

DERIVED CONTEXT VARIABLES

Science Teacher Questionnaire – Grades 8 & 9

Derived Variable Name:

BTDSMSE

Variable Label:

Teachers Majored in Science and Science
Education (2023)

International Report Exhibits

Exhibits 5.1.12 – 5.1.13: Teachers Majored in Science and Science Education – Teachers' Reports

Procedure

Based on responses to the following questions in the Science Teacher Questionnaire administered in 2023:

TQG-04: What is the highest level of formal education you have completed? (BTBG04)

Response options: 1 = "Did not complete <Upper secondary education—ISCED Level 3>"

2 = "<Upper secondary education—ISCED Level 3>"

3 = "<Post-secondary, non-tertiary education—ISCED Level 4>"

4 = "<Short-cycle tertiary education—ISCED Level 5>"

5 = "Bachelor's or equivalent level—ISCED Level 6>"

6 = "Master's or equivalent level—ISCED Level 7>"

7 = "Doctor or equivalent level—ISCED Level 8>"

TQG-05a-i: During your <post-secondary> education, what was your major or main area(s) of study?

"Biology" (BTBG05B)

"Physics" (BTBG05C)

"Chemistry" (BTBG05D)

"<Earth Science>" (BTBG05E)

"Education—Science" (BTBG05G)

Response options: 1 = "Yes"

2 = "No"

Derive BTDSMSE:

1 = "Major in Science and Science Education" = IF ((BTBG05B = 1 OR BTBG05C = 1 OR BTBG05D = 1 OR BTBG05E = 1) AND BTBG05G = 1)

2 = "Major in Science but No Major in Science Education" = IF ((BTBG05B = 1 OR BTBG05C = 1 OR BTBG05D = 1 OR BTBG05E = 1) AND BTBG05G = 2)

3 = "Major in Science Education but No Major in Science" = IF ((BTBG05B = 2 AND BTBG05C = 2 AND BTBG05D = 2 AND BTBG05E = 2) AND BTBG05G = 1)

4 = "All other majors" = IF (BTBG05B = 2 AND BTBG05C = 2 AND BTBG05D = 2 AND BTBG05E = 2 AND BTBG05G = 2)

5 = "No formal education beyond upper-secondary" = IF (BTBG04 = 1 OR 2)

Otherwise, set to missing.

1 = "Major in Science and Science Education"

2 = "Major in Science but No Major in Science Education"

3 = "Major in Science Education but No Major in Science"

4 = "All other majors"

5 = "No formal education beyond upper-secondary"

Comments

See BTDLSE for variable derived from 2024 questionnaire data.

Derived Variable Name:

BTDLMSME

Variable Label:

Teachers Majored in Science and Science Education (2024)

International Report Exhibits

Exhibits 5.1.12 – 5.1.13: Teachers Majored in Science and Science Education – Teachers' Reports

Procedure

Based on responses to the following questions in the Science Teacher Questionnaire administered in 2024:

TQG-04: What is the highest level of formal education you have completed? (BTBLG04)

Response options: 1 = "Did not complete <Upper secondary education—ISCED Level 3>"

2 = "<Upper secondary education—ISCED Level 3>"

3 = "<Post-secondary, non-tertiary education—ISCED Level 4>"

4 = "<Short-cycle tertiary education—ISCED Level 5>"

5 = "Bachelor's or equivalent level—ISCED Level 6>"

6 = "Master's or equivalent level—ISCED Level 7>"

7 = "Doctor or equivalent level—ISCED Level 8>"

TQG-05a-i: During your <post-secondary> education, what was your major or main area(s) of study?

"Biology" (BTBLG05B)

"Physics" (BTBLG05C)

"Chemistry" (BTBLG05D)

"<Earth Science>" (BTBLG05E)

"Education—Science" (BTBLG05G)

Response options: 1 = "Yes"

2 = "No"

Derive BTDLMSME:

1 = "Major in Science and Science Education" = IF ((BTBLG05B = 1 OR BTBLG05C = 1 OR BTBLG05D = 1 OR BTBLG05E = 1) AND BTBLG05G = 1)

2 = "Major in Science but No Major in Science Education" = IF ((BTBLG05B = 1 OR BTBLG05C = 1 OR BTBLG05D = 1 OR BTBLG05E = 1) AND BTBLG05G = 2)

3 = "Major in Science Education but No Major in Science" = IF ((BTBLG05B = 2 AND BTBLG05C = 2 AND BTBLG05D = 2 AND BTBLG05E = 2) AND BTBLG05G = 1)

4 = "All other majors" = IF (BTBLG05B = 2 AND BTBLG05C = 2 AND BTBLG05D = 2 AND BTBLG05E = 2 AND BTBLG05G = 2)

5 = "No formal education beyond upper-secondary" = IF (BTBLG04 = 1 OR 2)

Otherwise, set to missing.

1 = "Major in Science and Science Education"

2 = "Major in Science but No Major in Science Education"

3 = "Major in Science Education but No Major in Science"

4 = "All other majors"

5 = "No formal education beyond upper-secondary"

Comments

See BTDSMSE for variable derived from 2023 questionnaire data.

