



TRENDS IN INTERNATIONAL MATHEMATICS AND SCIENCE

TIMSS

TIMSS 2003 User Guide for the International Database

Supplement Three

Variables Derived from the Student,
Teacher, and School Questionnaires

3



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TIMSS 2003 User Guide for the International Database / Edited by Michael O. Martin

Publisher:

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

Library of Congress Catalog Card Number:
2005921005

ISBN:

1-889938-36-X

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Boston College is an equal opportunity, affirmative action employer.
Printed and bound in the United States.

Supplement 3: Variables Derived from the Student, Teacher and School Questionnaires

Overview of the Supplement

This supplement contains documentation on all the derived variables contained in the TIMSS 2003 data files that are based on background questionnaire variables. These variables were used to report background data in the TIMSS 2003 international reports, and are made available as part of this database to be used in secondary analyses. There are seven sections of this supplement corresponding to each background questionnaire type from which the reporting variables are derived. The eighth section describes variables that are derived using source variables from more than one questionnaire.

- Section 1: Eighth Grade - Student Questionnaire
- Section 2: Eighth Grade - Mathematics Teacher Questionnaire
- Section 3: Eighth Grade - Science Teacher Questionnaire
- Section 4: Eighth Grade - School Questionnaire
- Section 5: Fourth Grade - Student Questionnaire
- Section 6: Fourth Grade - Teacher Questionnaire
- Section 7: Fourth Grade - School Questionnaire
- Section 8: Variables Derived from more than one Questionnaire

Each sections include specific documentation for each derived variable. Each of these sections is organized in order they appear in the international report and contains the following information about each of the derived background variables:

- Derived Variable Name
- Derived Variable Label
- Grade
- Title of the exhibit: contains the derived variable.
- Report Location: This is the location of the exhibit in the TIMSS 2003 International Report
- Location in Questionnaire: This is the location of the item(s) in the Background Questionnaire
- Source Variable(s): Background Questionnaire variable names to compute the derived variable
- Procedure: Description of how the derived variable was computed based on associated source variables
- Missing Rules: Description of the source variable data cleaning and missing rules applied to assign cases to missing for the derived variable

Derived Variables Based on the Eighth Grade Student Background Data

Derived variables related to students' attitudes and classroom activities are computed either for science as an integrated subject or for specific science subject areas (biology, chemistry, earth science, physics), depending on whether the general science (SQ2) or separate science (SQ2S) version of the student questionnaire was administered. In the documentation, the source variables and analysis notes refer to the student background questionnaire items by the following definitions:

SQ2_*** = Location of background questions in the general science version of the eighth grade student background questionnaire.

SQ2S_*** = Location of background questions pertaining to separate science version of the eighth grade student background questionnaire.

There are three types of derived variables based on student background data, depending on the questionnaire source(s):

1. Variables related to general/integrated science (BSDS****); these variables contain data only for students in countries that administered the general science form of the questionnaire.
2. Variables related to separate science subject areas (biology or biological science = BSDB****, chemistry = BSDC****, earth science = BSDE****, and physics or physical science = BSDP****); these variables contain data only for students in countries that administered the separate science version of the questionnaire.
3. Variables related to mathematics or general background information (BSDM**** or BSDG****); these variables contain data for all countries administering either version of the questionnaire.

A few countries modified the questionnaire to include questions for only some of the sciences subject areas or for combined subject-area classes. These special cases are described in Supplement 2, which documents the national adaptations of the background questionnaire items.

Derived Variables Based on Eighth Grade Teacher Background Data

Since there were two types of Teacher questionnaires, the source variables and analysis notes reference specific background questionnaires according to the following definitions:

TQM2_*** = Eighth Grade Mathematics Teacher Questionnaire Item

TQS2_*** = Eighth Grade Science Teacher Questionnaire Item

There are three types of derived variables based on teacher background data, depending on the questionnaire source:

1. Variables asked only of mathematics teachers and related to mathematics classes/teaching (BTDM****).
2. Variables asked only of science teachers and related to science classes/teaching (BTDS****).
3. Variables asked of both mathematics and science teachers and not directly related to mathematics or science instruction (BTDG****).

Note that all science variables were computed for all science teachers. Separation into General/Integrated and Separate Science panels in the

international report was based on filtering by the variable ITCOURSE described in Chapter 2 of the User Guide. In countries identified as Separate Science, the teachers were selected using the appropriate ITCOURSE codes:

- General Science = 6
- Biology or Biology/ Earth Science = 3 (or 9)
- Chemistry = 4
- Physics or Physical Science = 2 (or 8)
- Earth Science = 5.

Derived Variables Based on Eighth Grade School Background Data

One questionnaire was administered to schools. The source variables and analysis notes reference specific background questionnaire items according to the following definitions:

SCQ2_*** = Eighth Grade School Questionnaire Item

There are three types of derived variables based on school background data, depending on the questionnaire source:

1. School level variables related to mathematics instruction (BCDM****).
2. School level variables related to science instruction (BCDS****).
3. School level variables not directly related to mathematics or science (BCDG****).

Derived Variables Based on Fourth Grade Student Background Data

Only one questionnaire was administered to fourth grade students. The source variables and analysis notes reference specific background questionnaire items according to the following definitions:

SQ1_*** = Fourth Grade Student Questionnaire Item

There are three types of derived variables based on student background data:

1. Variables related to science (ASDS****).

2. Variables related to mathematics (ASDM****).
3. Variables related to general background information (ASDG****).

Derived Variables Based on Fourth Grade Teacher Background Data

Only one questionnaire was administered to fourth grade teachers. The source variables and analysis notes reference specific background questionnaire items according to the following definitions:

TQ1_*** = Fourth Grade Teacher Questionnaire Item

There are three types of derived variables based on teacher background data, depending on the questionnaire source:

1. Variables related to mathematics classes/teaching (ATDM****).
2. Variables related to science classes/teaching (ATDS****).
3. Variables not directly related to specific mathematics or science instruction (ATDG****).

Derived Variables Based on Fourth Grade School Background Data

One questionnaire was administered to schools. The source variables and analysis notes reference specific background questionnaire items according to the following definitions:

SCQ1_*** = Fourth Grade School Questionnaire Item

There are three types of derived variables based on school background data, depending on the questionnaire source:

1. School level variables related to mathematics instruction (ACDM****).
2. School level variables related to science instruction (ACDS****).
3. School level variables not directly related to mathematics or science (ACDG****).

Section 1

Eighth Grade – Student Questionnaire

Derived Variable Name: bsdgedup **Label:** Parents' Highest Education Level **Grade:** Eighth

Title of Exhibit: Highest Level of Education of Either Parent

Report Location: 4.1 Math and Science

Location in Questionnaire: SQ2_6A,B; SQ2S_6A,B

Source Variables: BSBGMFED, BSBGMFED

Procedure: Derived variable is computed from students' response to the following two separate questions:
What is the highest level of education completed by your mother (or stepmother or female guardian)?(SQ2_6A or SQ2S_6A)
What is the highest level of education completed by your father (or stepfather or male guardian)?(SQ2_6B or SQ2S_6B)
Compute the highest education level of either parent after recoding "I don't know" (code 9) to missing. If missing one variable, use the value of the other.
The international version of response categories for SQ2_6A, B are:
1. Did not finish ISCED 1 or did not do to school
2. ISCED 1
3. ISCED 2
4. ISCED 3
5. ISCED 4B
6. ISCED 5B
7. ISCED 5A, first degree
8. Beyond ISCED 5A, first degree
9. I don't know
For the derived variable BSDGEDUP, the education categories were combined into five reporting categories which are computed as follows:
1. Finish University or Equivalent or Higher (Codes 7,8)
2. Finish Post-secondary Vocational/Technical Education But Not University (Codes 5,6)
3. Finish Upper Secondary Schooling (Code 4)
4. Finish Lower secondary Schooling (Code 3)
5. No More than Primary Schooling (Codes 1,2)
Analysis weighted by TOTWGT.

Comments

Missing Rules: The dervied variable is coded as missing if both source variables are missing.

Derived Variable Name: bsdgasp **Label:** Stds Educ Asprtns Rltv to Prnts Educ Lvl **Grade:** Eighth

Title of Exhibit: Students' Educational Aspirations Relative to Parents' Educational Level

Report Location: 4.2 Math and Science

Location in Questionnaire: SQ2_7, SQ2_6A,B; SQ2S_7, SQ2S_6A,B

Source Variables: BSBGHFSG, BSBGMFED, BSBGMED

Procedure: Derived variable is computed from students' response to the following three questions:

1. What is the highest level of education completed by your mother (or stepmother or female guardian)? (SQ2_6A or SQ2S_6A)
2. What is the highest level of education completed by your father (or stepfather or male guardian) ? (SQ2_6B or SQ2S_6B)
3. How far in school do you expect to go? (SQ2_7 or SQ2S_7)

First, compute the derived variable of highest education level of either parent (BSDGEDUP) using SQ2_6A and B.

Then compute the derived variable BSDGASP using derived variable BSDGEDUP and student's response to question SQ2_7

The international version of response categories for SQ2_7 are:

- 1) Finish ISCED 3, 2) Finish ISCED 4B, 3) Finish ISCED 5B, 4) Finish ISCED 5A, first degree, 5) Beyond ISCED 5A, first degree 6) I don't know

The derived variable BSDGASP is reported with four categories as follows:

- 1: Student Finish University (SQ2_7: Codes 4,5) and Either Parent Went to University or Equivalent (BSDGEDUP: Code 1)
- 2: Student Finish University (SQ2_7: Codes 4,5) and Neither Parent Went to University or Equivalent (BSDGEDUP: Code 2-5).
- 3: Student Not Finish University (SQ2_7: Codes 1-3) Regardless of Parents' Education (BSDGEDUP: Code 1-5).
- 4: Students Do Not Know (SQ2_7: Code 6) Regardless of Parents' Education (BSDGEDUP: Code 1-5). Analysis weighted by TOTWGT.

Comments

Missing Rules: The derived variable is coded as missing if highest education level of either parent or response SQ2_7 is missing..

Title of Exhibit: Use of Computer

Report Location: 4.6 Math and Science

Location in Questionnaire: SQ2_14A, B; SQ2s_27A, B

Source Variables: BSBGCHOM, BSBGCSCH, BSBGCLIB, BSBGCFRH, BSBGCCAF, BSBGCELS, BSBGUSEC

Procedure: Derived variable is computed from students' responses to the following questions with a Yes/No response.

1. Do you ever use a computer? (do not include PlayStation, GameCube, Xbox, or other TV/video game computers)(SQ2_14A or SQ2s_27A)

2. Where do you use a computer?(SQ2_14B or SQ2s_27B)

The question (SQ2_14B or SQ2s_27B) has following six options

a) At home, b) At school, c) At a library, d) At a friend's home, e) At an Internet Cafe, f) Elsewhere

The dervierd variable BSDGCVAL is reported with five categories based on following definitions:

1.Use Computer Both at Home and at School (14A, 14Ba and 14Bb = Code 1).

2.Use Computer at Home but Not at School (14A, 14Ba = Code 1and 14Bb = Code 2 or missing).

3.Use Computer at School but Not at Home (14A, 14Bb = Code 1and 14Ba = Code 2 or missing).

4.Use Computer Only at Places Other than Home and School (14A = code 1 and 14Ba and 14Bb = code 2 or missing and code 1 for at least one of the items from 14Bc-e.

5. Do Not Use Computer at All (14A = Code 2). In the denominator, include all valid cases.

Analysis weighted by TOTWGT.

Comments

Missing Rules: The dervied variable is coded as missing, if response to SQ2_14A = code 1 or missing, AND reponse to all options SQ2_14B a-f = code 2 or missing.

Derived Variable Name: bsdmhw **Label:** Index of Time on Math Homework (TMH) **Grade:** Eighth

Title of Exhibit: Index of Time Students Spend Doing Mathematics Homework (TMH) in a Normal School Week

Report Location: 4.7 Math

Location in Questionnaire: SQ2_19A, B; SQ2S_32Aa, Ba

Source Variables: BSBMHWMA, BSBMHWMG, BSBMTGHW BSBMHWMI

Procedure: The index is computed from students' responses to the following two questions regarding mathematics homework.

How often your teacher gives you homework in mathematics? (SQ2_19A or SQ2s_32Aa)

When your teacher gives you mathematics homework, how many minutes are you usually given? (SQ2_19B or SQ2s_32Ba)

The international version of the SQ2_19A has following options

- 1) Every day
- 2) 3 or 4 times a week
- 3) 1 or 2 times a week
- 4) Less than once a week
- 5) Never

The international version of the SQ2_19B has following options

- 1) Fewer than 15 minutes
- 2) 15 - 30 minutes
- 3) 31-60 minutes
- 4) 61-90 minutes
- 5) More than 90 minutes

The index BSDMHW has three levels defined as follows:

1 = High: Students who responded that they are given mathematics homework at least 3 or 4 times a week (SQ2_19A = code 1 or 2) AND they are given at least 31 minutes of mathematics homework (SQ2_19B = code greater than or equal to 3)

3 = Low: Students who responded that they are given homework at most 1 or 2 times a week (SQ2_19A code = greater than or equal to 3) AND they are given at most 30 minutes of mathematics homework (SQ2_19B code 1 or 2)

2 = Medium: All other combinations.

Analysis weighted by TOTWGT.

Comments

Missing Rules: The derived variable is coded as missing if [response to SQ2_19A/ SQ2s_32Aa] missing or [response to SQ2_19B/ SQ2s_32Ba] is missing AND response to SQ2_19A/ SQ2s_32Aa is valid but different than code 5].

Derived Variable Name: bsdshw **Label:** Index of Time on Science Homework (TSH) **Grade:** Eighth

Title of Exhibit: Index of Time Students Spend Doing Science Homework (TSH) in a Normal School Week

Report Location: 4.7 Science

Location in Questionnaire: SQ2_20A, B

Source Variables: BSBSHWMA, BSBSHWMG

Procedure: The index is computed from students' responses to the following two questions regarding science homework.

How often your teacher gives you homework in science? (SQ2_20A)

When your teacher gives you science homework, how many minutes are you usually given? (SQ2_20B)

The international version of the SQ2_20A has following options

- 1) Every day
- 2) 3 or 4 times a week
- 3) 1 or 2 times a week
- 4) Less than once a week
- 5) Never

The international version of the SQ2_20B has following options

- 1) Fewer than 15 minutes
- 2) 15 - 30 minutes
- 3) 31-60 minutes
- 4) 61-90 minutes
- 5) More than 90 minutes

The index BSDSHW has three levels defined as follows:

1 = High: Students who responded that they are given science homework at least 3 or 4 times a week (SQ2_20A = code 1 or 2) and they are given at least 31 minutes of science homework (SQ2_20B code = greater than or equal to 3)

3 = Low: Students who responded that they are given homework at most 1 or 2 times a week (SQ2_20A code = greater than or equal to 3) AND they are given at most 30 minutes of science homework (SQ2_20B = code 1 or 2)

2 = Medium: All other combinations.

Analysis weighted by TOTWGT.

Comments

Missing Rules: The derived variable is coded as missing if [response to SQ2_20A is missing] or [response to SQ2_20B is missing AND response to SQ2_20A is valid but different than code 5].

