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Work-Integrated Learning in Ontario's Postsecondary Sector: The Pathways of Recent College and University Graduates

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Executive Summary

Work-integrated learning (WIL) has been identified as a key strategy for supporting Canada's postsecondary education (PSE) system in responding to an increasingly dynamic, globalized, knowledge-based economy. Ontario in particular has been described as a "hot bed" of co-operative education (Ipsos Reid, 2010). However, while there is a common belief that WIL improves employment outcomes (see Gault, Redington & Schlager, 2000; Kramer & Usher, 2010), research on this topic has generally been specific to certain programs and types of WIL (Sattler, 2011).

In order to address this limited understanding of the impact of WIL on participants, employers and institutions, in 2009 the Higher Education Quality Council of Ontario (HEQCO) launched a multi-year project titled "Work-Integrated Learning in Ontario's Postsecondary Education Sector." This multi-stage study involved gathering qualitative and quantitative insights from faculty, employers and students on the perceived value and benefits of work and voluntary activities undertaken during a postsecondary program of study, both WIL and non-WIL, and examines the impact of these activities on learning, skills acquisition and labour market outcomes.

The study consisted of three phases. Phase 1 of the project gathered general information about the WIL opportunities available in Ontario postsecondary institutions and developed a typology of WIL experiences that included each type's educational purpose and mode of delivery. Phase 2 involved quantitative research with faculty members at the partner institutions (spring 2011), and employers and students about to graduate (spring 2012) to better understand each group's experiences with and perceptions of WIL.

Phase 3, the focus of this report, involved a follow-up survey exploring the educational and employment outcomes of those same graduates from the spring of 2012 approximately 18 months after graduation (fall 2013). The Graduating Student Follow-Up Survey was designed to uncover how WIL graduates differ from non-WIL graduates with regard to further PSE participation and labour market entry, status, experience and outcomes. These areas were explored separately by institution type (college and university) and where relevant and feasible, analysis was also conducted by program area, credential and type of WIL activity. The survey was conducted online and by phone between October 7 and December 1, 2013 and was completed by 3,340 respondents, yielding a response rate of 46.3%.

Key Findings

This research contributes to our understanding of the labour market outcomes associated with WIL involvement. The key findings in relation to each of the research questions are summarized below.

Do WIL graduates differ from non-WIL graduates in labour force status and PSE participation?

For college graduates, WIL participation did not substantially impact the unemployment rate, labour force participation rate, proportion with permanent full-time employment or further PSE participation when program and credential were controlled.

Among university respondents, graduates who had participated in WIL had a lower unemployment rate overall but there were no significant differences when examined by program area. While the unemployment rate did not differ by program area, the proportion with permanent full-time employment did. WIL participants who graduated from university business programs and science and engineering programs were significantly more likely to have permanent full-time employment than their non-WIL counterparts. For social sciences graduates, a greater proportion of non-WIL participants had permanent full-time employment than WIL

participants, though the gap was relatively small. Health sciences and social services graduates who participated in WIL were more likely to have participated in additional PSE since graduation and to have earned additional credentials than those who had not participated in WIL.

To what extent does participation in (WIL) affect graduates' labour market entry?

There were no noteworthy differences in time to employment between college WIL and non-WIL participants. Among university respondents, WIL participants were more likely than non-WIL participants to have had a new job arranged before finishing school, whereas non-WIL participants were more likely to have continued working in a position they held while they were a student.

Many WIL graduates contacted previous WIL employers as part of their job search process. This strategy was most common among co-op and practicum participants for both college and university respondents. In addition, close to two-fifths of college and university graduates felt that their WIL experience was one of the top factors that helped them obtain employment.

To what extent does participation in WIL affect the quality of graduates' labour market experience?

The greatest impact of WIL participation appears to be in relation to labour market experiences. Employed graduates who participated in WIL were more likely to feel that they were appropriately qualified for their job, that their job was related to their long-term career goals and that their job was related to their studies. This was true of both college and university respondents and held for most program areas.

To what extent does participation in WIL affect financial outcomes for graduates?

College graduates' mean salary did not differ significantly by WIL participation. University graduates who participated in WIL did, however, see an earnings premium. Examined by program area, the earnings premium held for graduates of business, science and engineering, and health sciences and social services programs but not for social sciences and arts and humanities graduates. Debt levels did not differ substantially by WIL participation for college or university graduates.

When located within the context of the current research literature, this study provided additional insights into the impact of WIL activities. Most previous studies related to post-graduation outcomes of WIL generally focused on co-op programs and internships, usually at the university level and often only in relation to business or science, technology, engineering and mathematics (STEM) programs. The findings in this report augment our understanding of WIL by contributing findings on graduates from both colleges and university, and including a wide range of programs and types of WIL and non-WIL activities.

The findings presented here, combined with previous data from the initial Graduating Student Survey, help to clarify WIL's value proposition: WIL appears to help both college and university students clarify and shape their career interests and goals and to obtain employment relevant to their education and career ambitions. Work is needed, however, to ensure that graduates of all program areas experience benefits from WIL participation. Arts and humanities and social sciences university graduates had the lowest levels of WIL participation and even those who participated in WIL were found to experience fewer labour market benefits. Similar to previous research (Walters & Zarifa, 2008), college graduates were also found to experience fewer benefits to WIL participation than university graduates. While this could be a reflection of the fact that college education is generally more career-focused and relatively few students graduate without some kind of WIL experience, further research is needed to understand the extent and impact of this difference. Future research could also examine whether there are longer-term career benefits associated with WIL participation; gather qualitative data to provide more in-depth reflections about the relationship between WIL and post-graduation

employment transitions and outcomes; and mine the data collected for this study to examine whether there are differences in outcomes based on WIL characteristics or the sociodemographic or academic characteristics of learners.

Introduction

Work-integrated learning (WIL) has been identified as a powerful agent for improving postsecondary students' employment prospects and labour market outcomes, as well as offering a number of additional benefits to students and employers. The Canadian Career Development Foundation (CCDF) endorses WIL as providing youth with opportunities to determine career fit, refine their learning goals, develop specific competencies related to their career objectives and establish a network of post-graduation contacts (Bell & Benes, 2012). WIL is also recognized by business and industry partners as "an essential component to building a highly skilled and productive labour force for an innovative, strong and growing economy" (Canadian Chamber of Commerce, 2012, p. 6) and an important tool in regional economic development (Garlick, Davies, Polèse & Kitagawa, 2006).

Ontario in particular has been described as a "hot bed" of co-operative education, with 24% of Ontarians with postsecondary education (PSE) reporting participation in co-op, compared to 17% nationally (Ipsos Reid, 2010). The report of the Commission on the Reform of Ontario's Public Services recommended that postsecondary institutions devote more resources to experiential learning such as internships (Drummond, Giroux, Pigott & Stephenson, 2012) and an Ontario government review of PSE launched in spring 2012 proposed the expansion of WIL programs to increase the career readiness of Ontario students (Ministry of Training, Colleges and Universities, 2012). However, while there is a common belief that WIL improves employment outcomes (see Gault, Redington & Schlager, 2000; Kramer & Usher, 2010), research has been limited and specific to certain programs and types of WIL (Sattler, 2011).

WIL describes educational activities that intentionally integrate learning within an academic institution with practical application in a workplace setting, relevant to a student's program of study or career goals. This structured integration of theory and practice differentiates WIL from other experiential learning activities that provide students with exposure to the workplace, such as job shadowing, industry field trips, career mentoring and work-study.

In an effort to expand the knowledge base about postsecondary WIL in Ontario, in 2009 the Higher Education Quality Council of Ontario (HEQCO) launched a multi-stage project titled "Work-Integrated Learning in Ontario's Postsecondary Education Sector." This study involved gathering qualitative and quantitative insights from faculty, employers and students on the perceived value and benefits of work and voluntary activities undertaken during a postsecondary program of study, and examined the impact of these activities on learning and labour market outcomes. Conducted in partnership with 13 Ontario postsecondary institutions, the study consisted of three phases.

Phase 1 of the project gathered information about WIL opportunities available in Ontario postsecondary institutions. Through a literature review and qualitative interviews with 25 employers and 29 staff and faculty involved with WIL programs at nine Ontario institutions, a typology of WIL was developed to distinguish WIL from more general work experience and experiential opportunities. The typology identified seven types of WIL:

- Apprenticeship – Training that combines learning on the job with classroom instruction, leading to a certificate of apprenticeship
- Field placement – Practical experience in a real work setting
- Mandatory professional practice – Work hours needed to obtain a licence to practice or professional designation, or to register with a regulatory college/professional association

- Co-op – Academic study that alternates with paid work experience developed and/or approved by the college/university
- Internship – Program-related experience in a professional work environment
- Applied research projects – Student projects to address specific business or industry problems
- Service learning – Student projects to address identified community needs or global issues

The study also identified key benefits for students provided by participation in WIL, including career exploration and improved prospects for employment; the opportunity to apply theory to practice in real work settings; the development of marketable skills; personal growth and increased civic engagement; financial compensation; and quality work experiences. Most importantly, this research provided a conceptual framework for understanding the complex array of WIL programs available in Ontario's PSE system and guided the next phases of the project.¹

In Phase 2, quantitative research was conducted through online surveys of faculty members at the partner institutions (n>3,600), employers (n>3,300) and graduating students (n>10,300). This research explored each group's perceptions of WIL as well as their WIL experiences.

A relatively large proportion of students, faculty members and employers in each survey reported being involved in WIL. More than two-thirds (68%) of responding Ontario college graduating students and almost half of university students (48%) were graduating with some form of WIL experience. Field placements were the most common type of college WIL, while practicums or clinical placements, followed closely by co-operative education and internships, were the most common types of university WIL. Among faculty members surveyed, close to two-thirds of college faculty and roughly half of university faculty had taught in a program in which students participate in a co-op or apprenticeship. Fewer had personally taught a course with a WIL component (48% of college faculty and 29% of university faculty). Forty per cent of Ontario employers surveyed reported hiring postsecondary graduates who were entering the workforce directly from college or university in the previous two years. Of those who hired, fully half (52%) offered employment to at least one graduate who had participated in a postsecondary WIL program at the employer's place of work. Another 9% hired at least one graduate who had completed WIL elsewhere.

Gaining practical work experience, enhancing their résumés, improving employability skills and determining their fit with a potential career or industry were the primary reasons why college and university student respondents decided to participate in WIL. Both college and university WIL students strongly agreed, across all types of WIL and program areas, that their WIL experience had been valuable. Clarifying career interests and influencing career goals were seen as two of the key benefits. Students ascribed significantly greater value to their WIL participation than to other paid labour market experiences (such as part-time or summer jobs). Paired t-test results for students who participated in both WIL and the labour market showed that WIL had a greater impact than paid employment on helping students understand their career interests, influencing their career goals and increasing their confidence about future job prospects.

Almost all college faculty respondents and a large majority of university faculty respondents agreed or strongly agreed that WIL is valuable (95.0% college and 83.5% university). However, faculty clearly perceived WIL to be primarily advantageous for students. In particular, both college and university faculty tended to have high levels of agreement with statements about the labour market advantages of WIL for students, such

¹ See www.heqco.ca for the Phase 1 report, entitled *Work-Integrated Learning in Ontario's Postsecondary Sector*.

as helping students to better understand work realities and developing employment contacts. The primary advantages of WIL for faculty and institutions were perceived to be the strengthened links between the institution and the business community and an increased connection to the broader community. A large proportion of college faculty also felt that feedback from students and employers who participate in WIL can improve academic programming.

The employer survey found that employers participated in WIL primarily to develop the workforce skills needed for their industry or profession, pre-screen potential new hires and to give back to the community. Close to one-third of non-WIL employers stated that they had plans to provide WIL in the future – half within the next two years. Among these employers, the single most important reasons for future WIL involvement were to pre-screen potential hires, give back to the community and bring in specific skills or talent.

While all three surveys found significant support for WIL, they also clarified the challenges associated with WIL. Both college and university students reported challenges in not being paid for their WIL involvement and in managing the additional demands on their time. Among students who did not participate in WIL, reluctance to delay program completion and concerns about additional costs or expenses were cited as the greatest barriers to WIL participation. College and university faculty identified ensuring high-quality placements for students and finding enough placements for students as the top challenges. Key challenges from the employer perspective related to the feasibility of providing WIL opportunities: a lack of suitable work for students, concerns about students having appropriate skills, staff time to recruit and train students, and lack of awareness of WIL programs. Employers suggested that financial incentives for employers, simplified and improved processes to recruit/select students, scheduling student placements to meet business cycle needs and more information for employers would best facilitate employer involvement in WIL. Despite strong interest in financial incentives, WIL employers reported limited uptake of available tax credits. Only half of apprenticeship employers and one-third of co-op employers claimed current tax credits.

This report examines data from Phase 3 of the project: a follow-up survey with consenting graduates approximately 18 months following graduation.² This final phase explores the employment outcomes of graduates, examining their labour market entry, participation, experience and financial outcomes. Findings are compared for WIL participants and those who did not complete WIL, and examined among graduates of both Ontario's college and university sectors.