Derived Variable Name:

BTDSHW

Variable Label:

Science Instruction Hours per Week (2023)

Procedure

Based on responses to the following question in the Science Teacher Questionnaire administered in 2023:

TQS-14: In a typical week, how much time do you spend teaching science to the students in this class? (BTBS14)

(Open-response item; response in terms of minutes)

Derive BTDSHW:

Step 1: Divide BTBS14 by 60.

Set BTDSHW to missing if source variable is missing.

This variable is derived only for Integrated Science and Natural Science teachers.

Comments

See BTDLSHW for variable derived from 2024 questionnaire data.

Derived Variable Name:

BTDLSHW

Variable Label:

Science Instruction Hours per Week (2024)

Procedure

Based on responses to the following question in the Science Teacher Questionnaire administered in 2024:

TQS-12: In a typical week, how much time do you spend teaching science to the students in this class? (BTBLS12)

(Open-response item; response in terms of minutes)

Derive BTDLSHW:

Step 1: Divide BTBLS12 by 60.

Set BTDLSHW to missing if source variable is missing.

This variable is derived only for Integrated Science and Natural Science teachers.

Comments

See BTDLSHW for variable derived from 2023 questionnaire data.

Derived Variable Name:

BTDBHW

Variable Label:

Biology Instruction Hours per Week (2023)

Procedure

Based on responses to the following question in the Science Teacher Questionnaire administered in 2023:

TQS-14: In a typical week, how much time do you spend teaching science to the students in this class? (BTBS14)

(Open-response item; response in terms of minutes)

Derive BTDBHW:

Step 1: Divide BTBS14 by 60.

Set BTDBHW to missing if source variable is missing.

This variable is derived only for Biology teachers.

Comments

See BTDLBHW for variable derived from 2024 questionnaire data.

Derived Variable Name:

BTDLBHW

Variable Label:

Biology Instruction Hours per Week (2024)

Procedure

Based on responses to the following question in the Science Teacher Questionnaire administered in 2024:

TQS-12: In a typical week, how much time do you spend teaching science to the students in this class? (BTBLS12)

(Open-response item; response in terms of minutes)

Derive BTDLBHW:

Step 1: Divide BTBLS12 by 60.

Set BTDLBHW to missing if source variable is missing.

This variable is derived only for Biology teachers.

Comments

See BTDBHW for variable derived from 2023 questionnaire data.

Derived Variable Name:

BTDCWH

Variable Label:

Chemistry Instruction Hours per Week (2023)

Procedure

Based on responses to the following question in the Science Teacher Questionnaire administered in 2023:

TQS-14: In a typical week, how much time do you spend teaching science to the students in this class? (BTBS14)

(Open-response item; response in terms of minutes)

Derive BTDCWH:

Step 1: Divide BTBS14 by 60.

Set BTDCWH to missing if source variable is missing.

This variable is derived only for Chemistry teachers.

Comments

See BTDLCHW for variable derived from 2024 questionnaire data.

Derived Variable Name:

BTDLCHW

Variable Label:

Chemistry Instruction Hours per Week (2024)

Procedure

Based on responses to the following question in the Science Teacher Questionnaire administered in 2024:

TQS-12: In a typical week, how much time do you spend teaching science to the students in this class? (BTBLS12)

(Open-response item; response in terms of minutes)

Derive BTDLCHW:

Step 1: Divide BTBLS12 by 60.

Set BTDLCHW to missing if source variable is missing.

This variable is derived only for Chemistry teachers.

Comments

See BTDLCHW for variable derived from 2023 questionnaire data.

Derived Variable Name:

BTDPHW

Variable Label:

Physics Instruction Hours per Week (2023)

Procedure

Based on responses to the following question in the Science Teacher Questionnaire administered in 2023:

TQS-14: In a typical week, how much time do you spend teaching science to the students in this class? (BTBS14)

(Open-response item; response in terms of minutes)

Derive BTDPHW:

Step 1: Divide BTBS14 by 60.

Set BTDPHW to missing if source variable is missing.

This variable is derived only for Physics teachers.

Comments

See BTDLPHW for variable derived from 2024 questionnaire data.

Derived Variable Name:

BTDLPHW

Variable Label:

Physics Instruction Hours per Week (2024)

Procedure

Based on responses to the following question in the Science Teacher Questionnaire administered in 2024:

TQS-12: In a typical week, how much time do you spend teaching science to the students in this class? (BTBLS12)

(Open-response item; response in terms of minutes)

Derive BTDLPHW:

Step 1: Divide BTBLS12 by 60.

Set BTDLPHW to missing if source variable is missing.

This variable is derived only for Physics teachers.

Comments

See BTDPHW for variable derived from 2023 questionnaire data.

Derived Variable Name:

BTDLEHW

Variable Label:

Earth Science Instruction Hours per Week (2024)

Procedure

Based on responses to the following question in the Science Teacher Questionnaire administered in 2024:

TQS-12: In a typical week, how much time do you spend teaching science to the students in this class? (BTBLS12)

(Open-response item; response in terms of minutes)

Derive BTDLEHW:

Step 1: Divide BTBLS12 by 60.

Set BTDLEHW to missing if source variable is missing.

This variable is derived only for Earth Science teachers.

Comments

There are no Earth Science teachers in the TIMSS Longitudinal data collected in 2023.