more source questions with missing data.	

Derived Variable Name: PSDPGTT	Variable Label: Std Reason Good Teacher and Teaching	Subject: P
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Title of International Report Exhibit: Students' Reasons for Studying Physics - Good Teachers and Teaching

Report Location: 10.12

Questionnaire Location: SQP3_13fi

Source Variable: PS2PWSGT, PS2PWSWT

Procedure: Based on students' responses to the following question:

Why are you studying physics?

1. Physics has good teachers (SQP3_13f, PS2PWSGT)

2. I like the way physics is taught in my school (SQP3_13i, PS2PWSWT)

Response options: Very Important = 1; Important = 2; Unimportant = 3; Very Unimportant = 4

Derived variable is computed by averaging the responses to the above source questions and has four categories:

1 = Very Important (Average is less than 1.75)

2 = Important (Average is greater than or equal to 1.75 and less than or equal to 2.5)

3 = Unimportant (Average is greater than 2.5 and less than or equal to 3.25)

4 = Very Unimportant (Average is greater than 3.25 and less than or equal to 4)



Derived Variable Name: PSDPAFO Variable Label: Std Reason Advice from Others Subject: P	
Title of International Report Exhibit:	Students' Reasons for Studying Physics - Advice from Others
Report Location:	10.13
Questionnaire Location:	SQP3_13gklm
Source Variable:	PS2PWSPA, PS2PWSTA, PS2PWSFA, PS2PWSMA
Procedure:	Based on students' responses to the following question: Why are you studying physics? 1. My parents advised me to study advanced mathematics (SQP3_13g, PS2PWSPA) 2. A teacher advised me to study advanced mathematics (SQP3_13k, PS2PWSTA) 3. My friends also are studying advanced mathematics (SQP3_13l, PS2PWSFA) 4. The <study coordinator/mentor> of my school advised me to study advanced mathematics (SQP3_13m, PS2PWSMA) Response options: Very Important = 1; Important = 2; Unimportant = 3; Very Unimportant = 4 Derived variable is computed by averaging the responses to the above source questions and has four categories: 1 = Very Important (Average is less than 1.75) 2 = Important (Average is greater than or equal to 1.75 and less than or equal to 2.5) 3 = Unimportant (Average is greater than 2.5 and less than or equal to 3.25) 4 = Very Unimportant (Average is greater than 3.25 and less than or equal to 4) The derived variable is coded as "MISSING" if there are 2 or more source questions with missing data.

Derived Variable Name: PSDGUSCA Variable Label: Calculator Use During the TIMSS Test Subject: P	
Title of International Report Exhibit:	Trends in Students' Reports of Calculator Use During the TIMSS Physics Test
Report Location:	11.21
Questionnaire Location:	*Achievement Booklet*
Source Variable:	PUS01, PUS03
Procedure:	Based on the students' responses to the calculator survey question at the end of the achievement booklet: Did you use a calculator in answering any of the questions in this booklet? (PUS01) Response options: Yes = 1; No = 2 In doing the questions, I estimate that I used the calculator? (PUS03) Response options: 1 = Very little (for fewer than 5 questions); 2 = Somewhat (for between 5 and 10 questions); 3 = Quite a lot (for more than 10 questions) Derived variable is computed by combining the responses to the above source questions and has four categories: 1 = Used Calculator Quite a Lot (More than 10 Questions); (PUS01=Yes and PUS03=Quite a lot) 2 = Used Calculator Somewhat (5–10 Questions); (PUS01=Yes and PUS03=Somewhat) 3 = Used Calculator Very Little (Less than 5 Questions); (PUS01=Yes and PUS03=Very little) 4 = Did Not Use a Calculator (PUS01=No)



Section 3

Advanced Mathematics
Teacher Questionnaire

Derived Variable Name: MTDMTPAL Variable Label: Pct Students Taught Algebra Topics Subject: M	
Title of International Report Exhibit:	Average Percent of Students Taught the TIMSS Advanced 2008 Mathematics Topics Prior to or During the Final Year
Report Location:	1.12
Questionnaire Location:	TQM3_24Aabcdef
Source Variable:	MT2MTP01, MT2MTP02, MT2MTP03, MT2MTP04, MT2MTP05, MT2MTP06
Procedure:	Based on the teachers' responses to the following questions: The following list includes the main topics addressed by the TIMSS advanced mathematics test. Choose the response that best describes when students in the <TIMSS class> have been taught each topic. If a topic was taught half this year but not yet completed, please choose "Mostly taught this year." If a topic is not in the curriculum, please choose "Not yet taught or just introduced." ALGEBRA topics (TQM3_24Aa-f; MT2MTP01, MT2MTP02, MT2MTP03, MT2MTP04, MT2MTP05, MT2MTP06) Response options: Mostly taught before this year = 1; Mostly taught this year = 2; Not yet taught or just introduced = 3 Compute the percentage of students whose teachers responded "Mostly Taught Before This Year" OR "Mostly Taught This Year" for the individual topics. Following this compute the average across the percentages of students taught all ALGEBRA topics prior to or during the final year. The derived variable is coded "MISSING" if there are more than one third of the source questions with missing data.

Derived Variable Name: MTDMTPCA Variable Label: Pct Students Taught Calculus Topics Subject: M	
Title of International Report Exhibit:	Average Percent of Students Taught the TIMSS Advanced 2008 Mathematics Topics Prior to or During the Final Year
Report Location:	1.12
Questionnaire Location:	TQM3_24Babcde
Source Variable:	MT2MTP07, MT2MTP08, MT2MTP09, MT2MTP10, MT2MTP11
Procedure:	Based on the teachers' responses to the following questions: The following list includes the main topics addressed by the TIMSS advanced mathematics test. Choose the response that best describes when students in the <TIMSS class> have been taught each topic. If a topic was taught half this year but not yet completed, please choose "Mostly taught this year." If a topic is not in the curriculum, please choose "Not yet taught or just introduced." CALCULUS topics (TQM3_24Ba-e; MT2MTP07, MT2MTP08, MT2MTP09, MT2MTP10, MT2MTP11) Response options: Mostly taught before this year = 1; Mostly taught this year = 2; Not yet taught or just introduced = 3 Compute the percentage of students whose teachers responded "Mostly Taught Before This Year" OR "Mostly Taught This Year" for the individual topics. Following this compute the average across the percentages of students taught all CALCULUS topics prior to or during the final year. The derived variable is coded "MISSING" if there are more than one third of the source questions with missing data.

Derived Variable Name: MTDMTPGE Variable Label: Pct Students Taught Geometry Topics Subject: M	
Title of International Report Exhibit:	Average Percent of Students Taught the TIMSS Advanced 2008 Mathematics Topics Prior to or During the Final Year
Report Location:	1.12
Questionnaire Location:	TQM3_24Cabcde
Source Variable:	MT2MTP12, MT2MTP13, MT2MTP14, MT2MTP15, MT2MTP16
Procedure:	Based on the teachers' responses to the following questions: The following list includes the main topics addressed by the TIMSS advanced mathematics test. Choose the response that best describes when students in the <TIMSS class> have been taught each topic. If a topic was taught half this year but not yet completed, please choose "Mostly taught this year." If a topic is not in the curriculum, please choose "Not yet taught or just introduced." GEOMETRY topics (TQM3_24Ca-e; MT2MTP12, MT2MTP13, MT2MTP14, MT2MTP15, MT2MTP16) Response options: Mostly taught before this year = 1; Mostly taught this year = 2; Not yet taught or just introduced = 3 Compute the percentage of students whose teachers responded "Mostly Taught Before This Year" OR "Mostly Taught This Year" for the individual topics. Following this compute the average across the percentages of students taught all GEOMETRY topics prior to or during the final year. The derived variable is coded "MISSING" if there are more than one third of the source questions with missing data.

