

## **Associations Between Adults' Numeracy Skills and Employment Status: An Analysis of PIAAC's U.S. Dataset**

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### **(1) What are the research questions?**

- What is the relationship between numeracy skills and employment status compared to the relationship between the other skills measured in PIAAC (literacy and problem solving in technology-rich environments) among U.S. adults?
- What is the relationship between numeracy-related skills used in everyday life and employment status for U.S. adults?

### **(2) Why this study?**

While many U.S. adult education programs and policies (including the Workforce Innovation and Opportunity Act (WIOA)) focus on low literacy skill as a barrier to employment, this study recognizes the role of increasing numeracy skill as critical in reducing the probability of unemployment. This study used a series of regression analyses to examine the relationship between numeracy and employment status across four categories (currently employed, no experience with paid work, short-term unemployment, and long-term unemployment). Variables investigated included: participants' scale scores on literacy, numeracy, and PS-TRE assessments and selected demographic characteristics.

### **(3) What are the key findings?**

- Only increases in numeracy skills were protective the (un)employment categories no experience with paid work and long-term unemployment after all variables were added to the model.
- The study's results point to the centrality of advanced numeracy skills as protective of continued employment for marginalized groups in the U.S. like women, older adults, and some racial or ethnic minorities.
- Some numeracy related everyday life skills, like calculator use, were related to employment status.

### **(4) What are the policy/practice Implications?**

This study's findings on the importance of numeracy as protective of employment are particularly relevant to those interested in programming related to adult education and workforce development as outlined by WIOA of 2014. This study demonstrates the need for:

- Expanding offerings in numeracy programming and curricula for adult education and workforce development programs.
- Expanding professional development/training on instructional practices for teaching numeracy skills for adult education and workforce development professionals.
- Including "low levels of numeracy" as one of the pre-identified "employment barriers" by WIOA similar to "low levels of literacy."
- Connecting adult education and workforce development programs with regional workforce agencies to better understand the required numeracies of specific local industries.