Invited Symposium:
Linking PIAAC data to administrative data and other large-scale assessments

Chairs
Débora B. Maehler & Silke Martin (*GESIS - Leibniz-Institute for the Social Sciences, Germany*)

Abstract
The symposium addresses content and methodological issues and aims to present research based on PIAAC data linked to administrative data or other large-scale country surveys. Thereby projects and studies of three countries will be presented. Initial research based on PIAAC 2011/2012 linked to register data in Norway will be presented (N = 901). The relationship between skills acquired before the age of 16 and skills acquired later to formation of skills and subsequent NEET status was addressed in the study. The second contribution is based on PIAAC data linked to administrative data from the Institute for Employment Research (IAB) in Germany (N = 2,086). The study investigates the measurement error resulting from the difference between information on earning available in both data sources. The third contribution is based on the PISA Young Adult Follow-Up Study (PISA YAFS) conducted in the US. Study design and results comparing for instance literacy from students in PISA 2012 and in the follow up 2016 using PIAAC instruments, assessed as repeated measure, will be presented (N = 2,320). This methodological contribution aims to compare measurement errors for employment related indicators across these surveys.

Presentations
1. **Title**: NEET status and early versus later skills among young adults: Evidence from linked register-PIAAC data (using Nordic PIAAC data).  
   **Authors**: Erling Barth (*Institute for Social Research, Norway*), Anna-Lena Keute (*Statistics Norway, Norway*), Pål Schone, Kristine von Simson (*Institute for Social Research, Norway*), & Kjartan Steffensen (*Statistics Norway, Norway*)

2. **Title**: What’s my wage again? Comparing survey and administrative data to validate earning measures (using German PIAAC-L Data).  
   **Authors**: Jessica Daikeler & Britta Gauly (*GESIS - Leibniz-Institute for the Social Sciences, Germany*)

3. **Title**: Administering education and skills online (ESO) to PISA 2012 cohort in the United States: Findings from the 2012-2016 PISA young adult follow-up study (using PISA YAFS).  
   **Authors**: Saida Mamedova (*American Institutes for Research/AIR, USA*), Maria Stephens (*American Institutes for Research/AIR, USA*), Yuqi Liao (*American Institutes for Research/AIR, USA*), Josh Sennett (*American Institutes for Research/AIR, USA*), Paul Sirma (*American Institutes for Research/AIR, USA*), & Samantha Burg (*National Center for Education Statistics, USA*)
1. NEET status and early versus later skills among young adults: Evidence from linked register–PIAAC data (using Nordic PIAAC data).

Authors
Erling Barth (Institute for Social Research, Norway), Anna-Lena Keute (Statistics Norway, Norway), Pål Schane (Institute for Social Research, Norway), Kristine von Simson (Institute for Social Research, Norway), & Kjartan Steffensen (Statistics Norway, Norway)

Presenter
Anna-Lena Keute (Statistics Norway, Norway)

Abstract
Do skills protect against exclusion in adult ages, and how important are the skills acquired before the age of 16 years versus those acquired later on? To analyze these questions, data from the 2011/2012 PIAAC survey are matched on register data in Norway. We match the scores on numeracy and literacy skills from PIAAC for young adults backwards to grade point average (GPA) data from compulsory school education, which are measured at the age of 16 years (GPA16). We also match the data forwards to employment and education register data 2 years after the PIAAC test.

Results show that there is a high correlation between GPA16 and PIAAC scores even when controlling for parental background, health status, and completion of post–compulsory school education. Including both GPA16 and PIAAC scores in a model of the probability of NEET status 2 years after the PIAAC test shows three times as large differences associated with GPA16 scores than with PIAAC scores, even though the PIAAC test is taken closer in time than the GPA16 results.

2. What's my wage again? Comparing survey and administrative data to validate earning measures (using German PIAAC–L Data).

Authors
Britta Gauly, Jessica Daikeler, Tobias Gummer, & Beatrice Rammstedt (GESIS – Leibniz-Institute for the Social Sciences, Germany)

Presenter
Jessica Daikeler (GESIS – Leibniz-Institute for the Social Sciences, Germany)

Abstract
One question frequently included in surveys asks about respondents' earnings. As this information serves, for example, as a basis for evaluating policy interventions, it must be of high quality. This study aims to advance knowledge about possible measurement errors in earnings data and the potential of data linkage to improve substantive conclusions. We use the German sample of the Programme for the International Assessment of Adult Competencies (PIAAC), a subsample of which could be linked to administrative data from the German Integrated Employment Biographies (IEB). We define measurement error as the difference between administrative and survey data. Our results show differences in the ordinary least squares estimates when the administrative and survey measures of earnings were used as the respective dependent variable, which suggests that measurement error causes biased results. Learning more about the size and type of measurement error can help to correct existing biases and improve the quality of survey data.
### 3. Administering education and skills online (ESO) to PISA 2012 cohort in the United States: Findings from the 2012–2016 PISA young adult follow-up study (using PISA YAFS).

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### Abstract

2012–2016 Program for International Student Assessment Young Adult Follow-up Study (PISA YAFS) is a study that followed a sample of U.S. students who participated in PISA 2012, when they were 15 years old, and re-assessed their literacy and numeracy skills four years later at about age 19 using the Education and Skills Online (ESO) survey, which is based on the Program for the International Assessment of Adult Competencies (PIAAC). This presentation will report on the literacy and numeracy performance of U.S. young adults at age 19, as well as examine the relationship between that performance and their earlier reading and mathematics performance in PISA 2012 at age 15. It will also present on how other aspects of their lives at age 19—such as their engagement in postsecondary education, their participation in the workforce, their attitudes, and their vocational interests—are related to their PISA performance at age 15.