² The Phase 2 survey of graduating students asked respondents for permission to contact them again approximately 18 months after graduation.

Part 1 – Study Overview

1.1 Literature Review

This review summarizes the research related to the post-graduation outcomes of WIL students, including employment outcomes, earnings and career progression. This review builds upon the literature review developed for the Phase 2 graduating student survey report, which focused on student motivations and barriers to participating in WIL, the accessibility of WIL programs to different types of learners, and the association between participation in WIL and postsecondary satisfaction (Sattler & Peters, 2013). As the literature review in the Phase 2 report illustrated, little research has been conducted to assess students' perspectives on the value of WIL and the learning outcomes associated with WIL participation. Similarly, the empirical studies related to post-graduation outcomes are relatively limited and generally focused on co-op programs and internships, usually at the university level and often only in relation to business or science, technology, engineering and mathematics (STEM) programs. Little attention is paid to college students or other areas of study. In this discussion, we highlight the themes in this research and identify the notable gaps.

Labour Market Entry and Participation

The impact of co-op programs on labour market access and participation is an emerging theme in the Canadian research on WIL outcomes. Walters and Zarifa (2008), using data from Statistics Canada's 2000 National Graduate Survey (NGS), found that co-op experience was associated with a greater likelihood of being employed full-time two years after graduation. The strength of this effect, however, differed by gender and whether the graduate had attended college or university. Male college graduates and female university graduates were found to experience the greatest advantages from co-op participation.

Downey, Kalbfleisch and Truman (2002), in a report prepared for Ontario's Minister of Training, Colleges and Universities, found that students in co-op programs were more likely to be employed, more likely to have permanent positions and more likely to be working in a field closely related to their studies; however, they did not illustrate whether there was any statistical significance to these differences.

A few research studies have focused on internships, primarily in business and STEM professions. Sandvig, Tyran and Ross (2005) found that completing internships helped Management Information Systems (MIS) graduates from Western Washington University (US) find full-time employment more quickly. Half the internship participants had jobs in place before graduation, while only a quarter of students who did not complete internships had similar success. This trend continued three months after graduation: 84% of prior interns had work compared to 60% of graduates who did not complete internships. Similarly, research studies by Knouse, Tanner and Harris (1999) and Gault, Reddington and Schlager (2000) found that business students who completed internships found jobs more quickly than their classmates who did not. However, Knouse, Tanner and Harris (1999) found that six months after graduation the employment rate was comparable between the groups.

Some researchers have tried to uncover the specific relationship between internships and increased job opportunities. For example, Rigsby, Addy, Herring and Polledo (2013) hypothesized that accounting internship students would receive *fewer* job offers since they were more likely to accept an offer from their internship employers. In a survey of 82 recently graduated accountants, they confirmed that prior interns received fewer offers; however, they also found that interns who did not receive or accept offers from their internship employer were significantly more likely to receive multiple offers than students who did not complete internships.

Employability Skills

The literature consistently finds that WIL helps students develop employability skills that can be transferred across workplaces (Crebert, Bates, Bell, Patrick & Cragolini, 2004; Freudenberg, Brimble & Cameron, 2010; Lucas & Tan, 2007). Discussing co-op placements specifically, Dressler and Keeling (2004) suggested that such experiences led to “increased disciplined thinking; improved learning; taking responsibility for learning, learning how to learn; improved problem-solving; analytical thinking; improved performance in the classroom, increased GPA, increased commitment to educational goals; increased ability to finance their education” (p. 225). Additionally, Metzger (2004) found that employers perceive students who completed co-op programs to have skills that are beneficial in the workplace. However, Ryan, Toohey and Hughes (1996) and Crebert et al. (2004) in particular have emphasized that poorly structured and supervised WIL experiences may actually undermine learning and employability skill development.

Several studies show that WIL graduates consider themselves to be better prepared in regards to many employability skills than non-WIL graduates (Gault, Redington & Schlager, 2000; Lee, 2008), although these impacts may be mediated by WIL structure, goals and efforts of workplace supervisors (Cullen, 2008; Crebert et al., 2004; Morgan, 2006; Ryan et al., 1996; Weisz & Smith, 2005). For example, in a comparison of the skills acquired in different types of WIL, Dickerson and Kline (2008) surveyed graduates from three different institutions' hospitality management degree programs. Each institution offered a different type of co-op program: “Model A” required students to work while they also attended classes, “Model B” alternated periods of work and study and “Model C” did not include any classroom work. The survey results suggested that students who completed the Model A co-op felt most prepared for employment in 10 out of 13 skill categories. There were significant differences in the perceptions of Model A and C students regarding the number of work hours required and salary expectations and between Model B and C students regarding the amount of interactions with customers. In all of these categories, the Model C students felt least prepared.

Labour Market Experience

There is a growing literature exploring the impact of WIL on students' perceptions and experiences once they have entered the job market, though these studies tend to focus on business graduates. For example, Callanan and Benzing (2004) surveyed 163 graduating business students about the degree of fit in the jobs they accepted after graduation. The study found that 58% of the internship students had secured a full-time job while only 17% of the students who did not complete internships had jobs, which confirmed their hypothesis that there was a correlation between completing an internship and finding employment. The researchers also predicted a correlation between completing an internship and confidence that there was a good fit with their job, but this hypothesis was not supported. To explain the findings, Callanan and Benzing suggest that recent graduates may be at a point in their lives where they generally tend to have high levels of confidence and a positive outlook about their employment.

Studies have also examined the relationship between WIL participation and job expectations. Knouse, Tanner and Harris (1999) suggest that internships may provide students with a “realistic job preview” so that they have realistic expectations when they apply for jobs. Having more realistic expectations could lead to higher satisfaction with a job and more persistence in a new job, especially during the first year of employment. Likewise, Ng and Burke (2006) suggest that realistic expectations could contribute to more successful career transitions. Drawing on data from a larger study, they focused on business students (n=4,851), of which about a quarter were co-op students (n=1,870). They found that co-op students had the most knowledge of the industry they wanted to work in, the career they wanted and the company they wanted to work for. However, other studies suggest mixed results regarding the effectiveness of WIL in providing students with realistic job previews (Garavan & Murphy, 2001).

Dickerson and Kline (2008) looked at job satisfaction in first positions after graduation and in current positions (up to three years after graduation). Overall, graduates were more satisfied with their current positions than their first positions. Graduates who had participated in programs that emphasized parallel work and academic streams were most satisfied with their *current* position, while graduates from programs that alternated work and academic terms were most satisfied with their *first* position; however, there were no significant differences in overall satisfaction between the different models. Participants from programs that alternated work and academic terms were least satisfied with their salaries in both their current and first positions. On the other hand, Gault, Redington and Schlager (2000) found that business interns were more satisfied in their first and current positions than graduates who were not interns. The differences were explained by the increased salaries and benefits received by internship students. Research has also suggested that WIL participation can impact the level of responsibility graduates have in their employment. In a U.S. study that explored co-op and non-co-op alumni of an industrial/organizational psychology program, Riggio et al. (1994) found that co-op graduates had more responsibilities in their jobs than their classmates without co-op experience.

Financial Outcomes

There are numerous research studies supporting claims that WIL participants have higher starting salaries than students who do not complete WIL (Blair & Millea, 2004; Darch, 1995; Downey, Kalbfleisch & Truman, 2002; Gardner & Motschenbacher, 1997; Gardner, Nixon & Motschenbacher, 1992; Gault, Leach & Duey, 2010; Gault, Redington & Schlager, 2000; Morris, 2010; Riggio, et al., 1994; Sandvig et al., 2005). In an effort to measure the relationship between WIL participation and employment income nationally, Walters and Zarifa (2008) drew on data from Statistics Canada's 2000 National Graduate Survey. They found that two years after graduation, university graduates who completed a co-op program on average earned \$8,000 a year more than graduates who did not participate in co-op, while college co-op graduates earned \$2,000 a year more. Completing a co-op program increased earnings for male college students, male university students and female university students, while female college students did not seem to benefit financially. Male university students who completed co-op programs had the largest salary increase.

Gault et al. (2010) found that employers who had employed business students as interns felt that internships improved the employability of participants and that they would choose to hire interns over non-interns. However, they were not necessarily prepared to offer all interns higher starting salaries. Employers were willing to pay interns who exceeded their expectations significantly more than interns who only met their expectations and non-interns.

In a study of MIS graduates over a seven-year timeframe that included high and low levels of employment opportunities for professionals in that field, Sandvig et al. (2005) found that internship experience was the most important predictor of starting salary for graduates. They also found that the impact of having an internship was more apparent during a poor job market, though it still had a positive impact in a strong job market. During a boom market, an internship would increase salary by 10% but during a bust economy, the increase was 28%. Conversely, Fang, Lee, Lee and Huang (2004) found that MIS graduates who completed internships did not have significantly higher starting salaries than those who did not complete internships. They hypothesized that the similarities between the groups could be related to economic conditions where there are limited opportunities, and that employers may choose more experienced applicants over recent graduates.

Blair and Millea (2004) collected data from Mississippi State University graduates to compare co-op and non-co-op students. Co-op students had an average starting salary \$6,302 higher than non-co-op students, which was a significant difference. When salary was compared by program area, there was no difference found among engineering students, and business students who completed co-op placements earned significantly

less than those who had not. All other majors showed significantly higher salaries for co-op students. It should be noted that these results may be unique to the context of the university, where engineering students form the majority of co-op participants and business co-op students tend to enter programs that lead to lower paying positions. Another study by Blair, Millea and Hammer (2004) looked specifically at engineering co-op students. Through regression analysis, they found that completing a co-op program added \$2,620 to the starting salary of an engineer.

Sagen, Dallam and Laverty (2000) surveyed graduates from the year 1990 at the University of Iowa one month after graduation. They found that among the 1,012 respondents who had found work, having career preparation experience, including co-op programs and internships among other types of activities, made a modest contribution to employment. Career preparation experience was better understood as a conditional effect when considered along with other characteristics. Internships and career-related work experience were most helpful for those students completing programs in the natural and life sciences, and for male students. In a similar study, Fogg and Putnam (2003) found that between 9 and 10 months after graduation, graduates from various disciplines who were employed by former co-op employers earned about 4% more than graduates who had other employers. They also found that graduates who rated their co-op experiences as being of higher quality had higher earnings.

The benefits of WIL are not limited to co-op students. Gardner and Motschenbacher (1997) found that the higher starting salary of co-op students did not translate into “accelerated career[s].” In fact, their results suggested that students who completed any type of experiential learning experienced the same benefits. Another study found no difference in salary between co-op students and non-co-op students five years after graduation (Wessels & Pumphrey, 1996). In contrast, Gault et al. (2000) observed that the higher salaries of internship students were still present four years after graduation.

While income is an important consideration, another element of financial outcomes that must be evaluated is the amount of debt. The Government of Newfoundland and Labrador (2001, as cited in Haddara and Skanes, 2007) found that students who completed co-op programs had less student loan debt to repay than those who did not complete co-op programs. Similarly, Downey, Kalbfleisch and Truman (2002) found that students in Ontario who participated in co-op programs were less likely to have student loans and that those with loans owed smaller amounts. They estimated the value of decreased debt for these students to be about \$26 million across the province.

Research Gaps

While the published literature provides evidence that co-op and internship experiences improve employment and financial outcomes for postsecondary graduates, it is important to highlight the limitations of this literature.

Perhaps most notable are the gaps related to the impact of different types of WIL. While there is increasing understanding of the impact of co-op and internships on employment and financial outcomes, much less research has been conducted on other forms of WIL, especially applied research projects and field placements. Notably, while there is a substantial literature on the impact of service learning on students' sense of personal responsibility, civic engagement and academic achievement, (Eyler, Giles, Stenson & Gray, 2001; Myers-Lipton, 1998; Parker-Gwin & Mabry, 1998), far less research has explored the impact of service learning on student employability skills and labour market participation.

Furthermore, inadequate research has been conducted into the WIL experiences of arts and humanities students and its impact on their post-graduation experiences. While this trend may reflect the greater emphasis on WIL found in business and STEM programs, the scarcity of research seems disproportional to the frequency of WIL offerings in arts and humanities programs.

The research literature on the impact of WIL on postsecondary graduates is also limited by the populations that are considered. Reflecting research trends noted in the Phase 2 literature review (Sattler & Peters, 2013), studies are much more focused on the experiences of university students than college students, much of the available research originates in the US, the UK and Australia rather than Canada, and there has been little effort to explore outcomes in terms of gender, ethnicity, socioeconomic status or disability. The research also tends to involve case studies and employs qualitative data, which impacts generalizability. The few empirical studies often use small samples.

