Results from the College Internship Study at Great Lakes Technical College

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CCWT
CENTER FOR RESEARCH ON
College-Workforce Transitions

The **College Internship** Study

EXECUTIVE SUMMARY

This report includes findings from the first round of data collection (Spring 2020) at Great Lakes Technical College (GLTC) for *The College Internship Study,* which is a national mixed-methods longitudinal study of internship programs conducted by the Center for Research on College-Workforce Transitions (CCWT) at the University of Wisconsin-Madison (UW-Madison). The findings are based on an campus-wide sample of students who took an online survey (n = 431), phone interviews with students who have and who have not had an internship experience (n = 22) and with career advisors, faculty, and employers (n = 6). We would like to thank GLTC for allowing our research team to conduct this study with your students, faculty and community members, and hope that our findings are useful as you work towards improving internships and work-based learning for your students.

Four research questions guide our study: (1) How many students are participating in internship programs, and does participation vary by student demographics, academic status, or life/employment situation? (2) What barriers exist for students to participate in internship programs? (3) What is the structure and format of internship programs? And, (4) How, if at all, is program structure and format associated with student satisfaction with their internships and their estimation of the value of the internship for their career development? In addition, given the timing of our interviews (Spring 2020), we also were interested in understanding GLTC students' experiences related to the COVID-19 pandemic.

Some key findings from our analysis include:

- Educators and employers indicated that internships are incredibly important for students' professional development, providing an opportunity to acquire new skills that are relevant to the workforce, including building their professional networks, and learning about careers and workplace culture. Both educators and employers reported having students who were hired as regular employees after the completion of their internship.
- Nearly 19% of the respondents to our survey had participated in an internship program within the past year (n = 80), which also means that 81% (n = 351) did not participate in any internship.
- Of the students who participated in an internship, 25% were in programs that did not require an internship while 70% reported that internships were required to graduate.
- Participation in internships seems to be similar for first-generation and continuing generation students at GLTC. Similarly, students who have full-time jobs that are not internships reported participating in internships at almost the same level as students who have part-time jobs or students who do not work. Lastly, students from different socio-economic status (measured by the income of their parents) seem to all participate in internships at similar levels.

- Differences in internship participation do occur between students depending on their academic status: full-time students (students taking 12 credits or more) participate at higher levels compared to part-time students. Also, students for whom an internship is required to graduate participate in internships at a higher rate than students who do not have to fulfill such requirements. Students' academic performance as measured by their GPA, however, does not seem to be related to their likelihood of participating in an internship.
- More than half of the students who did not participate in an internship indicated they had wanted to do so (n = 195, or 55.6% out of 351). Major reasons for not being able to participate in an internship for these students included their need to work at their current non-internship job (as 71.3% of them mentioned this as a barrier), a lack of internship opportunities in their field (54.4%), having a heavy course load at school (49.2%), insufficient pay offered by potential internships (39.5%), a lack of transportation (30.8%), and a lack of childcare options (23.6%). These obstacles often intersected with one another such that individual students experienced more than one at a time. Student interview participants (n = 22) also reported several additional barriers to their participation in internships, including concerns regarding the application process and challenges with time management, financial considerations, and travel to the internship location. In addition, the current COVID-19 pandemic added an additional layer of stressors and difficulties, including internships being cancelled or delayed, health concerns, increased family responsibilities, financial worries, and challenges with the required internship coursework.
- The survey indicated that the more students perceived that they received support and mentoring from their supervisors, the more satisfied they were with their internships. The more supervisor mentoring they received was also related to the more value they perceived their internship contributed to their learning and career development.
- While the outcomes of internship participation on employment status and wages will be studied over the next 12 months, data from the interviews suggest that short-term outcomes of participating in an internship program for this sample of GLTC students include learning and skills development, exploration of their professional field and career goals, increased self-confidence and motivation, networking and resume boosting, and "real-world" experience.

This report concludes with recommendations for specific strategies that students, faculty, and staff at GLTC, as well as employers who supervise GLTC student-interns, can employ to increase participation, access, and program quality for GLTC students. We provide these recommendations with the recognition that faculty, staff, and administrators at GLTC are best positioned to design and implement programs that meet the unique needs of academic programs and students at GLTC. It is also our hope that evidence-based insights about students' experiences with internship programs can be used to make these practices more equitable and effective for all students.

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I. INTRODUCTION: Why Study College Internships?

Internships are widely perceived as important co-curricular experiences that can enhance students' learning and facilitate their transition to the workforce. Advocates argue that through internships, students can develop new skills and abilities by transferring academic knowledge to real-world tasks, explore different career options, develop new professional networks, and even obtain full-time employment. At the same time, employers can use internship programs to develop a pipeline of new recruits that can be vetted on the job for future employment, and postsecondary institutions can increase their students' career prospects and real-world experiences. Given these potential outcomes, internships are often described as a "win-win-win" situation for higher education, employers, and students themselves (National Association of Colleges & Employers, 2018). Furthermore, internships and similar forms of work-based learning (WBL) have been designated as a "high-impact" practice that improves student outcomes (Kuh, 2008; Parker, Kilgo, Sheets & Pascarella, 2016), leading many state governments, colleges and universities, and workforce development boards to promote internship programs as a desirable solution to regional education-to-employment problems.

> **Internships are often described as a "win-win-win" situation for higher education, employers, and students themselves.**

However, the research literature clearly indicates that internships are neither easy to design and implement, nor are they a panacea for the long-standing problems of cultivating students' skills and easing their entry into the labor market (Hora, Wolfgram, & Thompson, 2017). Access to internships themselves can be difficult, specifically for students from particular groups, including students who are low-income or economically marginalized, first-generation college students, students who are members of underrepresented racial and ethnic groups, and students who may be unable to engage in unpaid labor and/or lack social networks that facilitate participation in internship programs. Furthermore, while internships can provide a rich, experiential learning opportunity for students, long promoted by education theorists and learning scientists (e.g., Dewey, 1938; Resnick, 1987), designing a robust learning experience within an internship is much easier said than done.

Despite challenges of access and program quality, policymakers and educators rightfully view internships as a potentially important and influential component of students' education and career development. Before the potential of internships can be fully realized, however, it is necessary to document the current state-of-affairs at the institutional level so that future planning can be based on rigorous evidence. For instance, data on student participation and experiences with internships as well as the perspectives of career services staff and employers can be used to: (1) identify strengths and weaknesses in current programming, (2) establish a baseline for long-term analysis of program quality and impacts, and (3) inform decision-making about future program development and resource allocation.

In early 2018, the Center for Research on College-Workforce Transitions (CCWT) at the University of Wisconsin-Madison launched the College Internship Study as a translational research program that could provide key stakeholders with robust, actionable evidence about internship programs. Our aim in this study is

to provide institutional leaders, faculty and instructors, and career services professionals at GLTC with rigorous data on issues related to internship program access and quality. In doing so, we place students' experiences and perspectives at the heart of the analysis while also attending to the critical issue of institutional capacity—two considerations that should guide decision-making about future policy and practice around internship programs.