Derived Variable Name: MTDMTPOV Variable Label: Pct Students Taught All Math Topics Subject: M	
Title of International Report Exhibit:	Average Percent of Students Taught the TIMSS Advanced 2008 Mathematics Topics Prior to or During the Final Year
Report Location:	1.12
Questionnaire Location:	TQM3_24Aabcdef; Babcde; Cabcde
Source Variable:	MT2MTP01, MT2MTP02, MT2MTP03, MT2MTP04, MT2MTP05, MT2MTP06, MT2MTP07, MT2MTP08, MT2MTP09, MT2MTP10, MT2MTP11, MT2MTP12, MT2MTP13, MT2MTP14, MT2MTP15, MT2MTP16
Procedure:	Based on the teachers' responses to the following questions: The following list includes the main topics addressed by the TIMSS advanced mathematics test. Choose the response that best describes when students in the <TIMSS class> have been taught each topic. If a topic was taught half this year but not yet completed, please choose "Mostly taught this year." If a topic is not in the curriculum, please choose "Not yet taught or just introduced." A. ALGEBRA topics (TQM3_24Aa-f; MT2MTP01, MT2MTP02, MT2MTP03, MT2MTP04, MT2MTP05, MT2MTP06) B. CALCULUS topics (TQM3_24Ba-e; MT2MTP07, MT2MTP08, MT2MTP09, MT2MTP10, MT2MTP11) C. GEOMETRY topics (TQM3_24Ca-e; MT2MTP12, MT2MTP13, MT2MTP14, MT2MTP15, MT2MTP16) Response options: Mostly taught before this year = 1; Mostly taught this year = 2; Not yet taught or just introduced = 3 Compute the percentage of students whose teachers responded "Mostly Taught Before This Year" OR "Mostly Taught This Year" for the individual topics. Following this compute the average across the percentages of students taught all Advanced Mathematics topics prior to or during the final year. The derived variable is coded "MISSING" if there are more than one third of the source questions with missing data.

Derived Variable Name: MTDMMTAL Variable Label: Tchs Very Well Prpd on Algebra Topics Subject: M	
Title of International Report Exhibit:	Percent of Students Whose Teachers Feel "Very Well" Prepared to Teach the TIMSS Advanced 2008 Mathematics Topics
Report Location:	1.16
Questionnaire Location:	TQM3_8Aabcdef
Source Variable:	MT2MTT01, MT2MTT02, MT2MTT03, MT2MTT04, MT2MTT05, MT2MTT06
Procedure:	Based on the teachers' responses to the following questions: How well prepared do you feel you are to teach the following topics? ALGEBRA topics (TQM3_8Aa-f; MT2MTT01, MT2MTT02, MT2MTT03, MT2MTT04, MT2MTT05, MT2MTT06) Response options: Very well prepared = 1; Somewhat prepared = 2; Not well prepared = 3 Compute the percentage of students whose teachers responded "Very well prepared" for the individual topics. Following this compute the average across the percentages of students whose teachers indicate feeling very well prepared to teach all ALGEBRA topics. The derived variable is coded "MISSING" if there are more than one third of the source questions with missing data.

Derived Variable Name: MTDMTTCA Variable Label: Tchs Very Well Prpd on Calculus Topics Subject: M	
Title of International Report Exhibit:	Percent of Students Whose Teachers Feel "Very Well" Prepared to Teach the TIMSS Advanced 2008 Mathematics Topics
Report Location:	1.16
Questionnaire Location:	TQM3_8Babcde
Source Variable:	MT2MTT07, MT2MTT08, MT2MTT09, MT2MTT10, MT2MTT11
Procedure:	Based on the teachers' responses to the following questions: How well prepared do you feel you are to teach the following topics? CALCULUS topics (TQM3_8Ba-e; MT2MTT07, MT2MTT08, MT2MTT09, MT2MTT10, MT2MTT11) Response options: Very well prepared = 1; Somewhat prepared = 2; Not well prepared = 3 Compute the percentage of students whose teachers responded "Very well prepared" for the individual topics. Following this compute the average across the percentages of students whose teachers indicate feeling very well prepared to teach all CALCULUS topics. The derived variable is coded "MISSING" if there are more than one third of the source questions with missing data.

Derived Variable Name: MTDMTTGE Variable Label: Tchs Very Well Prpd on Geometry Topics Subject: M	
Title of International Report Exhibit:	Percent of Students Whose Teachers Feel "Very Well" Prepared to Teach the TIMSS Advanced 2008 Mathematics Topics
Report Location:	1.16
Questionnaire Location:	TQM3_8Cabcde
Source Variable:	MT2MTT12, MT2MTT13, MT2MTT14, MT2MTT15, MT2MTT16
Procedure:	Based on the teachers' responses to the following questions: How well prepared do you feel you are to teach the following topics? GEOMETRY topics (TQM3_8Ca-e; MT2MTT12, MT2MTT13, MT2MTT14, MT2MTT15, MT2MTT16) Response options: Very well prepared = 1; Somewhat prepared = 2; Not well prepared = 3 Compute the percentage of students whose teachers responded "Very well prepared" for the individual topics. Following this compute the average across the percentages of students whose teachers indicate feeling very well prepared to teach all GEOMETRY topics. The derived variable is coded "MISSING" if there are more than one third of the source questions with missing data.

Derived Variable Name: MTDMTT0V Variable Label: Tchs Very Well Prpd on All Math Topics Subject: M	
Title of International Report Exhibit:	Percent of Students Whose Teachers Feel "Very Well" Prepared to Teach the TIMSS Advanced 2008 Mathematics Topics
Report Location:	1.16
Questionnaire Location:	TQM3_8Aabcdef; Babcd; Cabcd
Source Variable:	MT2MTT01, MT2MTT02, MT2MTT03, MT2MTT04, MT2MTT05, MT2MTT06, MT2MTT07, MT2MTT08, MT2MTT09, MT2MTT10, MT2MTT11, MT2MTT12, MT2MTT13, MT2MTT14, MT2MTT15, MT2MTT16
Procedure:	Based on the teachers' responses to the following questions: How well prepared do you feel you are to teach the following topics? A. ALGEBRA topics (TQM3_8Aa-f; MT2MTT01, MT2MTT02, MT2MTT03, MT2MTT04, MT2MTT05, MT2MTT06) B. CALCULUS topics (TQM3_8Ba-e; MT2MTT07, MT2MTT08, MT2MTT09, MT2MTT10, MT2MTT11) C. GEOMETRY topics (TQM3_8Ca-e; MT2MTT12, MT2MTT13, MT2MTT14, MT2MTT15, MT2MTT16) Response options: Very well prepared = 1; Somewhat prepared = 2; Not well prepared = 3 Compute the percentage of students whose teachers responded "Very well prepared" for the individual topics. Following this compute the average across the percentages of students whose teachers indicate feeling very well prepared to teach all Advanced Mathematics topics. The derived variable is coded "MISSING" if there are more than one third of the source questions with missing data.

