



# Canadian Labour Market and Skills Researcher Network

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### The Causal Effects of Education on Adaptability to Employment Shocks: Evidence from the Canadian Labour Market

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# **The Causal Effects of Education on Adaptability to Employment Shocks: Evidence from the Canadian Labour Market\***

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## **Abstract**

This study investigates the causal effects of education on individuals' adaptability to employment shocks. Specifically, we assess the extent to which education influences re-employment success for unemployed workers. We also examine the impact of education on job search intensity, one potential mechanism through which education may increase the probability of re-employment following unemployment. Given that the positive correlation between education and adaptability is likely to be confounded by the endogeneity of education, we make use of data on compulsory schooling laws to create instrumental variables to assess the causal effects of education on adaptability. Based on data from the Canadian Census and the Labour Force Survey, we find that education both significantly improves re-employment opportunities and exerts significant positive impacts on job search intensity for the unemployed.

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*Keywords:* Education, Human Capital, Adaptability, Displaced Workers, Unemployment, Job Search, Causal Effects, Compulsory Schooling Laws

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## Executive Summary

The labour market in Canada has been characterized by dramatic structural changes in recent decades, partly due to technological change, globalization, and the increasingly competitive world economic environment. Whether displaced or unemployed workers are able to adapt efficiently to adverse employment shocks is critical to not only their own welfare, but also the maintenance of healthy communities and efficient allocation of labour resources. As a consequence, building an adaptable workforce has acquired heightened status on the nation's policy agenda.

Relying on data from the Canadian Census and the Labour Force Survey (LFS), this study assesses the causal effects of education on individuals' adaptability to employment shocks in two dimensions: re-employment success after being unemployed and job search intensity. A key methodological challenge to our research is that the positive correlations between education and adaptability that we expect to observe are likely to be confounded by the endogeneity of education, and thus do not necessarily reflect the true causal effects of education on adaptability. In particular, positive associations between education and adaptability could arise because of unobserved factors that are correlated with both measures. For example, those with more innate ability may acquire more education and more readily adapt to changing circumstances. Similarly, individuals from advantaged backgrounds with well-connected social networks are likely to enjoy better and more employment/re-employment opportunities and also likely to acquire more schooling. In these circumstances standard regression methods, such as ordinary least squares (OLS) estimation, yield biased estimates of the true causal link between education and adaptability.

Given that the positive correlation between education and adaptability is likely to be confounded by the endogeneity of education, we use data on compulsory schooling laws to create instrumental variables for assessing the causal effects of education on adaptability. Our findings suggest that education significantly increases re-employment success for unemployed workers, and that highly-educated individuals tend to adopt more job search strategies than those with less education.

Specifically, based on the 1981, 1986, 1991, 1996, and 2001 Canadian Census data, we find that graduating from high school increases the probability of re-employment conditional on being unemployed in the previous year by 24 to 27 percentage points. An additional year of schooling increases this probability by 2 to 3 percentage points. These estimated causal impacts are larger – in some cases substantially larger – than the corresponding OLS estimates of the effects of additional education. Similarly, results based on LFS data show that graduating from high school increases the probability of re-employment conditional on being unemployed five months earlier by 16 percentage points. This probability increases by 1.5 percentage points with each additional year of

schooling. The LFS data also indicate that graduating from high school increases the probability of full-time re-employment conditional on being unemployed five months earlier by 14 percentage points, and this probability increases by 1.4 percentage points with each additional year of schooling.

Job search intensity is not only a good indicator of individuals' adaptability to employment shocks, but also a potential mechanism through which education may increase the probability of re-employment following unemployment. Using the LFS data, we find positive and significant causal effects of education on job search intensity for five of the six months during which an individual remains in the survey, conditional on being unemployed in a given month. Depending on the instruments used, for instance, graduating from high school increases the number of job search methods used in the second month of survey by 0.6 or 1.3, and an additional year of schooling increases this number by 0.06 or 0.12. The results based on the pooled cross-sectional samples of unemployed individuals indicate that graduating from high school increases the number of job search methods used in a given month conditional on being unemployed in that month by 0.7, and an additional year of schooling increases this number by 0.06.

Findings from this study not only shed light on the causal relationships between education and individuals' adaptability, but also contribute to the growing literature on the private and social benefits of education. Further, this study bears several implications for public policy. First, it provides empirical evidence that supports education as an effective means to enhance adaptability, a valuable characteristic in a changing labour market. Second, to the extent that education improves adaptability, the private and social benefits of education may be understated by standard outcome measures (e.g., earnings). Third, it lends support to the case for education as a "preventative" alternative to government-sponsored adjustment assistance policies, which are often based on a "repair shop" model that deals with problems *ex post*.