Derived Variable Name:	bsdbhw	Label:	Index of Time on Biology Homework (TSH)	Grade:	Eighth
Title of Exhibit:	Index of Time Students Spend Doing Science Homework (TSH) in a Normal School Week				
Report Location:	4.7	Science			
Location in Questionnaire:	SQ2S_32Ab,Bb				
Source Variables:	BSBBTGHW BSBBHWMI				
Procedure:	<p>The index is computed from students' responses to the following two questions regarding biology homework.</p> <p>How often your teacher gives you homework in biology? (SQ2S_32Ab)</p> <p>When your teacher gives you biology homework, how many minutes are you usually given? (SQ2S_32Bb)</p> <p>The international version of the SQ2S_32Ab has following options</p> <ol style="list-style-type: none"> 1) Every day 2) 3 or 4 times a week 3) 1 or 2 times a week 4) Less than once a week 5) Never <p>The international version of the SQ2S_32Bb has following options</p> <ol style="list-style-type: none"> 1) Fewer than 15 minutes 2) 15 - 30 minutes 3) 31-60 minutes 4) 61-90 minutes 5) More than 90 minutes <p>The index BSDBHW has three levels defined as follows:</p> <p>1 = High: Students who responded that they are given biology homework at least 3 or 4 times a week (SQ2S_32Ab = code 1 or 2) and they are given at least 31 minutes of biology homework (SQ2S_32Bb = code greater than or equal to 3)</p> <p>3 = Low: Students who responded that they are given homework at most 1 or 2 times a week (SQ2S_32Ab code = greater than or equal to 3) AND they are given at most 30 minutes of biology homework (SQ2S_32Bb = code 1, 2)</p> <p>2 = Medium: All other combinations.</p> <p>Analysis weighted by TOTWGT.</p>				
Comments	Only countries reporting teaching science as separate subjects are included in this variable				
Missing Rules:	The derived variable is coded as missing if [response to SQ2s_32Ab is missing] or [SQ2s_32Bb is missing AND response to SQ2s_32Ab is valid but different than code 5].				

Derived Variable Name: bsdehw **Label:** Index of Time on Earth S Homework (TSH) **Grade:** Eighth

Title of Exhibit: Index of Time Students Spend Doing Science Homework (TSH) in a Normal School Week

Report Location: 4.7 Science

Location in Questionnaire: SQ2S_32Ac,Bc

Source Variables: BSESTGHW BSESHWMI

Procedure: The index is computed from students' responses to the following two questions regarding earth science homework.

How often your teacher gives you homework in earth science? (SQ2S_32Ac)

When your teacher gives you earth science homework, how many minutes are you usually given? (SQ2S_32Bc)

The international version of the SQ2S_32Ac has following options

- 1) Every day
- 2) 3 or 4 times a week
- 3) 1 or 2 times a week
- 4) Less than once a week
- 5) Never

The international version of the SQ2S_32Bc has following options

- 1) Fewer than 15 minutes
- 2) 15 - 30 minutes
- 3) 31-60 minutes
- 4) 61-90 minutes
- 5) More than 90 minutes

The index BSDEHW has three levels defined as follows:

1 = High: Students who responded that they are earth science homework at least 3 or 4 times a week (SQ2S_32Ac code =1 or 2) and they are given at least 31 minutes of earth science homework (SQ2S_32Bc= code greater than or equal to 3)

3 = Low: Students who responded that they are given homework at most 1 or 2 times a week (SQ2_19A code = greater than or equal to 3) AND they are given at most 30 minutes of earth science homework (SQ2S_32Bc= code 1, 2)

2 = Medium: All other combinations.

Analysis weighted by TOTWGT.

Comments Only countries reporting teaching science as separate subjects are included in this variable

Missing Rules: The derived variable is coded as missing if [response to SQ2s_32Ac is missing] or [response to SQ2s_32Bc is missing AND response to SQ2s_32Ac is valid but different than code 5].

Derived Variable Name:	bsdchw	Label:	Index of Time on Chemist Homework (TSH)	Grade:	Eighth
Title of Exhibit:	Index of Time Students Spend Doing Science Homework (TSH) in a Normal School Week				
Report Location:	4.7	Science			
Location in Questionnaire:	SQ2S_32Ad,Bd				
Source Variables:	BSBCTGHW BSBCHWMI				
Procedure:	<p>The index is computed from students' responses to the following two questions regarding chemistry homework.</p> <p>How often your teacher gives you homework in earth science? (SQ2S_32Ad)</p> <p>When your teacher gives you earth science homework, how many minutes are you usually given? (SQ2S_32Bd)</p> <p>The international version of the SQ2S_32Ad has following options</p> <ol style="list-style-type: none"> 1) Every day 2) 3 or 4 times a week 3) 1 or 2 times a week 4) Less than once a week 5) Never <p>The international version of the SQ2S_32Bd has following options</p> <ol style="list-style-type: none"> 1) Fewer than 15 minutes 2) 15 - 30 minutes 3) 31-60 minutes 4) 61-90 minutes 5) More than 90 minutes <p>The index BSDCHW has three levels defined as follows:</p> <p>1 = High: Students who responded that they are given chemistry homework at least 3 or 4 times a week (SQ2S_32Ad = code 1, 2) and they are given at least 31 minutes of chemistry homework (SQ2S_32Bd = code greater than or equal to 3)</p> <p>3 = Low: Students who responded that they are given homework at most 1 or 2 times a week (SQ2S_32Ad code = greater than or equal to 3) AND they are given at most 30 minutes of chemistry homework (SQ2S_32Bd = code 1, 2)</p> <p>2 = Medium: All other combinations.</p> <p>Analysis weighted by TOTWGT.</p>				
Comments	Only countries reporting teaching science as separate subjects are included in this variable				
Missing Rules:	The derived variable is coded as missing if [response to SQ2s_32Ad is missing] or [response to SQ2s_32Bd is missing AND response to SQ2s_32Ad is valid but different than code 5].				

Derived Variable Name:	Label:	Grade:	
Derived Variable Name:	bsdphw	Index of Time on Physics Homework (TSH)	Grade: Eighth
Title of Exhibit:	Index of Time Students Spend Doing Science Homework (TSH) in a Normal School Week		
Report Location:	4.7	Science	
Location in Questionnaire:	SQ2s_32Ae,Be		
Source Variables:	BSBPTGHW BSBPHWMI		
Procedure:	<p>The index is computed from students' responses to the following two questions regarding physics homework.</p> <p>How often your teacher gives you homework in physics? (SQ2s_32Ae)</p> <p>When your teacher gives you physics homework, how many minutes are you usually given? (SQ2s_32Be)</p> <p>The international version of the SQ2s_32Ad has following options</p> <ol style="list-style-type: none"> 1) Every day 2) 3 or 4 times a week 3) 1 or 2 times a week 4) Less than once a week 5) Never <p>The international version of the SQ2s_32Bd has following options</p> <ol style="list-style-type: none"> 1) Fewer than 15 minutes 2) 15 - 30 minutes 3) 31-60 minutes 4) 61-90 minutes 5) More than 90 minutes <p>The index BSDPHW has three levels defined as follows:</p> <p>1 = High: Students who responded that they are given physics homework at least 3 or 4 times a week (SQ2s_32Ae = code 1, 2) and they are given at least 31 minutes of physics homework (SQ2s_32Be = code greater than or equal to 3)</p> <p>3 = Low: Students who responded that they are given homework at most 1 or 2 times a week (SQ2s_32Ae code = greater than or equal to 3) AND they are given at most 30 minutes of physics homework (SQ2s_32Be = code 1, 2)</p> <p>2 = Medium: All other combinations.</p> <p>Compute percent of students and average achievement for students at each level.</p> <p>Analysis weighted by TOTWGT.</p>		
Comments	Only countries reporting teaching science as separate subjects are included in this variable		
Missing Rules:	The derived variable is coded as missing if [response to SQ2s_32Ae is missing] or [response to SQ2s_32Be is missing AND response to SQ2s_32Ae is valid but different than code 5].		

Derived Variable Name: bsdmscl **Label:** Index of Self-Confid Learning Math (SCM) **Grade:** Eighth

Title of Exhibit: Index of Students' Self-Confidence in Learning Mathematics (SCM)

Report Location: 4.9 Math

Location in Questionnaire: SQ2_8a,c,f,g; SQ2S_8a,c,f,g

Source Variables: BSBMTWEL, BSBMTCLM, BSBMTSTR, BSBMTQKY

Procedure: The index is computed from students' responses to the following questions regarding mathematics on a 4-point Likert scale of 1) Agree a lot, 2) Agree a little, 3) Disagree a little, 4) Disagree a lot :

- 1) I usually do well in mathematics (SQ2_8a or SQ2s_8a).
- 2) Mathematics is more difficult for me than for many of my classmates (Reversed)(SQ2_8c or SQ2s_8c).
- 3) Mathematics is not one of my strengths (SQ2_8f or SQ2s_8f).
- 4) I learn things quickly in mathematics (SQ2_8g or SQ2s_8g).

Index BSDMSCL is based on the average of responses to the above statements. The index 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.

Analysis weighted by TOTWGT.

Comments

Missing Rules: Index coded as missing if 2 or more source questions are with invalid data.

Derived Variable Name: bsdsscl **Label:** Index Self-Conf Learning Science (SCS) **Grade:** Eighth

Title of Exhibit: Index of Students' Self-Confidence in Learning Science (SCS)

Report Location: 4.9 Science

Location in Questionnaire: SQ2_11: a,c,f, g

Source Variables: BSBSTWEL, BSBSTCLM, BSBSTSTR, BSBSTQKY

Procedure: The index is computed from students' responses to the following questions regarding science on a 4-point Likert scale of 1) Agree a lot, 2) Agree a little, 3) Disagree a little, 4) Disagree a lot :

- 1) I usually do well in science (SQ2_11a).
- 2) Science is more difficult for me than for many of my classmates (Reversed)(SQ2_11c).
- 3) Science is not one of my strengths(SQ2_11f).
- 4) I learn things quickly in science (SQ2_11g).

Index BSDSSCL is based on the average of responses to the above statements. The index 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.

Analysis weighted by TOTWGT.

Comments

Missing Rules: Index coded as missing if 2 or more source questions are with invalid data.

Derived Variable Name: bsdb scl **Label:** Index Self-Conf Learning Biology (SCB) **Grade:** Eighth

Title of Exhibit: Index of Students' Self-Confidence in Learning Science (SCS)

Report Location: 4.9 Science

Location in Questionnaire: SQ2S_12:a,c,f,g

Source Variables: BSB BTWEL, BSB BTCLM, BSB BTSTR, BSB BTQKY

Procedure: The index is computed from students' responses to the following questions regarding biology on a 4-point Likert scale of 1) Agree a lot, 2) Agree a little, 3) Disagree a little, 4) Disagree a lot :

- 1) I usually do well in biology (SQ2S_12a).
- 2) Biology is more difficult for me than for many of my classmates (Reversed)(SQ2S_12c).
- 3) Biology is not one of my strengths (SQ2S_12f).
- 4) I learn things quickly in biology (SQ2S_12g).

Index BSDSCL is based on the average of responses to the above statements. The index 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.

Analysis weighted by TOTWGT.

Comments Only countries reporting teaching science as separate subjects are included in this variable

Missing Rules: Index coded as missing if 2 or more source questions are with invalid data.

Derived Variable Name: bsdescl **Label:** Index Self-Conf Learning Earth S (SCE) **Grade:** Eighth

Title of Exhibit: Index of Students' Self-Confidence in Learning Science (SCS)

Report Location: 4.9 Science

Location in Questionnaire: SQ2S_16:a,c,f,g

Source Variables: BSBETWEL, BSBETCLM, BSBETSTR, BSBETQKY

Procedure: The index is computed from students' responses to the following questions regarding earth science on a 4-point Likert scale of 1) Agree a lot, 2) Agree a little, 3) Disagree a little, 4) Disagree a lot :

- 1) I usually do well in earth science (SQ2S_16a).
- 2) Earth science is more difficult for me than for many of my classmates (Reversed)(SQ2S_16c).
- 3) Earth science is not one of my strengths (SQ2S_16f).
- 4) I learn things quickly in earth science (SQ2S_16g).

Index BSDESCL is based on the average of responses to the above statements 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.

Analysis weighted by TOTWGT.

Comments Only countries reporting teaching science as separate subjects are included in this variable

Missing Rules: Index coded as missing if 2 or more source questions are with invalid data.

Derived Variable Name: bsdcscl **Label:** Index Self-Conf Learning Chemist (SCC) **Grade:** Eighth

Title of Exhibit: Index of Students' Self-Confidence in Learning Science (SCS)

Report Location: 4.9 Science

Location in Questionnaire: SQ2S_20:a,c,f,g

Source Variables: BSBCTWEL, BSBCTCLM, BSBCTSTR, BSBCTQKY

Procedure: The index is computed from students' responses to the following questions regarding chemistry on a 4-point Likert scale of 1) Agree a lot, 2) Agree a little, 3) Disagree a little, 4) Disagree a lot :

- 1) I usually do well in chemistry (SQ2S_20a).
- 2) Chemistry is more difficult for me than for many of my classmates (Reversed) (SQ2S_20c).
- 3) Chemistry is not one of my strengths (SQ2S_20f).
- 4) I learn things quickly in chemistry (SQ2S_20g).

Index BSDCSCL is based on the average of responses to the above statements 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.

Analysis weighted by TOTWGT.

Comments Only countries reporting teaching science as separate subjects are included in this variable

Missing Rules: Index coded as missing if 2 or more source questions are with invalid data.

Derived Variable Name: bsdpscl **Label:** Index Self-Conf Learning Physics (SCP) **Grade:** Eighth

Title of Exhibit: Index of Students' Self-Confidence in Learning Science (SCS)

Report Location: 4.9 Science

Location in Questionnaire: SQ2S_24:a,c,f,g

Source Variables: BSBPTWEL, BSBPTCLM, BSBPTSTR, BSBPTQKY

Procedure: The index is computed from students' responses to the following questions regarding physics on a 4-point Likert scale of 1) Agree a lot, 2) Agree a little, 3) Disagree a little, 4) Disagree a lot :

- 1) I usually do well in physics (SQ2S_24a).
- 2) Physics is more difficult for me than for many of my classmates (Reversed) (SQ2S_24c).
- 3) Physics is not one of my strengths (SQ2S_24f).
- 4) I learn things quickly in physics (SQ2S_24g).

Index BSDPSCL is based on the average of responses to the above statements 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.

Analysis weighted by TOTWGT.

Comments Only countries reporting teaching science as separate subjects are included in this variable

Missing Rules: Index coded as missing if 2 or more source questions are with invalid data.

Derived Variable Name: bsdmsv **Label:** Index of Students' Valuing Math (SVM) **Grade:** Eighth

Title of Exhibit: Index of Students' Valuing Mathematics (SVM)

Report Location: 4.10 Math

Location in Questionnaire: SQ2_8b,d and SQ2_9a-e

Source Variables: BSBMAHDL, BSBMAOSS, BSBMAUNI, BSBMAJOB, BSBMAGET, BSBMTMOR, BSBMTENJ

Procedure: The index is computed from students' responses to the following seven questions regarding mathematics on a 4-point Likert scale of 1) Agree a lot, 2) Agree a little, 3) Disagree a little, 4) Disagree a lot :

- 1) I would like to take more mathematics in school (SQ2_8b).
- 2) I enjoy learning mathematics (SQ2_8d).
- 3) I think learning mathematics will help me in my daily life (SQ2_9a).
- 4) I need mathematics to learn other school subjects (SQ2_9b).
- 5) I need to do well in mathematics to get into the university of my choice (SQ2_9c).
- 6) I would like a job that involved using mathematics (SQ2_9d).
- 7) I need to do well in mathematics to get the job I want (SQ2_9e).

Index BSDMSV is based on the average of responses to the above statements 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.