1.2 Methodology

The Graduating Student Follow-Up Survey collected information about the educational and employment experiences of spring 2012 graduates from Ontario colleges and universities to explore the impact of WIL on labour market outcomes. The following research questions guided the study:

1. Do WIL graduates differ from non-WIL graduates in labour force status and PSE participation?
2. To what extent does participation in WIL affect graduates' labour market entry?
3. To what extent does participation in WIL affect the quality of graduates' labour market experience?
4. To what extent does participation in WIL affect financial outcomes for graduates?

The survey was conducted online and by phone between October 7 and December 1, 2013. All respondents to the Graduating Student Survey who had consented to be contacted for a follow-up survey were invited to participate.

A pilot of the survey was conducted with students from Georgian College, Laurentian University and Niagara College in the spring of 2013. A total of 361 respondents completed the pilot survey and the response rate was 38%.

The full implementation was administered to students at 13 institutions (Algonquin College, Carlton University, George Brown College, Georgian College, Laurentian University, Niagara College, Sheridan College, University of Ottawa, University of Waterloo, University of Windsor, Western University, Wilfrid Laurier University and York University). Approval from the research ethics board (REB) at each participating institution was secured for both the pilot survey and the full Graduating Student Follow-Up Survey.³

Instrument

The survey instrument was developed based on the findings from Phases 1 and 2 of the project, with additional input from HEQCO and the working group members representing the 13 partner institutions and other stakeholders. The revised version was piloted in the spring of 2013. Following the pilot, further changes were made. The instrument, email invitation, landing page and all other supporting communication materials were translated into French to provide respondents with the option of participating in either official language.

³ One partner institution was not required to obtain research ethics approval in order to participate in the study.

Procedure

A total of 7,218 graduates who had originally been surveyed as students in spring 2012 and who had agreed to be contacted about a follow-up survey were invited to participate. The original sample, drawn from 13 partner institutions, consisted of students in their final year of undergraduate study at an Ontario university or in their final year of a program leading to an Ontario college certificate, diploma or degree who were expected to graduate in 2012. University graduate students and students attending professional schools or post-graduate college programs were excluded from the study.

The online survey was launched on October 7, 2013 at 12 of the institutions and telephone surveying started on October 10. The online survey was launched for the remaining institution on October 15. The survey closed at all institutions on December 1, 2013. Survey incentives included entry into a draw to win a \$500 early bird cash prize for graduates who completed the survey before October 31 and a draw to win the following prizes: \$1,000, two iPads (or \$750 cash equivalent) and six cash prizes of \$250.

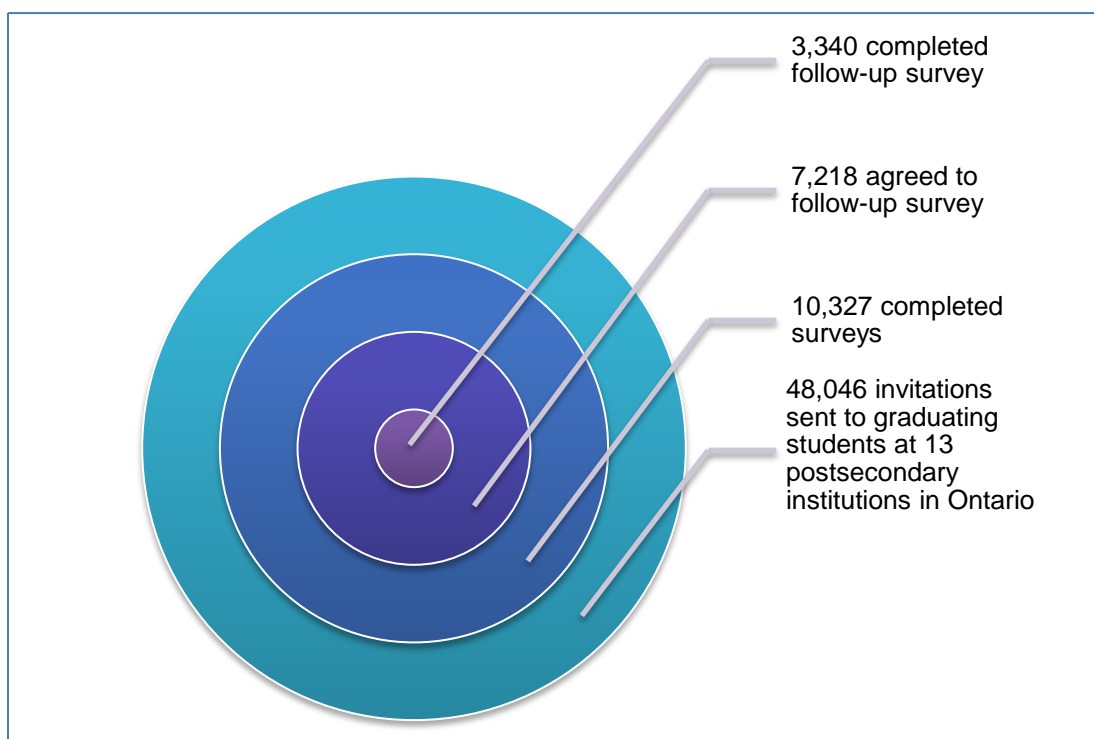
Analysis

The survey was completed by 3,340 respondents for a gross response rate of 46.3%. The response rate was higher among the university sample (50.4%) than the college sample (40.8%). Contact summary details are provided in Appendix A. After data cleaning, which included the removal of respondents who had not actually graduated from their postsecondary program in the spring of 2012, 3,131 cases were retained for analysis.

Responses from the Graduating Student Follow-Up Survey were linked with results from the Graduating Student Survey on Learning and Work. In the earlier survey, respondents were asked for consent to have their responses linked to three types of institutional administrative data: cumulative grade point average, program of study and credential earned. The participating institutions then provided these data for consenting respondents. Respondents who did not consent to data-linking were asked to self-report this academic information.

Figure 1 shows the number of respondents who were invited to participate in and who completed both the graduating student survey and the follow-up survey. Respondents to both surveys were compared to determine whether there were differences on key characteristics. No major differences were found (see Appendix B and Appendix C).

Figure 1: Sample of Student Participants in Phases 2 and 3 of the WIL Study



All applicable open-ended questions were up-coded; the up-coding process included recoding verbatim responses into existing response categories where possible/appropriate.

Data were analyzed using IBM SPSS Statistics 20. All results are presented separately for college and university respondents. Subgroup analyses by program area and credential earned are conducted where applicable. To examine differences by program area, program of study was coded manually into four categories for college respondents and five categories for university respondents. The coding of Ontario college programs used the four program clusters developed for the Key Performance Indicator (KPI) initiative of the Ministry of Training, Colleges and Universities (MTCU). Statistics Canada's Classification of Instructional Programs (CIP) was used to assist in coding university programs.

Throughout this report, differences between groups were tested for statistical significance using the Chi-Square for distributions and Analysis of Variance (ANOVA) or t-test for mean score differences.

Data were weighted by age and gender to reflect the original population distribution. Percentages reported throughout this document are based on weighted data. However, sample ("n") sizes are unweighted figures, indicating the actual number of respondents.

Limitations

Efforts were made to involve institutions from a variety of regions in Ontario and of differing sizes, and to include Francophone perspectives. However, this was not a random sample of institutions. Therefore, caution

should be used in generalizing findings to all graduating students in Ontario. Further, all sample surveys are subject to multiple sources of error which are generally not possible to quantify or estimate. These include measurement error, non-response error, and coverage error.

1.3 Respondent Profile

This section highlights key demographic and academic characteristics of college and university respondents, comparing WIL and non-WIL participants. Accompanying data tables can be found in Appendix B and Appendix C.

College Respondents

Nearly three-quarters (73%) of college respondents participated in at least one form of WIL during their program and one-fifth (21%) had participated in multiple types of WIL (Table 1). The most common types of WIL completed by college respondents were field placements (34%), co-op placements (21%) and practicums (20%).

Table 1: College WIL Participation (Multiple Response)

	All
	n=1,147
	%
Co-op	21.1
Practicum	20.3
Field placement	33.5
Internship	16.1
Applied research project	5.4
Service learning	4.3
<i>SUBTOTAL: Participated in Multiple Types of WIL</i>	20.6
<i>SUBTOTAL: Participated in WIL</i>	73.0
<i>No WIL</i>	27.0

Base: All college respondents

Demographic Characteristics

Population data on gender and age showed that the majority of 2012 graduates from the five participating colleges were female (58%) and were between 20 to 24 years of age (57%). Another 31% of the college graduates were 25 years of age or older. The data were weighted to reflect these demographics. College WIL participants were slightly older and more likely to be female than those who had not participated in WIL. The gender difference was related primarily to differences in the types of programs completed. For example, females were overrepresented in health, community and social services programs, and these programs also had the largest proportion of students completing WIL.

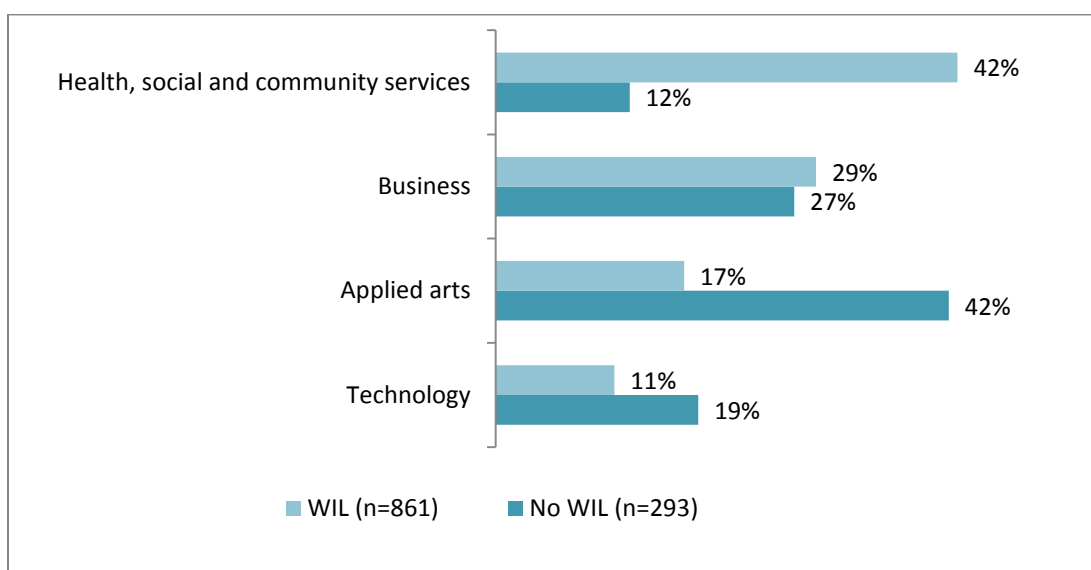
WIL and non-WIL college respondents did not differ significantly with regard to ethnicity, citizenship status in Canada, being a first-generation student or having a disability. With regard to region of residence, a slightly

greater proportion of WIL participants were living in the GTA than non-WIL participants, while a greater proportion of non-WIL participants were living in Eastern Ontario.

Academic Characteristics

College graduates who had taken health, social and community services programs were significantly more likely to have completed WIL than students enrolled in other program areas. 42% of WIL college respondents graduated from health, social and community services programs, compared to only 12% of non-WIL respondents. Applied arts and technology graduates were underrepresented among WIL participants compared to non-WIL participants, whereas business graduates were equally represented in both the WIL and non-WIL groups.

Figure 2: College Program Area by WIL Participation



Base: All college respondents

The types of WIL in which graduates had participated also varied by program area (Table 2). The most common types of WIL by program area were: practicums (46%) and field placements (48%) for health, social and community services graduates; field placements (29%), co-ops (26%) and internships (22%) for business graduates; internships (29%) and field placements (28%) for applied arts graduates; and co-op (34%) for technology graduates.