Derived Variable Name: MTDMPAM Variable Label: Idx Tchrs Prtcpt Prof Activs Math (PAM) Subject: M	
Title of International Report Exhibit:	Index of Teachers' Participation in Professional Activities in Mathematics (PAM)
Report Location:	5.7
Questionnaire Location:	TQM3_12abcde
Source Variable:	MT2MACWO, MT2MACPR, MT2MACPU, MT2MACIP, MT2MACEX
Procedure:	Based on the teachers' responses to the following questions: In the past two years, have you taken part in any of the following activities in mathematics? 1. Attended a Workshop or Conference (TQM3_12a, MT2MACWO) 2. Gave a Presentation at a Workshop or Conference (TQM3_12b, MT2MACPR) 3. Published an Article in a Journal or Magazine for Teachers (Print or Online) (TQM3_12c, MT2MACPU) 4. Took Part in an Innovative Project for Curriculum and Instruction (TQM3_12d, MT2MACIP) 5. Exchanged Information Online about How to Teach Mathematics (TQM3_12e, MT2MACEX) Response options: Yes = 1; No = 2 Index is computed by combining the responses to the above source questions and has three categories: 1 = High (Responded "Yes" to 3 or more source variables) 2 = Medium (All other combinations) 3 = Low (Responded "No" to all 5 source variables) The derived variable is coded "MISSING" if there are 2 or more source questions with missing data.

Derived Variable Name: MTDMCOLL Variable Label: Freq of Collaboration Among Math Tchs Subject: M	
Title of International Report Exhibit:	Frequency of Collaboration Among Advanced Mathematics Teachers
Report Location:	5.9
Questionnaire Location:	TQM3_9abcd
Source Variable:	MT2GOTDC, MT2GOTPM, MT2GOTVT, MT2GOTIO
Procedure:	Based on the teachers' responses to the following questions: In your school, how often do you have the following types of interactions with other teachers? 1. Discussions About How to Teach a Particular Concept (TQM3_9a, MT2GOTDC) 2. Working on Preparing Instructional Materials (TQM3_9b, MT2GOTPM) 3. Visits to Another Teacher's Classroom to Observe His/Her Teaching (TQM3_9c, MT2GOTVT) 4. Informal Observations of My Classroom by Another Teacher (TQM3_9d, MT2GOTIO) Response options: Never or almost never = 1; 2 or 3 times per month = 2; 1-3 times per week = 3; Daily or almost daily = 4 Derived variable is computed by averaging the responses to the above source questions and has three categories: 1 = Never or Almost Never (Average is less than or equal to 1.4) 2 = 2 or 3 Times per Month (Average is greater than 1.4 and less than or equal to 2.4) 3 = At least Weekly (Average is greater than 2.4) The derived variable is coded "MISSING" if there are 2 or more source questions with missing data.

Derived Variable Name:	MTDMSTUD	Variable Label:	Class Size for Mathematics Instruction	Subject:	M
Title of International Report Exhibit:	Achievement and Class Size for Advanced Mathematics Instruction				
Report Location:	5.11				
Questionnaire Location:	TQM3_16				
Source Variable:	MT2MSTUD				
Procedure:	Based on the teachers' responses to the following question: How many students are in the <TIMSS class>? (TQM3_16, MT2MSTUD) 1 = 1-24 Students 2 = 25-32 Students 3 = 33-40 Students 4 = 41 or More Students				



Derived Variable Name: MTDMMCFL Variable Label: Idx Std Factors Limit Instruct in Math Subject: M	
Title of International Report Exhibit:	Index of Student Factors Limiting Instruction in Advanced Mathematics
Report Location:	5.12
Questionnaire Location:	TQM3_22abcde
Source Variable:	MT2GLI01, MT2GLI02, MT2GLI03, MT2GLI04, MT2GLI05
Procedure:	Based on the teachers' responses to the following questions: In your view, to what extent do the following limit how you teach mathematics to the TIMSS class? 1. Students with different academic abilities (TQM3_22a, MT2GLI01) 2. Students who come from a wide range of backgrounds (TQM3_22b, MT2GLI02) 3. Students with special needs (TQM3_22c, MT2GLI03) 4. Uninterested students (TQM3_22d, MT2GLI04) 5. Disruptive students (TQM3_22e, MT2GLI05) Response options: Not at all = 1; A little = 2; Some = 3; A lot = 4 Index is computed by averaging the responses to the above source questions and has three categories: 1 = High (Average is less than 2) 2 = Medium (Average is greater than or equal to 2 and less than or equal to 3) 3 = Low (Average is greater than 3) The derived variable is coded "MISSING" if there are 2 or more source questions with missing data.

Derived Variable Name: MTDMEH Variable Label: Idx Tchs Emph on Math Homework (EMH) Subject: M	
Title of International Report Exhibit:	Index of Teachers' Emphasis on Advanced Mathematics Homework (EMH)
Report Location:	5.22
Questionnaire Location:	TQM3_28-30
Source Variable:	MT2MHMWM, MT2MHOAM, MT2MHWKM
Procedure:	Based on the teachers' responses to the following questions: 1. Do you assign mathematics homework to the <TIMSS class>? (TQM3_28, MT2MHMWM) Response options: Yes = 1; No = 2 2. How often do you usually assign mathematics homework to the <TIMSS class>? (TQM3_29, MT2MHOAM) Response options: Every or almost every lesson = 1; About half the lessons = 2; Some lessons = 3 3. When you assign mathematics homework to the <TIMSS class>, about how many minutes do you usually assign? (Consider the time it would take an average student in your class.) (TQM3_30, MT2MHWKM) Response options: 30 minutes or less = 1; 31-60 minutes = 2; 61-90 minutes = 3; More than 90 minutes = 4 Index is computed by combining the responses to the above source questions and has three categories: 1 = High (Teachers responded "Yes" to TQM3_28 (MT2MHMWM) AND "Every or almost every lesson" OR "About half the lessons" to TQM3_29 (MT2MHOAM) AND "31-60 minutes" OR "61-90 minutes" or "More than 90 minutes" to TQM3_30 (MT2MHWKM)) 2 = Medium (All other combinations) 3 = Low (Teachers responded "Yes" to TQM3_28 (MT2MHMWM) AND "About half the lessons" or "Some lessons" to TQM3_29 (MT2MHOAM) AND "30 minutes or less" to TQM3_30 (MT2MHWKM) OR Teachers responded "No" to TQM3_28 (MT2MHMWM)) The derived variable is coded "MISSING" if MT2MHOAM or MT2MHWKM are missing.

Derived Variable Name: MTDMPSS	Variable Label: Idx Math Tchrs Prcpt Sch Safety (TPSS)	Subject: M
Title of International Report Exhibit:	Index of Advanced Mathematics Teachers' Perceptions of Safety in Their Schools (TPSS)	
Report Location:	6.4	
Questionnaire Location:	TQM3_13abc	
Source Variable:	MT2GCUSN, MT2GCUSA, MT2GCUSP	
Procedure:	Based on the teachers' responses to the following questions: Thinking about your current school, indicate the extent to which you agree or disagree with each of the following statements? 1. This school is located in a safe neighborhood (TQM3_13a, MT2GCUSN) 2. I feel safe at this school (TQM3_13b, MT2GCUSA) 3. This school's security policies and practices are sufficient (TQM3_13c, MT2GCUSP) Response options: Agree a lot = 1; Agree = 2; Disagree = 3; Disagree a lot = 4 Index is computed by averaging the responses to the above source questions and has three categories: 1 = High (Responded "Agree a lot" or "Agree" to all three statements) 2 = Medium (All other combinations) 3 = Low (Responded "Disagree" or "Disagree a lot" to all three statements) The derived variable is coded "MISSING" if there are 2 or more source questions with missing data.	