Analysis weighted by TOTWGT.

Comments

Missing Rules: Index coded as missing if 3 or more source questions are with invalid data.

Derived Variable Name: bsdssv **Label:** Index of Students Valuing Science (SVS) **Grade:** Eighth

Title of Exhibit: Index of Students' Valuing Science (SVS)

Report Location: 4.10 Science

Location in Questionnaire: SQ2_11b,d and SQ2_12a-e.

Source Variables: BSBSAHD, BSBSAOSS, BSBSAUNI, BSBSAJOB, BSBSAGET, BSBSTMOR, BSBSTENJ

Procedure: The index is computed from students' responses to the following seven questions regarding science on a 4-point Likert scale of 1) Agree a lot, 2) Agree a little, 3) Disagree a little, 4) Disagree a lot :

- 1) I would like to take more science in school (SQ2_11b);
- 2) I enjoy learning science (SQ2_11d);
- 3) I think learning science will help me in my daily life (SQ2_12a);
- 4) I need science to learn other school subjects (SQ2_12b);
- 5) I need to do well in science to get into the university of my choice (SQ2_12c);
- 6) I would like a job that involved using science (SQ2_12d);
- 7) I need to do well in science to get the job I want (SQ2_12e).

Index BSDSSV is based on the average of responses to the above statements 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.

Analysis weighted by TOTWGT.

Comments

Missing Rules: Index coded as missing if 3 or more source questions are with invalid data.

Derived Variable Name: bsdbsv **Label:** Index of Students Valuing Biology (SVB) **Grade:** Eighth

Title of Exhibit: Index of Students' Valuing Science (SVS)

Report Location: 4.10 Science

Location in Questionnaire: SQ2S_12:b,d and SQ2S_13:a-e f

Source Variables: BSBBAHDL, BSBBAOSS, BSBBAUNI, BSBBAJOB, BSBBAGET, BSBBTMOR, BSBBTENJ

Procedure: The index is computed from students' responses to the following seven questions regarding biology on a 4-point Likert scale of 1) Agree a lot, 2) Agree a little, 3) Disagree a little, 4) Disagree a lot :

- 1) I would like to take more biology in school (SQ2S_12b).
- 2) I enjoy learning biology (SQ2S_12d).
- 3) I think learning biology will help me in my daily life (SQ2S_13a).
- 4) I need biology to learn other school subjects (SQ2S_13b).
- 5) I need to do well in biology to get into the university of my choice (SQ2S_13c).
- 6) I would like a job that involved using biology (SQ2S_13d).
- 7) I need to do well in biology to get the job I want (SQ2S_13e).

Index BSDBSV is based on the average of responses to the above statements 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.

Analysis weighted by TOTWGT.

Comments Only countries reporting teaching science as separate subjects are included in this variable

Missing Rules: Index coded as missing if 3 or more source questions are with invalid data.

Derived Variable Name: bsdesv **Label:** Index of Students Valuing Earth S (SVE) **Grade:** Eighth

Title of Exhibit: Index of Students' Valuing Science (SVS)

Report Location: 4.10 Science

Location in Questionnaire: SQ25_16:b,d and SQ25_17:a-e f

Source Variables: BSBEAHDL, BSBEAOSS, BSBEAUNI, BSBEAJOB, BSBEAGET, BSBETMOR, BSBETENJ

Procedure: The index is computed from students' responses to the following seven questions regarding earth science on a 4-point Likert scale of 1) Agree a lot, 2) Agree a little, 3) Disagree a little, 4) Disagree a lot :

- 1) I would like to take more earth science in school (SQ25_16b).
- 2) I enjoy learning earth science (SQ25_16d).
- 3) I think learning earth science will help me in my daily life (SQ25_17a).
- 4) I need earth science to learn other school subjects (SQ25_17b).
- 5) I need to do well in earth science to get into the university of my choice (SQ25_17c).
- 6) I would like a job that involved using earth science (SQ25_17d).
- 7) I need to do well in earth earth science to get the job I want (SQ25_17e).

Index BSDESV is based on the average of responses to the above statements 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.

Analysis weighted by TOTWGT.

Comments Only countries reporting teaching science as separate subjects are included in this variable

Missing Rules: Index coded as missing if 3 or more source questions are with invalid data.

Derived Variable Name: bsdcsv **Label:** Index of Students Valuing Chemist (SVC) **Grade:** Eighth

Title of Exhibit: Index of Students' Valuing Science (SVS)

Report Location: 4.10 Science

Location in Questionnaire: SQ25_20:b,d and SQ25_21

Source Variables: BSBCAHD, BSBCAOSS, BSBCAUNI, BSBCAJOB, BSBCAGET, BSBCTMOR, BSBCTENJ

Procedure: The index is computed from students' responses to the following seven questions regarding chemistry on a 4-point Likert scale of 1) Agree a lot, 2) Agree a little, 3) Disagree a little, 4) Disagree a lot :

- 1) I would like to take more chemistry in school (SQ25_20b);
- 2) I enjoy learning chemistry (SQ25_20d);
- 3) I think learning chemistry will help me in my daily life (SQ25_21a);
- 4) I need science to learn other school chemistry (SQ25_21b);
- 5) I need to do well in chemistry to get into the university of my choice (SQ25_21c);
- 6) I would like a job that involved using chemistry (SQ25_21d);
- 7) I need to do well in chemistry to get the job I want (SQ25_21e).

Index BSDCSV is based on the average of responses to the above statements 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.

Analysis weighted by TOTWGT.

Comments Only countries reporting teaching science as separate subjects are included in this variable

Missing Rules: Index coded as missing if 3 or more source questions are with invalid data.

Derived Variable Name: bsdpsv **Label:** Index of Students Valuing Physics (SVP) **Grade:** Eighth

Title of Exhibit: Index of Students' Valuing Science (SVS)

Report Location: 4.10 Science

Location in Questionnaire: SQ2S_24:b,d and SQ2S_25

Source Variables: BSBPAHDL, BSBPAOSS, BSBPAUNI, BSBPAJOB, BSBPAGET, BSBPTMOR, BSBPTENJ

Procedure: The index is computed from students' responses to the following seven questions regarding physics on a 4-point Likert scale of 1) Agree a lot, 2) Agree a little, 3) Disagree a little, 4) Disagree a lot :

- 1) I would like to take more physics in school (SQ2S_24b).
- 2) I enjoy learning physics (SQ2S_24d).
- 3) I think learning physics will help me in my daily life (SQ2S_25a).
- 4) I need physics to learn other school subjects (SQ2S_25b).
- 5) I need to do well in physics to get into the university of my choice (SQ2S_25c).
- 6) I would like a job that involved using physics (SQ2S_25d).
- 7) I need to do well in physics to get the job I want (SQ2S_25e).

Index BSDPSV is based on the average of responses to the above statements 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.

Analysis weighted by TOTWGT.

Comments Only countries reporting teaching science as separate subjects are included in this variable

Missing Rules: Index coded as missing if 3 or more source questions are with invalid data.

Derived Variable Name: bsdgpss **Label:** Idx Std Prcptn Being Safe School (SPBSS) **Grade:** Eighth

Title of Exhibit: Index of Students' Perception of Being Safe in the Schools (SPBSS)

Report Location: 8.8 Math and Science

Location in Questionnaire: SQ2_16a-e; SQ2s_29a-e

Source Variables: BSBGSTOL, BSBGSHURT, BSBGMADE, BSBGMFUN, BSBGLEFT

Procedure: The index is computed from students' responses to the following question:
In school, did any of this things happen during the last month?(SQ2_16 or SQ2s_29)
The international version of the questionnaire has following five categories with a Yes/No option (1 =yes, 2 = no)
a = Something of mine was stolen
b = I was hit or hurt by other student(s) (e.g., shoving, hitting, kicking)
c = I was made to do things that I didn't want to do by other students
d = I was made fun of or called names
e = I was left out of activities by other students
Index BSDGPSS is assigned to three levels as follows:
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.
Analysis weighted by TOTWGT.

Comments

Missing Rules: Derived variable is coded as missing if two or more source variables are missing.

Section 2

**Eighth Grade – Mathematics
Teacher Questionnaire**

Derived Variable Name: btdmtoov **Label:** Summ Students Taught Overall Math Topics **Grade:** Eighth

Title of Exhibit: Summary of Students Taught the TIMSS Mathematics Topics

Report Location: 5.7 Math

Location in Questionnaire: TQM2_24Aa-j, Ba-f, Ca-h, Da-m, Ea-h

Source Variables: BTBMT001 TO BTBMT045

Procedure: Computed from teachers' response to the following question:
The following list includes the main topics addressed by the TIMSS 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 and half before this year, please choose "Mostly taught this year."
(TQM2_24)
The international version of the questionnaire has following options for each topic:
1) Mostly taught before this year.
2) Mostly taught this year.
3) Not yet taught or just introduced
Compute the percent of students whose teachers CHECKED option 1 or 2 for each individual topic. Then take the average of all these percentages included in the variable.
Analysis weighted by MATWGT.

Comments

Missing Rules: Derived variable is coded as missing if more than one-third of the source topics (variables) are missing.

Derived Variable Name: btdgtelc **Label:** Math Teacher Has Full License or Certif **Grade:** Eighth

Title of Exhibit: Mathematics Teachers' Gender, Age, Certification, and Number of Years of Teaching

Report Location: 6.3 Math

Location in Questionnaire: TQM2_8A and 8B

Source Variables: BTBGTELC, BTBGTLC

Procedure: Derived variable is computed from the teachers' responses for the following two question(s):
Do you have a teacher license or certificate? (Yes/No) (Code 1/ Code 2) (TQM2_8A)
What type of license or certificate do you hold?(TQM2_8B)
The international version of question TQM2_8B has following options
1) Full certificate
2) Provisional Certificate
3) Emergency Certificate
4) Others.
The derived variable BTDGTELC is reported as "Have Full Certificate"
The percent of students whose teachers checked option 1 for TQM2_8B after filtering for the teachers who has checked option 2 for TQM2_8A.
The derived variable BTDGTELC has two categories:
1. Yes
2. No.
Analysis weighted by MATWGT.

Comments

Missing Rules: Derived variable is coded as missing if the source variable is missing.

Derived Variable Name: btdmtonu **Label:** Summ Students Taught Number Math Topics **Grade:** Eighth

Title of Exhibit: Summary of Students Taught the TIMSS Mathematics Topics

Report Location: 5.7 Math

Location in Questionnaire: TQM2_24Aa-j

Source Variables: BTBMTB01 TO BTBMTB10

Procedure: Computed from teachers' response to the following question:
The following list includes the main topics addressed by the TIMSS 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 and half before this year, please choose "Mostly taught this year."
(TQM2_24)
The international version of the questionnaire has following options for each topic:
1) Mostly taught before this year.
2) Mostly taught this year.
3) Not yet taught or just introduced
Compute the percent of students whose teachers CHECKED option 1 or 2 for each individual topic. Then take the average of all these percentages included in the variable.
Analysis weighted by MATWGT.

Comments

Missing Rules: Derived variable is coded as missing if more than one-third of the source topics (variables) are missing.

Derived Variable Name: btdmstud **Label:** Class Size for Mathematics Instruction **Grade:** Eighth

Title of Exhibit: Class Size for Mathematics Instruction

Report Location: 7.1 Math

Location in Questionnaire: TQM2_17

Source Variables: BTBMSTUD

Procedure: Based on the teachers' responses for the following question regarding number student in TIMSS class:
How many students are in the TIMSS class?(TQM2_17)
The derived variable BTDMSTUD has four categories
1. 1-24 Students;
2. 25-32 Students;
3. 33-40 Students.
4. 41 or More Students.
Analysis weighted by MATWGT.

Comments

Missing Rules: Derived variable is coded as missing if the source variable is missing.

Derived Variable Name: btdmtoal **Label:** Summ Students Taught Algebra Math Topics **Grade:** Eighth

Title of Exhibit: Summary of Students Taught the TIMSS Mathematics Topics

Report Location: 5.7 Math

Location in Questionnaire: TQM2_24Ba-f

Source Variables: BTBMTB11 TO BTBMTB16

Procedure: Computed from teachers' response to the following question:
The following list includes the main topics addressed by the TIMSS 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 and half before this year, please choose "Mostly taught this year." (TQ2_24)
The international version of the questionnaire has following options for each topic:
1) Mostly taught before this year.
2) Mostly taught this year.
3) Not yet taught or just introduced
Compute the percent of students whose teachers CHECKED option 1 or 2 for each individual topic. Then take the average of all these percentages included in the variable.
Analysis weighted by MATWGT.

Comments

Missing Rules: Derived variable is coded as missing if more than one-third of the source topics (variables) are missing.

Derived Variable Name: btdmlt **Label:** Idx Tch Rpt Mth Clss WO Lim Fctrs (MCWL) **Grade:** Eighth

Title of Exhibit: Index of Teachers' Reports on Teaching Mathematics Classes with Few or No Limitations on Instruction due to Student Factors (MCFL)

Report Location: 7.2 Math

Location in Questionnaire: TQM2_22a-f

Source Variables: BTBGLT01 TO BTBGLT06

Procedure: Based on mathematics teachers' responses to the following six statements on a 5-point Likert scale of 1) Not applicable, 2) Not at all, 3) A little, 4) Some, 5) A lot :

- 1) Students with different academic abilities (TQM2_22a)
- 2) Students who come from a wide range of backgrounds (TQM2_22b)
- 3) Students with special needs (TQM2_22c)
- 4) Uninterested students (TQM2_22d)
- 5) Low morale among students (TQM2_22e)
- 6) Distruptive students (TQM2_22f).

Recode: 1. Not at all/ Not Applicable; 2. A little; 3. Some; 4. A lot.

Index BTDMLT is based on the average of responses to the six statements 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.

Analysis weighted by MATWGT.

Comments

Missing Rules: Index coded as missing if 3 or more source questions are with invalid data.

Derived Variable Name: btdmtome **Label:** Summ Students Taught Measure Math Topics **Grade:** Eighth

Title of Exhibit: Summary of Students Taught the TIMSS Mathematics Topics

Report Location: 5.7 Math

Location in Questionnaire: TQM2_24Ca-h

Source Variables: BTBMTB17 TO BTBMTB24

Procedure: Computed from teachers' response to the following question:
The following list includes the main topics addressed by the TIMSS 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 and half before this year, please choose "Mostly taught this year."(TQ2_24)
The international version of the questionnaire has following options for each topic:
1) Mostly taught before this year.
2) Mostly taught this year.
3) Not yet taught or just introduced
Compute the percent of students whose teachers CHECKED option 1 or 2 for each individual topic. Then take the average of all these percentages included in the variable.
Analysis weighted by MATWGT.

Comments

Missing Rules: Derived variable is coded as missing if more than one-third of the source topics (variables) are missing.

Derived Variable Name: btdmh **Label:** Idx Tchr Emphasis on Math Homework (EMH) **Grade:** Eighth

Title of Exhibit: Index of Teachers' Emphasis on Mathematics Homework (EMH)

Report Location: 7.13 Math

Location in Questionnaire: TQM2_32, 33, 34

Source Variables: BTBMHMWO, BTBMHWMC, BTBMHWKM

Procedure: The index is computed from teachers' responses to the following three question(s) regarding mathematics homework:

Do you assign mathematics homework to the TIMSS class?(YES/NO) (TQM2_32)
How often do you usually assign mathematics homework to the TIMSS class?(TQM2_33)
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.)(TQM2_34)
The international version of the question TQM2_33 has following options:

- 1) Every or almost every lesson
- 2) About half the lessons
- 3) Some lesson

The international version of the question TQM2_34 has following options:

- 1) Fewer than 15 minutes
- 2) 15-30 minutes
- 3) 31-60 minutes
- 4) 61-90 minutes
- 5) More than 90 minutes

Index BTDMH is assigned to three categories according to the following definitions:

1 = High: TQM2_32 = code 1 AND TQM2_33 = code 1 or 2 AND TQM2_34 = code greater than or equal to 3
3 = Low: TQM2_32 = code 2 OR TQM2_32 = code 1 AND TQM2_33 = code 2 or 3 AND TQM2_34 = code 1 or 2.
2 = Medium: all other combinations.
Analysis weighted by MATWGT.