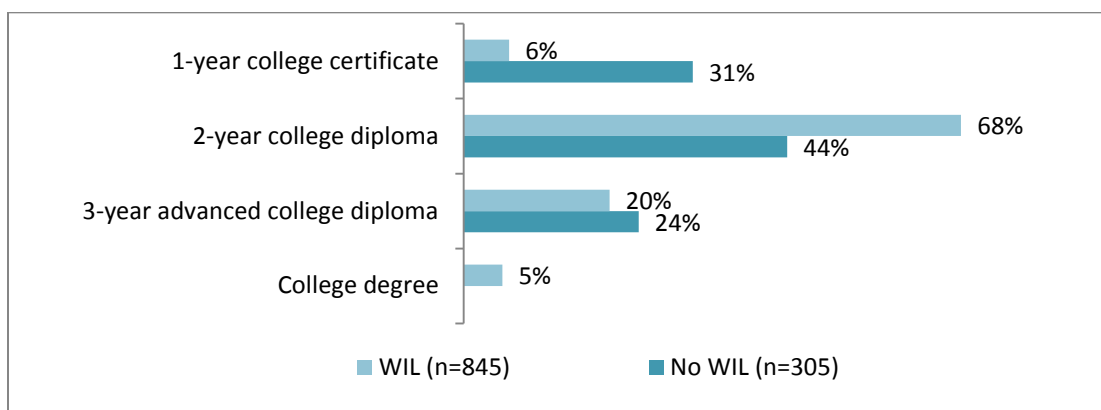
Table 2: College WIL Type (Multiple Response) by Program Area

	All	Applied Arts	Business	Technology	Health, Social & Community Services
	n=1,147	n=240	n=338	n=140	n=420
	Column %				
Co-op	21.1	9.9	26.4	33.6	19.4
Practicum	20.3	5.7	10.0	1.9	45.8
Field placement	33.5	27.5	29.1	16.9	47.9
Internship	16.1	28.6	21.7	8.5	5.7
Applied research project	5.4	0.9	8.9	10.2	3.8
Service learning	4.3	1.9	2.2	3.8	7.7
SUBTOTAL: Multiple	20.6	17.3	18.2	11.4	28.5
SUBTOTAL: WIL	73.0	53.0	74.3	60.6	90.4
No WIL	27.0	47.0	25.7	39.4	9.6

Base: All college respondents

Two additional differences in the academic profiles of WIL and non-WIL college respondents are worth noting. First, the credential profile of each group differed significantly (Figure 3). Among college WIL respondents, 68% had graduated from a two-year diploma program and only 6% were graduating from a one-year certificate program. Among those who had not participated in WIL, 44% had graduated from a two-year diploma program and 31% had graduated from a one-year certificate program (Figure 3). This is not surprising given that a one-year program leaves little time to incorporate WIL, but it is important to remember this difference when results between WIL and non-WIL college graduates are being compared. The second difference is that college WIL respondents were significantly more likely than non-WIL respondents to have previously participated in PSE (47% vs. 34%, respectively).

Figure 3: College Credential Earned by WIL Participation



Base: All college respondents

University Respondents

Half of university respondents had participated in at least one form of WIL during their program and 10% had participated in multiple types of WIL (Table 3). The most common types of WIL completed by university respondents were practicums (16%), co-op placements (14%) and internships (12%).

Table 3: University WIL Participation (Multiple Response)

	All
	n=1,948
	%
Co-op	14.4
Practicum	15.5
Field placement	8.6
Internship	12.0
Applied research project	7.5
Service learning	6.0
<i>SUBTOTAL: Participated in Multiple Types of WIL</i>	<i>10.4</i>
<i>SUBTOTAL: WIL</i>	<i>50.1</i>
<i>No WIL</i>	<i>49.9</i>

Base: All university respondents

Demographic Characteristics

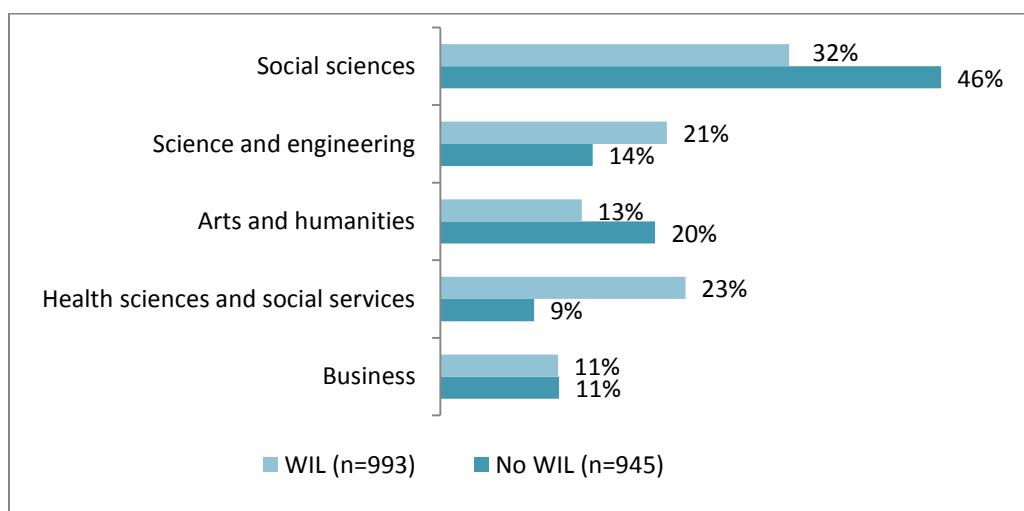
Similar to the college population data, the majority of graduates from the eight participating universities were female (59%) and three-quarters were between 20 and 24 years of age. The remaining university graduates were 25 years of age or older. The data have been weighted to reflect gender and age characteristics. University respondents who participated in WIL did not differ significantly by gender or age from those who did not participate in WIL.

University WIL participants did differ from non-WIL participants in relation to ethnicity, citizenship status in Canada, disability and first-generation status. WIL participants were more likely to be from a visible minority group, in particular Chinese and South Asian, less likely to have been born in Canada and less likely to have a disability or be a first-generation student. There were no significant differences between WIL and non-WIL respondents by region of residence at the time of the survey.

Academic Characteristics

Social sciences⁴ graduates made up the largest proportion of both university WIL and non-WIL participants. However, the program breakdown of each group was quite different (Figure 4). WIL participants were more likely to have graduated from health sciences and social services and science and engineering programs, and less likely to have graduated from social sciences and arts and humanities programs.

Figure 4: University Program Area by WIL Participation



Base: All university respondents

The types of WIL in which university graduates had participated also varied by program area (Table 4). For example, half of health sciences and social services graduates had participated in a practicum (50%), one-third of science and engineering graduates had completed co-op (33%) and one-quarter of business students had participated in an internship (26%).

⁴ This program area included social sciences, education, and information and media studies.

Table 4: University WIL Type (Multiple Response) by Program Area

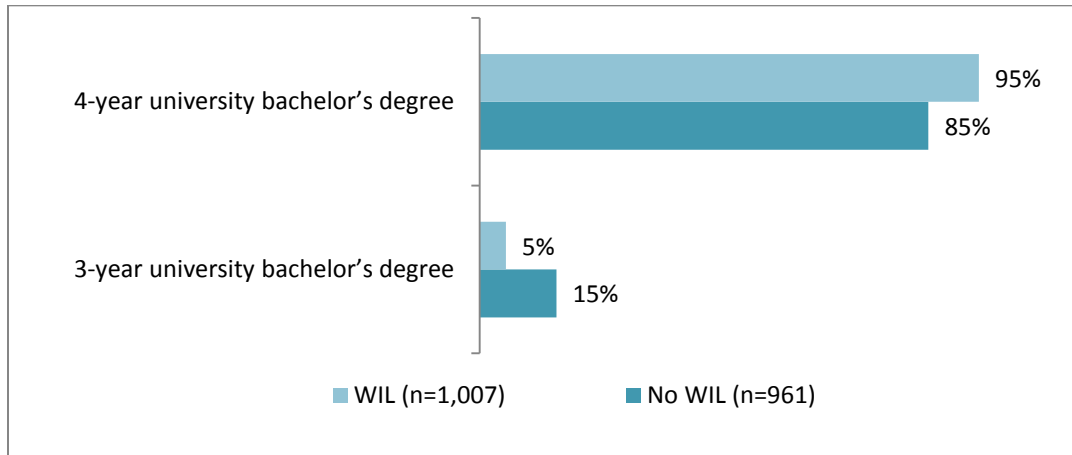
	All	Arts and Humanities	Business	Science and Engineering	Health Sci. and Social Services	Social Science
	N=1,948	n=310	n=218	n=347	n=294	n=749
	Column %					
Co-op	14.4	8.6	17.1	33.4	9.5	9.5
Practicum	15.5	16.1	2.9	4.2	49.7	10.4
Field placement	8.6	9.2	2.4	6.5	10.0	9.9
Internship	12.0	9.9	26.2	12.5	8.8	9.8
Applied research project	7.5	5.2	6.0	17.1	8.3	4.2
Service learning	6.0	4.8	4.3	3.1	6.0	8.2
SUBTOTAL: Multiple	10.4	10.1	6.5	12.3	14.2	9.0
SUBTOTAL: WIL	50.1	39.5	50.2	59.8	72.8	41.1
No WIL	49.9	60.5	49.8	40.2	27.2	58.9

Base: All university respondents

WIL participants tended to have higher cumulative grade point averages (CGPA) than non-WIL participants; 40% of WIL participants had a CGPA of 80% or higher, compared to 28% of non-WIL participants. This difference is likely a selection effect, given that university WIL participation often requires that a minimum grade point average (GPA) be met.

WIL participants were also less likely than non-WIL participants to have changed their program of study during their degree (23% vs. 36%) and slightly more likely to have graduated from a four-year bachelor's degree program (95% vs. 85%) (Figure 5).

Figure 5: University Credential Earned by WIL Participation



Base: All university respondents

Part 2 – WIL and Labour Market Experiences

In Part 2 of this report, key survey findings are explored in relation to four areas: labour force status and further PSE participation, labour market entry, labour market experience and financial outcomes.

2.1 Labour Force Status and PSE Participation

Differences in labour force status and further PSE participation between WIL and non-WIL graduates are explored in this section. Accompanying data tables can be found in Appendix D.

College Respondents

Labour Force Status

At the time of the follow-up survey, the majority of college graduate respondents were employed or self-employed (79%). About 8% were not employed but were looking for work and 11% were attending an educational institution. Overall, the labour force participation rate⁵ of college respondents was 87% and the unemployment rate⁶ was 9% (Table 5).

The unemployment rate of WIL and non-WIL college graduates did not differ but WIL participants were found to have a higher labour force participation rate (89% vs. 83%). Analyzed by program area, only applied arts graduates had significantly different labour force participation rates by WIL involvement. Further analysis found that this difference was due to the differing credential profiles of each group. When the credential type was controlled for, no variance in the labour force participation rate between WIL and non-WIL participants was found.

Table 5: College Labour Force Participation Rate and Unemployment Rate

	Labour Force Participation Rate			Unemployment Rate		
	All	WIL	No WIL	All	WIL	No WIL
	n=1,158	n=863	n=295	n=1018	n=773	n=245
	%					
Applied arts	80.8	87.0*	73.6*	9.3	7.5	11.8
Business	87.8	88.0	87.3	10.0	10.7	8.0
Technology	96.2	98.3	92.9	10.1	9.0	11.8
Health, social & community services	88.6	88.3	91.4	7.5	7.8	5.1
All	87.4	89.0*	82.9*	9.0	8.8	9.8

Base: LFP = All college respondents; Unemployment = College respondents in the labour force
An asterisk (*) indicates a statistically significant difference ($p < .05$) between WIL and non-WIL respondents.

⁵ Labour force participation rate = (Employed or self-employed + Not employed and looking for work) divided by (Employed or self-employed + Not employed and looking for work + Not employed and not looking for work + attending an educational institution or training program)

⁶ Unemployment rate = (Not employed and looking for work) divided by (Employed or self-employed + Not employed and looking for work).

In addition to the labour force participation rate and unemployment rate, the proportion of graduates in the labour force who had permanent full-time employment was assessed.⁷ Among the 87% of college graduates who were in the labour force⁸, 46% had permanent, full-time employment or were self-employed full-time. This figure did not differ significantly by WIL involvement.

Comparing WIL participation within each college program area (Table 6), WIL participants who graduated from applied arts programs were significantly more likely to have permanent full-time employment than their non-WIL counterparts but this difference again disappeared once the credential type was controlled.

Table 6: College Permanent Full-Time Employment by Program Area

	Proportion with Permanent Full-Time Employment		
	All	WIL	No WIL
	n=1,014	n=769	n=245
	%		
Applied arts*	37.9	43.8	30.0
Business	55.5	53.9	60.4
Technology	60.8	69.5	63.0
Health, social & community services	36.0	35.4	41.6
All	45.7	45.3	47.0

Base: College respondents, excluding those attending a PSE institution

An asterisk (*) indicates a statistically significant difference ($p < .05$) between WIL and non-WIL respondents.

Further PSE Participation

Three key measures of post-graduation PSE participation were examined: participation in additional postsecondary education or training, credentials attained and plans to attend PSE in the future. Overall, 37% of college respondents had participated in further postsecondary education or training since finishing their program, 9% of respondents had earned a credential and 39% of those not currently attending PSE planned to go back to school in the near future. While credentials earned and intentions to participate in future PSE did not differ by WIL involvement, a significantly higher proportion of non-WIL participants had taken part in additional postsecondary education or training since graduation than WIL participants (47% vs. 34%). Additional analysis found that this difference was due to the different credential profiles of college students who had and had not participated in WIL.⁹ When one-year college certificate holders were removed from the analysis, no difference in additional PSE was found between WIL and non-WIL participants.

⁷ This analysis divides labour force participants into two groups: those who have permanent full-time employment and those who do not (which includes unemployed, part-time employed and full-time employed in temporary positions).

⁸ Current students are considered to be not in the labour force and are therefore not included.

⁹ As previously shown in Figure 3 a much greater proportion of non-WIL participants had completed a one-year college certificate than WIL participants.

