Are Student Employment and Academic Success Linked?

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Canada Millennium Scholarship Foundation

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The Millennium Research Program furthers the work of the Foundation by undertaking research and pilot projects aimed at understanding and reducing barriers to post-secondary education. It ensures that policy-making and public discussion about opportunities in higher education in Canada can be informed by the best available evidence.

Research Note Series

Part of the mission of the Canada Millennium Scholarship Foundation is to improve access to post-secondary education so that Canadians can acquire the knowledge and skills needed to participate in a changing economy and society.

Higher education provides the prospects for personal fulfillment and economic advancement to which Canadians from all backgrounds are entitled. The Foundation carries out extensive research, collecting and analyzing data from surveys and pilot projects, so that we can better understand the barriers that prevent some students from making it to the post-secondary level and so that we can identify means to alleviate those barriers.

Within the broad scope of our research, we uncover certain trends, questions and issues that call for wider public dialogue. This research note, the ninth in an ongoing series examining issues of access and funding for post-secondary education, seeks to inform this dialogue and the development of new programs and policies.
Are Student Employment and Academic Success Linked?

Introduction

Recent labour market data show that full-time university and college students are working more than ever before. According to the Labour Force Survey (LFS), 41 percent of male full-time students aged 20 to 24 and 52 percent of female full-time students in the same age group were working during the 2007-08 academic year.\(^1\)

Should we care if students are working more than they ever have before? We believe that the answer depends on whether employment has a positive or negative effect on student success. A commonly held view is that working too much will compromise the success of even the brightest and most capable students. And almost everyone believes that working only a few hours a week will have little effect on academic success. Beyond those simple preconceptions, however, the situation is quite unclear.

We begin this research note by describing recent trends in student employment and examining the reasons students themselves give for being employed. We then briefly review recent studies on the impact of employment on academic success. In our opinion, this literature strongly suggests that working while in school has a negative effect on post-secondary grades. Finally, we analyze the link between work and a different measure of academic success—persistence from the first to second year of a post-secondary program—using the Youth in Transition Survey (YITS).

Trends in Student Employment

Figures 1 and 2 present monthly employment rates over the period 1976-2008 for full-time students aged 15 to 19 and 20 to 24, respectively. As these figures reveal, employment rates differ by age group and gender:

- In general, students aged 15 to 19 have employment rates that are five to 10 percentage points lower than those of students aged 20 to 24, which is perhaps not surprising given that the younger group includes high school students. Male employment in the younger group peaked in the early 1990s at just under 45 percent. It has never again reached such levels and currently stands at about 35 percent. Female employment in the younger cohort also peaked in the early 1990s but has recently regained that level.

1. The number of hours worked is also relevant. While we do not have these averages for 2007-08, Usalca and Bowlby (2006) report that “the average number of hours students dedicate to work has increased over the last eight school years,” with the most recent year for which data is available in this case being 2004-05.
Are Student Employment and Academic Success Linked?

- Among students aged 20 to 24, employment rates for both men and women have been rising, with the female rate rising faster. These developments explain why students as a whole are working “more than ever before.”
- Since 1990–91, females in both age groups have had higher employment rates than males. Moreover, the gap between the female and male employment rates has increased over time. Usalcas and Bowlby (2006; hereafter “UB”) suggest that this gap may be the result of employment growth in sectors of the economy that tend to employ larger numbers of women, such as retail services.

As the employment rates increased, so did the average number of hours worked. In 2004–05, full-time students were working longer hours during the school year than ever before: 18- to 24-year-old full-time students worked an average of 16.5 hours per week (UB, Table 3).

Why Are Students Working?

Employment is a very important source of income for post-secondary students, and that is the most obvious reason why they work. According to Ouellette (2006, Table 6), 26 percent of full-time students who responded to the Post-Secondary Education Participation Are Student Employment and Academic Success Linked?

Figure 1 Employment Rates of Male and Female Full-Time Students Aged 15 to 19 from 1976 to 2008 (September to April)


2. The Usalcas and Bowlby study used confidential data from Statistics Canada’s Labour Force Survey to describe average hours worked. That variable is not available publicly, and we therefore cannot provide more recent information.
Are Student Employment and Academic Success Linked?

