

UCLA

UCLA Previously Published Works

Title

PIAAC (Latest Survey on Literacy)

Permalink

<https://escholarship.org/uc/item/6dr9k27d>

Authors

Schleicher, Andreas

Thorn, William

Desjardins, Richard

Publication Date

2014

DOI

10.1007/978-94-007-0753-5_2170

Peer reviewed

This is the submitted version of the encyclopedia entry. Please cite as follows:
Schleicher, A., Thorn, W., & Desjardins, R. (2014). PIAAC (Latest Survey on Literacy). In Michalos, A.C. (ed.), *Encyclopedia of Quality of Life and Well-Being Research* (pp. 4810-4814). Amsterdam: Springer. DOI: 10.1007/978-94-007-0753-5_2170.

Entry for Encyclopedia of Quality of Life Research

Title of entry

Programme for International Assessment of Adult Competencies

Type of entry

Medium (about 600-1800 words)

SYNONYMS

PIAAC

DEFINITION

PIAAC is an international assessment of the **foundation skills** of the adult population managed by the Organisation for Economic Cooperation and Development (OECD). Its aim is to provide information which supports the design, implementation and evaluation of policies which foster the development and use of **competencies** to achieve **economic, social and personal well being**.

DESCRIPTION

PIAAC assesses the skills of adults of working age (i.e. adults aged between 16-65 years) in the domains of (reading) literacy, numeracy and problem solving in technology-rich environments (Gal *et al.*, 2009; Jones *et al.*, 2009; Rouet *et al.*, 2009).

Information is also collected regarding the use of a range of generic skills in work such as communication, interaction and physical skills. A background questionnaire collects data regarding individual characteristics, social and linguistic background, education and training experience, labour force status and earned income and some information regarding social participation and health.

PIAAC extends the work of previous international adult skills surveys – the International Adult Literacy Survey (OECD and Statistics Canada, 2000) and the Adult Literacy and Life Skills Survey (Statistics Canada and OECD, 2005) – in a number of ways. In particular, PIAAC has placed particular emphasis on ensuring the relevance of its measures to the digital world. The measurement of literacy incorporates the reading of digital texts and the domain of problem solving in technology-rich environments is designed to assess the capacity of individuals to solve ‘information problems’ – problems which exist because of or are solved through the use of ICTs. In addition, PIAAC will provide more information that has been available previously regarding the skills of poor readers as well as on the use of skills, particularly in work contexts.

The skills assessed in PIAAC are conceived as **foundation skills** important for achieving a **successful life** and a **well-functioning society** (Rychen and Salganik 2003). They are conceived as foundational for two main reasons.

First, the measured skills provide the base for the development of other higher order cognitive skills as well as constituting a pre-condition for gaining access to and understanding of specific domains of knowledge. Being able to read, manage mathematical and numerical information and solve problems are essential for the development of higher order analytic and communication skills for example.

Second, the measured skills are foundational in terms of their **transversality**. These skills are relevant in an extremely broad range of contexts, from education through work to everyday life. In a society in which information in text format (whether print-based or digital) is ubiquitous, a capacity to effectively read and react appropriately to text based information is essential, whether in terms of understanding the user information on a packet of medicine or responding appropriately to a memo from a colleague or superior at work. Similarly, numerical skills are necessary to install shelving as part of a home renovation project or to complete a tax return.

Two related features of the approach to measurement taken by PIAAC are also important to mention.

First, **the skills measured in PIAAC are conceived as purposeful social activities** which enable people to achieve things that matter to them and function in various social settings. This relates to the work of Sen (1999) who defined **functioning** as what people can actually do. In other words, the foundation skills measured in PIAAC relate less to what people know than to what they can do.