University Respondents

Labour Force Status

More than two-thirds of university respondents (70%) were employed or self-employed at the time of the follow-up survey. Twenty-two per cent were attending an educational institution or training program and 7% were not employed but were looking for work. The labour force participation rate of university respondents was 76% and the unemployment rate was 9% (Table 7).

The labour force participation rate of university WIL and non-WIL participants did not differ significantly but WIL participants had a lower unemployment rate compared to those who did not participate in WIL. When examined by program area, health sciences and social services graduates who had participated in WIL had a higher labour force participation rate than those who had not. The unemployment rate of non-WIL participants was higher than that of WIL participants for many of the program areas but none of the differences were statistically significant, potentially due to the small n-size of unemployed graduates when examined by program and WIL participation (Table 7).

Table 7: University Labour Force Participation Rate and Unemployment Rate

	Labour Force Participation			Unemployment Rate		
	All	WIL	No WIL	All	WIL	No WIL
	n=1,965	n=1,005	n=960	n=1467	n=763	n=704
	%					
Arts and humanities	75.7	77.6	74.3	14.3	12.9	15.3
Business	91.6	93.1	90.1	5.2	5.0	5.5
Science and engineering	68.6	65.5	73.5	8.2	5.7	11.7
Health sciences and Social services	73.1	79.6*	55.7*	5.9	4.7	10.3
Social sciences	77.3	78.0	76.8	8.6	6.8	9.9
All	76.4	77.2	75.7	8.7	6.7*	10.8*

Base: Labour force participation = all university respondents; unemployment = university respondents in the labour force

An asterisk () indicates a statistically significant difference ($p < .05$) between WIL and non-WIL respondents.*

Among the 76% of university graduates who were in the labour force, 50% had permanent, full-time employment.¹⁰ Those who had participated in WIL were more likely to have permanent full-time employment than those who did not (54% vs. 46%).

¹⁰ This analysis divides labour force participants into two groups: those who have permanent full-time employment and those who do not (which includes unemployed, part-time employed and full-time employed in temporary positions).

Comparing WIL participation within each program area (Table 8), WIL participants who graduated from university business programs and science and engineering programs were significantly more likely to have permanent full-time employment than their non-WIL counterparts. For social sciences graduates, a greater proportion of non-WIL participants had permanent full-time employment than WIL participants, though the gap was relatively small. Differences between WIL and non-WIL participants were not statistically significant for other program areas.

Table 8: University Permanent Full-Time Employment by Program Area

	Proportion with Permanent Full-time Employment		
	All	WIL	No WIL
	n=1,461	n=757	n=704
	%		
Arts and humanities	38.2	43.0	34.8
Business*	75.9	85.4	65.9
Science and engineering*	58.3	67.7	45.6
Health sciences and social services	53.2	55.1	46.0
Social sciences*	42.9	38.1	46.3
All*	50.2	54.1	46.3

Base: University respondents, excluding those attending a PSE institution

An asterisk () indicates a statistically significant difference ($p < .05$) between WIL and non-WIL respondents.*

Further PSE Participation

Since graduation, 53% of university respondents had participated in additional postsecondary education or training, 19% of respondents had earned an additional credential and 45% of those not currently attending PSE planned to do so in the near future. Graduates who had not participated in WIL were slightly more likely to have participated in additional PSE since graduation (55% vs. 50%) and to have earned additional credentials than WIL participants (22% vs. 16%). When analyzed by program area, these differences were found only for health sciences and social services graduates.

2.2 Labour Market Entry

The extent to which participation in WIL affected graduates' labour market entry is explored in this section. This analysis excludes graduates who were attending PSE at the time of the follow-up survey. More detailed data about labour market entry for college and university graduates can be found in Appendix E.

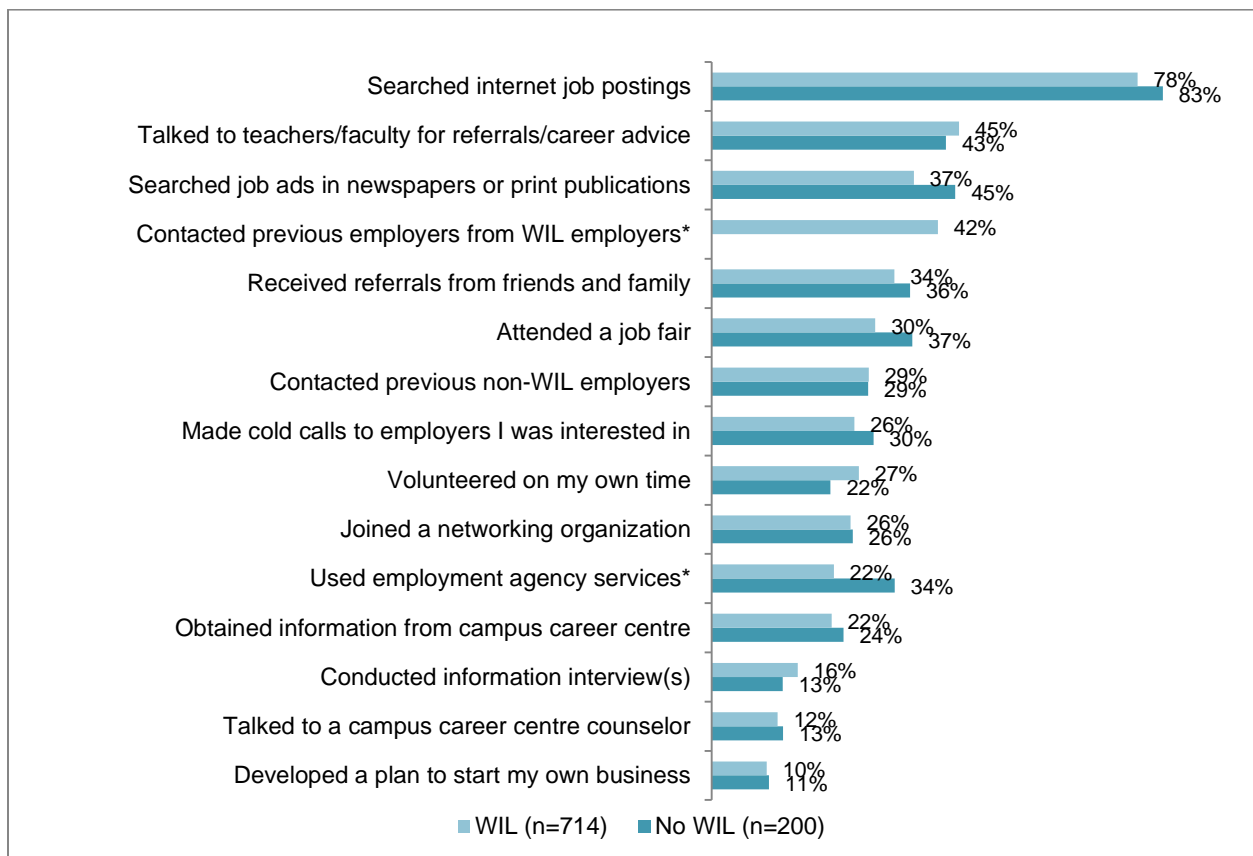
College Respondents

Strategies for Seeking Employment

College graduates used a wide range of strategies to seek employment, the most common being to search the internet for job postings (79%). Other strategies used by at least one-third of graduates included talking to teachers or faculty (45%), searching newspapers or print publications (39%), contacting previous WIL employers (34%) and receiving referrals from friends and family (34%).

The employment-seeking strategies of WIL and non-WIL participants were similar, though graduates who had not participated in WIL were more likely to have used the services of an employment agency (34% vs. 22%) and clearly did not have previous WIL employers to contact (Figure 6), while two-fifths of WIL participants had contacted a previous WIL employer (42%).

Figure 6: College Employment-Seeking Strategies (Multiple Response)



Base: College respondents who searched for a job since graduating, excluding those attending a PSE institution. An asterisk (*) indicates a statistically significant difference ($p < .05$) between WIL and non-WIL respondents.

Among college WIL participants, the proportion who contacted previous WIL employers varied by type of WIL.¹¹ Nearly half of those who completed a co-op (49%) or practicum (48%) contacted previous WIL employers, while 44% of those who had completed a field placement, 31% of those who had completed an internship and 40% of those who had completed multiple types of WIL contacted previous WIL employers.

When asked what three factors had the greatest impact on obtaining employment, 35% of employed college WIL participants said it was their WIL experience. This was followed by searching internet job postings (27%) and work experience gained through part-time employment (24%). The perceived utility of their WIL

¹¹ The WIL type variable used for this analysis categorizes respondents who participated in more than one type of WIL as “multiple types of WIL.” Therefore respondents categorized under each individual type of WIL (e.g., co-op, internship, etc.) only participated in that WIL type. Applied research projects and service learning are not included due to the very small number of respondents who exclusively completed these types of WIL.

experience did not differ significantly by type of WIL.¹² For non-WIL participants, searching internet job postings was mentioned most frequently (34%), followed by referrals from friends and family (26%) and work experience gained through part-time employment (25%).

Employability Skills

The majority of college respondents felt that their PSE had done a “good” or “excellent” job of fostering employability skills. Comparing responses by WIL participation, a greater proportion of WIL participants rated the quality of their PSE as good or excellent in relation to “ability to adapt to different situations,” “communication and presentation skills” and “knowledge of workplace safety” (Figure 7). The differences were quite small, however, and did not hold when examined by program area.

Figure 7: Proportion Rating Quality of PSE “Good” or “Excellent” in Developing Employability Skills – College



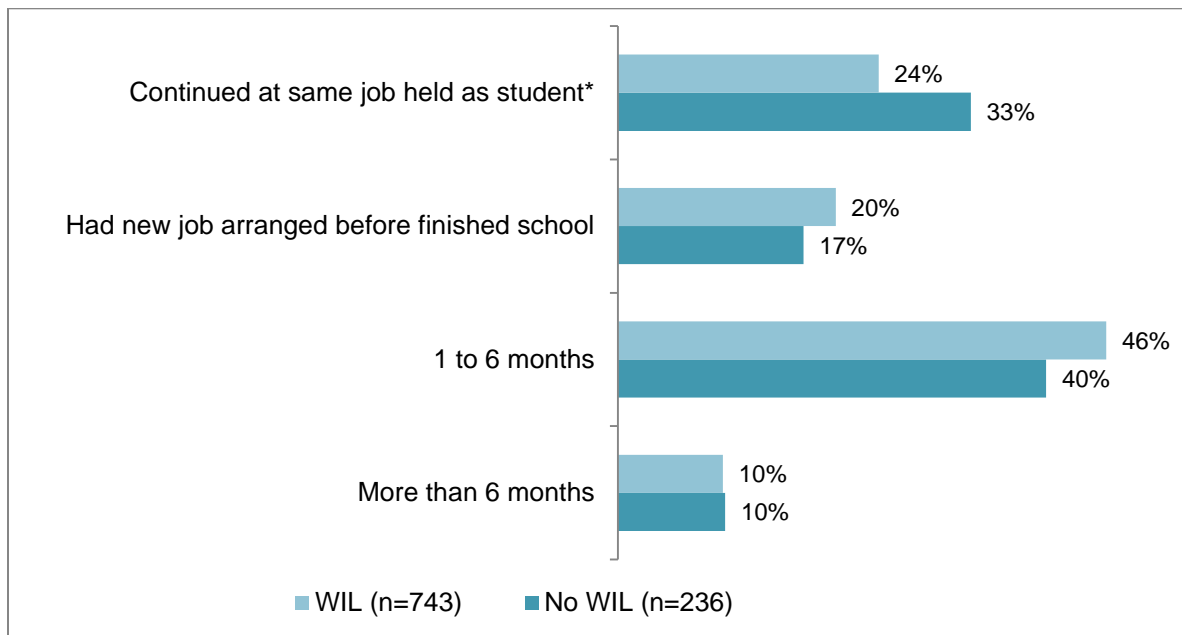
Base: College respondents, excluding those attending a PSE institution
 An asterisk (*) indicates a statistically significant difference ($p < .05$) between WIL and non-WIL respondents.

¹² Note that only co-op, practicum, field placement, internship and multiple WIL experiences could be compared, as there were too few respondents who had completed only service learning or an applied research project.

Time to Employment

Close to half of college graduates in the labour force who had held at least one job since graduation took one to six months to find their first position (44%). Non-WIL participants were more likely than WIL participants to have continued working in the job they had held while they were a student (Figure 8).