Survey (PEPS) named income from current employment as their most important source of funds, a percentage exceeded only by the 27 percent who reported personal savings as the most important source. Just over 60 percent of students reported that current employment was one of their funding sources; once again, this was the second-highest proportion observed, exceeded only by the 79 percent who drew on personal savings (Ouellette, 2006, Table 2).

The increase in work may be due to rising tuition fees over the period 1995–2005. Neill’s (2006) examination of the effect of tuition fee increases on student employment suggested that there was a positive relationship between tuition increases and higher employment among full-time university students.

Perhaps surprisingly, few surveys ask students themselves why they work. In fact, such a question is difficult to ask and answer because working often serves a variety of functions (see Box 1). The 2006 College Student Survey (CSS) conducted for the Canada Millennium Scholarship Foundation included a set of questions that asked more than 7,000 Canadian college students whether they were working and, if so, why. More than half (57 percent) were working; of those, the majority (52 percent) said that they worked to “pay for necessities,” another 10 percent said they worked to “pay for school or school-related debt” and 22 percent worked “to increase disposable income.”


3. In comparison, loans from the government were the most important source of income for 20 percent of students. A little more than one student out of four (26 percent) reported relying on student financial aid as one of their sources of income.
Are Student Employment and Academic Success Linked?

Box 1 Why Do Students Work? Some Hypothetical Examples

Thinking of hypothetical student situations may help illustrate some of the many reasons why students work.

**Working to supplement student financial aid**

Jason comes from a low-income family and is attending university away from home. He receives little financial support from his family. He applied for and received the maximum amount of loans for which he was eligible but still cannot cover his expenses. He works 20 to 25 hours a week as a waiter in a local restaurant simply to make ends meet.

**Working to avoid borrowing**

Christine also comes from a low-income family, but she is able to live at home while attending school. However, she needs to pay for all her education-related costs. Christine could have paid for her education with a student loan, but when she calculated the amount of interest she would have to pay after graduation, she decided she would rather work while in school.

**Working to pay for leisure time activities**

Arielle comes from a comfortable middle-class family. Her parents have agreed to pay for her tuition plus room and board. Arielle works 10 hours per week in a clothing store in order to pay for “extras” that are not directly related to her schooling.

**Working as a way of life**

Paul has energy to burn. He has no particular financial need but has worked for many years simply as a normal part of his life. Working 10 or 15 hours per week at a fitness centre gets him away from school and gives him an independent source of income.

**Working to gain experience**

Sharon is studying to be an engineer. She works for a local manufacturing firm because she believes that she will gain valuable experience and be able to start her career at a higher level than would otherwise be possible.

The Effect of Student Employment on Academic Success

Our focus is on the question of whether working while in school has an impact on academic success, which we define here either in terms of grades or progress toward a university or college degree.

A starting point might be to ask working students about the effects of their work on their studies. To our knowledge, the College Student Survey (CSS) is the only Canadian survey that has asked this question. The CSS asked working students how concerned they were “that the hours you are working for pay are having a negative impact on the time you can devote to your studies.” Of the working respondents, 28 percent reported being moderately concerned and 29 percent reported being very concerned.

A second way to approach the issue is to analyze the relationship between: (a) student responses to survey questions about the number of hours spent working; and (b) student

4. An American study by Dundes and Marx (2007) asked students about the interaction between working and academic performance. The authors wrote: “Most student-workers believed that employment forced them to become more efficient (74%) while also increasing their level of stress (64%) which was particularly frequent among those who worked more than 10 hours per week. Interestingly, despite the improved performance of those working 10-19 hours per week, the majority believed that working resulted in their spending fewer hours on assignments and studying for tests. In contrast most of those working fewer than 10 hours per week believed that working did not impair their study or social time.” However, the Dundes and Marx study is small; the sample consisted of about 250 students in one small U.S. college.
reports of academic success. Such analyses can either be descriptive, ascertaining the correlation between the two variables, or causal, trying to establish whether working while in school affects academic success. In the next section, we briefly review a subset of the previous literature on this topic.