Derived Variable Name: MTDMTPSC Variable Label: Idx Math Tchs Prcpt Sch Climate (TPSC) Subject: M	
Title of International Report Exhibit:	Index of Advanced Mathematics Teachers' Perceptions of School Climate (TPSC)
Report Location:	6.6
Questionnaire Location:	TQM3_15abcdefghi
Source Variable:	MT2GCHTS, MT2GCHTU, MT2GCHDS, MT2GCHTE, MT2GCHPD, MT2GCHPS, MT2GCHPI, MT2GCHSR, MT2GCHSD
Procedure:	Based on the teachers' responses to the following questions: How would you characterize each of the following within your school? 1. Teachers' job satisfaction (TQM3_15a, MT2GCHTS) 2. Teachers' understanding of the school's curricular goals (TQM3_15b, MT2GCHTU) 3. Teachers' degree of success in implementing the school's curriculum (TQM3_15c, MT2GCHDS) 4. Teachers' expectations for student achievement (TQM3_15d, MT2GCHTE) 5. Support for teachers' professional development (TQM3_15e, MT2GCHPD) 6. Parental support for student achievement (TQM3_15f, MT2GCHPS) 7. Parental involvement in school activities (TQM3_15g, MT2GCHPI) 8. Students' regard for school property (TQM3_15h, MT2GCHSR) 9. Students' desire to do well in school (TQM3_15i, MT2GCHSD) Response options: Very high = 1; High = 2; Medium = 3; Low = 4; Very low = 5 Index is computed by averaging the responses to the above source questions and has three categories: 1 = High (Average is less than or equal to 2) 2 = Medium (Average is greater than 2 and less than 3) 3 = Low (Average is greater than or equal to 3) The derived variable is coded "MISSING" if there are 4 or more source questions with missing data.

Section 4

Physics Teacher
Questionnaire

Derived Variable Name: PTDPTPME Variable Label: Pct Students Taught Mechanics Topics Subject: P	
Title of International Report Exhibit:	Average Percent of Students Taught the TIMSS Advanced 2008 Physics Topics Prior to or During the Final Year
Report Location:	7.12
Questionnaire Location:	TQP3_24Aabcdefg
Source Variable:	PT2PTP01, PT2PTP02, PT2PTP03, PT2PTP04, PT2PTP05, PT2PTP06, PT2PTP07
Procedure:	Based on the teachers' responses to the following questions: The following list includes the main topics addressed by the TIMSS physics test. Choose the response that best describes when students in the <TIMSS class> have been taught each topic. If a topic was taught half this year but not yet completed, please choose "Mostly taught this year." If a topic is not in the curriculum, please choose "Not yet taught or just introduced." MECHANICS topics (TQP3_24Aa-g; PT2PTP01, PT2PTP02, PT2PTP03, PT2PTP04, PT2PTP05, PT2PTP06, PT2PTP07) Response options: Mostly taught before this year = 1; Mostly taught this year = 2; Not yet taught or just introduced = 3 Compute the percentage of students whose teachers responded "Mostly Taught Before This Year" OR "Mostly Taught This Year" for the individual topics. Following this compute the average across the percentages of students taught all MECHANICS topics prior to or during the final year. The derived variable is coded "MISSING" if there are more than one third of the source questions with missing data.

Derived Variable Name: PTDPTPEL Variable Label: Pct Students Taught Elect Magne Topics Subject: P	
Title of International Report Exhibit:	Average Percent of Students Taught the TIMSS Advanced 2008 Physics Topics Prior to or During the Final Year
Report Location:	7.12
Questionnaire Location:	TQP3_24Babcd
Source Variable:	PT2PTP08, PT2PTP09, PT2PTP10, PT2PTP11
Procedure:	Based on the teachers' responses to the following questions: The following list includes the main topics addressed by the TIMSS physics test. Choose the response that best describes when students in the <TIMSS class> have been taught each topic. If a topic was taught half this year but not yet completed, please choose "Mostly taught this year." If a topic is not in the curriculum, please choose "Not yet taught or just introduced." ELECTRICITY AND MAGNETISM topics (TQP3_24Ba-d; PT2PTP08, PT2PTP09, PT2PTP10, PT2PTP11) Response options: Mostly taught before this year = 1; Mostly taught this year = 2; Not yet taught or just introduced = 3 Compute the percentage of students whose teachers responded "Mostly Taught Before This Year" OR "Mostly Taught This Year" for the individual topics. Following this compute the average across the percentages of students taught all ELECTRICITY AND MAGNETISM topics prior to or during the final year. The derived variable is coded "MISSING" if there are more than one third of the source questions with missing data.

Derived Variable Name: PTDPTPHE Variable Label: Pct Students Taught Heat Temp Topics Subject: P	
Title of International Report Exhibit:	Average Percent of Students Taught the TIMSS Advanced 2008 Physics Topics Prior to or During the Final Year
Report Location:	7.12
Questionnaire Location:	TQP3_24Cabc
Source Variable:	PT2PTP12, PT2PTP13, PT2PTP14
Procedure:	Based on the teachers' responses to the following questions: The following list includes the main topics addressed by the TIMSS physics test. Choose the response that best describes when students in the <TIMSS class> have been taught each topic. If a topic was taught half this year but not yet completed, please choose "Mostly taught this year." If a topic is not in the curriculum, please choose "Not yet taught or just introduced." HEAT AND TEMPERATURE topics (TQP3_24Ca-c; PT2PTP12, PT2PTP13, PT2PTP14) Response options: Mostly taught before this year = 1; Mostly taught this year = 2; Not yet taught or just introduced = 3 Compute the percentage of students whose teachers responded "Mostly Taught Before This Year" OR "Mostly Taught This Year" for the individual topics. Following this compute the average across the percentages of students taught all HEAT AND TEMPERATURE topics prior to or during the final year. The derived variable is coded "MISSING" if there are more than one third of the source questions with missing data.

Derived Variable Name: PTDPTPAT Variable Label: Pct Students Taught Atomic Nucl Topics Subject: P	
Title of International Report Exhibit:	Average Percent of Students Taught the TIMSS Advanced 2008 Physics Topics Prior to or During the Final Year
Report Location:	7.12
Questionnaire Location:	TQP3_24Dabc
Source Variable:	PT2PTP15, PT2PTP16, PT2PTP17
Procedure:	Based on the teachers' responses to the following questions: The following list includes the main topics addressed by the TIMSS physics test. Choose the response that best describes when students in the <TIMSS class> have been taught each topic. If a topic was taught half this year but not yet completed, please choose "Mostly taught this year." If a topic is not in the curriculum, please choose "Not yet taught or just introduced." ATOMIC AND NUCLEAR PHYSICS topics (TQP3_24Da-c; PT2PTP15, PT2PTP16, PT2PTP17) Response options: Mostly taught before this year = 1; Mostly taught this year = 2; Not yet taught or just introduced = 3 Compute the percentage of students whose teachers responded "Mostly Taught Before This Year" OR "Mostly Taught This Year" for the individual topics. Following this compute the average across the percentages of students taught all ATOMIC AND NUCLEAR PHYSICS topics prior to or during the final year. The derived variable is coded "MISSING" if there are more than one third of the source questions with missing data.