Figure 8: Time to First Employment for College Respondents



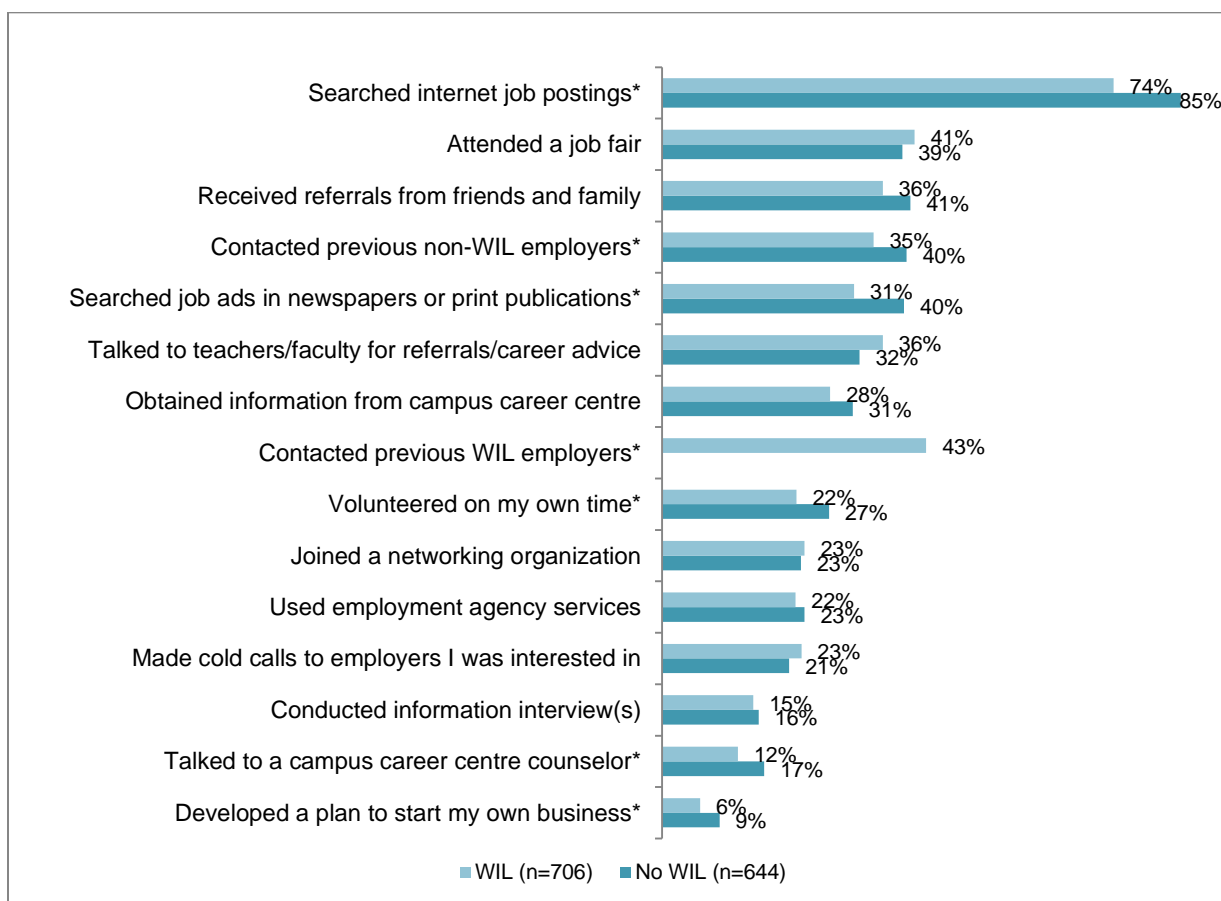
Base: College respondents who held at least one job since graduation, excluding those attending a PSE institution. An asterisk () indicates a statistically significant difference ($p < .05$) between WIL and non-WIL respondents.*

University Respondents

Employment-Seeking Strategies

Similar to college graduates, university graduates in the labour force used many strategies to look for employment but the most common was to search the internet for job postings (79%). One-third of university graduates or more also attended job fairs (40%); received referrals from friends and family (38%); contacted previous part-time, full-time or summer employers (37%); searched job ads in newspapers or print publications (35%) and talked to teachers/faculty for referrals/career advice (34%).

Figure 9: University Employment-Seeking Strategies (Multiple Response)



Base: University respondents who had searched for a job since graduating, excluding those attending a PSE institution

An asterisk (*) indicates a statistically significant difference ($p < .05$) between WIL and non-WIL respondents.

The job search strategies of WIL and non-WIL participants differed in some ways. University graduates who had not participated in WIL were more likely to search the internet (85% vs. 74%), contact previous non-WIL employers (40% vs. 35%), volunteer (27% vs. 22%), talk to a campus career centre counselor (17% vs. 12%) and develop plans to start their own business (9% vs. 6%). Forty-three per cent of WIL participants contacted previous WIL employers.

Among WIL participants, the proportion of respondents who contacted a previous WIL employer varied by the type of WIL: 61% of university graduates who participated in co-op contacted a WIL employer, compared to 44% of practicum participants, 42% of internship participants, 26% of field placement participants, 18% of applied research project participants and 19% of service learning participants.¹³

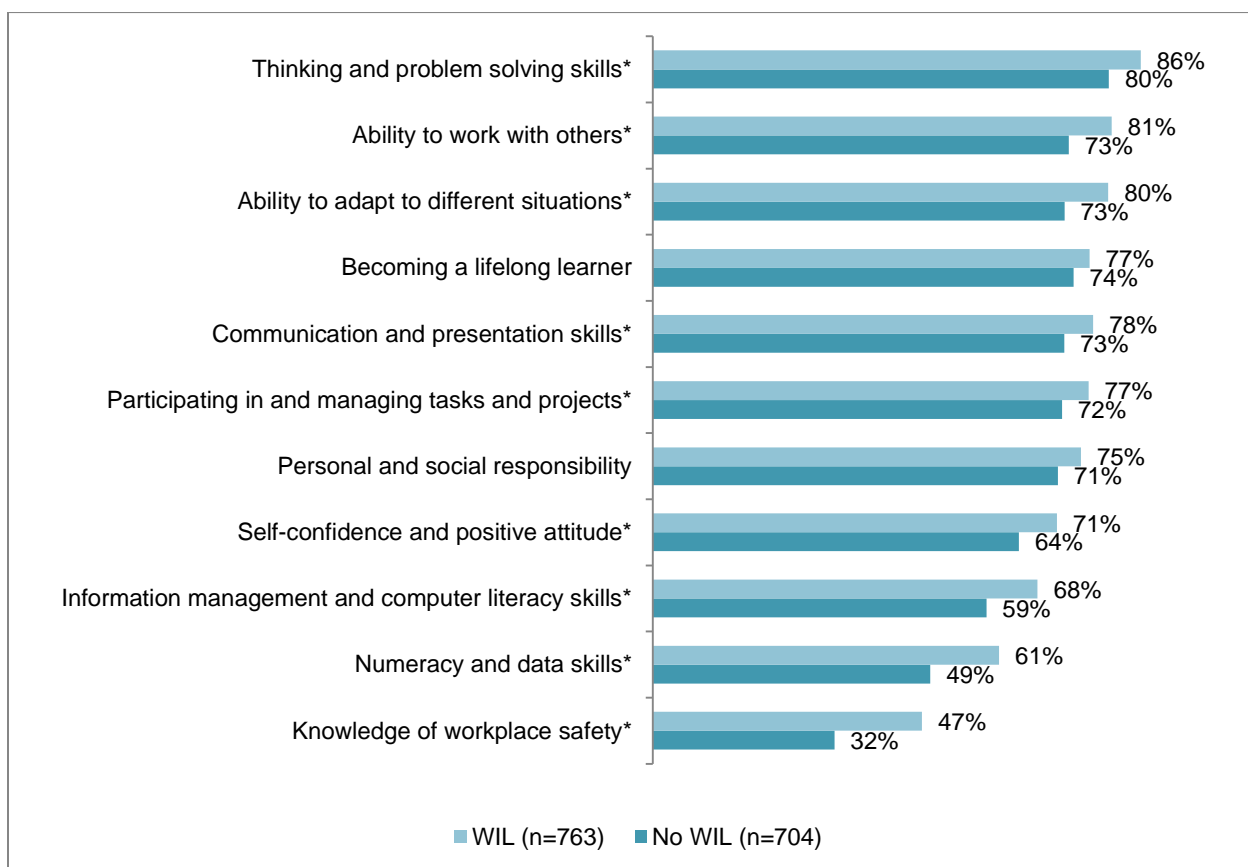
¹³ The WIL type variable used for this analysis categorizes respondents who participated in more than one type of WIL as “multiple types of WIL.” Therefore respondents categorized under each individual type of WIL (e.g., co-op, internship, etc.) only participated in that WIL type.

Two-fifths of employed university graduates who participated in WIL felt that their WIL work experience was one of the top three factors that had the greatest impact in obtaining employment (39%). Graduates who had participated in co-op or practicums were much more likely than others to feel that their WIL experience was instrumental in their employment (69% and 46%, respectively). Among non-WIL participants, the most commonly reported factor was work experience gained through part-time employment (32%).

Employability Skills

Over half of university graduates rated the quality of their PSE “good” or “excellent” in relation to ten of the eleven employability skills, with the exception being “knowledge of workplace safety” (40%). A significantly greater proportion of university WIL participants rated their PSE as good or excellent in developing all of the skills with the exception of “becoming a lifelong learner” and “personal and social responsibility” (Figure 10). These differences generally held when examined by program area, with the largest differences found between WIL and non-WIL participants in health sciences and social services.

Figure 10: Proportion Rating Quality of PSE “Good” or “Excellent” in Developing Employability Skills – University

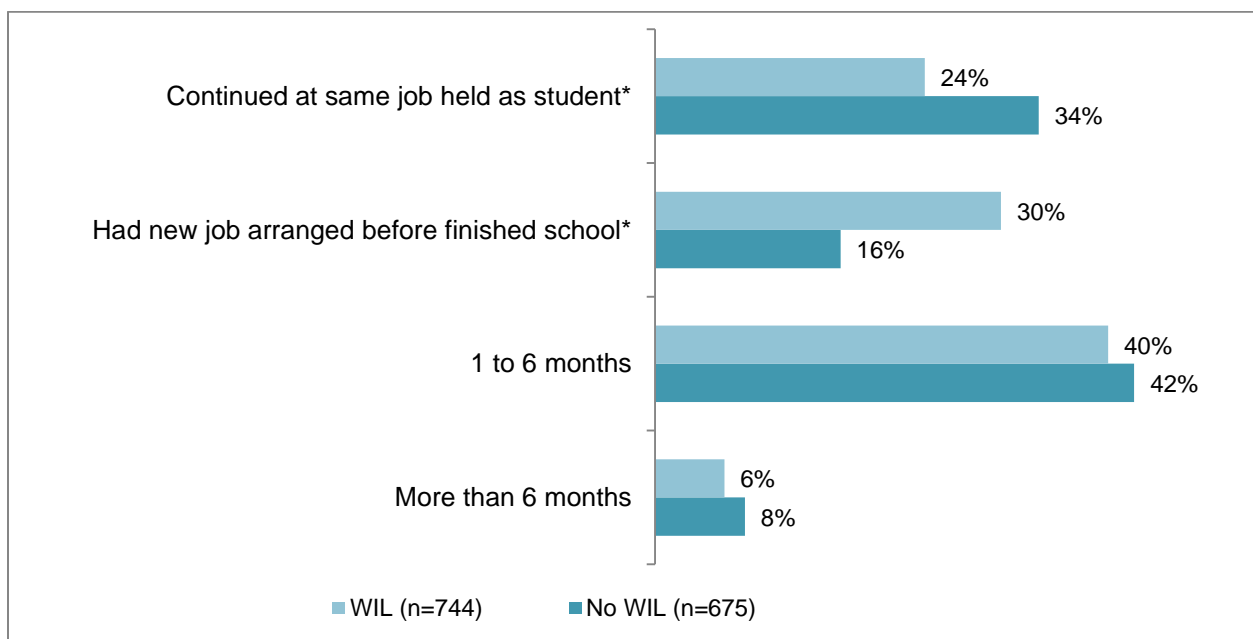


Base: University respondents, excluding those attending a PSE institution
 An asterisk (*) indicates a statistically significant difference ($p < .05$) between WIL and non-WIL respondents.

Time to Employment

Most university graduates found their first position within six months of graduation, with many continuing a previous job that they had as a student (29%) or working at a job arranged prior to graduation (24%). WIL participants were more likely than non-WIL participants to have arranged a new job before finishing school (30% vs. 16%), whereas non-WIL participants were more likely to have continued working in a position they held while they were a student (34% vs. 24%).

Figure 11: Time to First Employment for University Respondents



Base: University respondents who held at least one job since graduation, excluding those attending a PSE institution. An asterisk () indicates a statistically significant difference ($p < .05$) between WIL and non-WIL respondents.*

2.3 Labour Market Experiences

This section explores the relationship between WIL participation and the quality of graduates' labour market experiences. The analysis excludes graduates who were attending PSE at the time of the follow-up survey. The labour market experiences explored include number of jobs held, employment type, fit between current employment and career goals, and employment satisfaction. Accompanying data tables can be found in Appendix F.