II. BACKGROUND: What does the research literature say about internships?

An extensive body of research exists on college internships across a variety of disciplines and countries, leading to a literature that is simultaneously robust and inconsistent (Hora, Wolfgram, & Thompson, 2017). The robustness of the literature is evident in numerous studies from different national and disciplinary perspectives that have documented the positive impact of internships on student outcomes. For instance, in a recent study (Nunley, Pugh, Romero, & Seals, 2016), students who listed an internship on their resume received 14% more offers for an interview than those who did not. Evidence is growing that internships also lead to lower rates of unemployment after graduation, higher wages, and even better grades than students who do not have an internship. Specifically, students who had an internship have 15% lower unemployment (Silva et al.,2015), 6% higher wages five years after graduation (Saniter & Siedler, 2014), and final year grades that are 3.4% higher than those who did not have an internship (Binder, Baguley, Crook, & Miller, 2015).

However, the literature is also limited in several important ways. One of the biggest challenges facing the field of internship research is the lack of clear and standardized definitions regarding internships in general. For instance, the National Survey of Student Engagement (NSSE, 2018) is an important source of information about college internships in the United States, but the survey item encompasses a diverse array of (undefined) experiences that can be interpreted in a myriad of ways by survey respondents. Thus, claims based on NSSE data that internships are a high-impact practice that universally lead to student engagement and success (e.g., Kuh, 2008) should be interpreted with caution.

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Furthermore, before claiming causal relations between particular programs and student outcomes, it is essential to first describe these variables and the mechanisms that may govern their relations (Loeb et al., 2017). Consequently, descriptive research on critical mediating factors such as the structure and format of internships is essential in order to avoid treating the internship experience like a "black box" that mysteriously transforms students into work-ready individuals (Silva et al., 2016, p. 704). Similarly, it is untenable to assume that all internships provide a robust experiential learning opportunity in the spirit of the types of hands-on learning envisioned by educational theorists (e.g., Dewey, 1938; Resnick, 1987). As a result, research examining the specific structural features of the learning environment that comprise the internship experience is particularly needed to inform internship policy and practice (Cannon & Geddes, 2019).

In our study, we build upon promising lines of inquiry that examine how features of internship program structure - such as compensation, quality of supervision, and task clarity – may impact student outcomes. These programmatic features are important to consider because research on the coordination between employers and academic programs shows that the more internships are clearly coordinated with academic coursework, the more students will gain from the overall experience (Katula & Threnhauser, 1999; Narayanan, Olk, & Fukami, 2010). Another important factor in perceived internship quality and efficacy is the behavior of job-site supervisors. Active and meaningful supervisor support was found to positively impact business students' satisfaction with the internship experience (D'abate, Youndt, & Wenzel, 2009), and was also positively associated with job pursuit, satisfaction, and career development in a study of 99 students in an undergraduate management program (McHugh, 2016). Other program design features that have been associated with satisfaction and other student outcomes include the duration of internships (Murphy, Merritt, & Gibbons, 2013), the degree of student autonomy to design and perform tasks (Virtanen, Tynjala & Etelapelto, 2014), the clarity and variety of work tasks (Bauer et al., 2007; Beenen & Rousseau, 2010), and the presence of detailed feedback from both educators and employers (Rothman, 2007).

> **Features of internships examined in this study:** Coordination between employers and academic programs, Quality of supervision and mentoring, Duration of internship, Degree of student task autonomy, Clarity and variety of work tasks, Presence of detailed feedback.

With respect to outcome measures, some of the most common effects of internship participation examined in the literature are those of students' employment status, employer demand, or students' perceived readiness to enter the labor market (e.g., Baert, Neyt, Siedler, Tobback, & Verhaest, 2019; Jung & Lee, 2017; Nunley, Pugh, Romero, & Seals, 2010; Powers, Chen, Prasad, Gilmartin, & Sheppard, 2018; Weible & McClure, 2011). While these long-term outcomes of internships are important, another effect of experiential and work-based learning is the development of students' psychological resilience and self-concept (Callanan & Benzing, 2004; Paulson & Eugene Baker, 1999; Taylor, 1988). A concept in vocational psychology that is particularly salient for college students in a labor market that increasingly features short-term contract work and frequent job switching is that of career adaptability, or the psychosocial capacity and skills to continuously adapt, persist, and self-manage one's career tasks, transitions and personal traumas (Savickas, 1997, 2005), which is a psychosocial variable examined in our study.

> **Outcomes of internships examined in this study:**
> - Student satisfaction with the experience
> - Enhanced sense of career goals
> - Enhanced understanding of academic coursework
> - Wages (for longitudinal data)
> - Employment status (for longitudinal data)

Finally, career advisors and postsecondary educators are increasingly concerned about the problem of access, particularly for low-income, first-generation students who may be unable to engage in unpaid labor and/or lack transportation, child-care, or social networks that facilitate participation in internship programs (Curiale, 2009; Finley

& McNair, 2013; Perlin 2012). Additionally, internship opportunities in rural areas and for students in certain fields (e.g., arts and humanities) may be limited, further exacerbating the access problem that may afflict students in many of our nation's colleges and universities. Consequently, we examine the obstacles that may be preventing some students from pursuing and successfully completing an internship, with the ultimate goal of helping your institution to address these barriers so that all students can participate in a high-quality work-based learning experience.

III. METHODOLOGY

The College Internship Study is a mixed-methods longitudinal study of internship programs that is guided by the following research questions: (1) How many students are participating in internship programs, and does participation vary by student demographics, academic status, or life/employment situation? (2) What barriers exist for students to participate in internship programs? (3) What is the structure and format of internship programs? And, (4) How, if at all, is program structure and format associated with student satisfaction with their internships and their estimation of the value of the internship on their career development?[1]

The data collected for the study includes an online survey of students, interviews with students who participated in internships and students who have not participated in internships, interviews with educators and professionals (e.g., career advisors, faculty, and area employers) involved in internship program administration and implementation, and documents and online resources regarding internship programs and services at the institution. A team of trained researchers collected this data at GLTC in the Spring of 2020. There is a total of 2,088 students in the second half of their program. With a goal to select a representative sample based on resource constraints, we capped the size of the study sample at 1,246 students using random stratified sampling method based on two strata —gender and race. As a result, 431 completed our survey, which resulted in a response rate of nearly 35%. Table 2 shows the main characteristics of the target population of this study and of the sample of survey respondents.

The survey included questions about student demographics, characteristics of internship programs, barriers to internship participation, and students' career adaptability (i.e., a psychological construct linked to positive vocational outcomes). At the conclusion of the survey, 22 students volunteered for interviews, which lasted approximately 30-40 minutes each, and researchers asked more in-depth questions regarding their internship experience, and barriers and challenges to obtaining an internship. Additionally, 3 educators and 3 employers participated in an hour-long interview regarding their own experiences administering internships, helping students with or during internships, and the overall purpose of internships (see Table 1).