Derived Variable Name: PTDPTPOV Variable Label: Pct Students Taught All Phys Topics Subject: P	
Title of International Report Exhibit:	Average Percent of Students Taught the TIMSS Advanced 2008 Physics Topics Prior to or During the Final Year
Report Location:	7.12
Questionnaire Location:	TQP3_24Aabcdefg; Babcd; Cabc; Dabc
Source Variable:	PT2PTP01, PT2PTP02, PT2PTP03, PT2PTP04, PT2PTP05, PT2PTP06, PT2PTP07, PT2PTP08, PT2PTP09, PT2PTP10, PT2PTP11, PT2PTP12, PT2PTP13, PT2PTP14, PT2PTP15, PT2PTP16, PT2PTP17
Procedure:	Based on the teachers' responses to the following questions: The following list includes the main topics addressed by the TIMSS physics test. Choose the response that best describes when students in the <TIMSS class> have been taught each topic. If a topic was taught half this year but not yet completed, please choose "Mostly taught this year." If a topic is not in the curriculum, please choose "Not yet taught or just introduced." A. MECHANICS topics (TQP3_24Aa-g; PT2PTP01, PT2PTP02, PT2PTP03, PT2PTP04, PT2PTP05, PT2PTP06, PT2PTP07) B. ELECTRICITY AND MAGNETISM topics (TQP3_24Ba-d; PT2PTP08, PT2PTP09, PT2PTP10, PT2PTP11) C. HEAT AND TEMPERATURE topics (TQP3_24Ca-c; PT2PTP12, PT2PTP13, PT2PTP14) D. ATOMIC AND NUCLEAR PHYSICS topics (TQP3_24Da-c; PT2PTP15, PT2PTP16, PT2PTP17) Response options: Mostly taught before this year = 1; Mostly taught this year = 2; Not yet taught or just introduced = 3 Compute the percentage of students whose teachers responded "Mostly Taught Before This Year" OR "Mostly Taught This Year" for the individual topics. Following this compute the average across the percentages of students taught all Physics topics prior to or during the final year. The derived variable is coded "MISSING" if there are more than one third of the source questions with missing data.

Derived Variable Name: PTDPTTME Variable Label: Tchs Very Well Prpd on Mech Topics Subject: P	
Title of International Report Exhibit:	Percent of Students Whose Teachers Feel "Very Well" Prepared to Teach the TIMSS Advanced 2008 Physics Topics
Report Location:	7.17
Questionnaire Location:	TQP3_8Aabcdefg
Source Variable:	PT2PTT01, PT2PTT02, PT2PTT03, PT2PTT04, PT2PTT05, PT2PTT06, PT2PTT07
Procedure:	Based on the teachers' responses to the following questions: How well prepared do you feel you are to teach the following topics? MECHANICS topics (TQP3_8Aa-g; PT2PTT01, PT2PTT02, PT2PTT03, PT2PTT04, PT2PTT05, PT2PTT06, PT2PTT07) Response options: Very well prepared = 1; Somewhat prepared = 2; Not well prepared = 3 Compute the percentage of students whose teachers responded "Very well prepared" for the individual topics. Following this compute the average across the percentages of students whose teachers indicate feeling very well prepared to teach all MECHANICS topics. The derived variable is coded "MISSING" if there are more than one third of the source questions with missing data.

Derived Variable Name: PTDPTTEL Variable Label: Tchs Very Well Prpd on Elec Topics Subject: P	
Title of International Report Exhibit:	Percent of Students Whose Teachers Feel "Very Well" Prepared to Teach the TIMSS Advanced 2008 Physics Topics
Report Location:	7.17
Questionnaire Location:	TQP3_8Babcd
Source Variable:	PT2PTT08, PT2PTT09, PT2PTT10, PT2PTT11
Procedure:	Based on the teachers' responses to the following questions: How well prepared do you feel you are to teach the following topics? ELECTRICITY AND MAGNETISM topics (TQP3_8Ba-d; PT2PTT08, PT2PTT09, PT2PTT10, PT2PTT11) Response options: Very well prepared = 1; Somewhat prepared = 2; Not well prepared = 3 Compute the percentage of students whose teachers responded "Very well prepared" for the individual topics. Following this compute the average across the percentages of students whose teachers indicate feeling very well prepared to teach all ELECTRICITY AND MAGNETISM topics. The derived variable is coded "MISSING" if there are more than one third of the source questions with missing data.

Derived Variable Name: PTDPTTHE Variable Label: Tchs Very Well Prpd on Heat Topics Subject: P	
Title of International Report Exhibit:	Percent of Students Whose Teachers Feel "Very Well" Prepared to Teach the TIMSS Advanced 2008 Physics Topics
Report Location:	7.17
Questionnaire Location:	TQP3_8Cabc
Source Variable:	PT2PTT12, PT2PTT13, PT2PTT14
Procedure:	Based on the teachers' responses to the following questions: How well prepared do you feel you are to teach the following topics? HEAT AND TEMPERATURE topics (TQP3_8Ca-c; PT2PTT12, PT2PTT13, PT2PTT14) Response options: Very well prepared = 1; Somewhat prepared = 2; Not well prepared = 3 Compute the percentage of students whose teachers responded "Very well prepared" for the individual topics. Following this compute the average across the percentages of students whose teachers indicate feeling very well prepared to teach all HEAT AND TEMPERATURE topics. The derived variable is coded "MISSING" if there are more than one third of the source questions with missing data.

Derived Variable Name: PTDPTTAT Variable Label: Tchs Very Well Prpd on Atom Topics Subject: P	
Title of International Report Exhibit:	Percent of Students Whose Teachers Feel "Very Well" Prepared to Teach the TIMSS Advanced 2008 Physics Topics
Report Location:	7.17
Questionnaire Location:	TQP3_8Dabc
Source Variable:	PT2PTT15, PT2PTT16, PT2PTT17
Procedure:	Based on the teachers' responses to the following questions: How well prepared do you feel you are to teach the following topics? ATOMIC AND NUCLEAR PHYSICS topics (TQP3_8Da-c; PT2PTT15, PT2PTT16, PT2PTT17) Response options: Very well prepared = 1; Somewhat prepared = 2; Not well prepared = 3 Compute the percentage of students whose teachers responded "Very well prepared" for the individual topics. Following this compute the average across the percentages of students whose teachers indicate feeling very well prepared to teach all ATOMIC AND NUCLEAR PHYSICS topics. The derived variable is coded "MISSING" if there are more than one third of the source questions with missing data.

Derived Variable Name: PTDPTTOV Variable Label: Tchs Very Well Prpd on All Phys Topics Subject: P	
Title of International Report Exhibit:	Percent of Students Whose Teachers Feel "Very Well" Prepared to Teach the TIMSS Advanced 2008 Physics Topics
Report Location:	7.17
Questionnaire Location:	TQP3_8Aabcdefg; Babcd; Cabc; Dabc
Source Variable:	PT2PTT01, PT2PTT02, PT2PTT03, PT2PTT04, PT2PTT05, PT2PTT06, PT2PTT07, PT2PTT08, PT2PTT09, PT2PTT10, PT2PTT11, PT2PTT12, PT2PTT13, PT2PTT14, PT2PTT15, PT2PTT16, PT2PTT17
Procedure:	Based on the teachers' responses to the following questions: How well prepared do you feel you are to teach the following topics? A. MECHANICS topics (TQP3_8Aa-g; PT2PTT01, PT2PTT02, PT2PTT03, PT2PTT04, PT2PTT05, PT2PTT06, PT2PTT07) B. ELECTRICITY AND MAGNETISM topics (TQP3_8Ba-d; PT2PTT08, PT2PTT09, PT2PTT10, PT2PTT11) C. HEAT AND TEMPERATURE topics (TQP3_8Ca-c; PT2PTT12, PT2PTT13, PT2PTT14) D. ATOMIC AND NUCLEAR PHYSICS topics (TQP3_8Da-c; PT2PTT15, PT2PTT16, PT2PTT17) Response options: Very well prepared = 1; Somewhat prepared = 2; Not well prepared = 3 Compute the percentage of students whose teachers responded "Very well prepared" for the individual topics. Following this compute the average across the percentages of students whose teachers indicate feeling very well prepared to teach all Physics topics. The derived variable is coded "MISSING" if there are more than one third of the source questions with missing data.