Comments

Missing Rules: Derived variable is coded as missing if reponse to TQM2_33 or TQM2_34 is missing.

Derived Variable Name: btdmtoge **Label:** Summ Students Taught Geometr Math Topics **Grade:** Eighth

Title of Exhibit: Summary of Students Taught the TIMSS Mathematics Topics

Report Location: 5.7 Math

Location in Questionnaire: TQM2_24Da-m

Source Variables: BTBMTB25 TO BTBMTB37

Procedure: Computed from teachers' response to the following question:
The following list includes the main topics addressed by the TIMSS 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 and half before this year, please choose "Mostly taught this year." (TQ2_24)
The international version of the questionnaire has following options for each topic:
1) Mostly taught before this year.
2) Mostly taught this year.
3) Not yet taught or just introduced
Compute the percent of students whose teachers CHECKED option 1 or 2 for each individual topic. Then take the average of all these percentages included in the variable.
Analysis weighted by MATWGT.

Comments

Missing Rules: Derived variable is coded as missing if more than one-third of the source topics (variables) are missing.

Derived Variable Name: btdmch **Label:** Idx Math Tchr Prcptn Schl Climat (MTPSC) **Grade:** Eighth

Title of Exhibit: Index of Mathematics Teachers' Perception of School Climate (TPSC)

Report Location: 8.5 Math

Location in Questionnaire: TQM2_16a-h

Source Variables: BTBGCHTS, BTBGCHTU, BTBGCHTC, BTBGCHES, BTBGCHPS, BTBGCHPI, BTBGCHSR, BTBGCHSD

Procedure: The index is computed from teachers' responses to the following question regarding their school climate using five point likert scale (1 = very high, 2 = high, 3 = medium, 4 = low, 5 = very low):
How would you characterize each of the following within your school? (TQM2_16)
The international version of the question has following eight categories
a = Teachers' job satisfaction
b = Teachers' understanding of the school's curricular goals
c = Teachers' degree of success in implementing the school's curriculum
d = Teachers' expectations for student achievement
e = Parental support for student achievement
f = Parental involvement in school activities
g = Students' regard for school property
h = Students' desire to do well in school
Index was calculated by averaging the response given by teachers for these categories
Index BTDMCH is assigned to three levels as follow:
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.
Analysis weighted by MATWGT.

Comments

Missing Rules: Derived variable is coded as missing if three or more variables are missing.

Derived Variable Name: btdmtoda **Label:** Summ Students Taught Data Math Topics **Grade:** Eighth

Title of Exhibit: Summary of Students Taught the TIMSS Mathematics Topics

Report Location: 5.7 Math

Location in Questionnaire: TQM2_24Ea-h

Source Variables: BTBMTB38 TO BTBMTB45

Procedure: Computed from teachers' response to the following question:
The following list includes the main topics addressed by the TIMSS 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 and half before this year, please choose "Mostly taught this year." (TQ2_24)
The international version of the questionnaire has following options for each topic:
1) Mostly taught before this year.
2) Mostly taught this year.
3) Not yet taught or just introduced
Compute the percent of students whose teachers CHECKED option 1 or 2 for each individual topic included in the derived variable.
Then take the average of all these percentages included in the derived variable.
Analysis weighted by MATWGT.

Comments

Missing Rules: Derived variable is coded as missing if more than one-third of the source topics (variables) are missing.

Derived Variable Name: btdmcb **Label:** Idx Math Tchr Prcptn Schl Safety (MTPSS) **Grade:** Eighth

Title of Exhibit: Index of Mathematics Teachers' Perception of Safety in the Schools (TPSS)

Report Location: 8.7 Math

Location in Questionnaire: TQM2_15b-d

Source Variables: BTBGCUSN, BTBGCUSA, BTBGCUAS

Procedure: The index is computed from teachers' responses to the following question concerning security in their schools using four point likert scale (1 = agree a lot, 2 = agree, 3 = disagree, 4 = disagree a lot):
Thinking about your current school, indicate the extent to which you agree or disagree with each of the following statements(TQM2_15):
b = This school is located in a safe neighborhood
c = I feel safe at this school
d = This school's security policies and practices are sufficient
Index BTDCU is assigned to three levels as follow:
1 = High: Code 1 or 2 to all three statements
3 = Low: Code 3 or 4 to all three statements
2 = Medium: All other combinations
Analysis weighted by MATWGT.

Comments

Missing Rules: Derived variable is coded as missing if one or more source variables are missing.

Section 3

Eighth Grade – Science Teacher Questionnaire

Derived Variable Name: btdstoo **Label:** Summ Students Taught Overall Sci Topics **Grade:** Eighth

Title of Exhibit: Summary of Students Taught the TIMSS Science Topics

Report Location: 5.8 Science

Location in Questionnaire: TQS2_24Aa-l,Ba-h,Ca-j,Da-k,Ea-c

Source Variables: BTBSTO01 TO BTBSTO44

Procedure: Computed from teachers' response to the following question:
The following list includes the main topics addressed by the TIMSS science 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 and half before this year, please choose "Mostly taught this year."(TQS2_24)
The international version of the questionnaire has following options for each topic:
1) Mostly taught before this year.
2) Mostly taught this year.
3) Not yet taught or just introduced
Compute the percent of students whose teachers CHECKED option 1 or 2 for each individual topic. Then take the average of all these percentages included in the variable.
Analysis weighted by SCIWGT.

Comments

Missing Rules: Derived variable is coded as missing if more than one-third of the source topics (variables) are missing.

Derived Variable Name: btdstobi **Label:** Summ Students Taught Life Sci Topics **Grade:** Eighth

Title of Exhibit: Summary of Students Taught the TIMSS Science Topics

Report Location: 5.8 Science

Location in Questionnaire: TQS2_24Aa-I

Source Variables: BTBSTO01 TO BTBSTO12

Procedure: Computed from teachers' response to the following question:
The following list includes the main topics addressed by the TIMSS science 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 and half before this year, please choose "Mostly taught this year."(TQS2_24)
The international version of the questionnaire has following options for each topic:
1) Mostly taught before this year.
2) Mostly taught this year.
3) Not yet taught or just introduced
Compute the percent of students whose teachers CHECKED option 1 or 2 for each individual topic. Then take the average of all these percentages included in the variable.
Analysis weighted by SCIWGT.

Comments

Missing Rules: Derived variable is coded as missing if more than one-third of the source topics (variables) are missing.

Derived Variable Name: btdstoch **Label:** Summ Students Taught Chemist Sci Topics **Grade:** Eighth

Title of Exhibit: Summary of Students Taught the TIMSS Science Topics

Report Location: 5.8 Science

Location in Questionnaire: TQS2_24Ba-h

Source Variables: BTBSTO13 TO BTBSTO20

Procedure: Computed from teachers' response to the following question:
The following list includes the main topics addressed by the TIMSS science 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 and half before this year, please choose "Mostly taught this year." (TQS2_24)
The international version of the questionnaire has following options for each topic:
1) Mostly taught before this year.
2) Mostly taught this year.
3) Not yet taught or just introduced
Compute the percent of students whose teachers CHECKED option 1 or 2 for each individual topic. Then take the average of all these percentages included in the variable.
Analysis weighted by SCIWGT.

Comments

Missing Rules: Derived variable is coded as missing if more than one-third of the source topics (variables) are missing.

Derived Variable Name: btdstoph **Label:** Summ Students Taught Physics Sci Topics **Grade:** Eighth

Title of Exhibit: Summary of Students Taught the TIMSS Science Topics

Report Location: 5.8 Science

Location in Questionnaire: TQS2_24Ca-j

Source Variables: BTBSTO21 TO BTBSTO30

Procedure: Computed from teachers' response to the following question:
The following list includes the main topics addressed by the TIMSS science 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 and half before this year, please choose "Mostly taught this year." (TQS2_24)
The international version of the questionnaire has following options for each topic:
1) Mostly taught before this year.
2) Mostly taught this year.
3) Not yet taught or just introduced
Compute the percent of students whose teachers CHECKED option 1 or 2 for each individual topic. Then take the average of all these percentages included in the variable.
Analysis weighted by SCIWGT.

Comments

Missing Rules: Derived variable is coded as missing if more than one-third of the source topics (variables) are missing.

Derived Variable Name: btdstoea **Label:** Summ Students Taught Earth Sci Topics **Grade:** Eighth

Title of Exhibit: Summary of Students Taught the TIMSS Science Topics

Report Location: 5.8 Science

Location in Questionnaire: TQS2_24Da-k

Source Variables: BTBSTO31 TO BTBSTO41

Procedure: Computed from teachers' response to the following question:
The following list includes the main topics addressed by the TIMSS science 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 and half before this year, please choose "Mostly taught this year." (TQS2_24)
The international version of the questionnaire has following options for each topic:
1) Mostly taught before this year.
2) Mostly taught this year.
3) Not yet taught or just introduced
Compute the percent of students whose teachers CHECKED option 1 or 2 for each individual topic. Then take the average of all these percentages included in the variable.
Analysis weighted by SCIWGT.

Comments

Missing Rules: Derived variable is coded as missing if more than one-third of the source topics (variables) are missing.

Derived Variable Name: btdstoen **Label:** Summ Students Taught Environ Sci Topics **Grade:** Eighth

Title of Exhibit: Summary of Students Taught the TIMSS Science Topics

Report Location: 5.8 Science

Location in Questionnaire: TQS2_24Ea-c

Source Variables: BTBSTO42 TO BTBSTO44

Procedure: Computed from teachers' response to the following question:
The following list includes the main topics addressed by the TIMSS science 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 and half before this year, please choose "Mostly taught this year." (TQS2_24)
The international version of the questionnaire has following options for each topic:
1) Mostly taught before this year.
2) Mostly taught this year.
3) Not yet taught or just introduced
Compute the percent of students whose teachers CHECKED option 1 or 2 for each individual topic. Then take the average of all these percentages included in the variable.
Analysis weighted by SCIWGT.

Comments

Missing Rules: Derived variable is coded as missing if more than one-third of the source topics (variables) are missing.

Derived Variable Name: btdgtelc **Label:** Sci Teacher Has Full License or Certific **Grade:** Eighth

Title of Exhibit: Science Teachers' Gender, Age, Certification, and Number of Years of Teaching

Report Location: 6.3 Science

Location in Questionnaire: TQS2_8A and 8B

Source Variables: BTBGTELC, BTBGTLC

Procedure: Based on the teachers' responses for the following two question(s):
Do you have a teacher license or certificate? (Yes/No)(TQS2_8A)
What type of license or certificate do you hold?(TQS2_8B)
The international version of question TQS2_8B has following options
1) Full certificate
2) Provisional Certificate
3) Emergency Certificate
4) Others.
The derived variable BTDGTELC is reported as "Have Full Certificate"
The percent of students whose teachers checked option 1(Yes) for TQS2_8B after filtering for the teachers who has checked option 2(No) for TQS2_8A.
The derived variable BTDGTELC has two categories:
1. Yes
2. No.
Analysis weighted by SCIWGT.

Comments

Missing Rules: Derived variable is coded as missing if the source variable is missing.

Derived Variable Name: btdspssc **Label:** Major in BIO, PHY, CHE or ES **Grade:** Eighth

Title of Exhibit: Preparation to Teach Science

Report Location: 6.5 Science

Location in Questionnaire: TQS2_6

Source Variables: BTBSPSBI, BTBSPSPH, BTBSPSCH, BTBSPSES

Procedure: Based on the teachers' responses for the first four options of the following question:
During your <post-secondary> education, what was your major or main area(s) of study?(TQS2_6)
The international version of the question has following nine options in Yes/No format (Code1/ Code2):
a) Biology, b) Physics, c) Chemistry, d) Earth Science, e) Education - Science, f) Mathematics, g) Education - Mathematics, h) Education - General, i) Other
The derived variable BTDPS5C (Biology, Physics, Chemistry, or Earth Science) is reported in the fourth column of the exhibit 6.5 with following categories:
Code 1: If TQS2_6a= code 1 or TQS2_6b= code 1 or TQS2_6c= code 1 or TQS2_6d= code 1.
Code 2: If TQS2_6a= code 2 and TQS2_6b= code 2 and TQS2_6c= code 2 and TQS2_6d= code 2.

Comments

Missing Rules: Derived variable is coded as missing if all source variables (TQS2_6) are missing

Derived Variable Name: btdsstud **Label:** Class Size for Science Instruction **Grade:** Eighth

Title of Exhibit: Class Size for Science Instruction

Report Location: 7.1 Science

Location in Questionnaire: TQS2_17

Source Variables: BTBSSTUD

Procedure: Based on the teachers' responses for the following question regarding number student in TIMSS class:
How many students are in the TIMSS class?(TQS2_17)
The derived variable BTDSSTUD has four categories
1. 1-24 Students;
2. 25-32 Students;
3. 33-40 Students.
4. 41 or More Students.
For Analysis weighted by SCIWGT.

Comments

Missing Rules: Derived variable is coded as missing if the source variable is missing.

Derived Variable Name: btDSLt **Label:** Idx Tch Rpt Sci Clss WO Lim Fctrs (SCWL) **Grade:** Eighth

Title of Exhibit: Index of Teachers' Reports on Teaching Science Classes with Few or No Limitations on Instruction due to Student Factors (SCFL)

Report Location: 7.2 Science

Location in Questionnaire: TQS2_22a-f

Source Variables: BTBGLT01 TO BTBGLT06

Procedure: Based on science teachers' responses to the following six statements on a 5-point Likert scale of 1) Not applicable, 2) Not at all, 3) A little, 4) Some, 5) A lot :

- 1) Students with different academic abilities (TQS2_22a)
- 2) Students who come from a wide range of backgrounds (TQS2_22b)
- 3) Students with special needs (TQS2_22c)
- 4) Uninterested students (TQS2_22d)
- 5) Low morale among students (TQS2_22e)
- 6) Distruptive students (TQS2_22f).

Recode: 1. Not at all/ Not Applicable; 2. A little; 3. Some; 4. A lot.

Index BTDSLt is based on the average of responses to the six statements 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.

Analysis weighted by SCIWGT.

Comments

Missing Rules: Index coded as missing if 3 or more source questions are with invalid data.

