**Illustrative Merge Code for 2019 *eTIMSS with PSI* U.S. SAS and SPSS Grade 4 Public-use data**

As explained in the TIMSS 2019 U.S. Technical Report and User Guide, before conducting any analysis with the 2019 *eTIMSS with PSI* U.S. national public-use data files, they must be merged with the U.S. *eTIMSS with PSI* data files in IEA’s TIMSS 2019 international database. Illustrative merge code is provided to aid in performing specific merges of the 2019 *eTIMSS with PSI* U.S. national public-use data:

* U.S. national *eTIMSS with PSI* public-use school data to U.S. international *eTIMSS with PSI* public-use school data;
* U.S. national *eTIMSS with* *PSI* public-use student data to U.S. international *eTIMSS with* *PSI* public-use student data; and
* U.S. national *eTIMSS with PSI* public-use teacher data to U.S. international *eTIMSS with PSI* public-use teacher data.

The merge code utilizes 2019 *eTIMSS with PSI* U.S. national public-use data files:

* T4\_SCHOOL19\_PSI – U.S. national *eTIMSS with PSI* public-use school data;
* T4\_STUDENT19\_PSI – U.S. national *eTIMSS with PSI* public-use student data; and
* T4\_TEACHER19\_PSI – U.S. national *eTIMSS with PSI* public-use teacher data.

The U.S. international *eTIMSS with PSI* files can be downloaded from the IEA TIMSS International Study Center website (<https://timss2019.org/international-database/>) for your preferred file format (SPSS, SAS, or SAS Export).

For the United States, the 2019 *eTIMSS with PSI* international data files used in the illustrative merge code are named as follows:

* acgusaz7 – International *eTIMSS with PSI* public-use school data for the United States;
* asgusaz7 – International *eTIMSS with PSI* public-use student data for the United States; and
* atgusaz7 – International *eTIMSS with PSI* public-use teacher data for the United States.

To merge the U.S. national *eTIMSS with PSI* public-use data files with the U.S. international *eTIMSS with PSI* public-use data files, both files should also be placed in a TIMSS19 directory on the C drive (C:\TIMSS19).

**Illustrative SAS and SPSS Merge Codes for 2019 *eTIMSS with PSI* Grade 4 U.S. national Public-Use Data**

The merge codes provided are to aid in performing specific merges of the 2019 *eTIMSS with PSI* Grade 4 U.S. national Public-Use data.

Prior to running the merge codes, researchers must use their statistical software package to create a statistical file from the ASCII file. For more information, consult the *Quick Guide*, *Creating Working Files* section.

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| **Illustrative SAS code for merging 2019 *eTIMSS with PSI* Grade 4 U.S. national public-use school questionnaire data to U.S. international *eTIMSS with PSI* school questionnaire data** | **Illustrative SPSS code for merging 2019 *eTIMSS with PSI* Grade 4 U.S. national public-use school questionnaire data to U.S. international *eTIMSS with PSI* school questionnaire data** |
| libname T19 "C:\TIMSS19\Data";  data G4SCHOOL1;  set T19.acgusaz7;  proc sort;  by IDSCHOOL;  run;  data G4SCHOOL2;  set T19.T4\_SCHOOL19\_PSI;  proc sort;  by IDSCHOOL;  run;  data T19.T19\_MERGE\_G4SCHOOL\_PSI;  merge G4SCHOOL1 G4SCHOOL2;  by IDSCHOOL;  run; | get file = 'C:\TIMSS19\Data\T4\_SCHOOL19\_PSI.SAV'.  sort cases by IDSCHOOL.  save outfile = "C:\TIMSS19\Data\G4SCHOOL1.SAV".  get file = 'C:\TIMSS19\Data\acgusaz7.SAV'.  sort cases by IDSCHOOL.  save outfile = "C:\TIMSS19\Data\G4SCHOOL2.SAV".  match files  / file= 'C:\TIMSS19\Data\G4SCHOOL2.SAV'  / table= 'C:\TIMSS19\Data\G4SCHOOL1.SAV'  / by IDSCHOOL.  save outfile = "C:\TIMSS19\Data\T19\_MERGE\_G4SCHOOL\_PSI.SAV". |

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| **Illustrative SAS code for merging 2019 *eTIMSS with PSI* Grade 4 U.S. national public-use student questionnaire data to U.S. international *eTIMSS with PSI* student questionnaire data** | **Illustrative SPSS code for merging 2019 *eTIMSS with PSI* Grade 4 U.S. national public-use student questionnaire data to U.S. international *eTIMSS with PSI* student questionnaire data** |
| libname T19 "C:\TIMSS19\Data";  data G4STUDENT1;  set T19.asgusaz7;  proc sort ;  by IDSTUD;  run;  data G4STUDENT2;  set T19.T4\_STUDENT19\_PSI;  proc sort;  by IDSTUD;  run;  data T19.T19\_MERGE\_G4STUDENT\_PSI;  merge G4STUDENT1 G4STUDENT2;  by IDSTUD;  run; | get file = 'C:\TIMSS19\Data\T4\_STUDENT19\_PSI.SAV'.  sort cases by IDSTUD.  save outfile = "C:\TIMSS19\Data\G4STUDENT1.SAV".  get file = 'C:\TIMSS19\Data\asgusaz7.SAV'.  sort cases by IDSTUD.  save outfile = "C:\TIMSS19\Data\G4STUDENT2.SAV".  match files  / file= 'C:\TIMSS19\Data\G4STUDENT2.SAV'  / table= 'C:\TIMSS19\Data\G4STUDENT1.SAV'  / by IDSTUD.  save outfile = "C:\TIMSS19\Data\T19\_MERGE\_G4STUDENT\_PSI.SAV". |

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| **Illustrative SAS code for merging 2019 *eTIMSS with PSI* Grade 4 U.S. national public-use teacher questionnaire data to U.S. international *eTIMSS with PSI* teacher questionnaire data** | **Illustrative SPSS code for merging 2019 *eTIMSS with PSI* Grade 4 U.S. national public-use teacher questionnaire data to U.S. international *eTIMSS with PSI* teacher questionnaire data** |
| libname T19 "C:\TIMSS19\Data";  data G4TEACHER1;  set T19.atgusaz7;  proc sort;  by IDTEALIN;  run;  data G4TEACHER2;  set T19.T4\_TEACHER19\_PSI;  proc sort;  by IDTEALIN;  run;  data T19.T19\_MERGE\_G4TEACHER\_PSI;  merge G4TEACHER1 G4TEACHER2;  by IDTEALIN;  run; | get file = 'C:\TIMSS19\Data\T4\_TEACHER19\_PSI.SAV'.  sort cases by IDTEALIN.  save outfile = "C:\TIMSS19\Data\G4TEACHER1.SAV".  get file = 'C:\TIMSS19\Data\atgusaz7.SAV'.  sort cases by IDTEALIN.  save outfile = "C:\TIMSS19\Data\G4TEACHER2.SAV".  match files  / file= 'C:\TIMSS19\Data\G4TEACHER2.SAV'  / table= 'C:\TIMSS19\Data\G4TEACHER1.SAV'  / by IDTEALIN.  save outfile = "C:\TIMSS19\Data\T19\_MERGE\_G4TEACHER\_PSI.SAV". |