Derived Variable Name: PTDPPAP Variable Label: Idx Tchs Prtcpt Prof Activs Phys (PAP) Subject: P	
Title of International Report Exhibit:	Index of Teachers' Participation in Professional Activities in Physics (PAP)
Report Location:	11.7
Questionnaire Location:	TQP3_12abcde
Source Variable:	PT2PACWO, PT2PACPR, PT2PACPU, PT2PACIP, PT2PACEX
Procedure:	Based on the teachers' responses to the following questions: In the past two years, have you taken part in any of the following activities in physics 1. Attended a Workshop or Conference (TQP3_12a, PT2PACWO) 2. Gave a Presentation at a Workshop or Conference (TQP3_12b, PT2PACPR) 3. Published an Article in a Journal or Magazine for Teachers (Print or Online) (TQP3_12c, PT2PACPU) 4. Took Part in an Innovative Project for Curriculum and Instruction (TQP3_12d, PT2PACIP) 5. Exchanged Information Online about How to Teach Physics (TQP3_12e, PT2PACEX) Response options: Yes = 1; No = 2 Index is computed by combining the responses to the above source questions and has three categories: 1 = High (Responded "Yes" to 3 or more source variables) 2 = Medium (All other combinations) 3 = Low (Responded "No" to all 5 source variables) The derived variable is coded "MISSING" if there are 2 or more source questions with missing data.

Derived Variable Name: PTDPCOLL Variable Label: Freq of Collaboration Among Phys Tchrs Subject: P	
Title of International Report Exhibit:	Frequency of Collaboration Among Physics Teachers
Report Location:	11.9
Questionnaire Location:	TQP3_9abcd
Source Variable:	PT2GOTDC, PT2GOTPM, PT2GOTVT, PT2GOTIO
Procedure:	Based on the teachers' responses to the following questions: In your school, how often do you have the following types of interactions with other teachers? 1. Discussions About How to Teach a Particular Concept (TQP3_9a, PT2GOTDC) 2. Working on Preparing Instructional Materials (TQP3_9b, PT2GOTPM) 3. Visits to Another Teacher's Classroom to Observe His/Her Teaching (TQP3_9c, PT2GOTVT) 4. Informal Observations of My Classroom by Another Teacher (TQP3_9d, PT2GOTIO) Response options: Never or almost never = 1; 2 or 3 times per month = 2; 1-3 times per week = 3; Daily or almost daily = 4 Derived variable is computed by averaging the responses to the above source questions and has three categories: 1 = Never or Almost Never (Average is less than or equal to 1.4) 2 = 2 or 3 Times per Month (Average is greater than 1.4 and less than or equal to 2.4) 3 = At least Weekly (Average is greater than 2.4) The derived variable is coded "MISSING" if there are 2 or more source questions with missing data.

Derived Variable Name:	PTDPSTUD	Variable Label:	Class Size for Physics Instruction	Subject:	P
Title of International Report Exhibit:	Achievement and Class Size for Physics Instruction				
Report Location:	11.11				
Questionnaire Location:	TQP3_16				
Source Variable:	PT2PSTUD				
Procedure:	Based on the teachers' responses to the following question: How many students are in the <TIMSS class>? (TQP3_16, PT2PSTUD) 1 = 1-24 Students 2 = 25-32 Students 3 = 33-40 Students 4 = 41 or More Students				



Derived Variable Name: PTDPPCFL Variable Label: Idx Std Factors Limit Instruct in Phys Subject: P	
Title of International Report Exhibit:	Index of Student Factors Limiting Instruction in Physics
Report Location:	11.12
Questionnaire Location:	TQP3_22abcde
Source Variable:	PT2GLI01, PT2GLI02, PT2GLI03, PT2GLI04, PT2GLI05
Procedure:	Based on the teachers' responses to the following questions: In your view, to what extent do the following limit how you teach physics to the TIMSS class? 1. Students with different academic abilities (TQP3_22a, PT2GLI01) 2. Students who come from a wide range of backgrounds (TQP3_22b, PT2GLI02) 3. Students with special needs (TQP3_22c, PT2GLI03) 4. Uninterested students (TQP3_22d, PT2GLI04) 5. Disruptive students (TQP3_22e, PT2GLI05) Response options: Not at all = 1; A little = 2; Some = 3; A lot = 4 Index is computed by averaging the responses to the above source questions and has three categories: 1 = High (Average is less than 2) 2 = Medium (Average is greater than or equal to 2 and less than or equal to 3) 3 = Low (Average is greater than 3) The derived variable is coded "MISSING" if there are 2 or more source questions with missing data.

Derived Variable Name: PTDPEPH Variable Label: Idx Tchs Emph on Phys Homework (EPH) Subject: P	
Title of International Report Exhibit:	Index of Teachers' Emphasis on Physics Homework (EPH)
Report Location:	11.22
Questionnaire Location:	TQP3_28-30
Source Variable:	PT2PHMWP, PT2PHOAP, PT2PHWKM
Procedure:	Based on the teachers' responses to the following questions: 1. Do you assign mathematics homework to the <TIMSS class>? (TQP3_28, PT2PHMWP) Response options: Yes = 1; No = 2 2. How often do you usually assign physics homework to the <TIMSS class>? (TQP3_29, PT2PHOAP) Response options: Every or almost every lesson = 1; About half the lessons = 2; Some lessons = 3 3. When you assign physics homework to the <TIMSS class>, about how many minutes do you usually assign? (Consider the time it would take an average student in your class.) (TQP3_30, PT2PHWKM) Response options: 30 minutes or less = 1; 31-60 minutes = 2; 61-90 minutes = 3; More than 90 minutes = 4 Index is computed by combining the responses to the above source questions and has three categories: 1 = High (Teachers responded "Yes" to TQP3_28 (PT2PHMWP) AND "Every or almost every lesson" OR "About half the lessons" to TQP3_29 (PT2PHOAP) AND "31-60 minutes" OR "61-90 minutes" or "More than 90 minutes" to TQP3_30 (PT2PHWKM)) 2 = Medium (All other combinations) 3 = Low (Teachers responded "Yes" to TQP3_28 (PT2PHMWP) AND "About half the lessons" or "Some lessons" to TQP3_29 (PT2PHOAP) AND "30 minutes or less" to TQP3_30 (PT2PHWKM) OR Teachers responded "No" to TQP3_28 (PT2PHMWP)) The derived variable is coded "MISSING" if PT2PHOAP or PT2PHWKM are missing.