Second, skills measured are conceived as involving a continuum of performance which involves the mastery of increasingly complex cognitive operations as well as responding appropriately to increasingly complex stimuli (texts, mathematical situations or problem situations). In the domain of literacy, for example, at the lowest level of performance a person would be expected to be able locate information in a short text in which there was little if any distracting information. At the highest level of performance, he or she would be expected to make inferences which may involve extra-textual knowledge from dense and complex texts (Statistics Canada and OECD, 2005, p. 17). Higher performance indicates a higher level of skill within a particular skill domain in the sense that the individual has more flexibility and adaptability in applying the related know-how to increasingly complex tasks within that particular domain.

Operationally, PIAAC involves the administration of the assessment in the respondents home. The assessment is computer-based (with a pencil and paper option for respondents with little or no familiarity with computers) and delivered on a lap-top computer. A minimum of 4,500 to 5,000 adults will be surveyed in each participating country. In administering the assessment, countries Results from the first wave of PIAAC involving 25 countries will be available in October 2013.

Discussion

The *Well Being of Nations* (OECD, 2001) emphasized the role of **human capital**, defined as the bundle of knowledge, skills, competencies and attributes possessed by individuals, in facilitating the creation of **personal, social and economic well being**. Governments and other stakeholders have since become increasingly interested in assessing the skills of their adult populations in order to examine how well prepared they are to meet the challenges of living in modern knowledge-based societies.

Findings from previous adult skills surveys have demonstrated the link between foundation skills and a range of **economic** as well as **social outcomes**. As examples, Figures 1 and 2 display a number of findings linking foundation skills to **economic** and **social disadvantage**:

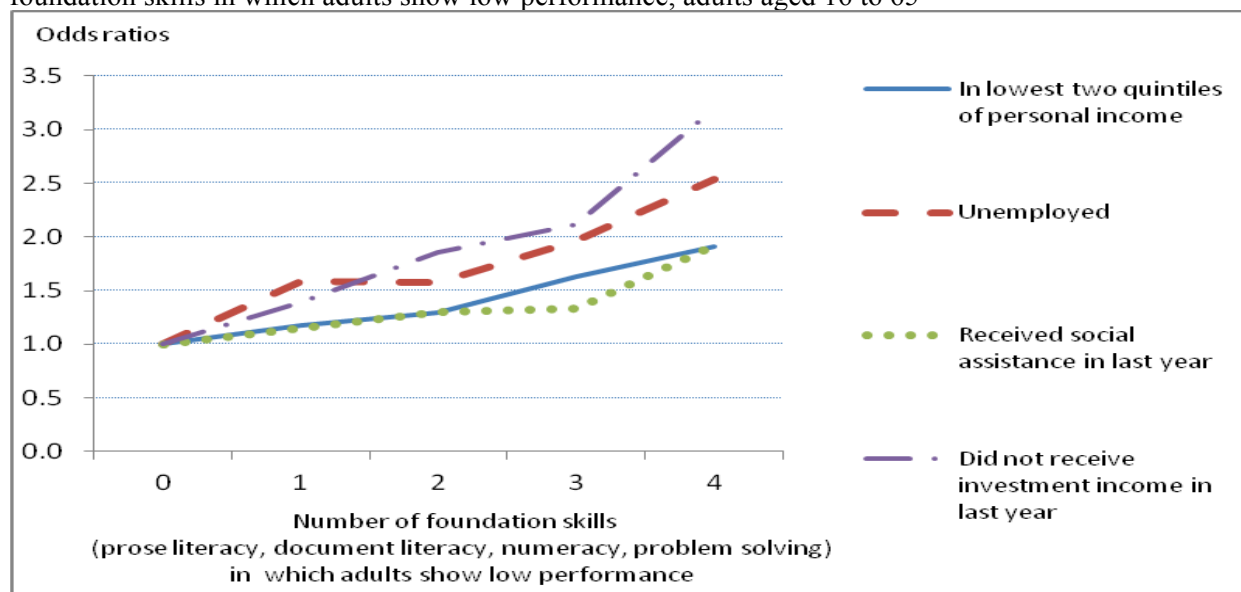
- Adults with low proficiency in foundation skills are systematically overrepresented in the bottom end of the income distribution.
- The risk of being unemployed increases consistently with the number of foundation skills in which adults show low performance.
- Low performance in multiple domains is strongly linked to the likelihood of receiving social assistance.
- Adults with good proficiency in foundation skills are much more likely to earn income from investments on financial markets.