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1 The data reported here represent the first phase of data collection at Great Lakes Technical College in Spring 2020 (Time 1). Data also will be collected in Spring 2021 (Time 2) and will include a follow-up survey of students who responded to the T1 survey, which will represent a panel of students to track as they enter the workforce. Interviews will also be conducted with a sub-sample of these students, educators, and employers in order to assess the nature of internship programming and/or effects over time.

Table 1: Description of Spring 2020 sample

	Survey	Interviews
Students	431	22
Educators	N/A	3
Faculty/instructors	N/A	2
Career advisors	N/A	1
Employers	N/A	3

Table 2: Description of student sample

	Survey Sample	Institutional Population
Total	431	2,088
Gender	Male = 170 | 39.4% Female = 250 | 58%	Male = 1,000 | 47.9% Female = 1,087 | 52.1%
Race	Asian = 36 | 8.4% Black = 110 | 25.5% Hispanic = 70 | 16.2% American Indian or Alaska Native = 5 | 1.2% White = 186 | 43.2%	Asian = 164 | 7.9% Black = 556 | 26.6% Hispanic = 338 | 16.2% White = 874 | 41.9%
1st gen status	Yes = 168 | 38.9% No = 262 | 60.8%	Yes = Not reported No = Not reported

Data was analyzed using a variety of techniques, including qualitative analytic techniques such as inductive theme analysis of interview transcripts, quantitative analytic techniques, such as descriptive analyses of survey responses, chi-square testing, Fisher's exact test of independence, a linear probability model, and multiple regression analysis of survey data. In our study, we advance no claims of causality among internship program participation and/or design features and student outcomes, but instead provide the type of descriptive research that must precede such empirical research and explore associations among these variables (Loeb et al., 2017). A more detailed description of our research methodology is included in Appendix A of this report.

IV. RESULTS: Institutional capacity for administering internship programs at the Great Lakes Technical College

A goal of our research was to map the institutional practices in place regarding how internship programs are designed, implemented, and monitored on campus. This kind of diagnostic assessment can provide a "road map" of the four Ws—where, who, what, and when—of a program or initiative. Without such information at hand, it is difficult to ascertain precisely how programs like internships function within a complex organization, what (if any) kinds of mechanisms may be at work in shaping student outcomes, and where strengths and weaknesses exist that could be addressed in future programming. In the case of internship programs, which are often not administered through a centralized unit (e.g., a single career services office) but are managed by multiple parties across (and even outside of) campus, this type of diagnostic mapping is even more important. At GLTC, we gathered information on these issues from students and academic personal, along with an analysis of online and hard copy documents.

Are internships required to graduate from the Great Lakes Technical College?

Several programs at GLTC require students complete an internship prior to graduating. Programs in the arts, management, IT, audio production, baking production, criminal justice, culinary arts, computer support, marketing, and photography are part of a more extensive list of specialties requiring internships. Internships across these programs are not treated in the same manner. Some are organized through GLTC's career development center and some are organized by faculty in department.

Many programs also require a prerequisite course (1 credit) listed as "intern-796." This prerequisite course is standardized across programs and incorporates a range of skills, including resume and portfolio building, soft skill development, and job market searches. Students in certain programs at GLTC are also required to participate in separate internship courses in addition to this prerequisite, where they may accumulate credits for their internships after the completion of the course. For other programs, this field experience course in not required to participate in an internship. Regarding field experience courses (1 credit), students are required to complete 192 field experience hours where 177 of these hours are to be completed on site and 15 need to consist of unpaid volunteer hours.

Who oversees internship programs at Great Lakes Technical College?

In terms of connecting GLTC students and graduates to employers, GLTC's Career Development Center staff assists students in finding positions. The employers reach out to the GLTC Career Development Center regarding upcoming internships, and job positions and to participate in on-campus career fairs. For field experience courses, instructors are charged with supervising students' experiences, including logging hours, reviewing improvement goals, talking to work site supervisors, and completing student check-ins. Outside of these course instructors, students work directly with work site supervisors and managers. In some cases, students may count their current or previous work (work completed prior to COVID is counted in cases where it is difficult for students to find positions) relative to their industry interests as part of their field experience course requirements.

As part of the Environmental Health program, there is a required course where students rotate between multiple internships over the course of 3-4 months. They may also choose to stay in the same position throughout the course of the internship period. The internship sites for this course are organized by the professor and include the Metropolitan Sewage District and Department of Natural Resources. Students participated in weekly check-ins with academic staff and/or their internship course professor. While in many cases finding positions may be facilitated through the Career Development Center, other positions are acquired by students reaching out to employers and partners directly. In acquiring these positions, students may work closely with their academic advisors, where faculty ultimately decide whether an internship qualifies for credit. In some instances, faculty, with contacts and networks relative to the students' field of study, connect students to potential internship opportunities.

What is involved in the administration of internship programs?

Regarding the completion of the internship component as part of the field experience course, students and their employers are required to sign an experiential learning agreement. Following the completion of the internship, a faculty liaison sends out an evaluation form where employers assess the interns. Students also receive surveys prior to and following the completion of their internship. Outside of faculty support as part of field experience courses, GLTC's Career Development Center not only offers links connecting students to jobs and internships, but it also provides resources to assist with various parts of the application process, including resume building, interview tips, drop-in hours (now virtual drop-ins), and guidelines for building a LinkedIn profile.

When do these activities take place?

The timing of student internships varies widely across departments and programs on campus. Since internships are required as credits for the completion of some programs, and because of COVID setbacks, educators are working with students to determine if prior work experience may be counted as field experience. Students are also encouraged to find positions prior to signing up for their field experience course, in order to insure they have a set position by the course start date. GLTC's Career Development Center offers resources, links, and support year-round to provide updated opportunities and resources for students and employers.

V. RESULTS: Insights from educators and employers about the value of internships for students

Educators at GLTC generally note the benefits of internships yet acknowledge the challenges of working with students, as well as the challenges brought on by the switch to virtual platforms. Benefits include the opportunity to help shape student goals, the role these experiences play in building student networks, and the ways internships position students for future jobs. One GLTC educator noted specifically the role of internships in connecting students to potential employment opportunities. Another educator also acknowledges this benefit stating, "intentional opportunities early on really help them[students] to gain that professional experience and to make those contacts" where students may be able to "continue on with that company and grow and move into a permanent position." Educators note that, at the very least, students may be able to reference their experiences in interviews while also gaining contacts, developing their networks, and improving professional skills that may help with their career aspirations.

Employers who worked with interns also note the importance of internships in providing unique and valuable experiences for students. One employer notes that the goal of the internship is to build entrepreneurial and soft skills—skills that employers would like their employees to have. As part of the value of these experiences, interns also receive mentorship and feedback sessions that are built into the process. Currently, this employer is working to establish virtual internships for students due to the pandemic. In addition to providing value to interns, interns, in some cases, may help to relieve some of the work placed on regular staff. This factor also contributes to the potential for student interns to begin working in entry-level positions following the completion of their internship. In the case of one employer, students at their company had the independence and training to work on duties similar to those required by regular employees.

