EXECUTIVE SUMMARY

The Health and Social Dimensions of Adult Skills in Canada

Findings from the Programme for the International Assessment of Adult Competencies (PIAAC)

Government of Canada
Gouvernement du Canada

cmec
Council of Ministers of Education, Canada
Conseil des ministres de l'Éducation (Canada)

Executive Summary

Skills matter for individual and societal well-being. The importance of skills for securing employment and succeeding in the labour market is well established. Increasingly, evidence also suggests that skills are important for realizing other outcomes, including good health and social and civic participation.

The Programme for the International Assessment of Adult Competencies (PIAAC) is a survey of adults aged 16 to 65. It assesses key cognitive skills used at work and at home that are needed to fully participate in society and the economy in the 21st century. Led by the Organisation for Economic Co-operation and Development (OECD) in partnership with countries around the world, PIAAC directly assesses proficiency in three information-processing skills: literacy, numeracy, and problem solving in technology-rich environments (PS-TRE). The survey also collects information on a range of personal, socioeconomic, and other traits, including four health and social outcomes that are the focus of this report: self-reported health, trust in others, volunteerism, and political efficacy (understood as a person's sense of having an influence on government). This report also considers other PIAAC elements connected to health and social well-being, including longstanding illnesses or health conditions, activity limitations, reasons for leaving or not looking for work, and employment type (e.g., secure versus precarious).

Objective

Evidence from the OECD and other research studies shows that individuals with lower skills often struggle to participate in social activities, manage chronic conditions, find and interpret health information, and access other social services (OECD 2013a; Kickbusch et al. 2013). This report examines the extent to which literacy, numeracy, and PS-TRE are associated with health and civic and social engagement. It considers two aspects of this issue: (1) whether skills have an independent influence on the health and social outcomes measured in PIAAC, and (2) whether improved skills proficiency supports better health and social outcomes for certain populations. Together, these analyses assess the contribution that skills make to the well-being of individual Canadians and Canadian society.

Both descriptive and regression analyses of PIAAC survey data are included. Descriptive analyses present the distribution of health and social outcomes across Canadian jurisdictions, and in comparison to other countries. Results are presented by key socioeconomic and sociodemographic variables, including gender, age, education, Indigenous identity,[1] and immigrant status. Regression analyses assess skills' independent effect on health and social outcomes in Canada, and at different levels of educational attainment. The report also presents results for certain groups considered to be at risk of poorer health and social outcomes: unemployed Canadians and those employed in precarious work.

As a cross-sectional survey that collected data at a single point in time, PIAAC cannot confirm the direction of influence between skills proficiency and health and social outcomes. Longitudinal data would be required to assess whether stronger skills *cause* people to enjoy better health and social outcomes, and/or whether

[1] PIAAC 2012 used the word "Aboriginal" to indicate respondents who self-identified as First Nations, Métis, or Inuit. As a result of changes in terminology since then, these respondents are referred to collectively as Indigenous peoples in this report. For more information on Indigenous respondents, see *Skills in Canada: First Results from the Programme for the International Assessment of Adult Competencies (PIAAC)* at http://www.cmec.ca/Publications/Lists/Publications/Attachments/315/Canadian-PIAAC-Report.EN.pdf.

positive outcomes *cause* people to be in a position to attain and maintain stronger skills. Instead, the report explores how skills and health and social outcomes are associated to strengthen understanding of inequalities and vulnerable groups in the Canadian population, inform targeted interventions, and create a foundation to support further research.

Key findings

Health and social outcomes are unevenly distributed within Canada.

Canadians generally report health and social outcomes that are above average for the OECD countries that participated in PIAAC. However, the distribution of these outcomes varies across levels in literacy, numeracy, and PS-TRE, as well as by socioeconomic and sociodemographic characteristics.

Descriptive analyses of PIAAC data reveal that results for self-reported health follow a step-wise gradient by skill level: those with the highest average proficiency levels report better health, with health status worsening as skills decline. Trust and political efficacy do not follow a similar gradient pattern but show a clear demarcation in the proficiency scores of those reporting positive outcomes (with higher scores on average) compared to those reporting negative outcomes (with lower scores on average). Results for volunteering are more complicated—the lowest levels in literacy are found in the groups who volunteer most frequently *and* in those who never volunteer.