This is the submitted version of the encyclopedia entry. Please cite as follows:
 Schleicher, A., Thorn, W., & Desjardins, R. (2014). PIAAC (Latest Survey on Literacy). In Michalos, A.C. (ed.), *Encyclopedia of Quality of Life and Well-Being Research* (pp. 4810-4814). Amsterdam: Springer. DOI: 10.1007/978-94-007-0753-5_2170.

- Participation in community groups or organizations is strongly linked to the number of foundation skills in which adults show low performance.
- Adults who perform poorly in three or four foundation skills have an increased likelihood of reporting a poor health status.

Figure 1. Foundation skills and economic disadvantage

Adjusted odds ratios^{1,2} showing the likelihood of experiencing economic disadvantage, by number of foundation skills in which adults show low performance, adults aged 16 to 65



Notes:

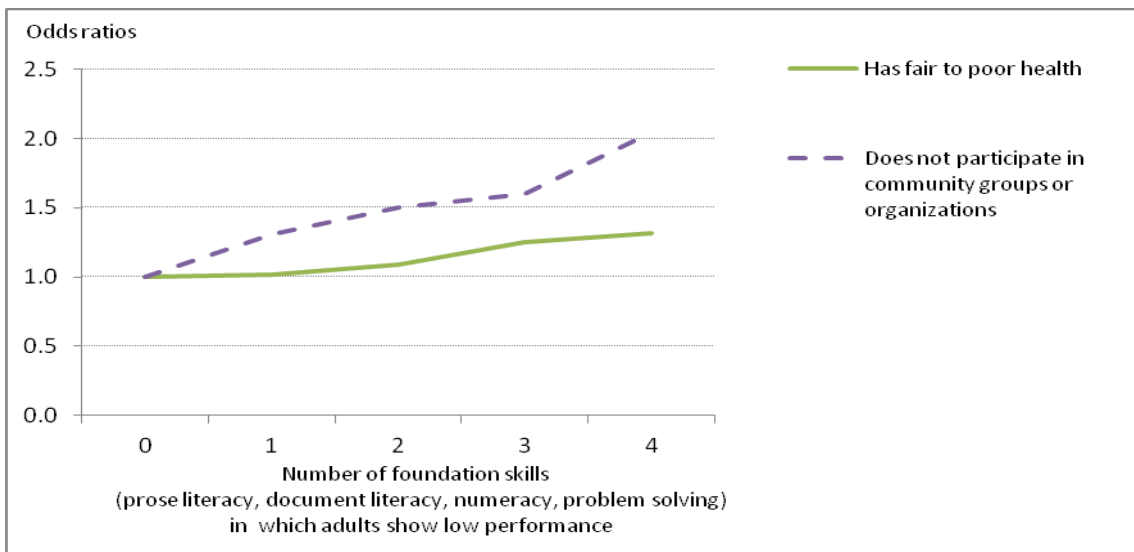
1. Odds ratios reflect the relative likelihood of an event occurring for a particular group compared to a reference group. An odds ratio of 1 represents equal chances of an event occurring for a particular group vis-à-vis the reference group. Coefficients with a value below 1 indicate that there is less chance of the event occurring for a particular group compared to the reference group, and coefficients greater than 1 represent increased chances.

2. Odds are adjusted for age, gender, education, parents' education, and labour force, occupational, income, immigrant and language status.

Source: Adult Literacy and Lifeskills survey, 2003-2007.

Figure 2. Foundation skills and social disadvantage

Adjusted odds ratios¹ showing the likelihood of experiencing social disadvantage, by number of foundation skills in which adults show low performance, adults aged 16 to 65



Note: Odds are adjusted for age, gender, education, parents' education, and labour force, occupational, income, immigrant and language status.

Source: Adult Literacy and Lifeskills survey, 2003-2007.