Derived Variable Name: PTDPTPSS Variable Label: Idx Phys Tchrs Prcpt Sch Safety (TPSS) Subject: P	
Title of International Report Exhibit:	Index of Physics Teachers' Perceptions of Safety in Their Schools (TPSS)
Report Location:	12.4
Questionnaire Location:	TQP3_13abc
Source Variable:	PT2GCUSN, PT2GCUSA, PT2GCUSP
Procedure:	Based on the teachers' responses to the following questions: Thinking about your current school, indicate the extent to which you agree or disagree with each of the following statements? 1. This school is located in a safe neighborhood (TQP3_13a, PT2GCUSN) 2. I feel safe at this school (TQP3_13b, PT2GCUSA) 3. This school's security policies and practices are sufficient (TQP3_13c, PT2GCUSP) Response options: Agree a lot = 1; Agree = 2; Disagree = 3; Disagree a lot = 4 Index is computed by averaging the responses to the above source questions and has three categories: 1 = High (Responded "Agree a lot" or "Agree" to all three statements) 2 = Medium (All other combinations) 3 = Low (Responded "Disagree" or "Disagree a lot" to all three statements) The derived variable is coded "MISSING" if there are 2 or more source questions with missing data.

Derived Variable Name: PTDPTPSC Variable Label: Idx Phys Tchrs Prcpt Sch Climate (TPSC) Subject: P	
Title of International Report Exhibit:	Index of Physics Teachers' Perceptions of School Climate (TPSC)
Report Location:	12.6
Questionnaire Location:	TQP3_15abcdefghi
Source Variable:	PT2GCHTS, PT2GCHTU, PT2GCHDS, PT2GCHTE, PT2GCHPD, PT2GCHPS, PT2GCHPI, PT2GCHSR, PT2GCHSD
Procedure:	Based on the teachers' responses to the following questions: How would you characterize each of the following within your school? 1. Teachers' job satisfaction (TQP3_15a, PT2GCHTS) 2. Teachers' understanding of the school's curricular goals (TQP3_15b, PT2GCHTU) 3. Teachers' degree of success in implementing the school's curriculum (TQP3_15c, PT2GCHDS) 4. Teachers' expectations for student achievement (TQP3_15d, PT2GCHTE) 5. Support for teachers' professional development (TQP3_15e, PT2GCHPD) 6. Parental support for student achievement (TQP3_15f, PT2GCHPS) 7. Parental involvement in school activities (TQP3_15g, PT2GCHPI) 8. Students' regard for school property (TQP3_15h, PT2GCHSR) 9. Students' desire to do well in school (TQP3_15i, PT2GCHSD) Response options: Very high = 1; High = 2; Medium = 3; Low = 4; Very low = 5 Index is computed by averaging the responses to the above source questions and has three categories: 1 = High (Average is less than or equal to 2) 2 = Medium (Average is greater than 2 and less than 3) 3 = Low (Average is greater than or equal to 3) The derived variable is coded "MISSING" if there are 4 or more source questions with missing data.

Section 5

School Questionnaire
(Advanced Mathematics Schools)

Derived Variable Name: MCDGGBS	Variable Label: Idx of Good Behavior at School (GBS)	Subject: M
Title of International Report Exhibit:	Index of Good Behavior at School for Students in the Final Year of Secondary School (GBS)	
Report Location:	6.3	
Questionnaire Location:	SCQ3_13Bfghijk	
Source Variable:	MC2GBS06, MC2GBS07, MC2GBS08, MC2GBS09, MC2GBS10, MC2GBS11	
Procedure:	Based on principals' responses to the following question: How often does each of the following problem behaviors occur among <twelfth-grade> students in your school? If the behavior occurs, how severe a problem does it present? Severity of problem in school: 1. Vandalism (SCQ3_13Bf, MC2GBS06) 2. Theft (SCQ3_13Bg, MC2GBS07) 3. Intimidation or verbal abuse of other students (SCQ3_13Bh, MC2GBS08) 4. Physical injury to other students (SCQ3_13Bi, MC2GBS09) 5. Intimidation or verbal abuse of teachers or staff (SCQ3_13Bj, MC2GBS10) 6. Physical injury to teachers or staff (SCQ3_13Bk, MC2GBS11) Response options: 1 = Not a Problem; 2 = Minor Problem; 3 = Serious Problem Index is computed by averaging the responses to the above source questions and has three categories: 1 = High (Average is equal to 1) 2 = Medium (Average is greater than 1 and less than or equal to 2) 3 = Low (Average is greater than 2) The derived variable is coded as "MISSING" if there are 3 or more source questions with missing data.	



Derived Variable Name: MCDGPPSC Variable Label: Idx Prncpl Prcpt School Climate (PPSC) Subject: M	
Title of International Report Exhibit:	Index of Principals' Perceptions of School Climate (PPSC)
Report Location:	6.5
Questionnaire Location:	SCQ3_8acdefghi
Source Variable:	MC2GCHTS, MC2GCHTU, MC2GCHDS, MC2GCHES, MC2GCHPS, MC2GCHPI, MC2GCHSR, MC2GCHSD
Procedure:	Based on principals' responses to the following question: How would you characterize each of the following within your school? 1. Teachers' job satisfaction (SCQ3_8a, MC2GCHTS) 2. Teachers' understanding of the school's curricular goals (SCQ3_8c, MC2GCHTU) 3. Teachers' degree of success in implementing the school's curriculum (SCQ3_8d, MC2GCHDS) 4. Teachers' expectations for student achievement (SCQ3_8e, MC2GCHES) 5. Parental support for student achievement (SCQ3_8f, MC2GCHPS) 6. Parental involvement in school activities (SCQ3_8g, MC2GCHPI) 7. Students' regard for school property (SCQ3_8h, MC2GCHSR) 8. Students' desire to do well in school (SCQ3_8i, MC2GCHSD) Response options: 1 = Very high; 2 = High; 3 = Medium; 4 = Low; 5 = Very low Index is computed by averaging the responses to the above source questions and has three categories: 1 = High (Average is less than or equal to 2) 2 = Medium (Average is greater than 2 and less than 3) 3 = Low (Average is greater than or equal to 3) The derived variable is coded as "MISSING" if there are 4 or more source questions with missing data.

Derived Variable Name: MCDGAGSR Variable Label: Idx Adeq of Gen Sch Resources (AGSR) Subject: M	
Title of International Report Exhibit:	Index of Adequacy of General School Resources (Shortages Do Not Affect Capacity to Provide Instruction) (AGSR)
Report Location:	6.8
Questionnaire Location:	SCQ3_14abcdef
Source Variable:	MC2GSC01, MC2GSC02, MC2GSC03, MC2GSC04, MC2GSC05, MC2GSC06
Procedure:	Based on principals' responses to the following question: Is your school's capacity to provide instruction affected by a shortage or inadequacy of any of the following? 1. Instructional materials (e.g., textbook) (SCQ3_14a, MC2GSC01) 2. Budget for supplies (e.g., paper, pencils) (SCQ3_14b, MC2GSC02) 3. School buildings and grounds (SCQ3_14c, MC2GSC03) 4. Heating/cooling and lighting systems (SCQ3_14d, MC2GSC04) 5. Instructional space (e.g., classrooms) (SCQ3_14e, MC2GSC05) 6. Special equipment for students with disabilities (SCQ3_14f, MC2GSC06) Response options: 1 = No; 2 = A little; 3 = Some; 4 = A lot Index is computed by averaging the responses to the above source questions and has three categories: 1 = High (Average is less than 2) 2 = Medium (Average is greater than or equal to 2 and less than 3) 3 = Low (Average is greater than or equal to 3) The derived variable is coded as "MISSING" if there are 3 or more source questions with missing data.