**A Short Literature Review**

Many studies of the relationship between working while in school and post-secondary persistence use survey data to tabulate the likelihood of persistence within various categories of work effort. A typical study might divide the student’s work effort into three or four categories, including “not working,” according to the number of hours they report working while in school. The percentage of those in each category who persist is then tabulated.

A good example of this sort of study is by King (2002). King uses a U.S. longitudinal survey called *Beginning Postsecondary Students 1996/1998 (BPS)*. In 1998, the BPS re-interviewed about 12,000 first-time, first-year students who had responded to the *National Postsecondary Student Aid Study (NPSAS)* in the fall of 1995. Based on the students’ situation in the fall of 1998, King (p. 23) defines four categories: (1) no degree, not enrolled; (2) still enrolled, two-year program or less; (3) still enrolled, four-year program; and (4) attained an associate degree or certificate. By cross-tabulating these four categories with four categories of hours worked per week (none, 1–14, 15–34 and 35 or more), King shows that students who worked one to 14 hours per week were the most likely to have persisted—even compared to those who did not work at all—and writes (p. 23) that:

This finding, which at first seems counter-intuitive, has been replicated across numerous studies [Pascarella and Terenzini 1991]. The research literature suggests that students who work part time (and particularly those who work on campus) are more connected to the institution, manage their time more effectively, and are more focused on their academic work than students who don’t work at all.

King, no doubt recognizing the fragility of conclusions drawn from such simple bivariate findings, pushes her analysis further by dividing her sample into students with low income (less than 150 percent of the U.S. poverty line) and middle- and upper-income students (income more than 300 percent of the poverty line). Even among middle- and upper-income students, those who worked part-time were more likely to persist than those who did not work at all.

Attempts at assessing the causal link between working while in school and student success are frustrated by the possibility that both academic success and time spent working are likely to be related to unobservable factors such as motivation or self-confidence. For example, if highly motivated and self-confident students are more likely to work and more likely to do well in school, then statistical analysts might wrongly conclude that working leads to greater academic success. The challenge is to figure out how to disentangle the effects of motivation (and other unobservable factors) from the effects of working.

A longitudinal survey of students by Stinebrickner and Stinebrickner (2003) effectively handles the issue of establishing a causal relationship between student work and student success, as measured by first-year grades. However, their study deals only with one small American college in Kentucky (Berea College)—and a special sort of college at that. Berea College is a “work college;”
the hours a student spends working are determined entirely by the institution. In a work college, students receive a full-tuition scholarship but are required to work in an on-campus job assigned to them by the institution. The students’ work hours vary by the type of job to which they are assigned; motivation and self-confidence have no effect on hours worked. Therefore, any observed relationship between hours worked and academic success, measured here by the students’ first-year grade point average, is independent of unobserved factors. The Stinebrickner and Stinebrickner analysis clearly indicates that the more hours Berea College students worked, the lower their first-year grades were. A recent study by DeSimone (2008) also finds a negative relationship between working while in school and grades; it is discussed in more detail in the next section.

To sum up, in the past, the findings of the literature on the link between working while in school and academic success have been mixed, with some studies finding a negative relationship, some a positive one and others none at all. However, in our view, the most recent research on the link between work and grades shows that working while in school negatively affects grades. The evidence on academic persistence is still mixed, however. In the next section, we report on our own work with the Youth in Transition Survey.

Analysis of the Youth in Transition Survey

Bivariate Results

We begin this section with simple cross-tabulations of hours worked by YITS-B respondents with other variables of interest, relying mostly on the 1998 cohort. We have used a categorical measure of weekly hours worked derived from responses to the following question: “During the school year, about how many hours each week did you work at a job for pay?” Roughly half of our YITS-B sample of full-time students was working for pay—44 percent of

5. We also conducted the analysis on the 1999 cohort. Results are qualitatively similar.

“...the most recent research on the link between work and grades shows that working while in school negatively affects grades.”
Are Student Employment and Academic Success Linked?