Certain groups of Canadians tend to have poorer health and social outcomes, particularly those with less education and the unemployed. Differences in health and social outcomes by gender tend to be small, with women generally reporting better outcomes than men. Older Canadians report higher levels of trust and lower levels of volunteering. Self-reported health also tends to decline with age, though PIAAC results suggest that skills may have the potential to moderate this decline because older Canadians with higher skills tend to report positive health in similar proportions to younger age groups. Outcomes for Indigenous peoples and immigrants to Canada are more nuanced, influenced by a range of historical and contemporary factors, including social and economic exclusion, and for Indigenous peoples, the legacy of Canada's history of colonization.

For all of these groups, the proportion reporting positive health and social outcomes increases with skill level. According to PIAAC, Canadians who score above 335 (or Level 4) in literacy report only positive health and social outcomes. This suggests that a highly literate population may also be characterized by good health, stronger social cohesion and connectedness, and greater civic participation.

Higher skills are associated with better health and social outcomes.

Regression analyses confirm that Canadians with stronger literacy, numeracy, and PS-TRE skills are more likely to report positive health, trust, volunteering, and political efficacy than those with lower skills. These relationships persist when controls are added for factors likely to influence the relationship between skills and health and social outcomes, including age, gender, educational attainment, employment status, Indigenous identity, immigrant status, and language in which the PIAAC assessment was completed. Literacy, numeracy, and PS-TRE are all strongly associated with each of the four measured health and social outcomes. The likelihood of reporting good health and higher levels of trust, volunteerism, and political efficacy generally rises as proficiency improves.

Skills are associated with health and social outcomes independently of education.

Four levels of educational attainment are considered in this report: less than high-school diploma; high-school diploma; postsecondary education – below bachelor's degree; and postsecondary education – bachelor's degree or higher. Within each of these levels, rising skills proficiency is associated with greater odds of reporting positive health and social outcomes. For certain outcomes, the effect of skills appears to be stronger for those with less education. Among people with less than a high-school diploma, those at the highest literacy levels are more likely to volunteer than those at the lowest levels, after controlling for age, gender, educational attainment, employment status, Indigenous identity, immigrant status, and the language in which respondents completed the PIAAC skills assessment.

Higher educational attainment is not as strongly associated with positive health and social outcomes when skills proficiency is low. Conversely, when proficiency levels are high, there is a strong likelihood of reporting positive health and social outcomes—even among those who did not complete high-school. These results suggest that skills are more than a corollary to education. They have an independent effect on self-reported health, trust, volunteering, and political efficacy. These results suggest that further research is warranted to better understand the role of adult competencies as a social determinant of health independently of education.[2]

Indigenous peoples tend to report poorer outcomes—but skills may narrow some gaps.

PIAAC data on the health and social outcomes of Indigenous peoples[3] should be interpreted in the light of ongoing social, cultural, and economic marginalization—including the implications of colonization. PIAAC data indicate that at the national level, Indigenous peoples score lower on literacy, numeracy, and PS-TRE compared to the non-Indigenous population, and that a smaller proportion of Indigenous peoples self-report positive outcomes for health, trust, and political efficacy. Indigenous and non-Indigenous peoples report comparable levels of volunteerism. As with other population groups, health and social outcomes tend to improve as proficiency levels rise. In fact, there is no statistically significant difference in the proportions of Indigenous and non-Indigenous peoples reporting excellent, very good or good health at the highest levels of literacy and numeracy proficiency. Conversely, the gap in levels of trust reported by Indigenous and non-Indigenous peoples widens as skills improve.

Regression analyses reveal that rising skills proficiency is associated with a greater likelihood of Indigenous peoples having positive self-reported health, trust, and volunteering after controlling for age, gender, educational attainment, employment status, and test language. Higher levels in numeracy appear to most strongly predict positive outcomes.

Immigrants' outcomes vary with length of residence in Canada.