Derived Variable Name: btdsh **Label:** Idx Tchr Emphasis on Sci Homework (ESH) **Grade:** Eighth

Title of Exhibit: Index of Teachers' Emphasis on Science Homework (ESH)

Report Location: 7.10 Science

Location in Questionnaire: TQS2_27,28,29

Source Variables: BTBSHMWO, BTBSHWMC, BTBSHWKM

Procedure: The index is computed from the teachers' responses to the following three question(s) regarding science homework:

Do you assign science homework to the TIMSS class? (YES/NO)(TQS2_27)
How often do you usually assign science homework to the TIMSS class?(TQS2_28)
When you assign science 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.)(TQS2_29)
The international version of the question TQS2_28 has following options:
1) Every or almost every lesson
2) About half the lessons
3) Some lesson
The international version of the question TQS2_29 has following options:
1) Fewer than 15 minutes
2) 15-30 minutes
3) 31-60 minutes
4) 61-90 minutes
5) More than 90 minutes
Index BTDSH is assigned to three categories according to the following definitions:
1 = High: TQS2_27 = code 1 AND TQS2_28 = code 1 or 2 AND TQS2_29 = code greater than or equal to 3
3 = Low: TQS2_27 = code 2 OR TQS2_27 = code 1 AND TQS2_28 = code 2 or 3 AND TQS2_29 = code 1 or 2.
2 = Medium: All other combinations.
Analysis weighted by SCIWGT.

Comments

Missing Rules: Derived variable is coded as missing if response to TQS2_28 or TQS2_29 is missing.

Derived Variable Name: bt dsch **Label:** Idx Sci Tchr Prcptn Schl Climate (STPSC) **Grade:** Eighth

Title of Exhibit: Index of Science Teachers' Perception of School Climate (TPSC)

Report Location: 8.5 Science

Location in Questionnaire: TQS2_16a-h

Source Variables: BTBGCHTS, BTBGCHTU, BTBGCHTC, BTBGCHES, BTBGCHPS, BTBGCHPI, BTBGCHSR, BTBGCHSD

Procedure: The index is computed from teachers' responses to the following question regarding their school climate using five point likert scale (1 = very high, 2 = high, 3 = medium, 4 = low, 5 = very low):
How would you characterize each of the following within your school? (TQS2_16)
The international version of the question has following eight categories
a = Teachers' job satisfaction
b = Teachers' understanding of the school's curricular goals
c = Teachers' degree of success in implementing the school's curriculum
d = Teachers' expectations for student achievement
e = Parental support for student achievement
f = Parental involvement in school activities
g = Students' regard for school property
h = Students' desire to do well in school
Index was calculated by averaging the response given by teachers for these categories
Index BTDSCH is assigned to three levels as follow:
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.
Analysis weighted by SCIWGT.

Comments

Missing Rules: Derived variable is coded as missing if three or more variables are missing.

Derived Variable Name: btdscu **Label:** Idx Sci Tchr Prcptn School Safet (STPSS) **Grade:** Eighth

Title of Exhibit: Index of Science Teachers' Perception of Safety in the Schools (TPSS)

Report Location: 8.7 Science

Location in Questionnaire: TQS2_15b-d

Source Variables: BTBGCUSN, BTBGCUSA, BTBGCUAS

Procedure: The index is computed from teachers' responses to the following question concerning security in their schools using four point likert scale (1 = agree a lot, 2 = agree, 3 = disagree, 4 = disagree a lot):
Thinking about your current school, indicate the extent to which you agree or disagree with each of the following statements(TQS2_15):
b = This school is located in a safe neighborhood
c = I feel safe at this school
d = This school's security policies and practices are sufficient
Index BTDSCU is assigned to three levels as follow:
1 = High: Code 1 or 2 to all three statements
3 = Low: Code 3 or 4 to all three statements
2 = Medium: All other combinations
Analysis weighted by SCIWGT.

Comments

Missing Rules: Derived variable is coded as missing if one or more source variables are missing.

Section 4

Eighth Grade – School Questionnaire

Derived Variable Name: bcdmst **Label:** Idx Avlbl Schl Rsrcls Math Instrn (ASRMI) **Grade:** Eighth

Title of Exhibit: Trends in Index of Availability of School Resources for Mathematics Instruction (ASRMI)

Report Location: 8.3 Math

Location in Questionnaire: For 2003, SCQ2_23a-e,g-k; For 1999, SCQ2_12a-e,g-k and For 1995 SCQ2_16a-e,g-k

Source Variables: BCBGST01 TO BCBGST05, BCBMST07 TO BCBMST11

Procedure: The index is computed from principals' responses to questions regarding shortages or inadequacies that can affect instruction in their school on a four point likert scale (1 = none, 2 = a little, 3 = some, 4 = a lot) :

Is your school capacity to provide instruction affected by a shortage or inadequacy of any of the following?(SCQ2_23)

a = Instructional materials (e.g., textbook);
b = Budget for supplies (e.g., paper, pencils);
c = School buildings and grounds;
d = Heating/cooling and lightening systems;
e = Instructional space (e.g., classrooms);
g = Computers for mathematics instruction;
h = Computer software for mathematics instruction;
i = Calculators for mathematics instruction;
j = Library materials relevant to mathematics instruction;
k = Audio-visual resources for mathematics instruction.

Index BCDMST is assigned to three levels as follow:

1 = High: Average value of a-e is less than 2 AND the average value of g-k is less than 2;
3 = Low: Average value of a-e is greater than or equal to 3 AND the average value of g-k is greater than or equal to 3;
2 = Medium: All other combinations.

Analysis weighted by TOTWGT.

Comments

Missing Rules: Derived variable is coded as missing if two or more of SCQ2_23a-e are missing OR two or more SCQ2_23g-k are missing.

Derived Variable Name: bcdsst **Label:** Idx Avlbl Schl Rsrcls Sci Instrn (ASRSI) **Grade:** Eighth

Title of Exhibit: Trends in Index of Availability of School Resources for Science Instruction (ASRSI)

Report Location: 8.3 Science

Location in Questionnaire: For 2003 SCQ2_23a-e,l-q; For 1999, grade 8: SCQ2_12a-e,l-q and For 1995 grade 8: SCQ2_16a-e,l-q

Source Variables: BCBGST01 TO BCBGST05, BCBSST12 TO BCBSST17

Procedure: The index is computed from principals' responses to questions regarding shortages or inadequacies that can affect instruction in their school on a four point likert scale (1 = none, 2 = a little, 3 = some, 4 = a lot) :

Is your school capacity to provide instruction affected by a shortage or inadequacy of any of the following?(SCQ2_23)

- a = Instructional materials (e.g., textbook);
- b = Budget for supplies (e.g., paper, pencils);
- c = School buildings and grounds;
- d = Heating/cooling and lightening systems;
- e = Instructional space (e.g., classrooms);
- l = science laboratory equipment and materials;
- m = Computers for science instruction;
- n = Computer software for science instruction;
- o = Calculators for science instruction;
- p = Library materials relevant to science instruction;
- q = Audio-visual resources for science instruction.

Index BCDSST is assigned to three levels as follow:

- 1 = High: Average value of a-e is less than 2 AND the average value of g-k is less than 2;
- 3 = Low: Average value of a-e is greater than or equal to 3 AND the average value of g-k is greater than or equal to 3;
- 2 = Medium: All other combinations.

Analysis weighted by TOTWGT.

Comments

Missing Rules: Derived variable is coded as missing if two or more of SCQ2_23a-e are missing OR three or more SCQ2_23l-q are missing.

Derived Variable Name: bcdgch **Label:** Idx Prncpl Percept School Climate (PPSC) **Grade:** Eighth

Title of Exhibit: Index of Principals' Perception of School Climate (PPSC)

Report Location: 8.4 Math and Science

Location in Questionnaire: SCQ2_7a-h

Source Variables: BCBGCHTS, BCBGCHTU, BCBGCHTC, BCBGCHES, BCBGCHPS, BCBGCHPI, BCBGCHSR, BCBGCHSD

Procedure: The index is computed from principals' responses to eight questions regarding school climate using a four point likert scale (1 = very high, 2 = high, 3 = medium, 4 = low, 5 = very low)
How would you characterize each of the following within your school?(SCQ2_7)
The international version of the question has following eight categories
a = Teachers' job satisfaction
b = Teachers' understanding of the school's curricular goals
c = Teachers' degree of success in implementing the school's curriculum
d = Teachers' expectations for student achievement
e = Parental support for student achievement
f = Parental involvement in school activities
g = Students' regard for school property
h = Students' desire to do well in school
Index is calculated by averaging the responses for the above eight categories
Index BCDGCH is assigned to three levels as follow:
1 = High: Average value is less than or equal to 2
2 = Medium: Average value is greater than 2 AND less than or equal to 3
3 = Low: Average value is greater than 3
Analysis weighted by TOTWGT.

Comments

Missing Rules: Derived variable is coded as missing if three or more variables are missing.

Derived Variable Name: bcdgsp **Label:** Idx Good School/Class Attendance (GSCA) **Grade:** Eighth

Title of Exhibit: Trends in Index of Good School and Class Attendance (GSCA)

Report Location: 8.6 Math and Science

Location in Questionnaire: For 2003, SCQ2_22A, B_a-c; and For 1999, SCQ2_17A, B_a-c

Source Variables: BCBGFP01, BCBGFP02, BCBGFP03, BCBGSP01, BCBGSP02, BCBGSP03

Procedure: The index is computed from principals' responses to two questions concerning the problem behaviors of students in their schools:
How often each of the following behavior occur among eighth grade students in your school? (SCQ2_22A)
using a 5 point likert scale: 1) Never, 2) Rarely, 3) Monthly, 4) Weekly 5) Daily
If the behavior occurs, how severe a problem does it present? (SCQ2_22B)
using a 3-point likert scale: 1) Not a problem, 2) Minor problem, 3) Serious problem
The international version of both the question have following three problem behavior categories
a = Arriving late at school
b = Absenteeism (i.e., unjustified absences)
c = Skipping class <hours/periods>
Index BCDGSP is assigned to three levels as follow:
1 = High: SCQ2_22A_a-c = code 1 OR SCQ2_22B_a-c code 1 or missing
3 = Low: SCQ2_22B_a-c code 3 for at least 2 categories OR code 3 for 1 category and code 3 for other two categories OR If there is one missing source variable and code 3 for other two.
2 = Medium: All other combinations
Analysis weighted by TOTWGT.

Comments

Missing Rules: Derived variable is coded as missing if two or three source variables are missing.

Section 5

Fourth Grade – Student Questionnaire

Title of Exhibit: Use of Computer

Report Location: 4.6 Math and Science

Location in Questionnaire: SQ1_10A, B

Source Variables: ASBGCHOM, ASBGCSCH, ASBGCFRH, ASBGCCAF, ASBGCELS, ASBGUSEC

Procedure: Derived variable is computed from students' responses to the following questions with a Yes/No (code 1/code 2) response.

1. Do you ever use a computer? (do not include PlayStation, GameCube, Xbox, or other TV/video game computers)(SQ1_10A)

2. Where do you use a computer?(SQ1_10B).

The question (SQ1_10B) has following six options

a) At home, b) At school, c) At a library, d) At a friend's home, e) At an Internet Cafe, f) Elsewhere

The derived variable ASDGCVL is reported with five categories based on following definitions:

1.Use Computer Both at Home and at School (10A, 10Ba and 10b = Code 1).

2.Use Computer at Home but Not at School (10A, 10Ba = Code 1and 10Bb = Code 2 or missing).

3.Use Computer at School but Not at Home (10A, 10Bb = Code 1and 10Ba = Code 2 or missing).

4.Use Computer Only at Places Other than Home and School (10A = code 1 and 10Ba and 10Bb = code 2 or missing and code 1 for at least one of the options from 10Bc-e.

5. Do Not Use Computer at All (10A = Code 2). In the denominator, include all valid cases.

Analysis weighted by TOTWGT.

Comments

Missing Rules: The derived variable is coded as missing, if response to SQ1_10A = code 1 or missing, AND response to all options SQ1_10B a-f = code 2 or missing.

Derived Variable Name: asdmhw **Label:** Index of Time on Math Homework (TMH) **Grade:** Fourth

Title of Exhibit: Index of Time Students Spend Doing Mathematics Homework (TMH) in a Normal School Week

Report Location: 4.7 Math

Location in Questionnaire: SQ1_15A, B

Source Variables: ASBMHWMA, ASBMHWMG

Procedure: The index is computed from students' responses to the following two questions regarding mathematics homework.

How often your teacher gives you homework in mathematics? (SQ1_15A)

When your teacher gives you mathematics homework, how many minutes are you usually given? (SQ1_15B)

The international version of the SQ1_15A has following options

- 1) Every day
- 2) 3 or 4 times a week
- 3) 1 or 2 times a week
- 4) Less than once a week
- 5) Never

The international version of the SQ1_15B has following options

- 1) Fewer than 15 minutes
- 2) 15 - 30 minutes
- 3) 31-60 minutes
- 4) 61-90 minutes
- 5) More than 90 minutes

The index ASDMHW has three levels defined as follows:

1 = High: Students who responded that they are given mathematics homework at least 3 or 4 times a week (SQ1_15A = code 4 or 5) and they are given at least 31 minutes of mathematics homework (SQ1_15B = code greater than or equal to 3)

3 = Low: Students who responded that they are given homework at most 1 or 2 times a week (SQ1_15A code = greater than or equal to 3) AND they are given at most 30 minutes of mathematics homework (SQ1_15B = code 1 or 2)

2 = Medium: all other combinations.

Analysis weighted by TOTWGT.

Comments

Missing Rules: The derived variable is coded as missing if response to SQ1_15A is missing or [SQ1_15B is missing AND response to SQ1_15A is valid but different than code 5].

Derived Variable Name: asdshw **Label:** Index of Time on Science Homework (TMH) **Grade:** Fourth

Title of Exhibit: Index of Time Students Spend Doing Science Homework (TSH) in a Normal School Week

Report Location: 4.7 Science

Location in Questionnaire: SQ1_16A,B

Source Variables: ASBSHWMA, ASBSHWMG

Procedure: The index is computed from students' responses to the following two questions regarding science homework.

How often your teacher gives you homework in science? (SQ1_16A)

When your teacher gives you science homework, how many minutes are you usually given? (SQ1_16B)

The international version of the SQ1_16A has following options:

- 1) Every day
- 2) 3 or 4 times a week
- 3) 1 or 2 times a week
- 4) Less than once a week
- 5) Never

The international version of the SQ1_16B has following options:

- 1) Fewer than 15 minutes
- 2) 15 - 30 minutes
- 3) 31-60 minutes
- 4) 61-90 minutes
- 5) More than 90 minutes

The index ASDSHW has three levels defined as follows:

1 = High: Students who responded that they are given science homework at least 3 or 4 times a week (SQ1_16A = code 1, 2) and they are given at least 31 minutes of science homework (SQ1_16B = code greater than or equal to 3)

3 = Low: Students who responded that they are given homework at most 1 or 2 times a week (SQ1_16A code = greater than or equal to 3) AND they are given at most 30 minutes of science homework (SQ1_16B = code 1, 2)

2 = Medium: all other combinations.

Analysis weighted by TOTWGT.

Comments

Missing Rules: The derived variable is coded as missing if [response to SQ1_16A is missing] or [response to SQ1_16B is missing AND response to SQ1_16A is valid but different than code 5].

Derived Variable Name: asdmscl **Label:** Index of Self-Confid Learning Math (SCM) **Grade:** Fourth

Title of Exhibit: Index of Students' Self-Confidence in Learning Mathematics (SCM)

Report Location: 4.9 Math

Location in Questionnaire: SQ1_6a,c,e,f

Source Variables: ASBMTWEL, ASBMTCLM, ASBMTNOT, ASBMTQKY

Procedure: The index is computed from students' responses to the following questions regarding mathematics on a 4-point Likert scale of 1) Agree a lot, 2) Agree a little, 3) Disagree a little, 4) Disagree a lot :

- 1) I usually do well in mathematics (SQ1_6a).
- 2) Mathematics is more difficult for me than for many of my classmates (Reversed) (SQ1_6c).
- 3) I'm just not good at mathematics (Reversed) (SQ1_6e).
- 4) I learn things quickly in mathematics (SQ1_6f).