Table 1

<table>
<thead>
<tr>
<th>Hours Worked</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 10</td>
<td>23%</td>
<td>23%</td>
<td>22%</td>
</tr>
<tr>
<td>10 to less than 20</td>
<td>41%</td>
<td>44%</td>
<td>43%</td>
</tr>
<tr>
<td>20 or more</td>
<td>36%</td>
<td>33%</td>
<td>35%</td>
</tr>
</tbody>
</table>

Source: Authors’ calculations from YITS-B. All reported figures are weighted. The unweighted sample size is 1,235; the weighted sample size is 75,806.

male students and 52 percent of female students. Table 1 categorizes the working hours of those students who worked. Among this group, the majority worked between 10 and 20 hours a week. However, about one-third of students who worked spent 20 hours or more per week on the job while attending school full time.

Table 2

<table>
<thead>
<tr>
<th>Status / Hours Worked</th>
<th>Continuers</th>
<th>Switchers</th>
<th>Leavers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>52%</td>
<td>49%</td>
<td>46%</td>
<td>51%</td>
</tr>
<tr>
<td>Less than 10</td>
<td>12%</td>
<td>7%</td>
<td>13%</td>
<td>11%</td>
</tr>
<tr>
<td>10 to less than 20</td>
<td>22%</td>
<td>20%</td>
<td>18%</td>
<td>21%</td>
</tr>
<tr>
<td>20 or more</td>
<td>15%</td>
<td>24%</td>
<td>23%</td>
<td>17%</td>
</tr>
</tbody>
</table>

Source: Authors’ calculations from YITS-B. All reported figures are weighted. The unweighted sample size is 2,688; the weighted sample size is 155,335.

Table 2 describes the simple bivariate relationship between hours worked and persistence. We have divided the sample into those who continued in the same program (“continuers”) in second year, those who switched programs in second year (“switchers”) and those who left school altogether (“leavers”). Continuers constitute 75 percent of our sample, while switchers and leavers represent 15 and 10 percent, respectively.

Continuers were far less likely to work more than 20 hours than were either switchers or leavers. About 23 percent of leavers—i.e., those who were not enrolled in any PSE program at the beginning of second year—worked 20 hours or more per week, compared to 15 percent of continuers.

Table 3

<table>
<thead>
<tr>
<th>Hours Worked</th>
<th>Loan</th>
<th>Grant/Bursary</th>
<th>Scholarship</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>None</td>
<td>46%</td>
<td>61%</td>
<td>49%</td>
</tr>
<tr>
<td>Less than 10</td>
<td>11%</td>
<td>11%</td>
<td>12%</td>
</tr>
<tr>
<td>10 to less than 20</td>
<td>23%</td>
<td>17%</td>
<td>22%</td>
</tr>
<tr>
<td>20 or more</td>
<td>19%</td>
<td>12%</td>
<td>17%</td>
</tr>
</tbody>
</table>

Source: Authors’ calculations from YITS-B. All reported figures are weighted. For loans, the unweighted sample size is 2,688 and the weighted sample size is 155,335; for grants/bursaries and scholarships, the unweighted sample size is 2,684 and the weighted sample size is 154,970.
We conclude this section by looking at the interaction between work and other forms of financial support. We have chosen three typical forms of student financial aid: (1) loans, (2) grants or bursaries not based only on academic merit, and (3) merit-based scholarships. The YITS-B data indicate whether or not the respondents had received each type of support. Students who did not use any of these forms of financial aid were more likely to work and were likely to be working more hours.

As shown in Table 3, 61 percent of students who borrowed (whether from the government or other sources) did not hold a paying job while in school, compared with 46 percent of those who did not borrow. Moreover, students who did not rely on loans worked more hours. The same patterns apply when we look at receipt of grants or scholarships.

While of obvious interest, bivariate relationships such as those just discussed may not hold up when other variables are held constant or when unobserved factors are taken into consideration. We thus turn to multivariate analyses in the next section.