While addressing the benefits of internships, one of the employers discussed the expense required to take on new interns, where extra hours and funding are put toward onboarding, feedback, paying, and managing interns. Another employer also addressed the distinction between the autonomy of internship positions and the reality of the workforce where workers may experience less freedom. Despite these expenses and unique experiences, employers generally note the benefits students gain while interning. Addressing this, one employer states "students go through a really immersive, engaging, innovative process prior to entering the real world" also noting "we like to say it's everything we wish we had when we were in college."

VI. RESULTS: Which students are taking internships at the Great Lakes Technical College?

In this section, we present findings from the online survey regarding the number of students at GLTC who have (and have not) participated in an internship experience.

Survey results: How many students are participating in internships?

One of the most fundamental questions facing research, policy, and practice on college internships is how many students are participating in these programs. In our T1 study, we collected 431 responses from the students at GLTC. Among them, about 18.6% (n = 80) have participated in internship programs in the past 12 months (see Figure 1). Sixty-three out of the 80 students (78.6%) had one internship experience, and 12 students (15%) had two. The rest of the students (6.3%) had three or more internships.

Figure 1. In the past 12 months, have you participated in an internship? (n = 431)

Yes 80 (18.6%)
No 351 (81.4%)

These results indicate that a large number – about 81.4% of the study sample – have not had any internship experience. This finding should be carefully interpreted and considered along with other issues, including barriers to participation for students (e.g., compensation), availability of employer hosts, and requirements of and relevance for individual students and/or their academic programs to complete an internship. In the following sections of this report, we examine some of the factors associated with internship participation.

Survey results: Are there any demographic, life circumstance, psychological, or program characteristics that are associated with participation and non-participation in internship programs?

A wide range of factors may explain why a student elects to take an internship (or not), and understanding these factors is essential for institutional stakeholders who aim to improve access to these workplace learning experiences. In this section we report findings regarding differences in internship participation according to four categories: demographic variables (i.e., gender, race/ethnicity, first-generation college status, and parents' income), life circumstances (i.e., employment status, food insecurity, ability to pay rent or mortgage), psychological variables (i.e., career adaptability), and features of academic programs (i.e., requirement to take internships, academic enrollment, major, and GPA).

Demographic characteristics and internship participation

Minimal research exists on the relationship between participation in internship programs and demographic characteristics of college students. Given growing concerns about access to internship programs—particularly for students of color, low-income and first-generation students—we examine the issue of equitable access for groups of students.

First, looking at differences across gender groups, the results show small – and not statistically significant – differences in the internship participation rate of female and male students (see Figure 2). About 19.6% of female students indicate they have participated in an internship while 15.9% of male students reported they have done so.

Figure 2. Internship in the Past 12 Months (Yes/No), by Gender (n = 420)[2]
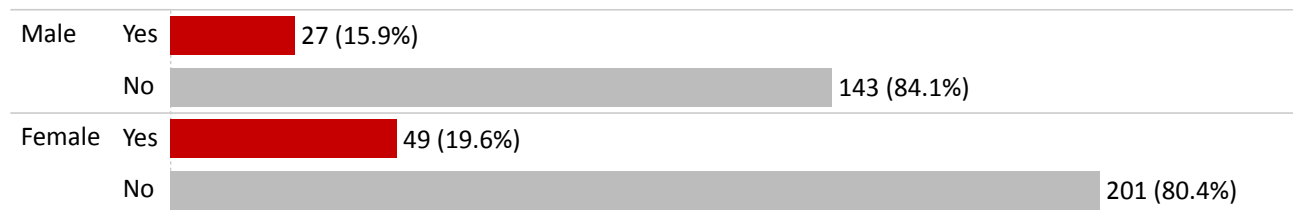
Note: Figure does not include individuals identified as transgender, non-binary and other gender identities.

In terms of racial and ethnic characteristics, most students in our sample identify as either African American, Hispanic or white. The survey data shows that 43.2% of students in the sample identify as white, 25.5% as African American, and 16.2% as Hispanic. Results show that whites and African Americans participate in internship programs at similar rates (21% and 19%, respectively), while a smaller proportion of Hispanic students have had an internship experience (11.4%). These differences between these groups, however, are not statistically significant. Figure 3 shows these differences descriptively.

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2 Figure labels describe frequency of each bar and internship participation rate within each group.

Figure 3. Internship in the Past 12 Months (Yes/No), by Race / Ethnicity (n = 431)

Asian	Yes	5 (13.9%)
	No	31 (86.1%)
Black	Yes	21 (19.1%)
	No	89 (80.9%)
Hispanic	Yes	8 (11.4%)
	No	62 (88.6%)
White	Yes	39 (21.0%)
	No	147 (79.0%)
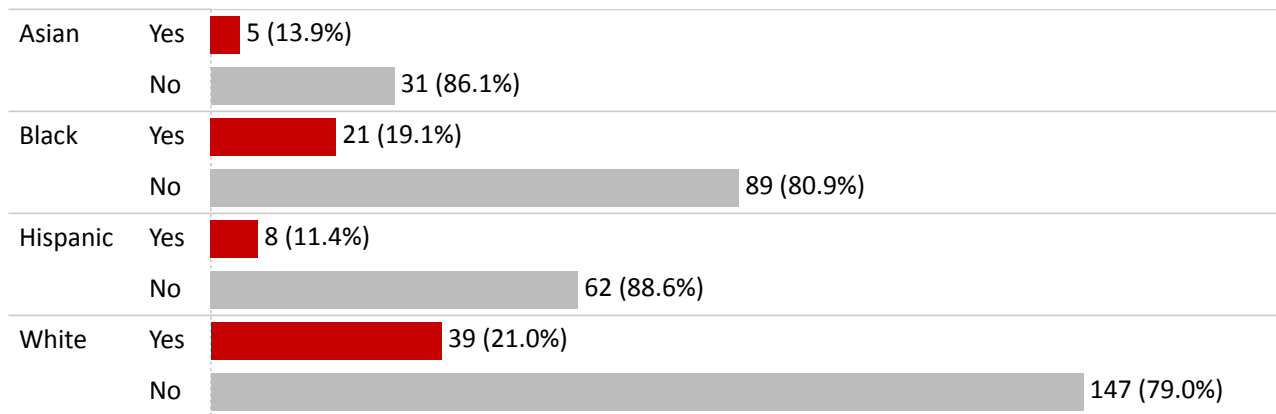
Results show no statistically significant differences in internship participation rates between groups based on reported first-generation status. Descriptively, differences in participation between continuing and first-generation students are small: 17.6% compared to 20.2% (see Figure 4).