Derived Variable Name: MCDMARMI Variable Label: Idx Adeq of Ress for Math Instr (ARMI) Subject: M	
Title of International Report Exhibit:	Index of Adequacy of Resources Specifically for Mathematics Instruction (Shortages Do Not Affect Capacity to Provide Instruction) (ARMI)
Report Location:	6.9
Questionnaire Location:	SCQ3_14ghijk
Source Variable:	MC2MSC07, MC2MSC08, MC2MSC09, MC2MSC10, MC2MSC11
Procedure:	Based on principals' responses to the following question: Is your school's capacity to provide instruction affected by a shortage or inadequacy of any of the following? 1. Computers for mathematics instruction (SCQ3_14g, MC2MSC07) 2. Computer software for mathematics instruction (SCQ3_14h, MC2MSC08) 3. Calculators for mathematics instruction (SCQ3_14i, MC2MSC09) 4. Library materials relevant to mathematics instruction (SCQ3_14j, MC2MSC10) 5. Audio-visual resources for mathematics instruction (SCQ3_14k, MC2MSC11) Response options: 1 = No; 2 = A little; 3 = Some; 4 = A lot Index is computed by averaging the responses to the above source questions and has three categories: 1 = High (Average is less than 2) 2 = Medium (Average is greater than or equal to 2 and less than 3) 3 = Low (Average is greater than or equal to 3) The derived variable is coded as "MISSING" if there are 2 or more source questions with missing data.

Section 6

School Questionnaire
(Physics Schools)

Derived Variable Name: PCDGBS Variable Label: Idx of Good Behavior at School (GBS) Subject: P	
Title of International Report Exhibit:	Index of Good Behavior at School for Students in the Final Year of Secondary School (GBS)
Report Location:	12.3
Questionnaire Location:	SCQ3_13Bfghijk
Source Variable:	PC2GBS06, PC2GBS07, PC2GBS08, PC2GBS09, PC2GBS10, PC2GBS11
Procedure:	Based on principals' responses to the following question: How often does each of the following problem behaviors occur among <twelfth-grade> students in your school? If the behavior occurs, how severe a problem does it present? Severity of problem in school: 1. Vandalism (SCQ3_13Bf, PC2GBS06) 2. Theft (SCQ3_13Bg, PC2GBS07) 3. Intimidation or verbal abuse of other students (SCQ3_13Bh, PC2GBS08) 4. Physical injury to other students (SCQ3_13Bi, PC2GBS09) 5. Intimidation or verbal abuse of teachers or staff (SCQ3_13Bj, PC2GBS10) 6. Physical injury to teachers or staff (SCQ3_13Bk, PC2GBS11) Response options: 1 = Not a Problem; 2 = Minor Problem; 3 = Serious Problem Index is computed by averaging the responses to the above source questions and has three categories: 1 = High (Average is equal to 1) 2 = Medium (Average is greater than 1 and less than or equal to 2) 3 = Low (Average is greater than 2) The derived variable is coded as "MISSING" if there are 3 or more source questions with missing data.



Derived Variable Name: PCDGPPSC Variable Label: Idx Prncpl Prcpt School Climate (PPSC) Subject: P	
Title of International Report Exhibit:	Index of Principals' Perceptions of School Climate (PPSC)
Report Location:	12.5
Questionnaire Location:	SCQ3_8acdefghi
Source Variable:	PC2GCHTS, PC2GCHTU, PC2GCHDS, PC2GCHES, PC2GCHPS, PC2GCHPI, PC2GCHSR, PC2GCHSD
Procedure:	Based on principals' responses to the following question: How would you characterize each of the following within your school? 1. Teachers' job satisfaction (SCQ3_8a, PC2GCHTS) 2. Teachers' understanding of the school's curricular goals (SCQ3_8c, PC2GCHTU) 3. Teachers' degree of success in implementing the school's curriculum (SCQ3_8d, PC2GCHDS) 4. Teachers' expectations for student achievement (SCQ3_8e, PC2GCHES) 5. Parental support for student achievement (SCQ3_8f, PC2GCHPS) 6. Parental involvement in school activities (SCQ3_8g, PC2GCHPI) 7. Students' regard for school property (SCQ3_8h, PC2GCHSR) 8. Students' desire to do well in school (SCQ3_8i, PC2GCHSD) Response options: 1 = Very high; 2 = High; 3 = Medium; 4 = Low; 5 = Very low Index is computed by averaging the responses to the above source questions and has three categories: 1 = High (Average is less than or equal to 2) 2 = Medium (Average is greater than 2 and less than 3) 3 = Low (Average is greater than or equal to 3) The derived variable is coded as "MISSING" if there are 4 or more source questions with missing data.

Derived Variable Name: PCDGAGSR Variable Label: Idx Adeq of Gen Sch Resources (AGSR) Subject: P	
Title of International Report Exhibit:	Index of Adequacy of General School Resources (Shortages Do Not Affect Capacity to Provide Instruction) (AGSR)
Report Location:	12.8
Questionnaire Location:	SCQ3_14abcdef
Source Variable:	PC2GSC01, PC2GSC02, PC2GSC03, PC2GSC04, PC2GSC05, PC2GSC06
Procedure:	Based on principals' responses to the following question: Is your school's capacity to provide instruction affected by a shortage or inadequacy of any of the following? 1. Instructional materials (e.g., textbook) (SCQ3_14a, PC2GSC01) 2. Budget for supplies (e.g., paper, pencils) (SCQ3_14b, PC2GSC02) 3. School buildings and grounds (SCQ3_14c, PC2GSC03) 4. Heating/cooling and lighting systems (SCQ3_14d, PC2GSC04) 5. Instructional space (e.g., classrooms) (SCQ3_14e, PC2GSC05) 6. Special equipment for students with disabilities (SCQ3_14f, PC2GSC06) Response options: 1 = No; 2 = A little; 3 = Some; 4 = A lot Index is computed by averaging the responses to the above source questions and has three categories: 1 = High (Average is less than 2) 2 = Medium (Average is greater than or equal to 2 and less than 3) 3 = Low (Average is greater than or equal to 3) The derived variable is coded as "MISSING" if there are 3 or more source questions with missing data.

Derived Variable Name: PCDPARPI Variable Label: Idx Adeq of Ress for Phys Instr (ARPI) Subject: P	
Title of International Report Exhibit:	Index of Adequacy of Resources Specifically for Physics Instruction (Shortages Do Not Affect Capacity to Provide Instruction) (ARPI)
Report Location:	12.9
Questionnaire Location:	SCQ3_14lmnopq
Source Variable:	PC2PSC12, PC2PSC13, PC2PSC14, PC2PSC15, PC2PSC16, PC2PSC17
Procedure:	Based on principals' responses to the following question: Is your school's capacity to provide instruction affected by a shortage or inadequacy of any of the following? 1. Physics laboratory equipment and materials (SCQ3_14l, PC2PSC12) 2. Computers for physics instruction (SCQ3_14m, PC2PSC13) 3. Computer software for physics instruction (SCQ3_14n, PC2PSC14) 4. Calculators for physics instruction (SCQ3_14o, PC2PSC15) 5. Library materials relevant to physics instruction (SCQ3_14p, PC2PSC16) 6. Audio-visual resources for physics instruction (SCQ3_14q, PC2PSC17) Response options: 1 = No; 2 = A little; 3 = Some; 4 = A lot Index is computed by averaging the responses to the above source questions and has three categories: 1 = High (Average is less than 2) 2 = Medium (Average is greater than or equal to 2 and less than 3) 3 = Low (Average is greater than or equal to 3) The derived variable is coded as "MISSING" if there are 2 or more source questions with missing data.



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