Index ASDMSCL is based on the average of responses to the above statements. The index 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.

Analysis weighted by TOTWGT.

Comments

Missing Rules: Index coded as missing if 2 or more source questions are with invalid data.

Derived Variable Name: asdsscl **Label:** Index Self-Confid Learning Science (SCS) **Grade:** Fourth

Title of Exhibit: Index of Students' Self-Confidence in Learning Science (SCS)

Report Location: 4.9 Science

Location in Questionnaire: SQ1_8:a,c, e, f

Source Variables: ASBSTWEL, ASBSTCLM, ASBSTNOT, ASBSTQKY

Procedure: The index is computed from students' responses to the following questions regarding science on a 4-point Likert scale of 1) Agree a lot, 2) Agree a little, 3) Disagree a little, 4) Disagree a lot :

- 1) I usually do well in science (SQ1_8a).
- 2) Science is more difficult for me than for many of my classmates (Reversed) (SQ1_8c)
- 3) I'm just not good at science (Reversed) (SQ1_8e).
- 4) I learn things quickly in science (SQ1_8f).

Index ASDSSCL is based on the average of responses to the above statements 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.

Analysis weighted by TOTWGT.

Comments

Missing Rules: Index coded as missing if 2 or more source questions are with invalid data.

Derived Variable Name: asdgpss **Label:** Idx Std Prcptn Being Safe School (SPBSS) **Grade:** Fourth

Title of Exhibit: Index of Students' Perception of Being Safe in the Schools (SPBSS)

Report Location: 8.8 Math and Science

Location in Questionnaire: SQ1_12a-e

Source Variables: ASBGSTOL, ASBGSHURT, ASBGMADE, ASBGMFUN, ASBGLEFT

Procedure: The index is computed from students' responses to the following question:
In school, did any of this things happen during the last month?(SQ1_12)
The international version of the questionnaire has following five statements with a Yes/No option (1 =yes, 2 = no)
a = Something of mine was stolen
b = I was hit or hurt by other student(s) (e.g., shoving, hitting, kicking)
c = I was made to do things that I didn't want to do by other students
d = I was made fun of or called names
e = I was left out of activities by other students
Index ASDGPSS is assigned to three levels as follows:
1 = High: SQ1_12 a-e = code 2
3 = Low: SQ1_12 a-e = code 1 in at least three statements
2 = Medium: All other combinations
Analysis weighted by TOTWGT.

Comments

Missing Rules: Derived variable is coded as missing if two or more source variables are missing.

Section 6

Fourth Grade – Teacher Questionnaire

Derived Variable Name: atdmtaov **Label:** Summ Students Taught Overall Math Topics **Grade:** Fourth

Title of Exhibit: Summary of Students Taught the TIMSS Mathematics Topics

Report Location: 5.7 Math

Location in Questionnaire: TQ1_26Aa-l, Ba-f, Ca-f, Da-k, Ea-g

Source Variables: ATBMTA01 TO ATBMTA42

Procedure: Computed from teachers' response to the following question:
The following list includes the main topics addressed by the TIMSS 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 and half before this year, please choose "Mostly taught this year." (TQ1_26)
The international version of the questionnaire has following options for each topic:
1) Mostly taught before this year.
2) Mostly taught this year.
3) Not yet taught or just introduced
Compute the percent of students whose teachers CHECKED option 1 or 2 for each individual topic. Then take the average of all these percentages included in the variable.
Analysis weighted by MATWGT.

Comments

Missing Rules: Derived variable is coded as missing if more than one-third of the source topics (variables) are missing.

Derived Variable Name: atdmtanu **Label:** Summ Students Taught Number Math Topics **Grade:** Fourth

Title of Exhibit: Summary of Students Taught the TIMSS Mathematics Topics

Report Location: 5.7 Math

Location in Questionnaire: TQ1_26Aa-l

Source Variables: ATBMTA01 TO ATBMTA12

Procedure: Computed from teachers' response to the following question:
The following list includes the main topics addressed by the TIMSS 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 and half before this year, please choose "Mostly taught this year." (TQ1_26)
The international version of the questionnaire has following options for each topic:
1) Mostly taught before this year.
2) Mostly taught this year.
3) Not yet taught or just introduced
Compute the percent of students whose teachers CHECKED option 1 or 2 for each individual topic. Then take the average of all these percentages included in the variable.
Analysis weighted by MATWGT.

Comments

Missing Rules: Derived variable is coded as missing if more than one-third of the source topics (variables) are missing.

Derived Variable Name: atdmtape **Label:** Summ Studs Tgt Patts,Equs,Rel Math Tops **Grade:** Fourth

Title of Exhibit: Summary of Students Taught the TIMSS Mathematics Topics

Report Location: 5.7 Math

Location in Questionnaire: TQ1_26Ba-f

Source Variables: ATBMTA13 TO ATBMTA18

Procedure: Computed from teachers' response to the following question:
The following list includes the main topics addressed by the TIMSS 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 and half before this year, please choose "Mostly taught this year." (TQ1_26)
The international version of the questionnaire has following options for each topic:
1) Mostly taught before this year.
2) Mostly taught this year.
3) Not yet taught or just introduced
Compute the percent of students whose teachers CHECKED option 1 or 2 for each individual topic. Then take the average of all these percentages included in the variable.
Analysis weighted by MATWGT.

Comments

Missing Rules: Derived variable is coded as missing if more than one-third of the source topics (variables) are missing.

Derived Variable Name: atdmtame **Label:** Summ Students Taught Measure Math Topics **Grade:** Fourth

Title of Exhibit: Summary of Students Taught the TIMSS Mathematics Topics

Report Location: 5.7 Math

Location in Questionnaire: TQ1_26ACa-f

Source Variables: ATBMTA19 TO ATBMTA24

Procedure: Computed from teachers' response to the following question:
The following list includes the main topics addressed by the TIMSS 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 and half before this year, please choose "Mostly taught this year." (TQ1_26)
The international version of the questionnaire has following options for each topic:
1) Mostly taught before this year.
2) Mostly taught this year.
3) Not yet taught or just introduced
Compute the percent of students whose teachers CHECKED option 1 or 2 for each individual topic. Then take the average of all these percentages included in the variable.
Analysis weighted by MATWGT.

Comments

Missing Rules: Derived variable is coded as missing if more than one-third of the source topics (variables) are missing.

Derived Variable Name: atdmtage **Label:** Summ Students Taught Geometr Math Topics **Grade:** Fourth

Title of Exhibit: Summary of Students Taught the TIMSS Mathematics Topics

Report Location: 5.7 Math

Location in Questionnaire: TQ1_26Da-k

Source Variables: ATBMTA25 TO ATBMTA35

Procedure: Computed from teachers' response to the following question:
The following list includes the main topics addressed by the TIMSS 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 and half before this year, please choose "Mostly taught this year." (TQ1_26)
The international version of the questionnaire has following options for each topic:
1) Mostly taught before this year.
2) Mostly taught this year.
3) Not yet taught or just introduced
Compute the percent of students whose teachers CHECKED option 1 or 2 for each individual topic. Then take the average of all these percentages included in the variable.
Analysis weighted by MATWGT.

Comments

Missing Rules: Derived variable is coded as missing if more than one-third of the source topics (variables) are missing.

Derived Variable Name: atdmtada **Label:** Summ Students Taught Data Math Topics **Grade:** Fourth

Title of Exhibit: Summary of Students Taught the TIMSS Mathematics Topics

Report Location: 5.7 Math

Location in Questionnaire: TQ1_26Ea-g

Source Variables: ATBMTA36 TO ATBMTA42

Procedure: Computed from teachers' response to the following question:
The following list includes the main topics addressed by the TIMSS 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 and half before this year, please choose "Mostly taught this year." (TQ1_26)
The international version of the questionnaire has following options for each topic:
1) Mostly taught before this year.
2) Mostly taught this year.
3) Not yet taught or just introduced
Compute the percent of students whose teachers CHECKED option 1 or 2 for each individual topic. Then take the average of all these percentages included in the variable.
Analysis weighted by MATWGT.

Comments

Missing Rules: Derived variable is coded as missing if more than one-third of the source topics (variables) are missing.

Derived Variable Name: atdstaov **Label:** Summ Students Taught Overall Sci Topics **Grade:** Fourth

Title of Exhibit: Summary of Students Taught the TIMSS Science Topics

Report Location: 5.8 Science

Location in Questionnaire: TQ1_39Aa-j,Ba-m,Ca-i

Source Variables: ATBSTA01 TO ATBSTA32

Procedure: Computed from teachers' response to the following question:
The following list includes the main topics addressed by the TIMSS science 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 and half before this year, please choose "Mostly taught this year." (TQ1_39)
The international version of the questionnaire has following options for each topic:
1) Mostly taught before this year.
2) Mostly taught this year.
3) Not yet taught or just introduced
Compute the percent of students whose teachers CHECKED option 1 or 2 for each individual topic. Then take the average of all these percentages included in the variable.
Analysis weighted by SCIWGT.

Comments

Missing Rules: Derived variable is coded as missing if more than one-third of the source topics (variables) are missing.

Derived Variable Name: atdstali **Label:** Summ Students Taught Life Sci Topics **Grade:** Fourth

Title of Exhibit: Summary of Students Taught the TIMSS Science Topics

Report Location: 5.8 Science

Location in Questionnaire: TQ1_39Aa-j

Source Variables: ATBSTA01 TO ATBSTA10

Procedure: Computed from teachers' response to the following question:
The following list includes the main topics addressed by the TIMSS science 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 and half before this year, please choose "Mostly taught this year." (TQ1_39)
The international version of the questionnaire has following options for each topic:
1) Mostly taught before this year.
2) Mostly taught this year.
3) Not yet taught or just introduced
Compute the percent of students whose teachers CHECKED option 1 or 2 for each individual topic. Then take the average of all these percentages included in the variable.
Analysis weighted by SCIWGT.

Comments

Missing Rules: Derived variable is coded as missing if more than one-third of the source topics (variables) are missing.

Derived Variable Name: atdstaph **Label:** Summ Students Taught Physical Sci Topics **Grade:** Fourth

Title of Exhibit: Summary of Students Taught the TIMSS Science Topics

Report Location: 5.8 Science

Location in Questionnaire: TQ1_39Ba-m

Source Variables: ATBSTA11 TO ATBSTA23

Procedure: Computed from teachers' response to the following question:
The following list includes the main topics addressed by the TIMSS science 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 and half before this year, please choose "Mostly taught this year." (TQ1_39)
The international version of the questionnaire has following options for each topic:
1) Mostly taught before this year.
2) Mostly taught this year.
3) Not yet taught or just introduced
Compute the percent of students whose teachers CHECKED option 1 or 2 for each individual topic. Then take the average of all these percentages included in the variable.
Analysis weighted by SCIWGT.

Comments

Missing Rules: Derived variable is coded as missing if more than one-third of the source topics (variables) are missing.

Derived Variable Name: atdstaea **Label:** Summ Students Taught Earth Sci Topics **Grade:** Fourth

Title of Exhibit: Summary of Students Taught the TIMSS Science Topics

Report Location: 5.8 Science

Location in Questionnaire: TQ1_39Ca-i

Source Variables: ATBSTA24 TO ATBSTA32

Procedure: Computed from teachers' response to the following question:
The following list includes the main topics addressed by the TIMSS science 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 and half before this year, please choose "Mostly taught this year." (TQ1_39)
The international version of the questionnaire has following options for each topic:
1) Mostly taught before this year.
2) Mostly taught this year.
3) Not yet taught or just introduced
Compute the percent of students whose teachers CHECKED option 1 or 2 for each individual topic. Then take the average of all these percentages included in the variable.
Analysis weighted by SCIWGT.

Comments

Missing Rules: Derived variable is coded as missing if more than one-third of the source topics (variables) are missing.

Derived Variable Name: atdgtelc **Label:** Have Full Teaching License or Certificate **Grade:** Fourth

Title of Exhibit: Mathematics/Science Teachers' Gender, Age, Certification, and Number of Years of Teaching

Report Location: 6.3 Math and Science

Location in Questionnaire: TQ1_8A and 8B

Source Variables: ATBGTELC, ATBGTLC

Procedure: Based on the teachers' responses for the following two question(s):
Do you have a teacher license or certificate? (Yes/No) (TQ1_8A)
What type of license or certificate do you hold?(TQ1_8B)
The international version of question TQ1_8B has following options
1) Full certificate
2) Provisional Certificate
3) Emergency Certificate
4) Others.
The derived variable ATDGTELC is reported as "Have Full Certificate"
The percent of students whose teachers checked option 1(Yes) for TQ1_8B after filtering for the teachers who has checked option 2 (No) for TQ1_8A.
The derived variable BTDGTELC has two categories:
1. Yes
2. No.
Analysis weighted by TOTWGT.

Comments

Missing Rules: Derived variable is coded as missing if the source variable is missing.

Derived Variable Name:	atdmprep	Label:	Preparation to Teach Math	Grade:	Fourth
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Title of Exhibit: Preparation to Teach Mathematics

Report Location: 6.5 Math

Location in Questionnaire: TQ1_6A,B

Source Variables: ATBGPSEP ATBGPSES ATBMPSMA ATBSPSSC ATBGPST ATBMEDMA ATBSEDSC

Procedure:

Based on teachers' response to the following to the following two questions regarding there major area of study:

During your <post-secondary> education, what was your major or main area(s) of study?(TQ1_6A)

If your major or main area of study was education, did you have a specialization in any of the following?(TQ1_6B)

The international version of the question TQ1_6A has following five categories in Yes/No format (Code1/Code2) :

- a) Education - Primary/Elementary
- b) Education - Secondary
- c) Mathematics
- d) Science
- e) Other

The international version of the question TQ1_6B has following four categories in Yes/No format:

- a) Mathematics
- b) Science
- c) Language/reading
- d) Other subject

The derived variable ATDMPREP is reported with five sub-categories according to the follwoing definitions:

- 1: Primary/Elementary Education with a Major or Specialization in Mathematics if TQ1_6_Aa = code 1 and [(TQ1_6_Ac=code 1) or (TQ1_6_Ba=code 1)].
- 2: Primary/Elementary Education with a Major or Specialization in Science but not in Mathematics if Not in sub-category 1 and TQ1_6_Aa=code 1 and [(TQ1_6_Ad=code 1) or (TQ1_6_Bb=code 1)].
- 3: Mathematics or Science Major without a Major or Specialization in Primary/Elementary Education if Not in sub-category 1 and 2 and TQ1_6_Ac=code 1 or TQ1_6_Ad=code 1 or TQ1_6_Ba=code 1 or TQ1_6_Bb=code 1 .
- 4: Primary/Elementary Education without a Major or Specialization in Mathematics or Science if Not in sub-category 1,2 and 3 and TQ1_6_Aa=code 1.
- 5: All other valid cases not in sub-category 1, 2, 3 and 4.

