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# **Analyzing NAEP and TIMSS Data Using R: 2021 EdSurvey Large-Sale Data Analysis Training Series**

# **Four virtual sessions on each Wednesday of October 2021 | 12:00pm-2:30pm ET**

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| **Join each session virtually on Zoom** |
| **Join Virtually:** <https://air-org.zoom.us/j/97593609156?pwd=Q09hR2tKZEh0U3ExeExjVldlS0lDQT09>  **Meeting ID**: 975 9360 9156  **Passcode**: EdSur7ey!& |
| **Download course materials from repository** |
| <https://github.com/American-Institutes-for-Research/2021-Oct-EdSurvey-Training-Series> |

# **Session 1: Wednesday, October 6, 2021**

**12:00-12:30** **Welcome remarks** -Emmanuel Sikali

**Introductions**

**Review of agenda, Overview of goals and expected outcomes**

**12:30-1:15**  **Introduction to Large-Scale Assessments (with NAEP and TIMSS as examples)-**

Martin Hooper

**1:15-1:25**  **Break**

**1:25-1:55** **Sampling design, weights and variance estimation**—Paul Bailey

**1:55-2:00** **Break**

**2:00-2:30** **Psychometric Model and Analysis-** Ting Zhang

**Homework Install R, Rstudio, install EdSurvey, download TIMSS 2011, 2015 and 2019**

# **Session 2: Wednesday, October 13, 2021**

**12:00-12:15 Q&A from last session**

**Intro to R EdSurvey package functionality**

**12:15-12:45 Why R and why EdSurvey –** Michael Lee

**Get to know the R environment**

**12:45-1:15 Data processing**—Thomas Fink

**Meet your data-sdf, searchSDF, levelSDF, showCodebook, summary2**

**1:15-1:45 Data manipulation**—Eric Buehler

**1:45-2:15 Data visualization –** Eric Buehler

**2:15-2:30****Hands-on practice with NAEP/TIMSS data**

# **Session 3: Wednesday, October 20, 2021**

**12:00-12:15 Q&A from last session**

**12:15-2:30** **Summary statistics- edsurveyTable, etc –** Eric Buehler

**Linear regression –** Eric Buehler & Paul Bailey

**Percentile analysis –** Charles Blankenship

**Quantile regression-** Charles Blankenship

**Hands-on practice with NAEP/TIMSS data**

# **Session 4: Wednesday, October 27, 2021**

**12:00-1:30** **Q&A from last session**

**Achievement-level analysis –** Sinan Yavuz

**Gap analysis –** Ting Zhang

**Logistic regression** – Sinan Yavuz

**Other analysis types available in EdSurvey –** Paul Bailey

**Doing your own analyses using NAEP/TIMSS data**

**1:30-2:30 How to get NAEP Restricted-Use Data; NAEP funding streams and opportunities -** Emmanuel Sikali

**Challenges and opportunities in areas in NAEP that NCES has identified as needing innovative research and applications –** Emmanuel Sikali

**Concluding Remarks –** Emmanuel Sikali