Figure 4. Internship in the Past 12 Months (Yes/No), by First Generation College Student Status (FGS) (n = 430)

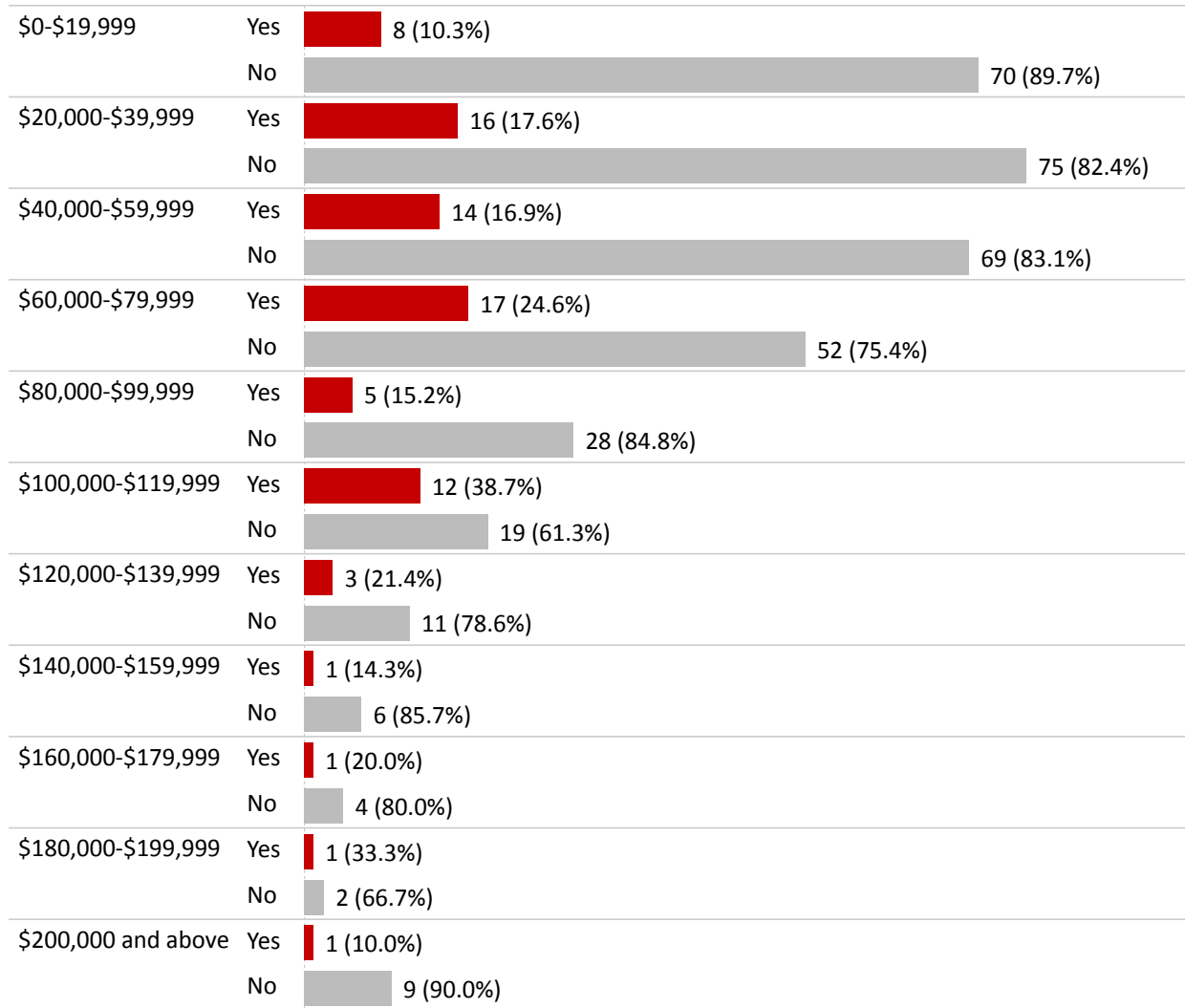|		
First-generation students	Yes	34 (20.2%)
	No	134 (79.8%)
Continuing-generation students	Yes	46 (17.6%)
	No	216 (82.4%)
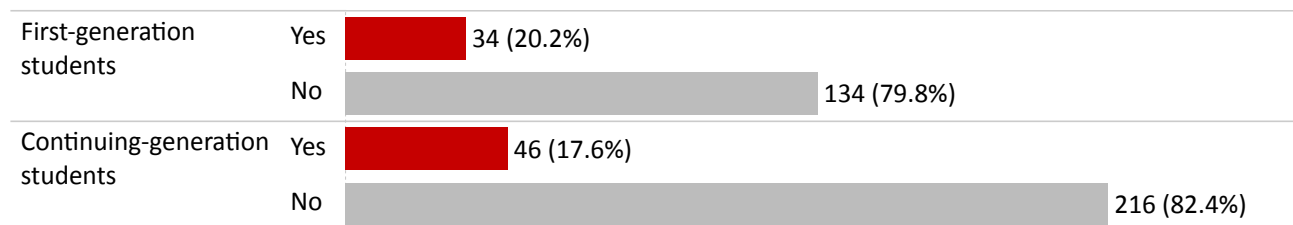
Next, we look for differences in internship participation based on socio-economic status, and we use students' reports of their parents' income as an indicator of such status. Participants in our sample mainly consist of students from low-income households. Almost 60% of the students who responded to our survey indicated that their parents' income is below $60,000, and nearly 75% reported that their parents make less than $80,000 per year. GLTC is a technical college, mostly serving students in the vicinity of the city and county in which GLTC is located. For reference, the median household income in the county is $49,636 (American Community Survey, 2018) and the official poverty line for a household of two adults and two children under 18 years old is $25,926. In other words, a considerable proportion of our sample of students seem to belong to households that live in areas with relative socio-economic disadvantage.

We find no statistically significant differences in internship participation between groups based on parental income. This finding is based on a chi-square test of independence. Descriptively, as Figure 5.1 shows, the highest participation rates are observed in the groups corresponding to parental income between $60,000 - $79,999 (24.6%) and between $100,000 – $119,999 (38.7%). Students in most other parental income groups participate at lower –but in some cases, similar– rates. As a further test, using a linear probability model

(LPM),[3] where the probability of doing an internship is estimated based solely on the different income brackets as separate factors in the regression,[4] we find that the two income brackets mentioned above are the only significant factors: p = 0.025 and p = 0.001, respectively.[5] Consistent with the descriptive findings presented in the figure, this regression model shows that students in these two income brackets are 14% and 28% more likely to participate in internships compared to student in the lowest parental income bracket.

Figure 5.1. Internship in the Past 12 Months (Yes/No), by Parental Income (n = 424)

$0-$19,999	Yes	8 (10.3%)
	No	70 (89.7%)
$20,000-$39,999	Yes	16 (17.6%)
	No	75 (82.4%)
$40,000-$59,999	Yes	14 (16.9%)
	No	69 (83.1%)
$60,000-$79,999	Yes	17 (24.6%)
	No	52 (75.4%)
$80,000-$99,999	Yes	5 (15.2%)
	No	28 (84.8%)
$100,000-$119,999	Yes	12 (38.7%)
	No	19 (61.3%)
$120,000-$139,999	Yes	3 (21.4%)
	No	11 (78.6%)
$140,000-$159,999	Yes	1 (14.3%)
	No	6 (85.7%)
$160,000-$179,999	Yes	1 (20.0%)
	No	4 (80.0%)
$180,000-$199,999	Yes	1 (33.3%)
	No	2 (66.7%)
$200,000 and above	Yes	1 (10.0%)
	No	9 (90.0%)

Note: Parental income data is not available for 7 students.