Comments

Missing Rules: Derived variable is coded as missing if all source variables (TQ1_6_Aa-e=YES) are missing

Derived Variable Name:	atdsprep	Label:	Preparation to Teach Science	Grade:	Fourth
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Title of Exhibit: Preparation to Teach Science

Report Location: 6.5 Science

Location in Questionnaire: TQ1_6A,B

Source Variables: ATBGPSEP, ATBGPSES, ATBMPSMA, ATBSPSSC, ATBGPSOT, ATBMEDMA, ATBSEDSC

Procedure:

Based on teachers' response to the following to the following two questions regarding there major area of study:

During your <post-secondary> education, what was your major or main area(s) of study?(TQ1_6A)

If your major or main area of study was education, did you have a specialization in any of the following?(TQ1_6B)

The international version of the question TQ1_6A has following five categories in Yes/No format (Code 1/Code2):

- a) Education - Primary/Elementary
- b) Education - Secondary
- c) Mathematics
- d) Science
- e) Other

The international version of the question TQ1_6B has following four categories in Yes/No format:

- a) Mathematics
- b) Science
- c) Language/reading
- d) Other subject

The derived variable ATDSPREP is reported with five sub-categories according to the folloing definitions:

- 1: Primary/Elementary Education with a Major or Specialization in Science but not in Mathematics if TQ1_6_Aa=code 1 and [(TQ1_6_Ad=code 1) or (TQ1_6_Bb=code 1)].
- 2: Primary/Elementary Education with a Major or Specialization in Mathematics if Not in sub-category 1 and TQ1_6_Aa = code 1 and [(TQ1_6_Ac=code 1) or (TQ1_6_Ba=code 1)].
- 3: Mathematics or Science Major without a Major or Specialization in Primary/Elementary Education if Not in sub-category 1 and 2 and TQ1_6_Ac=code 1 or TQ1_6_Ad=code 1 or TQ1_6_Ba=code 1 or TQ1_6_Bb=code 1 .
- 4: Primary/Elementary Education without a Major or Specialization in Mathematics or Science if Not in sub-category 1,2 and 3 and TQ1_6_Aa=code 1.
- 5: All other valid cases not in sub-category 1, 2, 3 and 4.

Comments

Missing Rules: Derived variable is coded as missing if all source variables TQ1_6_Aa-e are missing

Derived Variable Name: atdmstud **Label:** Class Size for Mathematics Instruction **Grade:** Fourth

Title of Exhibit: Class Size for Mathematics Instruction

Report Location: 7.1 Math

Location in Questionnaire: TQ1_14A

Source Variables: ATBMSTUD

Procedure: Based on the teachers' responses for the following question regarding number student in TIMSS class:
How many students are in the TIMSS class for mathematics?(TQM1_14A)
The derived variable ATDMSTUD has four categories

1. 1-19 Students;
2. 20-26 Students;
3. 27-32 Students.
4. 33 or More Students.

Analysis weighted by MATWGT.

Comments

Missing Rules: Derived variable is coded as missing if the source variable is missing.

Derived Variable Name: atdsstud **Label:** Class Size for Science Instruction **Grade:** Fourth

Title of Exhibit: Class Size for Science Instruction

Report Location: 7.1 Science

Location in Questionnaire: TQ1_32A

Source Variables: ATBMSTUD

Procedure: Based on the teachers' responses for the following question regarding number student in TIMSS class:
How many students are in the TIMSS class for science?(TQM1_14B)
The derived variable ATDSSTUD has four categories
1. 1-19 Students;
2. 20-26 Students;
3. 27-32 Students.
4. 33 or More Students.
Analysis weighted by SCIWGT.

Comments

Missing Rules: Derived variable is coded as missing if the source variable is missing.

Derived Variable Name: atdmh **Label:** Idx Tchr Emphasis on Math Homework (EMH) **Grade:** Fourth

Title of Exhibit: Index of Teachers' Emphasis on Mathematics Homework (EMH)

Report Location: 7.13 Math

Location in Questionnaire: TQ1_27, 28, 29

Source Variables: ATBMHMWO, ATBMHWMC, ATBMHWKM

Procedure: The index is computed from the teachers' responses to the following three question(s) regarding mathematics homework:
Do you assign mathematics homework to the TIMSS class?(YES/NO) (Code1/ Code2) (TQ1_27)
How often do you usually assign mathematics homework to the TIMSS class?(TQ1_28)
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.)(TQ1_29)
The international version of the question TQ1_28 has following options:
1) Every or almost every lesson
2) About half the lessons
3) Some lesson
The international version of the question TQ1_29 has following options:
1) Fewer than 15 minutes
2) 15-30 minutes
3) 31-60 minutes
4) 61-90 minutes
5) More than 90 minutes
Index ATDMH is assigned to three categories according to the following definitions:
1 = High: TQ1_27 = code 1 AND TQ1_28 = code 1 or 2 AND TQ1_29 = code greater than or equal to 3
3 = Low: TQ1_27 = code 2 OR cases with TQ1_27 = code 1 AND TQ1_28 = code 2 or 3 AND TQ1_29 = code 1 or 2.
2 = Medium: All other combinations.
Analysis weighted by MATWGT.

Comments

Missing Rules: Derived variable is coded as missing if response to TQ1_28 or TQ1_29 is missing.

Derived Variable Name: atdsh **Label:** Idx Tchr Emphasis on Sci Homework (ESH) **Grade:** Fourth

Title of Exhibit: Index of Teachers' Emphasis on Science Homework (ESH)

Report Location: 7.10 Science

Location in Questionnaire: TQ1_40,41,42

Source Variables: ATBSHMWO, ATBSHWMC, ATBSHWKM

Procedure: The index is computed from the teachers' responses to the following three question(s) regarding mathematics homework:
Do you assign mathematics homework to the TIMSS class?(YES/NO) (TQ1_40)
How often do you usually assign mathematics homework to the TIMSS class?(TQ1_41)
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.)(TQ1_42)
The international version of the question TQ1_41 has following options:
1) Every or almost every lesson
2) About half the lessons
3) Some lesson
The international version of the question TQ1_42 has following options:
1) Fewer than 15 minutes
2) 15-30 minutes
3) 31-60 minutes
4) 61-90 minutes
5) More than 90 minutes
Index ATDSH is assigned to three categories according to the following definitions:
1 = High: TQ1_40 = code 1 AND TQ1_41 = code 1 or 2 AND TQ1_42 = code greater than or equal to 3
3 = Low: TQ1_40 = code 2 OR cases with TQ1_40 = code 1 AND TQ1_41 = code 2 or 3 AND TQ1_42 = code 1 or 2.
2 = Medium: All other combinations.
Analysis weighted by SCIWGT.

Comments

Missing Rules: Derived variable is coded as missing if the response to TQ1_41 or TQ1_42 is missing.

Section 7

Fourth Grade – School Questionnaire

Derived Variable Name: acdmst **Label:** Idx Avlbl Schl Rsrcs Math Instrn (ASRMI) **Grade:** Fourth

Title of Exhibit: Trends in Index of Availability of School Resources for Mathematics Instruction (ASRMI)

Report Location: 8.3 Math

Location in Questionnaire: For 2003, SCQ1_23a-e,g-k; and For 1995 SCQ1_15a-e,g-k

Source Variables: ACBGST01 TO ACBGST05, ACBMST07 TO ACBMST11

Procedure: The index is computed from principals' responses to questions regarding shortages or inadequacies that can affect instruction in their school on a four point likert scale (1 = none, 2 = a little, 3 = some, 4 = a lot) :

Is your school capacity to provide instruction affected by a shortage or inadequacy of any of the following?(SCQ1_23)

a = Instructional materials (e.g., textbook);

b = Budget for supplies (e.g., paper, pencils);

c = School buildings and grounds;

d = Heating/cooling and lightening systems;

e = Instructional space (e.g., classrooms);

g = Computers for mathematics instruction;

h = Computer software for mathematics instruction;

i = Calculators for mathematics instruction;

j = Library materials relevant to mathematics instruction;

k = Audio-visual resources for mathematics instruction.

Index ACDMST is assigned to three levels as follow:

1 = High: Average value of a-e is less than 2 AND the average value of g-k is less than 2;

3 = Low: Average value of a-e is greater than or equal to 3 AND the average value of g-k is greater than or equal to 3;

2 = Medium: All other combinations.

Analysis weighted by TOTWGT.

Comments

Missing Rules: Derived variable is coded as missing if two or more of SCQ1_23a-e are missing OR two or more SCQ1_23g-k are missing.

Derived Variable Name: atdgch **Label:** Idx Tchr Perceptn School Climate (TPSC) **Grade:** Fourth

Title of Exhibit: Index Teachers' Perception of School Climate (TPSC)

Report Location: 8.5 Math and Science

Location in Questionnaire: TQ1_9a-h

Source Variables: ATBGCHTS, ATBGCHTU, ATBGCHTC, ATBGCHES, ATBGCHPS, ATBGCHPI, ATBGCHSR, ATBGCHSD

Procedure:
The index is computed from teachers' responses to the following question regarding their school climate using five point likert scale (1 = very high, 2 = high, 3 = medium, 4 = low, 5 = very low):
How would you characterize each of the following within your school? (TQ1_9)
The international version of the question has following eight categories
a = Teachers' job satisfaction
b = Teachers' understanding of the school's curricular goals
c = Teachers' degree of success in implementing the school's curriculum
d = Teachers' expectations for student achievement
e = Parental support for student achievement
f = Parental involvement in school activities
g = Students' regard for school property
h = Students' desire to do well in school
Index was calculated by averaging the response given by teachers for these categories
Index ATDGCH is assigned to three levels as follow:
1 = High: Average value is less than or equal to 2
2 = Medium: Average value is greater than 2 AND less than or equal to 3
3 = Low: Average value is greater than 3
Analysis weighted by TOTWGT.

Comments

Missing Rules: Derived variable is coded as missing if three or more variables are missing.

Derived Variable Name: atdgcu **Label:** Idx Tchr Perceptn School Safety (TPSS) **Grade:** Fourth

Title of Exhibit: Index of Teachers' Perception of Safety in the Schools (TPSS)

Report Location: 8.7 Math and Science

Location in Questionnaire: TQ1_10b-d

Source Variables: ATBGCUSN, ATBGCUSA, ATBGCUAS

Procedure: The index is computed from teachers' responses to the following question concerning security in their schools using four point likert scale (1 = agree a lot, 2 = agree, 3 = disagree, 4 = disagree a lot):
Thinking about your current school, indicate the extent to which you agree or disagree with each of the following statements(TQ1_10):
b = This school is located in a safe neighborhood
c = I feel safe at this school
d = This school's security policies and practices are sufficient
Index ATDGCU is assigned to three levels as follow:
1 = High: Code 1 or 2 to all three statements
3 = Low: Code 3 or 4 to all three statements
2 = Medium: All other combinations
Analysis weighted by TOTWGT.

Comments

Missing Rules: Derived variable is coded as missing if one or more source variables are missing.

Derived Variable Name:	acdsst	Label:	Idx Avlbl Schl Rsrcls Sci Instrn (ASRSI)	Grade:	Fourth
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Title of Exhibit: Trends in Index of Availability of School Resources for Science Instruction (ASRSI)

Report Location: 8.3 Science

Location in Questionnaire: For 2003, SCQ1_23a-e,l-q; and For 1995, SCQ1_15a-e,l-q

Source Variables: ACBGST01 TO ACBGST05, ACBSST12 TO ACBSST17

Procedure: The index is computed from principals' responses to questions regarding shortages or inadequacies that can affect instruction in their school on a four point likert scale (1 = none, 2 = a little, 3 = some, 4 = a lot) :

Is your school capacity to provide instruction affected by a shortage or inadequacy of any of the following?(SCQ1_23)

a = Instructional materials (e.g., textbook);
b = Budget for supplies (e.g., paper, pencils);
c = School buildings and grounds;
d = Heating/cooling and lightening systems;
e = Instructional space (e.g., classrooms);
l = science laboratory equipment and materials;
m = Computers for science instruction;
n = Computer software for science instruction;
o = Calculators for science instruction;
p = Library materials relevant to science instruction;
q = Audio-visual resources for science instruction.

Index ACDSST is assigned to three levels as follow:

1 = High: Average value of a-e is less than 2 AND the average value of l-q is less than 2
3 = Low: Average value of a-e is greater than or equal to 3 AND the average value of l-q is greater than or equal to 3
2 = Medium: All other combinations

Analysis weighted by TOTWGT.

Comments

Missing Rules: Derived variable is coded as missing if two or more of SCQ1_23a-e are missing OR three or more SCQ1_23 l-q are missing.

Derived Variable Name: acdgch **Label:** Idx Prncpl Percept School Climate (PPSC) **Grade:** Fourth

Title of Exhibit: Index of Principals' Perception of School Climate (PPSC)

Report Location: 8.4 Math and Science

Location in Questionnaire: SCQ1_7a-h

Source Variables: ACBGCHTS, ACBGCHTU, ACBGCHTC, ACBGCHES, ACBGCHPS, ACBGCHPI, ACBGCHSR, ACBGCHSD

Procedure: The index is computed from principals' responses to eight questions regrading school climate using a four point likert scale (1 = very high, 2 = high, 3 = medium, 4 = low, 5 = very low)
How would you characterize each of the following within your school?(SCQ2_7)
The internatrional version of the question has following eight categories
a = Teachers' job satisfaction
b = Teachers' understanding of the school's curricular goals
c = Teachers' degree of success in implementing the school's curriculum
d = Teachers' expectations for student achievement
e = Parental support for student achievement
f = Parental involvement in school activities
g = Students' regard for school property
h = Students' desire to do well in school
Index is calculated by averaging the responses for the above eight categories
Index ACDGCH is assigned to three levels as follow:
1 = High: Average value is less than or equal to 2
2 = Medium: Average value is greater than 2 AND less than or equal to 3
3 = Low: Average value is greater than 3
Analysis weighted by TOTWGT.

Comments

Missing Rules: Derived variable is coded as missing if three or more variables are missing.

Derived Variable Name: acdgsp **Label:** Idx Good School/Class Attendance (GSCA) **Grade:** Fourth

Title of Exhibit: Trends in Index of Good School and Class Attendance (GSCA)

Report Location: 8.6 Math and Science

Location in Questionnaire: SCQ1_22A, B_a-c

Source Variables: ACBGFP01, ACBGFP02, ACBGFP03, ACBGSP01, ACBGSP02, ACBGSP03

Procedure: The index is computed from principals' responses to two questions concerning the problem behaviors of students in their schools:
How often each of the following behavior occur among eighth grade students in your school? (SCQ1_22A)
using a 5 point likert scale: 1) Never, 2) Rarely, 3) Monthly, 4) Weekly 5) Daily
If the behavior occurs, how severe a problem does it present? (SCQ1_22B)
using a 3-point likert scale: 1) Not a problem, 2) Minor problem, 3) Serious problem
The international version of both the question have following three problem behavior categories
a = Arriving late at school
b = Absenteeism (i.e., unjustified absences)
c = Skipping class <hours/periods>
Index ACDGSP is assigned to three levels as follow:
1 = High: SCQ1_22A_a-c = code 1 OR SCQ1_22B_a-c code 1 or missing
3 = Low: SCQ1_22B_a-c code 3 for atleast 2 categories OR code 3 for 1 category and code 3 for other two categories OR If there is one missing source variable and code 3 for other two.
2 = Medium: All other combinations
Analysis weighted by TOTWGT.

Comments

Missing Rules: Derived variable is coded as missing if two or three source variables are missing.