The results shown in Figures 1 and 2 are consistent across a wide range of countries, confirming that foundation skills have a profound relationship with economic and social disadvantage across a wide range of contexts and culturally based institutional frameworks. The relationships hold even after adjusting for educational attainment and other background variables, confirming that foundation skills are related to a range of outcomes independent of the level of qualifications. One reason for this is that direct measures provide a more up to date picture of an individual's skills because they reflect both the outcomes of skill gain and skill loss over the lifespan as well as learning that occurred in multiple contexts.

The forthcoming data from PIAAC in 2013 will enable a much more detailed look at these relationships, and how they vary by socio-demographic groups, helping to draw out further insights relevant to designing and targeting interventions.

The role of foundation skills in helping to secure good economic and social outcomes is likely to strengthen as the shift to knowledge based societies intensifies. Similar to the impact of the printing press, electricity and the steam engine, general purpose technologies like Information and Communications Technologies (ICTs) (i.e., the personal computer and the Internet) are considered to be pervasive and bring with them deep structural change (Aghion and Howitt, 1998). Continuing innovations and advances in the ICT sector, combined with other technological developments are thought to be transforming modern economies and increasing the demand for foundation skills. Information and Communications Technologies (ICTs) continue to transform how people work, access media and public services, interact with friends and family, and how people seek and obtain information to solve problems, both at work and at home. Foundation skills are thus likely to take on added significance as resources necessary for enabling productivity, obtaining a job, exercising rights and duties as citizens, and more generally for ensuring economic, social and personal well being.

CROSS-REFERENCES

REFERENCES

This is the submitted version of the encyclopedia entry. Please cite as follows:

Schleicher, A., Thorn, W., & Desjardins, R. (2014). PIAAC (Latest Survey on Literacy). In Michalos, A.C. (ed.), *Encyclopedia of Quality of Life and Well-Being Research* (pp. 4810-4814). Amsterdam: Springer. DOI: 10.1007/978-94-007-0753-5_2170.

Aghion, P., and Howitt, P. (1998) *Endogenous growth theory*. Massachusetts: MIT Press.

Kirsch, I. S., Jungeblut, A., & Mosenthal, P.B. (1998). The measurement of adult literacy. In T.S. Murray, I.S. Kirsch & L.B. Jenkins (Eds.), *Adult Literacy in OECD Countries: Technical Report on the First International Adult Literacy Survey* (pp. 105-134). Washington, DC: National Centre for Education Statistics.

OECD (2001) *The Well-being of Nations: The Role of Human and Social Capital*, Paris: OECD.

Jones, S., Gabrielsen, E., Hagston, J., Linnakylä, P., Megherbi, H., Sabatini, J., Tröster, M., & Vidal-Abarca, E., (2009). *PIAAC literacy: A conceptual framework*, Paris: OECD.

Gal, I., Alatorre, S., Close, S., Evans, J., Johansen, L., Maguire, T., Manly, M., & Tout, D., (2009). *PIAAC numeracy: A conceptual framework*, Paris: OECD.

Rouet, J-F., Bétrancourt, M., Britt M.A., Bromme, R., Graesser, A.C., Kulikowich, J.M., Leu, D.J., Ueno, N. & van Ostendorp, H. (2009). *PIAAC problem solving in technology rich-environments: A conceptual framework*, Paris: OECD.

Sabatini, J.P. and Bruce K.M. (2009) *PIAAC Reading Components: A conceptual framework*, Paris: OECD

OECD & Statistics Canada (2000). *Literacy in the information age*. Paris/Ottawa: OECD/Statistics Canada.

Statistics Canada & OECD (2005). *Learning a living*. Paris/Ottawa: Statistics Canada/OECD

Rychen, D., and Salganik, L.H. (2003). *Key Competencies: for a Successful Life and a Well-Functioning Society*. Cambridge, MA: Hogrefe and Huber.

Sen, A.K. (1999). *Development as freedom*. Oxford: Oxford University Press.