**Multivariate Results**

In this section, we take up the difficult problem of trying to establish a causal relationship between working while in school and academic success. For two reasons, the previous literature is quite weak on this issue. First, many studies have a very narrow scope: for example, results might be based on a sample of students from only one school and therefore the general application of the findings is questionable. We can overcome this problem by using the nationally representative Youth in Transition Survey (YITS). Second, the majority of studies do not address the difficult issues that arise when trying to measure the causal impact of working on academic success. In this case, the problem is that there are likely to be important unmeasured factors that affect both the amount of work that students do and their academic success. For example, motivated and self-confident students might be more likely to work and more likely to be successful. If so, a spurious positive relationship between hours worked and academic success might be observed.

One well-known and well-understood method of accounting for the influence of important unmeasured factors is to implement a randomized trial. For example, much as participants in a drug experiment are randomly assigned to receive an experimental drug or a placebo, one could randomly assign full-time students to jobs with varying hours. If this were done, the differing motivation and self-confidence of the students would not affect the hours that they work, and any link between hours worked and academic success would thus be the result only of the variation in hours worked. This is essentially the situation at Berea College, the source of the data analyzed by Stinebrickner and Stinebrickner, because the students there do not choose their own hours of work.

If we want to use the YITS data, however, there is no avoiding the fact that the nature and extent of student employment is chosen by the students and might be correlated with unobserved factors such as motivation and energy. In this case, the key element in addressing the problem is to find an “instrumental variable” that has two characteristics. First, the variable must be correlated with the nature and extent of student work and academic success. Second, it must have no independent effect on academic success. In other words, an instrumental variable is one that affects academic success only because it affects student work, which then affects academic success.
Are Student Employment and Academic Success Linked?

DeSimone (2008) uses the instrumental variable strategy in conjunction with a large sample of students drawn from the nationally representative Harvard College Alcohol Study (CAS). DeSimone’s main instrument is paternal schooling attainment; he argues that, as is required, “paternal schooling attainment ... is strongly related to student labor supply, yet otherwise unrelated to academic performance...” (p. 4). Higher paternal education is likely to be related to hours worked by the child, since better educated fathers will have more income and may be more willing to subsidize the education of their children, which in turn will allow the children to avoid working while in school. Turning to the second requirement for a valid instrument, does higher paternal education directly affect post-secondary grades? DeSimone argues that it is plausible that it does not, because he also controls for the school attended, maternal education and several other factors; he writes, “among students within a specific post-secondary institution, of the same attainment and age, and with identical maternal schooling and own labor supply, it is conceivable that paternal education has no separate relationship with student achievement” (p. 5).

Unfortunately, we are not convinced that DeSimone is correct in assuming that paternal education is a valid instrument. Moreover, we do not see any other variable in the YITS data that qualifies as a valid instrument. Consider, for example, the unemployment rate in the region around the student’s school. This unemployment rate seems likely to meet the first criterion for a good instrument—the lower the local unemployment rate, the easier it will be for full-time students to find paid employment. However, it seems to us that the local unemployment rate does not meet the second criterion for a valid instrument because it likely has a direct impact on the likelihood of continuing from the first to the second year of a post-secondary program; the general availability of jobs will affect the decisions of students who might be uncertain about the desirability of continuing. If so, the local unemployment rate cannot be used as an instrumental variable.\(^6\)

In the end, we rejected all of the instrumental variable candidates and were left with only one possible way of accounting for the influence of unobserved factors such as motivation and self-confidence. We know from Stinebrickner and Stinebrickner (2002) that when these factors are ignored, the coefficient on time spent working is positive—more work leads to higher grades—but is negative once the unobserved factors are accounted for. That is, the bias created by their omission is positive. If the estimated coefficient in single equation models of persistence is negative without controlling for the unobservable factors, we can then suppose that the coefficient would be even more negative if the bias were removed. Having followed this strategy, we report our multivariate regression results below.