Section 8

**Variables Derived from more
than one Questionnaire**

Derived Variable Name: btdgmhy **Label:** Average Yearly Math Instructional Time (hrs) **Grade:** Eighth

Title of Exhibit: Mathematics Instructional Time

Report Location: 7.3 Math

Location in Questionnaire: SCQ2_11A, B, and TQM2_18

Source Variables: BCBGDWFU, BCBGDWHA, BCBGDYSO, BTBMTIMT

Procedure:
Based on the principals' responses for the following question:
A. How many days per year is your school open for instruction for eighth grade students? (SCQ2_11A)
B. How many instructional days are there in the school week (typical calendar week from Monday through Saturday) for eighth grade students?(SCQ2_11B)
Based on the teachers' responses for the following question:
How many minutes per week do you teach mathematics to the TIMSS class?(TQM2_18)
Compute Students' Average Yearly Mathematics Instructional Time in Hours (BTDGMHY) as follows:
Step 1: Compute total instructional weeks/year: Recode "None" as zero (SCQ2_11Ba,b option 7=0).
SCQ2_11A (days/year) divided by [SCQ2_11Ba + SCQ2_11Bb] (days/week). If SCQ2_11Bb is missing, total instructional weeks/year= SCQ2_11A divided by SCQ2_11Ba. Note: Set "total instructional weeks/year" to missing if it is less than 30 or more than 48; OR (SCQ2_11Ba + SCQ2_11Bb/2) is less than 4 or greater than 6.
Step 2: Compute mathematics instructional hours/week:TQM2_18 divided by 60.
Step 3: Compute mathematics instructional hours/year: Multiply total instructional weeks/year(step 1 above) by mathematics instructional hours per year (step 2).

Comments Derived variable not included in the international database.

Missing Rules: Derived variable is coded as missing if either SCQ2_11A, or SCQ2_11Ba, or TQM2_18 missing

Derived Variable Name: btdgmpt **Label:** Math Time As Percent of Total Instructional **Grade:** Eighth

Title of Exhibit: Mathematics Instructional Time

Report Location: 7.3 Math

Location in Questionnaire: SCQ2_11A, B, C and TQM2_18

Source Variables: BCBGDWFU, BCBGDWHA, BCBGDYSO, BTBMTIMT, BCBGTITD

Procedure: Based on the principals' responses for the following questions regarding instruction in their school:
A. How many days per year is your school open for instruction for eighth grade students?(SCQ2_11A)
B. How many instructional days are there in the school week (typical calendar week from Monday through Saturday) for eighth grade students?(SCQ2_11B)
C. To the nearest half-hour, what is the total instructional time in a typical full day (excluding lunch breaks, study hall, and after school activities) for eighth grade students? (SCQ2_11C)
Based on the teachers' responses for the following question:
How many minutes per week do you teach mathematics to the TIMSS class?(SCQ2_11C)
Compute Mathematics Instructional Time as Percent of Total Instructional Time (BTDGMPT) as follows:
Recode SCQ2_11C option 1=4, option 2=4.5, option 3=5, option 4=5.5, option 5=6, option 6=6.5
Step 1: Compute total instructional hours/year: [(SCQ2_11A) (SCQ2_11C) {(SCQ2_11Ba) / (SCQ2_11Ba + Bb)}] + [(SCQ2_11A) (SCQ2_11C / 2) {(SCQ2_11Bb) / (SCQ2_11Ba + Bb)}]
If SCQ2_11Ba is valid and SCQ2_11Bb is missing, total instructional hours/year= (SCQ2_11A) (SCQ2_11C).
Step 2: Compute mathematics instructional hours/year as a percent of total instructional time: mathematics instructional hours/year (BTDGMHY) divided by total instructional hours/year (result of Step 1) multiplied by 100.
Analysis weighted by MATWGT.

Comments Derived variable not included in the international database.

Missing Rules: Derived variable is coded as missing if SCQ2_11A, Ba, C or TQM2_18 missing OR if the derived number of "total instructional weeks/year" is missing.

Derived Variable Name: btdgshy **Label:** Average Yearly Sci Instructional Time (hrs) **Grade:** Eighth

Title of Exhibit: Instructional Time in the Sciences

Report Location: 7.3 Science

Location in Questionnaire: SCQ2_11A, B and TQS2_18

Source Variables: BCBGDWUFU, BCBGDWHA, BCBGDYSO, BTBSTIMT

Procedure:
Based on the principals' responses for the following question:
A. How many days per year is your school open for instruction for eighth grade students? (SCQ2_11A)
B. How many instructional days are there in the school week (typical calendar week from Monday through Saturday) for eighth grade students?(SCQ2_11B)
Based on the teachers' responses for the following question:
How many minutes per week do you teach mathematics to the TIMSS class?(TQS2_18)
Compute Students' Average Yearly Science Instructional Time in Hours (BTDGSHY) as follows:
Step 1: Compute total instructional weeks/year: Recode "None" as zero (SCQ2_11Ba,b option 7=0).
SCQ2_11A (days/year) divided by [SCQ2_11Ba + SCQ2_11Bb] (days/week). If SCQ2_11Bb is missing, total instructional weeks/year= SCQ2_11A divided by SCQ2_11Ba.
Note: Set "total instructional weeks/year" to missing if it is less than 30 or more than 48; OR (SCQ2_11Ba + SCQ2_11Bb/2) is less than 4 or greater than 6.
Step 2: Compute science instructional hours/week:TQS2_18 divided by 60.
Step 3: Compute science instructional hours/year: Multiply total instructional weeks/year(step 1 above) by science instructional hours per year (step 2).

Comments Derived variable not included in the international database.

Missing Rules: Derived variable is coded as missing if SCQ2_11A, Ba, C or TQS2_18 missing.

Derived Variable Name:	btdgspt	Label:	Sci Time As Percent of Total Instructional	Grade:	Eighth
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Title of Exhibit: Instructional Time in the Sciences

Report Location: 7.3 Science

Location in Questionnaire: SCQ2_11A, B, C and TQS2_18

Source Variables: BCBGDWUFU, BCBGDWHA, BCBGDYSO, BTBSTIMT, BCBGTITD

Procedure:

Based on the principals' responses for the following questions regarding instruction in their school:

A. How many days per year is your school open for instruction for eighth grade students?(SCQ2_11A)

B. How many instructional days are there in the school week (typical calendar week from Monday through Saturday) for eighth grade students?(SCQ2_11B)

C. To the nearest half-hour, what is the total instructional time in a typical full day (excluding lunch breaks, study hall, and after school activities) for eighth grade students? (SCQ2_11C)

Based on the teachers' responses for the following question:

How many minutes per week do you teach science to the TIMSS class?(TSQ2_18)

Compute Science Instructional Time as Percent of Total Instructional Time (BTDGSPT) as follows:

Recode SCQ2_11C option 1=4, option 2=4.5, option 3=5, option 4=5.5, option 5=6, option 6=6.5

Step 1: Compute total instructional hours/year: $[(SCQ2_11A) (SCQ2_11C) \{(SCQ2_11Ba) / (SCQ2_11Ba + Bb)\}] + [(SCQ2_11A) (SCQ2_11C / 2) \{(SCQ2_11Bb) / (SCQ2_11Ba + Bb)\}]$

If SCQ2_11Ba is valid and SCQ2_11Bb is missing, total instructional hours/year= (SCQ2_11A) (SCQ2_11C).

Step 2: Compute science instructional hours/year as a percent of total instructional time: science instructional hours/year (BTDGSHY) divided by result of Step 1 (section 2) multiplied by 100.

There are 5 different panels. Computations for each panel are based on only the science teachers for the relevant courses, filtered by ITCOURSE:

Panel 1: General/Integrated Science: ITCOURSE = 6

Panel 2: Biology/Life Science: ITCOURSE = 3, 9, 11, 12

Panel 3: Earth Science: ITCOURSE = 5, 11, 12

Panel 4: Chemistry: ITCOURSE = 4, 11, 12

Panel 5: Physics/Physical Science: ITCOURSE = 2, 8, 11, 12

Analysis weighted by SCIWGT.

Comments Derived variable not included in the international database.

Missing Rules: Derived variable is coded as missing if SCQ2_11A, Ba, C or TQS2_18 missing OR if the derived number of "total instructional weeks/year" is missing.

Derived Variable Name: atdgmhy **Label:** Average Yearly Math Instructional Time (hrs) **Grade:** Fourth

Title of Exhibit: Mathematics Instructional Time

Report Location: 7.3 Math

Location in Questionnaire: SCQ1_11A, B, and TQ1_15

Source Variables: ACBGDWFU, ACBGDWHA, ACBGDYSO, ATBMTIMT

Procedure: Based on the principals' responses for the following questions regarding instruction in their school:
A. How many days per year is your school open for instruction for eighth grade students?(SCQ1_11A)
B. How many instructional days are there in the school week (typical calendar week from Monday through Saturday) for eighth grade students?(SCQ1_11B)
Based on the teachers' responses for the following question:
How many minutes per week do you teach mathematics to the TIMSS class? (TQ1_15)
Compute Students' Average Yearly Mathematics Instructional Time in Hours (ATDGMHY) as follows:
Step 1: Compute total instructional weeks/year: Recode "None" as zero (SCQ1_11Ba,b option 7=0).
SCQ1_11A (days/year) divided by [SCQ1_11Ba + SCQ2_11Bb] (days/week). If SCQ1_11Bb is missing, total instructional weeks/year= SCQ1_11A divided by SCQ1_11Ba.
Note: Set "total instructional weeks/year" to missing if it is less than 30 or more than 48; OR (SCQ1_11Ba + SCQ1_11Bb/2) is less than 4 or greater than 6.
Step 2: Compute mathematics instructional hours/week:TQ1_15 divided by 60.
Step 3: Compute mathematics instructional hours/year: Multiply total instructional weeks/year(step 1 above) by mathematics instructional hours per year (step 2 above).

Comments Derived variable not included in the international database.

Missing Rules: Derived variable is coded as missing if SCQ1_11A, B, or TQ1_15 missing

Derived Variable Name:	atdgmpt	Label:	Math Time As Percent of Total Instructional	Grade:	Fourth
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Title of Exhibit: Mathematics Instructional Time

Report Location: 7.3 Math

Location in Questionnaire: SCQ1_11A, B, C and TQ1_15

Source Variables: ACBGDWFU, ACBGDWHA, ACBGDYSO, ATBMTIMT, ACBGTITD

Procedure:

Based on the principals' responses for the following questions regarding instruction in their school:

A. How many days per year is your school open for instruction for eighth grade students?(SCQ1_11A)

B. How many instructional days are there in the school week (typical calendar week from Monday through Saturday) for eighth grade students?(SCQ1_11B)

C. To the nearest half-hour, what is the total instructional time in a typical full day (excluding lunch breaks, study hall, and after school activities) for eighth grade students? (SCQ1_11C)

Based on the teachers' responses for the following question:

How many minutes per week do you teach mathematics to the TIMSS class?(TQ1_15)

Compute Mathematics Instructional Time as Percent of Total Instructional Time (ATDGMPT) as follows:

Recode SCQ2_11C option 1=4, option 2=4.5, option 3=5, option 4=5.5, option 5=6, option 6=6.5

Step 1: Compute total instructional hours/year: $[(SCQ1_11A) (SCQ1_11C) \{(SCQ1_11Ba) / (SCQ1_11Ba + Bb)\}] + [(SCQ1_11A) (SCQ1_11C / 2) \{(SCQ1_11Bb) / (SCQ1_11Ba + Bb)\}]$

If SCQ1_11Ba is valid and SCQ1_11Bb is missing, total instructional hours/year= (SCQ1_11A) (SCQ1_11C).

Step 2: Compute mathematics instructional hours/year as a percent of total instructional time: mathematics instructional hours/year (ATDGMHY) divided by total instructional hours/year (result of Step 1) multiplied by 100.

Analysis weighted by MATWGT.

Comments Derived variable not included in the international database.

Missing Rules: Derived variable is coded as missing if SCQ1_11A, B, C or TQ1_15 missing OR if the derived number of "total instructional weeks/year" is missing.

Derived Variable Name: atdgshy **Label:** Average Yearly Sci Instructional Time (hrs) **Grade:** Fourth

Title of Exhibit: Instructional Time in the Sciences

Report Location: 7.3 Science

Location in Questionnaire: SCQ1_11A, B and TQ1_33A, B

Source Variables: ACBGDWFU, ACBGDWHA, ACBGDYSO, ATBSSSBJ, ATBSYMWWT, ATBSNMWT

Procedure: Based on the principals' responses for the following questions regarding instruction in their school:
A. How many days per year is your school open for instruction for eighth grade students?(SCQ1_11A)
B. How many instructional days are there in the school week (typical calendar week from Monday through Saturday) for eighth grade students?(SCQ1_11B)
C. To the nearest half-hour, what is the total instructional time in a typical full day (excluding lunch breaks, study hall, and after school activities) for eighth grade students? (SCQ1_11C)
Based on the teachers' responses for the following question:
How many minutes per week do you teach science to the TIMSS class?(TQ1_33A)
Compute Students' Average Yearly Science Instructional Time in Hours:
Step 1: Compute total instructional weeks/year: Recode "None" as zero (SCQ2_11Ba,b option 7=0). SCQ2_11A (days/year) divided by [SCQ2_11Ba + SCQ2_11Bb] (days/week). If SCQ2_11Bb is missing, total instructional weeks/year= SCQ2_11A divided by SCQ2_11Ba. Note: Set "total instructional weeks/year" to missing if it is less than 30 or more than 48; OR (SCQ2_11Ba + SCQ2_11Bb/2) is less than 4 or greater than 6.
Step 2: Compute science instructional hours/week:TQ1_33A divided by 60. (use the valid response from TQ1_33A or B)
Step 3: Compute science instructional hours/year:: Multiply total instructional weeks/year(step 1 above) by science instructional hours per year (step 2).

Comments Derived variable not included in the international database.

Missing Rules: Derived variable is coded as missing if SCQ1_11A, B, C or TQ1_33A, B missing.

Derived Variable Name:	atdgspt	Label:	Sci Time As Percent of Total Instructional	Grade:	Fourth
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Title of Exhibit: Instructional Time in the Sciences

Report Location: 7.3 Science

Location in Questionnaire: SCQ1_11A, B, C and TQ1_33A, B

Source Variables: ACBGDWFU, ACBGDWHA, ACBGDYSO, ATBSSSBJ, ATBSYMWT, ATBSNMWT, ACBGTITD

Procedure:

Based on the principals' responses for the following questions regarding instruction in their school:

A. How many days per year is your school open for instruction for eighth grade students?(SCQ1_11A)

B. How many instructional days are there in the school week (typical calendar week from Monday through Saturday) for eighth grade students?(SCQ1_11B)

C. To the nearest half-hour, what is the total instructional time in a typical full day (excluding lunch breaks, study hall, and after school activities) for eighth grade students? (SCQ1_11C)

Based on the teachers' responses for the following question:

How many minutes per week do you teach science to the TIMSS class?(TQ1_15)

Compute Science Instructional Time as Percent of Total Instructional Time as follows:

Recode SCQ2_11C option 1=4, option 2=4.5, option 3=5, option 4=5.5, option 5=6, option 6=6.5

Step 1: Compute total instructional hours/year: $[(SCQ1_11A) (SCQ1_11C) \{(SCQ1_11Ba) / (SCQ1_11Ba + Bb)\}] + [(SCQ1_11A) (SCQ1_11C) / 2] \{(SCQ1_11Bb) / (SCQ1_11Ba + Bb)\}]$

If SCQ1_11Ba is valid and SCQ1_11Bb is missing, total instructional hours/year= (SCQ1_11A) (SCQ1_11C).

Step 2: Compute science instructional hours/year as a percent of total instructional time: science instructional hours/year divided by result of Step 1 multiplied by 100.

Analysis weighted by SCIWGT.

Comments Derived variable not included in the international database.

Missing Rules: Derived variable is coded as missing if SCQ1_11A, B, C or TQ1_33A, B missing OR if the derived number of "total instructional weeks/year" is missing.

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ISBN 1-889938-36-X



International Association for the Evaluation of Educational Achievement
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