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3 A linear probability model (LPM) is an ordinary least squares (OLS) regression model where the outcome is a binary variable, and one or more explanatory variables are used to predict the outcome. We chose here LPM for its ease of interpretation.
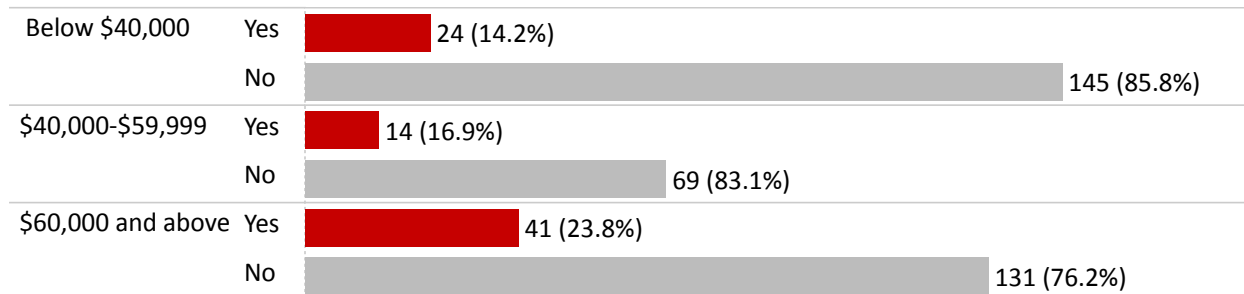4 The model does not include any other explanatory variable and accounts for only 3.6 of the observed variance.
5 Although we are using p value to infer statistical significance in the current study, it is worth noting that p value should not be taken as a definitive validation of relationships between variables. Many factors may influence p value such as effect size, size of sample and spread of the data (Dahiru, 2008; Ziliak and McCloskey, 2008), so p value does not necessarily preclude a cautious analysis of results based on survey data. p should be used as a warning signal on the possibility how likely it is that any observed difference between groups is due to chance.

Taking a different approach, we also compared students' participation in internships based on whether their parents' income is above or below the local median household income. Since, again, the median household income in the county is $49,636 (American Community Survey, 2018), and such median is located at mid-point between one of the income brackets of our survey, we look for differences in participation between students whose parental income is below, at, and above the local median household income.

Figure 5.2 shows these differences descriptively. Students below and at the level of the local median household income participate in internships at rates of about 14% and 17%, respectively, while students whose parental income is above the median participate at a rate of almost 24%. These differences, however, are not quite statistically significant based on a chi-square test of independence (p = 0.066). Again, using a linear probability model as a further test,[6] we find that the only difference that appears to have some statistical significance is that between students whose parental income is above –and in some cases, well-above– $60,000, and students with parental income below $40,000, where the former are 9.6% more likely to do an internship than the latter (p = 0.022).

Figure 5.2. Internship in the Past 12 Months (Yes/No), by Parental Income Below, At and Above Median Annual income (n = 424)

Below $40,000	Yes	24 (14.2%)
	No	145 (85.8%)
$40,000-$59,999	Yes	14 (16.9%)
	No	69 (83.1%)
$60,000 and above	Yes	41 (23.8%)
	No	131 (76.2%)

Note: Parental income data is not available for 7 students.

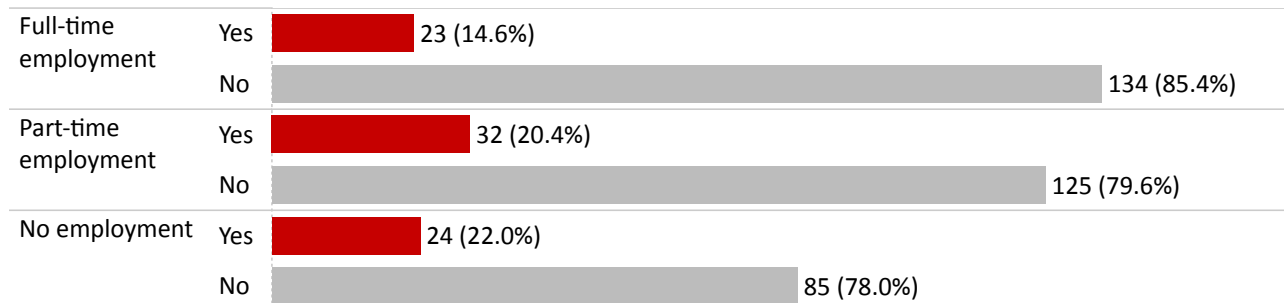**Life circumstances and internship participation**

Next, research on college affordability and students' basic needs has indicated that issues such as food insecurity, rising costs of college tuition, and related issues have a negative impact on student persistence and achievement (e.g., Maroto, Snelling & Linck, 2015). To examine these potential constraints we report employment status, reliance on food assistance, and challenges with housing costs. In addition, we examine the relationship between these variables and internship participation. Finally, given that several students reported being employed at least part-time, we examined the extent to which students believe that their current job provides them with the skills and knowledge that will allow them to be successful in their desired future careers.

Figure 6 shows internship participation by employment status, where the groups include students who work full-time (at least 40 hours per week), part-time (less than 40 hours per week), and students who have no

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6 The model does not include any other explanatory variable and accounts for only 1.3 of the observed variance.

employment. Results show that students who worked part-time in the 12 months before the survey was conducted, in a job that was not an internship, and students who didn't have a job during the same period participated in internship programs at similar rates: 20.4% and 22%, respectively. On the other hand, only 14.6% of the students who had a job participated in an internship. These differences, however, are not statistically significant.

Figure 6. Internship in the Past 12 Months (Yes/No) by Employment Status (n = 423)

Full-time employment	Yes	23 (14.6%)
	No	134 (85.4%)
Part-time employment	Yes	32 (20.4%)
	No	125 (79.6%)
No employment	Yes	24 (22.0%)
	No	85 (78.0%)

Note: Employment status was not possible to determine for 8 students because they did not report the number of hours of work per week.

Awareness about college students' challenges with securing adequate food, or what is known as food insecurity, is growing in the U.S. (Broton & Goldrick-Rab, 2016). In our survey, we included a question asking if students had received food or meals using the Supplemental Nutrition Assistance Program or a food bank, and the results indicate that almost 17% of students in our sample (n = 72) reported relying on these benefits in the past 30 days. There is virtually no difference between those who receive the benefit and those who do not, in terms of internship participation: between 18-19% of students in each group have taken part in an internship program in the past year (see Figure 7).