The dependent variable in our multivariate models takes the value “1” if the respondent persists in any post-secondary program in second year and takes the value “0” if the student leaves school. Column (1) of Table 4 shows a model of persistence without any measure of time spent working.\(^7\) Column (2) includes respondents’ self-reported measure of average hours worked during the first year

\(^6\) One possibility for an instrument is the occurrence of large, limited-time events (such as major sporting events or arts festivals) that, in any given year, would increase the employment of students in the area but have no implications for their continued post-secondary participation because they would have no impact on long-term employment prospects.

\(^7\) Because the dependent variable is dichotomous, we used probit analysis to estimate the models in Table 4. The reported coefficients are partial derivatives of the probability of persisting with respect to a one-unit change in the independent variable. As an example, females are shown to be significantly more likely to persist than males, as the coefficient reported in the table is positive.
Are Student Employment and Academic Success Linked?

Table 4  Determinants of Post-Secondary Persistence for First-Time, First-Year, Full-Time Students

<table>
<thead>
<tr>
<th>Category of Hours Worked</th>
<th>Average Hours Worked (1)</th>
<th>Hours Worked (Continuous) (2)</th>
<th>Categories of Hours Worked (3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Days Worked</td>
<td>N/A</td>
<td>-0.0012**</td>
<td>N/A</td>
</tr>
<tr>
<td>Less than 10 hours</td>
<td>N/A</td>
<td>N/A</td>
<td>-0.013</td>
</tr>
<tr>
<td>10–20 hours</td>
<td>N/A</td>
<td>N/A</td>
<td>-0.018</td>
</tr>
<tr>
<td>More than 20 hours</td>
<td>N/A</td>
<td>N/A</td>
<td>-0.031*</td>
</tr>
<tr>
<td>University in Year 1</td>
<td>0.016</td>
<td>0.013</td>
<td>0.014</td>
</tr>
<tr>
<td>Female</td>
<td>0.048***</td>
<td>0.05***</td>
<td>0.05***</td>
</tr>
<tr>
<td>Scholarships (1 if yes)</td>
<td>0.001</td>
<td>-0.002</td>
<td>-0.002</td>
</tr>
<tr>
<td>Grants (1 if yes)</td>
<td>0.047***</td>
<td>0.046***</td>
<td>0.046***</td>
</tr>
<tr>
<td>Loans (1 if yes)</td>
<td>0.004</td>
<td>-0.003</td>
<td>-0.004</td>
</tr>
<tr>
<td>Observations</td>
<td>2,460</td>
<td>2,460</td>
<td>2,460</td>
</tr>
</tbody>
</table>

Source: Authors' calculations from YITS-B.

Note: The dependent variable takes the value “1” if the respondent persists in any post-secondary program in second year and takes the value “0” if the student left school. The model also included other independent variables: visible minority and immigrant status, parental education, high school grades, region of residence, age and a measure of high school engagement. The full results are available from the authors.

*** indicates statistical significance at the one percent level; ** at the five percent level; * at the 10 percent level.

of PSE. To generate the results shown in column (3), we grouped the average hours worked into four categories: (1) no hours worked; (2) zero to 10 hours worked; (3) 10 to 20 hours worked; and (4) more than 20 hours worked.

The main finding is that the effects of the work variables are all negative, suggesting that working at all and working more hours both have a negative effect on persistence.

The effect of the continuous measure of hours worked in column (2) is negative and significantly different from zero. The effects of the categories of average hours worked are negative, but only one is significantly different from zero. If we maintain the above assumption that the bias created by the omission of unobservable factors is positive, these negative effects are closer to zero and the true coefficients are even more negative than those shown in Table 4.8

8. The fact that all the coefficients are negative is important because we believe that our inability to observe individual motivation and self-confidence creates a positive bias. If this hypothesis is valid, coefficient estimates on hours worked, such as -0.0012 in column (2) of Table 4, are larger (i.e. closer to zero) than they should be. Were we able to include individual motivation and self-confidence in the model, the coefficient would be smaller and more negative (e.g. -0.0024). Because the coefficients are already negative, suggesting that more work leads to lower persistence probabilities, the existence of a positive bias gives us more reason to believe in the negative relationship between work and persistence.
Of course, our assumption that the potential biases need not be more formally taken into account should not go unchallenged. We are forced to that assumption here because we have been unable to convince ourselves that we have a valid instrumental variable that would allow for a consistent estimation of the effect of hours worked on persistence. Based on the Stinebrickner and Stinebrickner results, we believe the bias created by the omitted variables is positive, but we have no empirical evidence of this.

