

PLAIN LANGUAGE SUMMARIES

LITERACY AND DIGITAL TECHNOLOGIES: LINKAGES AND OUTCOMES

**SUMMARY BY
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What is this study about?

This paper investigates the relationships between adult literacy skills and the use of information and communications technologies (ICTs) such as the telephone, television, VCRs, CD players, cablevision, personal computers, the Internet, and cellular telephones. The authors use data from the 2003 *Adult Literacy and Life Skills Survey*, commonly referred to as the “ALL” which tested adults aged 16 to 65 years using the assessment model developed for the *International Adult Literacy Survey, or IALS*, conducted between 1994 and 1998. ALL includes data for Canada, its provinces and territories, as well as five other countries (Bermuda, the United States, Italy, Norway and Switzerland), allowing international and inter-provincial comparisons.

ALL’s key objective was to measure adult literacy across several domains (prose and document literacy, numeracy and problem-solving), but it also included for the first time an ICT module given the important role ICTs play in the knowledge society. By doing so ALL sought to compare respondents’ ICT use, based on their own assessments of their ICT use patterns and their attitudes toward computers, with assessments of their literacy skills and a number of socio-demographic factors such as age, gender and educational attainment.

This study, therefore, uses this data to sketch a portrait of adults’ computer and Internet use, including why they use computers, their attitudes toward computers, and their use of other ICTs, with a detailed focus on Canada. An important objective of the paper is to examine outcomes associated with literacy skills in combination with patterns of ICT use. By profiling these characteristics and studying their relationships with respondent income the authors achieve this goal.

What are the questions addressed by the study?

An underlying premise of the paper is that possessing the skills to use ICTs effectively allows individuals to function in the digital world, much like basic literacy influences an individual’s ability to participate effectively in aspects of everyday life. This link underpins the notion that ICT skills are an integral part of an emerging concept of literacy.

The structure of the paper reveals the key issues addressed. Beginning with a brief “Abstract” this paper contains six sections. The first, “ICT use in a time of change” explores the growing importance of ICTs in daily life and the impact that they have on the skills we need to learn. The second deals with “Connectivity and key determinants” assessing growth in the use of ICTs in Canada, the increased use of personal computers and the internet, and the reasons why people employ ICTs. The third examines the linkages between “ICTs and literacy skills” while the fourth provides an “Analysis of ICT use by socio-demographic characteristics”. The final two sections, “Towards understanding outcomes” and “Key findings and future work” present the authors’ conclusions as well as observations on areas for further research and analysis.

Why is this study important?

This is the first analysis available in Canada that uses the data in the 2003 Adult Literacy and Life Skills Survey (*ALL*) to explore the linkages between levels of literacy skill and levels of ICT use. Further, the study explores the combined effect of literacy levels and computer usage on personal incomes. It found, for example, that in Canada, Bermuda and Switzerland respondents with average or higher literacy skills and high computer use had from about five to more than six times the odds of being top income earners than respondents with below average literacy and low-to-medium intensity computer use. This points the way to further explorations of the effects of these combined factors on other socio-economic outcomes.

What does the study conclude?

The authors have found that patterns of Internet and computer access confirm the existence of digital divides both across and within the nations included in the *ALL* report: Canada, the United States, Bermuda, Italy, Norway and Switzerland. Apart from Italy, differences in ICT use and access between were found not to be large. In 2003 home computer access rates were about 80% and home Internet access rates approximately 70% for most countries surveyed.

Within countries, however, sizeable divides exist in terms of both access to and use of ICTs. The authors found that income stands out as an important predictor of access to and use of ICTs although many other factors were found to exert an influence on adults’ use of and familiarity with computers and the Internet, and their attitudes toward computers. Factors such as age, gender, and levels of education and literacy proficiency were associated with individuals’ use of ICTs and could be used to predict whether or not a respondent would be a “high intensity” computer user.

Younger age groups were found to have a particularly strong affinity for computer use, while those aged 55 or older were less attached to this technology. Interestingly there were clear gender differences in Internet use in the European countries included in this study but this was not the case in North America. Additionally, respondents with less than upper secondary education used computers significantly less frequently than those with higher levels of educational attainment.

An overview of provincial and territorial ICT use in Canada affirmed the existence of divides within this country. The Western provinces, the territories, and Ontario emerged as leaders in ICT use, although the authors found that regional patterns of ICT use were complex and varied depending on the specific technology examined.

Results also confirmed an association between literacy skills and ICT use. After controlling for other factors, it appeared that as literacy skill levels increased there was a parallel increase in adults' perceptions of the usefulness of computers. They were more likely to have positive attitudes toward computers, the use of the Internet, and the use of computers for task-oriented purposes. The study reports that this was true for all four of the literacy domains examined in the *ALL*. For example in most countries respondents with medium to high prose literacy skills were two to three times more likely to be high-intensity computer users compared to those with below average prose literacy skills.

Those without access to ICTs also tended to have lower literacy levels than the rest of the population. In addition, only a minority of those who did not use computers expressed an interest in learning to use one. The authors suggest that this has implications for every country in the *ALL* survey. Their reason was that individuals who perhaps stand to benefit most from ICTs (those needing health, employment and government information) appear not to be in a position to access and use them.

Finally, combined profiles of both literacy and computer use were strongly related to the likelihood that respondents would have higher incomes. In most countries studies adults with average or higher literacy skills and high-intensity computer use had about three to six times the odds of being in the top quarter of income earners compared to respondents with low literacy and low-to-medium intensity computer use.

The authors concluded their study by suggesting that more work is needed to further examine the economic and social outcomes associated with ICT use and related literacy skills. Part of this work should include the development of ICT skills measures in order to evaluate an individual's ability to use ICTs.

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