**Paper Session:**  
The impact of socio-emotional skills

**Chair**  
Beatrice Rammstedt (*GESIS – Leibniz-Institute for the Social Sciences, Germany*)

**Presentations**

1. **Title:** Soft skills and immigrants' economic outcomes in Europe: Evidence from PIAAC data.  
   Authors: Agnieszka Kanas (*Erasmus University Rotterdam, The Netherlands*) & Menno Fenger (*Erasmus University Rotterdam, The Netherlands*)

2. **Title:** To score or not to score? A simulation study on the performance of test scores, plausible values, and SEM in regression with socio-emotional skill or personality scales as predictors.  
   Authors: Nivedita Bhaktha (*GESIS - Leibniz Institute for the Social Sciences, Germany*) & Clemens Lechner (*GESIS – Leibniz-Institute for the Social Sciences, Germany*)

3. **Title:** Socio-emotional skills and labour market outcomes: New evidence using the Canadian longitudinal PIAAC study.  
   Authors: Ashley Pullman (*University of Ottawa, Canada*) & Ross Finnie (*University of Ottawa, Canada*)

1. Soft skills and immigrants’ economic outcomes in Europe: Evidence from PIAAC data.

Authors
Agnieszka Kanas (Erasmus University Rotterdam, The Netherlands) & Menno Fenger (Erasmus University Rotterdam, The Netherlands)

Presenter
Agnieszka Kanas (Erasmus University Rotterdam, The Netherlands)

Abstract
This study examines the importance of soft skills for explaining immigrant-native inequalities in the labour market in Europe. Soft skills are necessary to take advantage of new technologies and adapt to changing work environments. However, we know little about their influence on immigrant-native inequalities in the labour market. This study extends and contributes to previous research by examining whether and to what extent soft skills, net of educational credentials, and cognitive skills, can explain immigrant-native inequalities in job access and quality employment (i.e., wages and occupational status). We also study whether the economic returns to soft skills vary across immigrants and natives. Given the disadvantaged position of immigrants in the labour market, with immigrants coming from nonwestern countries being most disadvantaged, an important question is whether and to what extent soft skills can enhance or alleviate this disadvantage. The analyses are based on a large scale, comparative survey data from the Programme for the International Assessment of Adult Competencies (PIAAC 2012). The data provide detailed information about educational degrees, measures of cognitive and noncognitive skills to explain immigrants’ economic disadvantage in the labour market. We apply regression analyses with country-fixed effects and robust standard errors to adjust for clustering at the country level. We find a positive relationship between soft skills and immigrants’ economic outcomes, net of educational credentials and cognitive skills. While the economic benefits from soft skills do not differ significantly among natives and immigrants originating from western countries, they are significantly lower for nonwestern immigrants.
2. To score or not to score? A simulation study on the performance of test scores, plausible values, and SEM in regression with socio-emotional skill or personality scales as predictors.

Authors
Nivedita Bhaktha (GESIS – Leibniz Institute for the Social Sciences, Germany) & Clemens Lechner (GESIS – Leibniz-Institute for the Social Sciences, Germany)

Presenter
Nivedita Bhaktha (GESIS – Leibniz Institute for the Social Sciences, Germany)

Abstract
This article addresses a fundamental question in the study of socio-emotional skills, personality traits, and related constructs: “To score or not to score?” When test scores or scale scores are used as predictors in multiple regression, measurement error in these scores tends to attenuate regression coefficients for the skill and inflate those of covariates. The different types of scores considered in this study are standardized mean scores (SMS), regression factor scores (RFS), empirical Bayes modal (EBM) score, weighted maximum likelihood estimates (WLE), and expected a posteriori (EAP) estimates. Unlike cognitive assessments, it is not fully established how severe this bias can be, that is, how well test scores recover the true regression coefficients — compared with methods designed to account for measurement error: structural equation modeling (SEM) and plausible values (PV). We present a simulation study in which these approaches were compared under conditions typical of socio-emotional skill and personality assessments. We examined the performance of five types of test scores, PV, and SEM with regard to two outcomes: (1) percent bias in regression coefficients for the skill in predicting an outcome; and (2) percent bias in the regression coefficient of a covariate. We varied the number of items, factor loadings/item discriminations, sample size, and relative strength of the relationship of the skill with the outcome. Results revealed that whereas different types of test scores are highly correlated with each other, the ensuing bias in regression coefficients varies considerably. The magnitude of bias was highest for WLE with short scales of low reliability. Bias when using SMS or WLE test scores was sometimes large enough to lead to erroneous research conclusions with potentially adverse implications for policy and practice (up 22 to 55% for the regression coefficient of the skill and 20% for that of the covariate). EAP, EBM, and RFS performed better, producing only small bias in some conditions. However, only PV and SEM performed well in all scenarios and emerged as the clearly superior options. We recommend that researchers use SEM, and preferably PV, in studies on incremental power of socio-emotional skills.

**Authors**
Ashley Pullman *(University of Ottawa, Canada)* & Ross Finnie *(University of Ottawa, Canada)*

**Presenter**
Ashley Pullman *(University of Ottawa, Canada)*

**Abstract**
National workforce policy that focuses on skill development often targets cognitive skills, such as literacy and numeracy; however, socio-emotional skills may be equally important and mutually beneficial to a range of employment outcomes. To understand the policy-relevance of socio-emotional skills, as well as how they relate to cognitive skills, we present an analysis of their relationship with employment, earnings, and workplace activities using administrative-linked longitudinal data from a nationally representative sample of adults in Canada. To measure socio-emotional skills, we employ the Big Five Inventory, which captures individual differences in level of openness, conscientiousness, extraversion, agreeableness, and emotional stability. We examine how these skills relate to employment and earnings both before and after accounting for individual characteristics, educational attainment, and cognitive skill level overall and by gender, age, and immigration background. Further analysis also demonstrates if and how the returns to socio-emotional skills differ among high, mid, and low earnings individuals. The final part of the study considers how socio-emotional skills relate to the probability of engaging in various workplace activities both before and after controlling for a range of individual characteristics. The findings show that socio-emotional skills clearly contribute to labour market outcomes, even when accounting for individual characteristics, education, and cognitive skill level. People in Canada who have high conscientiousness scores are more likely to be employed and earn more. Emotional stability is also positively related to earnings, especially among men. Extraversion is positively related to earnings for young adults and higher engagement in productive workplace activities for the entire sample. Although individuals with high openness scores earn less, they are more likely to engage in a range of constructive workplace activities. Finally, people with high agreeableness scores earn less—an earnings penalty that is particularly pronounced among high earners. Although there is overlap in both cognitive and socio-emotional skills, our research demonstrates how there are also separate advantages that merit policy, research, and social advancement.