College Respondents

Number of Jobs and Type of Position Held

Most college graduates who were in the labour force had held either one (39%) or two jobs (33%) since finishing their studies. Non-WIL participants were more likely than WIL participants to have held one job since leaving school (49% vs. 36%), while WIL participants were more likely to have held three or more jobs (28% vs. 21%). At the time of the follow-up survey, 70% of employed college graduates had held one position, 24%

had held two and 6% had held three or more. WIL participants were more likely to hold three or more positions (8% vs. 1%), while non-WIL participants were more likely to hold only one job (78% vs. 67%).

Among college respondents in the labour force who were employed, half described their main employment as a permanent full-time position (48%), one-quarter as a permanent part-time position (24%) and 13% held a temporary or contract full-time position. These figures did not differ significantly by WIL participation.

Over one-quarter of employed college graduates indicated that their current employment position was a continuation of a previously held full-time, part-time or summer job (28%), while 64% were in a new position. Among those who had participated in WIL, 10% obtained their employment from a WIL placement. Non-WIL participants were more likely to be in a job that was a continuation of their part-time employment (22% vs. 13%); therefore WIL and non-WIL participants were equally likely to be in a new position.

Employment Fit with Education and Goals

To assess the fit between a graduate's current employment and their educational credential(s), respondents were asked to provide the minimum educational requirement for their current position, as well as their own perception of whether they were underqualified, overqualified or appropriately qualified for their position. The comparison of each respondent's highest educational credential to the minimum credential required for their position revealed that 48% of college graduates were appropriately qualified for their positions, while 50% were overqualified. Two-fifths of respondents felt overqualified for their employment position (42%). In both instances, WIL participants were less likely than non-WIL participants to be or feel overqualified for their current position (Table 9 and Table 10). Within each program area these differences were found only for applied arts and health, social and community services graduates.

Table 9: College Graduates' Fit between Highest Credential Earned and Minimum Credential Required for Current Employment Position

		All	WIL	No WIL
		n=700	n=555	n=145
		%		
Comparison of training and job requirement	Underqualified	2.2	1.9	3.2
	Appropriately qualified*	47.6	52.2	32.3
	Overqualified*	50.1	45.9	64.5

Base: Employed college respondents, excluding those attending a PSE institution

An asterisk () indicates a statistically significant difference ($p < .05$) between WIL and non-WIL respondents.*

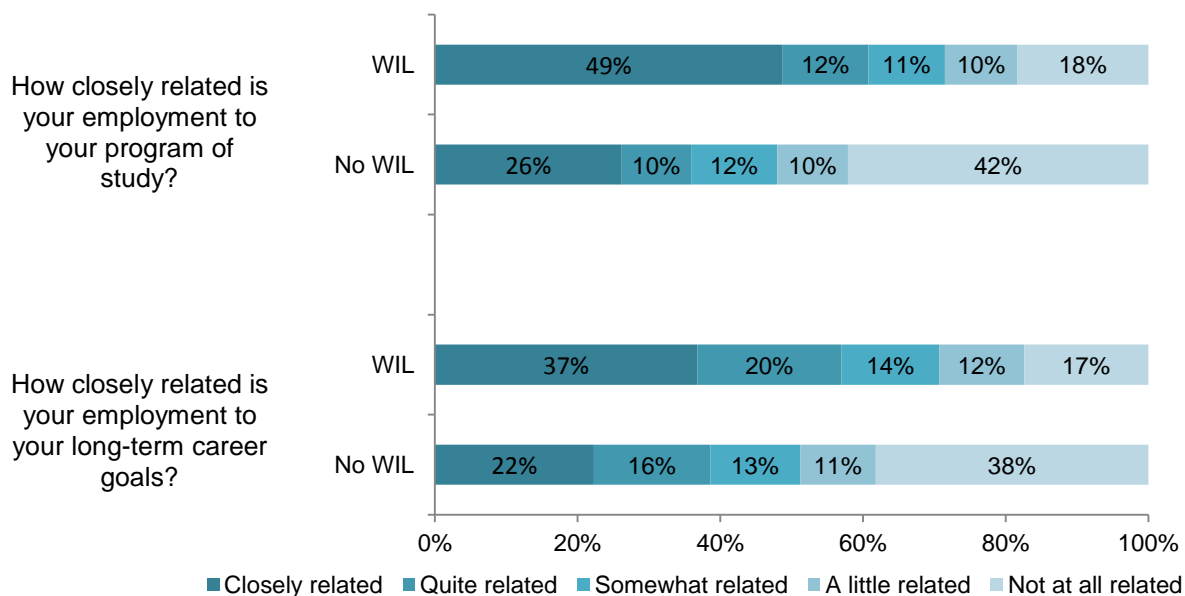
Table 10: College Graduates' Perception of Fit between Credential(s) Earned and Current Employment Position

		All	WIL	No WIL
		n=913	n=699	n=214
		%		
Do you feel overqualified for your current main employment?	Yes*	41.7	39.8	47.6
	No*	48.8	51.2	41.5
	Not sure	9.5	9.0	10.9

Base: Employed college respondents, excluding those attending a PSE institution
 An asterisk (*) indicates a statistically significant difference ($p < .05$) between WIL and non-WIL respondents.

Respondents were also asked to what extent they felt that their current employment was related to their program of study and their long-term career goals. Responses were varied: about half felt that their employment was quite or closely related to their program (54%) and their career goals (52%), and about one-quarter reporting that their employment was not at all related to their program (24%) or their career goals (23%). In both instances, a greater proportion of WIL participants felt that their employment was highly related to their program and career goals than non-WIL participants (Figure 12). Within each program area, this difference held among applied arts, business, and health, social and community services graduates.

Figure 12: Fit between Field of Study and Employment Position – College



Base: Employed college respondents, excluding those attending a PSE institution.

Job Satisfaction

Among college graduates in the labour force, 63% were satisfied with their current employment situation. Satisfaction did not differ significantly between WIL and non-WIL participants. Asked about satisfaction with specific aspects of their employment, employed college graduates were most satisfied with their interactions with co-workers, job flexibility and interactions with their employer/supervisor. The lowest levels of satisfaction were with benefits and pay. WIL and non-WIL participants had similar satisfaction levels, but WIL participants were more satisfied with their access to professional development (mean rating of 3.58 vs. 3.22) and fit with their career goals (3.61 vs. 3.15). Within applied arts, business, and health, social and community services, WIL participants were more satisfied with their employment's fit with their career goals than non-WIL participants.

University Respondents

Number of Jobs and Type of Position Held

Most university graduates in the labour force had held either one job (42%) or two jobs (31%) since finishing their studies. WIL participants were significantly more likely than non-WIL participants to have held one job since leaving school (48% vs. 36%), while non-WIL participants were significantly more likely to have held two or three jobs since leaving school (34% vs. 28% and 18% vs. 13%, respectively). At the time of the survey, 73% of university respondents had held only one job, 20% had held two jobs and 7% had held three or more jobs. There were no significant differences between WIL and non-WIL participants.

Half of employed university graduates described their main employment as a permanent, full-time position (53%). WIL participants were slightly more likely to be in a permanent full-time position (56% vs. 50%), whereas non-WIL participants were slightly more likely to be in a permanent part-time position (12% vs. 16%).

Employment Fit with Education and Goals

University respondents' highest credential earned was compared to the minimum educational requirement for their employment position. Fifty-eight per cent of university graduates were found to be appropriately qualified for their position and 39% were overqualified. Similarly, 40% felt that they were overqualified for their position. WIL participants were more likely than non-WIL participants to be appropriately qualified (65% vs. 50%) and to feel appropriately qualified (62% vs. 42%) (Table 11 and Table 12). By program area, business, science and engineering, and health sciences and social services graduates who participated in WIL were less likely to be and feel overqualified for their employment positions.

Table 11: University Graduates' Fit between Highest Credential Earned and Minimum Credential Required for Current Employment Position

		All	WIL	No WIL
		n=1,075	n=576	n=499
		%		
Comparison of training and job requirement	Underqualified	3.1	4.1	2.0
	Appropriately qualified*	57.9	64.7	50.2
	Overqualified*	39.0	31.2	47.8

Base: Employed university respondents, excluding those attending a PSE institution

An asterisk (*) indicates a statistically significant difference ($p < .05$) between WIL and non-WIL respondents.

Table 12: University Graduates' Perception of Fit between Credential(s) Earned and Current Employment Position

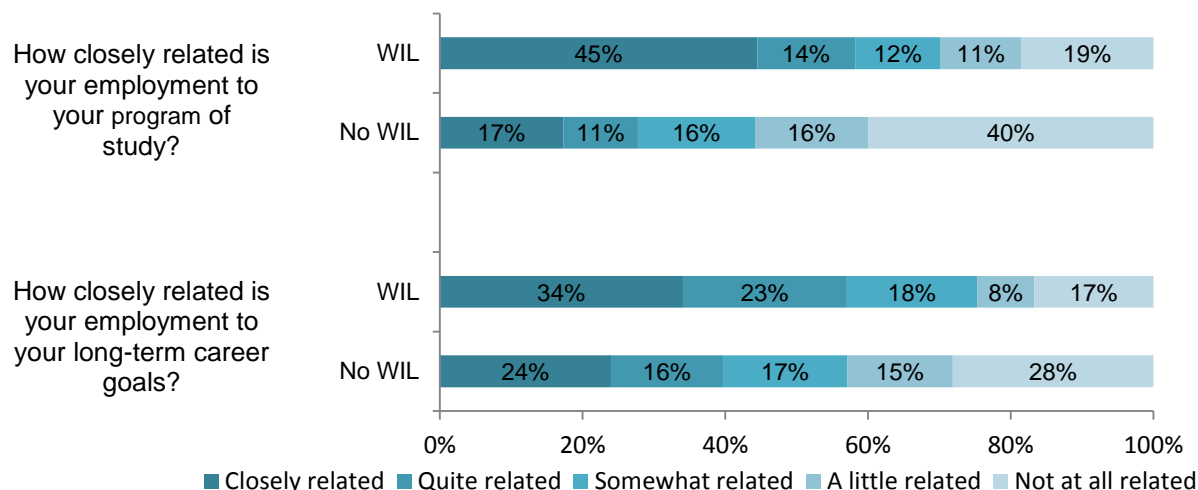
		All	WIL	No WIL
		n=1,339	n=712	n=627
		%		
Do you feel overqualified for your current main employment?	Yes*	39.9	32.1	48.5
	No*	52.6	61.7	42.4
	Not sure	7.6	6.2	9.0

Base: Employed university respondents, excluding those attending a PSE institution

An asterisk (*) indicates a statistically significant difference ($p < .05$) between WIL and non-WIL respondents.

Close to half of university graduates felt that their employment was closely or quite related to both their program (44%) and their goals (49%). However, roughly one-quarter reported that their employment was not at all related to their program (29%) or career goals (22%). In both instances, the fit between employment and respondents' program of study and career goals was greater for WIL participants than non-WIL participants (Figure 13). Examined by program, WIL participants in all program areas reported that their employment was more closely related to their program of study than their non-WIL counterparts. With the exception of arts and humanities, this was also true for the relation between employment and long-term career goals.

Figure 13: Fit between Field of Study and Employment Position – University



Base: Employed university respondents, excluding those attending a PSE institution

Job Satisfaction

Close to two-thirds of university graduates in the labour force were satisfied with their employment situation (61%). Satisfaction was higher among WIL participants than non-WIL participants (67% vs. 54%). Much like college graduates, employed university graduates were most satisfied with their interactions with co-workers, job flexibility and interactions with employer/supervisor, while feeling least satisfied with their salary and benefits. WIL participants were more satisfied overall (mean rating of 3.81 vs. 3.61) and with their access to professional development (3.65 vs. 3.34), fit with career goals (3.66 vs. 3.14), opportunities for advancement (3.44 vs. 3.24), benefits (3.40 vs. 3.18) and salary/wages (3.38 vs. 3.17). Examined by program area, WIL participants in business, science and engineering, and health sciences and social services were more satisfied with many areas of their employment compared to their non-WIL counterparts.

2.4 Financial Outcomes

Graduates' financial outcomes are explored in this section, including annual salary and debt levels. Graduates who were attending PSE at the time of the follow-up survey are not included in this analysis. Data tables are available in Appendix G.

College Respondents

Average Annual Earnings

The mean annual income of employed college graduates was \$31,402. This figure did not differ significantly by WIL participation (Table 13). When analyzed by program, applied arts graduates who participated in WIL had a higher mean income than those who had not (\$28,591 vs. \$20,796) (Table 14). As noted previously, however, this is likely a reflection of the different credential profiles of WIL and non-WIL participants rather than something directly attributable to WIL participation. Examining only those who were employed in full-time

positions, the mean annual income of employed college graduates rises to \$37,820. No differences were found between WIL and non-WIL participants.

Table 13: Annual Income of Employed College Graduates

	All	WIL	No WIL
	n=770	n=587	n=183
	%		
Less than \$20,000	25.6	23.9	30.9
\$20,000 to \$34,999	39.6	39.7	39.4
\$35,000 to \$49,999*	23.4	25.2	18.1
\$50,000 or more	11.3	11.2	11.6
Mean	\$ 31,402.75	\$ 31,741.79	\$ 30,394.79

Base: Employed college respondents, excluding those attending a PSE institution
An asterisk (*) indicates a statistically significant difference ($p < .05$) between WIL and non-WIL respondents.