Summary and Discussion

In this research note, we have reviewed the published research on the effects of working while in school on the academic success of post-secondary students and conducted our own analysis of data from the Youth in Transition Survey.

Most analysts—and we include ourselves here—have strong prior opinions about the academic implications of students working while they are going to school full time. Simply put, the consensus seems to be that: (a) working “too much” must have a negative influence on academic success, whether defined as grades or persistence; and (b) working a small number of hours is not harmful.

These theoretical inclinations aside, it is clear that full-time students are working more than they ever have before. Not only is a greater-than-ever proportion of Canadian students working, but the average number of hours that they work has steadily increased, up to an average of 16.5 hours per week in 2004–05.

The policy question is whether the increase in work is making it more difficult for students to succeed in school. This question is difficult to answer. Students might be increasing their work hours for a variety of reasons. The primary reason, however, is probably that other options for meeting post-secondary costs are unavailable or undesirable. Families are saving less than before, loan limits can leave borrowers without enough to meet their financial needs and grants are not easily found. At the same time, some students work to fund expenditures that are highly desirable but not strictly necessary—goods that simply make life outside of school more enjoyable. And still other students work because the jobs they hold are related to their studies and their future careers.

In our statistical models, which made no adjustment for the bias that might be created by unobservable variables (such as motivation), we found a small negative impact of hours worked on the probability of academic persistence. We then argued that the bias in these coefficients was likely positive, meaning that the coefficient we estimated was likely to be less negative than it should be. If that argument is accepted, then the negative effect of work on persistence is even greater than our results suggest.

We want to be careful not to overstate the strength of our conclusion that there is a negative relationship between the intensity of paid work by post-secondary students and their academic success. The relationship we are studying is the link between hours worked and average academic success, much as studies of the rate of return to education focus on the link between years of education and average future earnings. Students vary widely in their circumstances, aptitudes and personalities. Among those who work any given number of hours (say, 15 hours per week), there is considerable variation in academic success around the average level. We cannot say that any one student should stop working because working is harming his or her grades. Our finding is more of a general warning signal—a warning that working among post-secondary students has increased to historically high levels and is harming the academic success of some students.

Are Student Employment and Academic Success Linked?

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The policy implication of our work and our reading of others’ work is that the observed increase in the hours worked by full-time students is probably having a detrimental impact on their academic success. This implication is all the more pertinent given that the rapidly changing economic conditions we are currently experiencing may lead more students to work (in the face of, for instance, declining family savings and pressures on government spending that subsidizes the costs of PSE).

We believe that what is needed here is a mechanism to provide financial support to students who find themselves jeopardizing their academic success because of their need to work while in school. Because students cannot accurately predict both how to meet their financial obligations and how to succeed in school, some will decide to work, for example, rather than take out a student loan. But some of these students will find themselves running into trouble when their paid work conflicts with their studies. Being able to borrow *when they run into trouble* would resolve their difficulty.

For example, imagine a government-subsidized line of credit for eligible students. At any point during the school year, the student could draw on the line of credit to pay school-related expenses. Rather than relying on the burdensome and off-putting student loan application process, eligibility could depend on the tax records of students and their families, with students and their families agreeing to make those records available at the start of the school year. Eligibility could then be determined quickly and easily. The key point is to provide help when it is needed, rather than long after the damage has been done.

The determinants of how well post-secondary students do in school, whether measured in terms of course grades, year-to-year persistence or eventual degree completion, are of obvious public policy interest. While this study is far from conclusive, we are convinced that working while in school is more harmful than is generally thought.
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References