Immigrants to Canada[4] generally report lower levels of trust and volunteering than the Canadian-born. Recent immigrants (in Canada for less than 10 years) report higher levels of positive health than either established

[2] "The social determinants of health influence the health of populations. They include income and social status; social support networks; education; employment/working conditions; social environments; physical environments; personal health practices and coping skills; healthy child development; gender; and culture." "Social Determinants of Health," Public Health Agency of Canada, Canadian Best Practices Portal, retrieved from http://cbpp-pcpe.phac-aspc.gc.ca/en/public-health-topics/social-determinants-of-health.

[3] Indigenous respondents surveyed in PIAAC include First Nations people living off-reserve, Métis, and Inuit.

[4] An immigrant is a person who is, or has ever been, a landed immigrant/permanent resident. This category includes people who have come to Canada as refugees.

immigrants or the Canadian-born, likely as a result of the well-documented "healthy immigrant effect."[5] There are no significant differences between immigrants and the Canadian-born with respect to feelings of political efficacy. Results for immigrants are influenced by sociodemographic factors (such as age), as well as cultural, linguistic, and other factors that likely shape perceptions and practices around health and civic and social engagement.

Similar to results for other groups, the health and social outcomes reported by immigrants tend to improve as proficiency rises. For recent immigrants, this relationship persists even after controlling for age, gender, educational attainment, employment status, and test language. Literacy tends to be the strongest predictor of positive outcomes for this group, particularly with respect to volunteering and political efficacy. For established immigrants (in Canada for more than 10 years), connections between information-processing skills and health and social outcomes are less clear. However, PS-TRE proficiency does appear to have some significant influence on self-reported health, volunteering, and political efficacy.

Skills are not enough to show an improvement in health and social outcomes for unemployed Canadians.

As with other surveys, PIAAC data confirm that people who are employed enjoy better health and social outcomes than those who are unemployed.[6] However, the health and social outcomes of unemployed Canadians, unlike other population groups, do not consistently improve as proficiency levels rise. In fact, self-reported health actually declines at the highest levels in literacy.

More research is needed on the skills, health and social outcomes of workers in precarious employment.

Precarious employment is generally understood to encompass "nonstandard" work arrangements, such as casual or temporary positions. Research has found that precarious employment is accompanied by a range of adverse effects, including impacts on health and social well-being. This is of concern given rising levels of precarious work in Canada and internationally.

PIAAC allows for the initial exploration of relationships among precarious work, skills, and health and social outcomes. However, these analyses should be interpreted with caution because of data limitations. These exploratory analyses indicate that young adults, those with lower educational attainment, recent immigrants, Indigenous peoples (at lower skill levels), and women (at higher skill levels), are more likely to be employed in precarious jobs. The proportion of Canadians engaged in precarious work does not change as skills improve, although more Canadians at higher skill levels report having permanent jobs and fewer work in "no contract" jobs. Increased skills proficiency does not affect the self-reported health of those who are precariously employed, but skills do appear to modify the negative impact of precarious employment on social outcomes. Additional research and more nuanced data are needed to better understand these relationships.

Implications

Analysis of the PIAAC health and social outcomes data provide evidence on the relationship between literacy, numeracy, and PS-TRE proficiency and the health and well-being of Canadians. Existing theoretical

[5] The health advantage enjoyed by recent immigrants is understood to stem from the selective nature of international migration—healthy individuals are more likely to migrate, and admission criteria often favour factors associated with good health (e.g., education and work experience).

[6] The "unemployed" in PIAAC consist of those who were neither working nor self-employed in the month prior to PIAAC, were able to work, and were actively seeking work or expecting to begin a job for which they had been previously hired (Statistics Canada et al., 2013, p. 61).

and empirical evidence confirms that there is a connection—likely a causal one—between education and health. This report builds on that literature by confirming that skills are associated with the health and social outcomes measured in PIAAC independently of factors like education, and that skills may help to ameliorate health and social outcomes for Canadians at greater risk of social and economic disadvantage. These findings suggest that increased proficiency in information-processing skills has the potential to provide social and economic benefits to both individual Canadians and Canadian society.