Table 14: Mean Annual Income of Employed College Graduates by Program

	All	WIL	No WIL
	n=770	n=587	n=183
Applied arts*	\$25,182.79	\$ 28,590.77	\$ 20,796.23
Business	\$31,130.80	\$ 30,669.30	\$ 32,494.41
Technology	\$41,550.33	\$ 39,776.44	\$ 44,483.29
Health, social and community services	\$31,254.74	\$ 31,545.54	\$ 28,367.51

Base: Employed college respondents, excluding those attending a PSE institution
An asterisk (*) indicates a statistically significant difference ($p < .05$) between WIL and non-WIL respondents.

Debt

Over half of college graduates reported that they owed debt for their postsecondary studies at the time of graduation (59%) (Table 15). One-fifth owed less than \$10,000 (21%), 28% owed between \$10,000 and \$24,999 and 10% owed \$25,000 or more. The mean debt owed was \$9,014.¹⁴ By the follow-up survey, debt owed had decreased slightly to a mean of \$7,787. Debt owed at the time of graduate or at the time of the follow-up survey did not vary by WIL participation.

Most college graduates who owed debt thought it would be at least a little bit difficult to repay their debt (90%) and close to half believed it would be quite or very difficult (45%). Expected difficulty to repay debt also did not vary by WIL participation.

¹⁴ Note: This includes college graduates with no debt.

Table 15: Postsecondary Debt of College Graduates

		All	WIL	No WIL
		n=993	n=756	n=237
		%		
Debt at graduation	None	40.9	41.2	40.1
	Less than \$10,000	21.0	21.0	21.2
	\$10,000 to \$24,999	28.3	27.3	31.3
	\$25,000 or more	9.7	10.5	7.4
	<i>Mean</i>	<i>\$ 9,013.92</i>	<i>\$ 9,349.90</i>	<i>\$ 8,016.12</i>
Debt at time of follow-up survey	None	46.8	46.9	46.5
	Less than \$10,000	21.8	21.6	22.5
	\$10,000 to \$24,999	23.0	22.5	24.5
	\$25,000 or more	8.4	9.0	6.5
	<i>Mean</i>	<i>\$ 7,786.99</i>	<i>\$ 7,730.17</i>	<i>\$ 7,955.24</i>

Base: College respondents, excluding those attending a PSE institution

An asterisk () indicates a statistically significant difference ($p < .05$) between WIL and non-WIL respondents.*

University Respondents

Average Annual Earnings

Employed university graduates were making \$41,384 per year on average at the time of the follow-up survey. The average annual income of WIL participants was significantly higher than that of non-WIL participants (\$45,646 vs. \$36,813) (Table 16). Examined by program, graduates of business, science and engineering, and health sciences and social services programs who participated in WIL had higher earnings than their non-WIL counterparts (Table 17). WIL participation did not significantly impact the earnings of arts and humanities or social sciences graduates. Looking only at those in full-time positions, the average annual income for university graduates was \$47,535 and WIL participants continued to earn more than those who did not participate in WIL (\$51,992 vs. \$42,615).

Table 16: Annual Income of Employed University Graduates

	All	WIL	No WIL
	n=1,216	n=636	n=580
	%		
Less than \$20,000	16.0	14.2	17.9
\$20,000 to \$34,999*	24.9	19.2	31.0
\$35,000 to \$49,999*	27.2	23.1	31.5
\$50,000 or more*	31.9	43.4	19.6
Mean*	\$ 41,384.48	\$ 45,645.59	\$ 36,813.42

Base: Employed university respondents, excluding those attending a PSE institution
An asterisk (*) indicates a statistically significant difference ($p < .05$) between WIL and non-WIL respondents.

Table 17: Mean Annual Income of Employed University Graduates by Program

	All	WIL	No WIL
	n=770	n=587	n=183
Arts and humanities	\$ 34,346.23	\$ 35,845.83	\$ 33,192.56
Business*	\$ 46,344.41	\$ 51,437.18	\$ 41,410.51
Science and engineering*	\$ 47,989.28	\$ 53,187.79	\$ 40,522.41
Health sciences and social services*	\$ 51,724.37	\$ 55,771.46	\$ 35,667.48
Social sciences	\$ 35,717.44	\$ 35,578.27	\$ 35,819.12

Base: Employed university respondents, excluding those attending a PSE institution
An asterisk (*) indicates a statistically significant difference ($p < .05$) between WIL and non-WIL respondents.

Debt

Over half of university graduates reported that they had debt from their postsecondary studies at the time of graduation (58%) (Table 18). Over one-quarter of graduates had debt of \$25,000 or more (28%), 21% had \$10,000 to \$24,999 of debt and 9% had debt of less than \$10,000. The mean debt was \$14,899.¹⁵ Graduates had managed to pay down some of their debt since graduation, as the mean debt owed decreased to \$11,245 by the time of the follow-up survey. Most university graduates expected to experience difficulty repaying their debt (87%), with 42% expecting that it would be quite or very difficult. Debt owed and expected difficulty repaying debt were similar for WIL and non-WIL participants.

¹⁵ Note: This includes university graduates with no debt.

Table 18: Postsecondary Debt of University Graduates

		All	WIL	No WIL
		n=1,419	n=739	n=680
		%		
Debt at graduation	None	41.8	40.5	43.2
	Less than \$10,000	9.4	8.9	10.0
	\$10,000 to \$24,999	20.8	20.6	20.9
	\$25,000 or more	28.0	30.1	25.9
	<i>Mean*</i>	\$ 14,899.47	\$ 15,959.18	\$ 13,794.26
Debt at time of follow-up survey	None	53.0	52.1	54.0
	Less than \$10,000	9.5	9.8	9.2
	\$10,000 to \$24,999	16.9	17.4	16.5
	\$25,000 or more	20.5	20.7	20.3
	<i>Mean</i>	\$ 11,245.07	\$ 11,704.36	\$ 10,763.17

Base: University respondents, excluding those attending a PSE institution

An asterisk () indicates a statistically significant difference ($p < .05$) between WIL and non-WIL respondents.*

Conclusion

This research, conducted as the final component of a multi-phase study, adds to our understanding of the impacts associated with WIL by assessing the relationship between WIL involvement and labour market outcomes among Ontario college and university graduates from 13 participating institutions. The survey results presented here build on the findings of the initial Graduating Student Survey on Learning and Work, which provided the first comprehensive picture of Ontario students' experiences with and perceptions of postsecondary WIL programs (Sattler & Peters, 2013). Conducted when students were in their last year of study, the research showed that college and university students who participated in WIL ascribed high value to their experience regardless of the type of WIL or program area and that WIL experiences were seen as more beneficial than other labour market experiences (such as full-time, part-time and summer work) for understanding and influencing career interests and goals, and increasing students' confidence about their job prospects. By following-up with these students 18 months after graduation, this current study enables an assessment of whether WIL experience did in fact better help students transition to the labour market.

Overall, the findings provide some evidence to support claims that WIL programs provide students with labour market benefits. The strongest benefits appear to be in relation to the "fit" between a graduate's employment position and their program of study, credential and career ambitions. College and university graduates who participated in WIL were more likely to report that their employment was related to their program and their long-term career goals, and they were less likely to consider themselves to be overqualified for their position. These benefits were found for most program areas. Among university graduates, business, science and

engineering, and health sciences and social services graduates who participated in WIL were more likely to experience these positive benefits compared to their classmates who did not participate in WIL. For college, the positive benefits were generally found for WIL graduates in applied arts, health, social and community services, and business. These benefits are significant, as previous research has shown that mismatch between one's employment and education or career goals are a key cause of job dissatisfaction and can lead to employee turnover (Garcia-Espejo & Ibanez, 2006; Wolbers, 2003).

Many respondents also reported that their WIL experience was a key factor that helped them gain employment. Out of 19 potential factors, WIL experience was cited most frequently by both college and university respondents who participated in WIL. While findings did not differ by WIL type among college graduates, university graduates who had participated in co-op or practicums were much more likely than those who had participated in other types of WIL to feel that their WIL experience was instrumental in obtaining employment.

Many of the labour market outcomes associated with WIL participation, however, were not experienced equally by college and university graduates. For example, WIL participation did not impact the likelihood of having permanent full-time employment for college graduates, but it did for university graduates. In particular, university graduates in business and science and engineering programs who participated in WIL were more likely to have permanent full-time employment than those who did not. Similarly, WIL participation was associated with an earnings premium among university business, science and engineering, and health sciences and social services graduates. No earnings premium was found for college WIL participants. Finally, university WIL participants in business, science and engineering, and health sciences and social services were more satisfied with their overall employment situation and many aspects of their current position than non-WIL participants, but among college graduates the only difference in satisfaction was that applied arts, business, and health, social and community services WIL participants were more satisfied with the fit between their employment and career goals. Thus, as found in previous research (Walters & Zarifa, 2008), the benefits of WIL appear to be stronger for university graduates. This is perhaps not surprising given that college programs are generally already career-focused and that a relatively large proportion of college graduates participate in work-integrated learning.

While previous research has found that WIL participants find work more quickly than those who do not participate in WIL (Knouse, Tanner & Harris, 1999; Gault, Reddington & Schlager, 2000; Sandvig, Tyran & Ross, 2005), WIL participation was not associated with a faster time to employment among college or university graduates in this study. Similarly, previous findings that WIL participants have lower debt levels (Haddara & Skanes, 2007; Downey, Kalbfleisch & Truman, 2002) were not replicated here.

The research findings also provide information more generally about the labour market strategies and experiences of recent college and university graduates in Ontario. First, a relatively large proportion of graduates are pursuing additional education after completing their credential. In the 18 months since graduation, two-fifths of college respondents (37%) and half of university respondents (53%) had participated in further PSE or training. Among those not currently enrolled in PSE, 39% of college respondents and 45% of university respondents planned to go back to school in the near future. Among the roughly 90% of college and university graduates who had looked for employment since graduating, by far the most common job search strategy used was to search internet job postings. Interestingly, more college and university graduates reported speaking to faculty for referrals or career advice than talking to a counsellor at their campus career centre. Additional findings were that only about 60% of both college and university graduates were satisfied with their employment situation and 40% of employed graduates felt overqualified for their position.

Implications and Future Research

The findings presented here, combined with data from the initial Graduating Student Survey, help to clarify WIL's value proposition: WIL appears to help both college and university students clarify and shape their career interests and goals and to obtain employment relevant to their education and career ambitions. This is not to say that these are or should be the only benefits of WIL, but they are the benefits most strongly attributed to WIL in this multi-phase study. These benefits should be clearly communicated to students and should be central to the design and delivery of WIL experiences. Additional effort is needed, however, to ensure that students in all academic program areas experience benefits from WIL participation. This is particularly true for university, in which the program areas with the lowest levels of WIL participation (arts and humanities and social sciences) also had the fewest benefits associated with WIL experience. WIL opportunities have traditionally been developed for programs with clearer career pathways, such as business, health, engineering and education. The same models may not be easily applied to the arts and humanities and social sciences. When WIL experiences are offered in these program areas, additional effort may be needed to ensure that the WIL model utilized has positive results for students.

In line with previous research (Walters & Zarifa, 2008), this study found that college graduates experience fewer benefits to WIL participation than do university graduates. As previously mentioned, this could be a reflection of the fact that college education generally is already career-focused and that relatively few students graduate without some kind of WIL experience. Further study is needed to explore this difference.

Additional avenues for future research are also suggested by this study. In particular, longitudinal research could be conducted to follow graduates beyond their first year of work to examine whether the benefits of completing WIL persist and how WIL experience impacts employment advancement over the longer-term. Qualitative research with recent graduates would also add to our knowledge by providing more in-depth reflections about the relationship between the work experience gained through postsecondary study and post-graduation employment transition and outcomes.

While the areas for future research noted above would require that new information be gathered, the data collected for this study is quite rich and also lends itself to further analysis. Labour market outcomes could be assessed by different types of WIL activities, such as co-op, internships, practicums, etc. Any analysis conducted by WIL type, however, needs to exercise caution. As shown in the initial Graduating Student Survey report (Sattler & Peters, 2013), even within specific categories of WIL experience the length and number of placements, as well as aspects such as evaluation and salary can differ substantially. This is due in part to the current lack of clarity and consistency in WIL terminology being used at colleges and universities. Therefore, it may be more useful to explore outcomes based on different characteristics of students' WIL experiences. The data would also allow for deeper analysis of students' perceptions of WIL and of their WIL experiences and outcomes by various individual characteristics. The many sociodemographic and academic variables captured in the data set could inform future study. These kinds of additional research could help to better understand how different types of WIL experiences impact different types of learners and provide further insight into appropriate policy changes to strengthen WIL experiences within Ontario colleges and universities.

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