Figure 7. Internship in the Past 12 Months (Yes/No) by Students Requiring Food Assistance (n = 431)

Yes food assistance	Yes	14 (19.4%)
	No	58 (80.6%)
No food assistance	Yes	66 (18.4%)
	No	293 (81.6%)
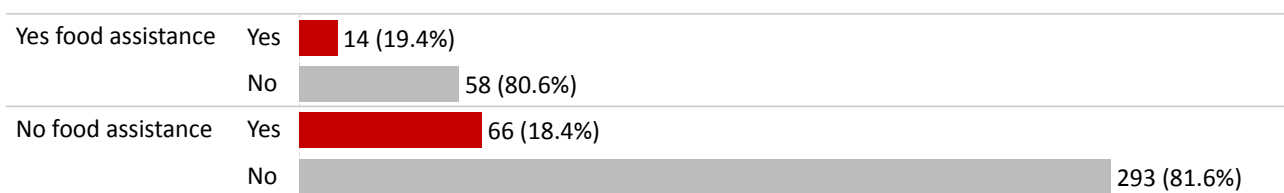
Given that housing costs can strain a students' financial situation, we also asked about problems with paying rent or mortgages. A whole 10% of students in our sample (n = 44) reported having difficulties with paying for their rent or mortgage in full. In terms of internship participation, here again, differences are small and not statistically significant. Nearly 14% of students who reported having difficulties paying for their housing indicated that they have participated in an internship, while 19% of students who reported no difficulties indicated they have done so (see Figure 8).

Figure 8. Internship in the Past 12 Months (Yes/No) by Students Having Trouble Paying Rent or Mortgage (n = 431)

Not paying rent or mortgage	Yes	6 (13.6%)
	No	38 (86.4%)
Paying rent or mortgage	Yes	74 (19.1%)
	No	313 (80.9%)
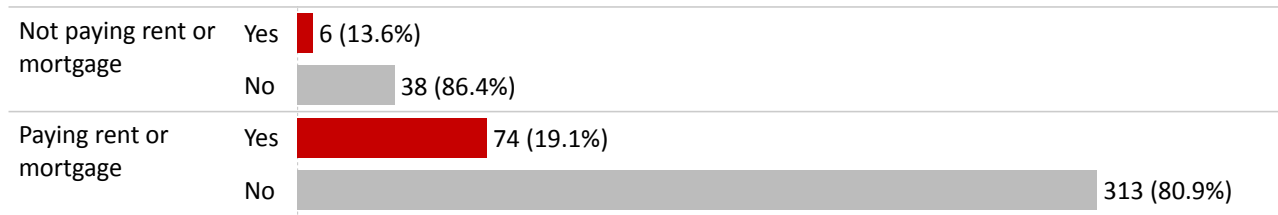
Given that many students work part- or full-time, we explored the extent to which they perceived their job as contributing to their career goals (see Figure 9). We asked whether students think that their job provides them with the skills, knowledge, and abilities that are related to their work and that may help them advance toward their desired career. As Figure 9 shows, nearly 45% of students think their jobs provide them with these skills and knowledge "very well" or "extremely well," and a large portion (26%) feels ambivalent, indicating that their jobs provide them with these skills only somewhat well. Taken together, these results paint a rather positive picture of the ways students feel about the skills and knowledge they acquire through their job.

Figure 9. How well do you think that your main job provides you with important work-related skills, knowledge, and abilities that you will need in your desired career? (n = 321)

Not at all well	45 (14.0%)
A little well	50 (15.6%)
Somewhat well	83 (25.9%)
Very well	88 (27.4%)
Extremely well	55 (17.1%)
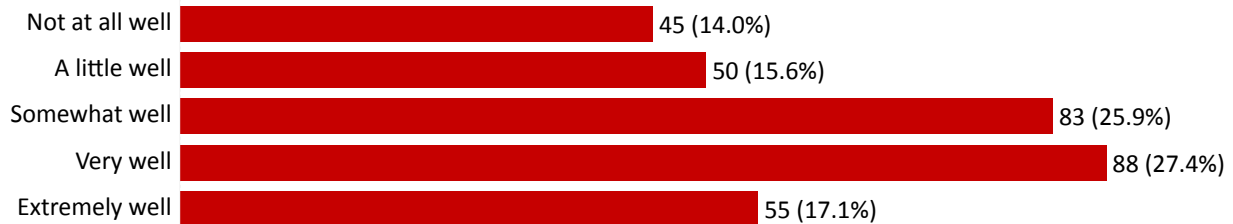
Psychological factors and internship participation

Research in counseling and vocational psychology indicates that psychological factors are also strongly related to a variety of career-related outcomes. For instance, career adaptability is a psychosocial resource that facilitates a person's ability to manage career-related tasks and changes (Savickas, 1997), which is significantly associated with one's adaptive behaviors (e.g., career planning, career exploration, self-efficacy), employability, vocational self-identity, and satisfaction regarding life, career, and school experiences (Rudolph, Lavigne, & Zacher, 2017). Scholars argue that career adaptability is especially valuable in the current labor market given frequent job and/or career changes, rising precarity of work (and lower job security), and unanticipated shocks to regional and national labor markets that may lead to mass layoffs and forced job and/or career changes (e.g., 2008 recession, COVID-19 pandemic).

In this study, we examined the relationship between career adaptability and internship programs using a validated career adaptability survey developed by Savickas and Porfelli (2012). These survey items encompass four sub-scales, including concern about the future, control over one's future, curiosity about different career options, and confidence to achieve one's goals, each of which are measured by six items that elicit how strongly

the respondent rates themselves based on these attributes. These items use a five-point Likert style set of response options (1 = not strong; 5 = strongest). Cronbach's alpha of the four sub-scales, using the current data, range from 0.87 to 0.91.
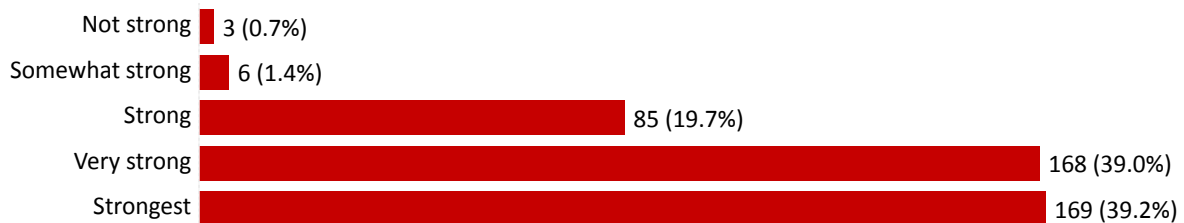
The results indicate that the survey respondents from GLTC rate themselves across the career adaptability sub-scales as follows: concern (M=3.77, SD=0.8), control (M=3.88, SD=0.78), curiosity (M=3.74, SD=0.81), and confidence (M=3.86, SD=0.81). The mean scores for all sub-scales are similar between the two groups: Concern (Internship: 3.78; No Internship: 3.77), Control (Internship: 3.89; No Internship: 3.88), and Confidence (Internship: 3.97; No Internship: 3.83). None of these differences were found to be statistically significant. The only exception is the Curiosity sub-scale, where internship participants' average score is 3.9, while the average score for non-participants is 3.7, and where this difference is significant at conventional significance levels (p = 0.02).

To illustrate the types of questions that are included in the career adaptability survey, we report one example for each sub-scale from the GLTC dataset (see Figures 10 – 13).
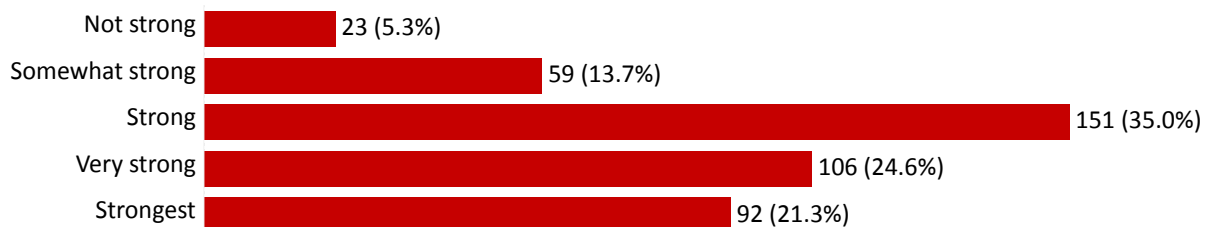
Figure 10. Please rate how strongly you have developed each of the following abilities: Becoming aware of the educational and vocational choices that I must make (n = 431)

Rating	Value
Not strong	9 (2.1%)
Somewhat strong	29 (6.7%)
Strong	129 (29.9%)
Very strong	158 (36.7%)
Strongest	106 (24.6%)

Figure 11. Please rate how strongly you have developed each of the following abilities: Taking responsibility for my actions (n = 431)

Rating	Value
Not strong	3 (0.7%)
Somewhat strong	6 (1.4%)
Strong	85 (19.7%)
Very strong	168 (39.0%)
Strongest	169 (39.2%)

Figure 12. Please rate how strongly you have developed each of the following abilities: Exploring my surroundings (n = 431)

Rating	Value
Not strong	23 (5.3%)
Somewhat strong	59 (13.7%)
Strong	151 (35.0%)
Very strong	106 (24.6%)
Strongest	92 (21.3%)

**Figure 13. Please rate how strongly you have developed each of the following abilities:
Performing tasks efficiently (n = 431)**

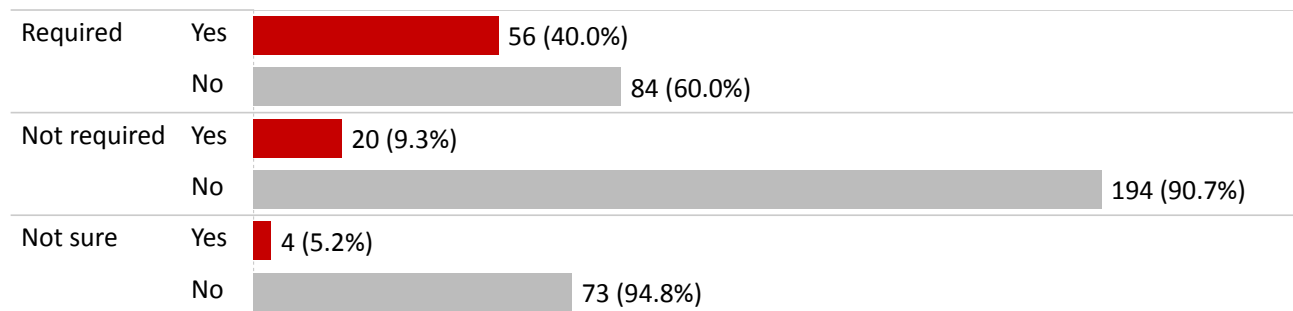|	
Not strong	8 (1.9%)
Somewhat strong	39 (9.0%)
Strong	119 (27.6%)
Very strong	151 (35.0%)
Strongest	114 (26.5%)
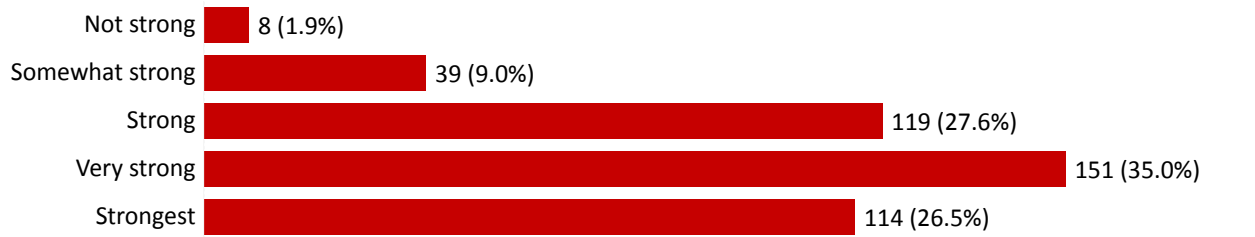
Features of academic programs and internship participation

In this section we examine the possibility that some features of a student's academic program and performance (e.g., whether an internship is required for graduation, part-time versus full-time enrollment status, disciplinary area, grade point average) may be related to their participation in internships.
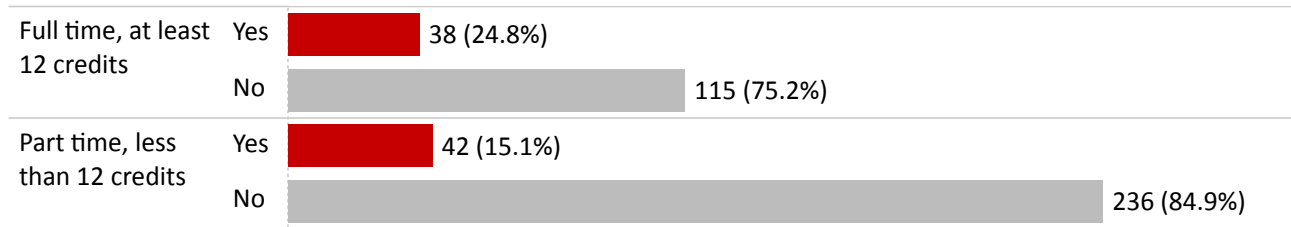
First, looking at the completion of an internship as a formal requirement for graduation, we find that such a requirement matters for internship participation. A whole 40% of the students whose program requires an internship have participated in one, while only 9% of students whose programs do not require an internship have done so. About 17% of the students from the GLTC sample reported not being sure about whether they needed to complete an internship in order to graduate. Of these students, only 5% have done an internship. The differences between these three groups (shown in Figure 14) are statistically significant based on a chi-square test of independence (χ^2= 63.69, p < 0.001, Cramér's V = 0.384).

Figure 14. Relationship between Internship Participation and whether an internship was required to graduate from your academic program (n = 431)

Required	Yes	56 (40.0%)
	No	84 (60.0%)
Not required	Yes	20 (9.3%)
	No	194 (90.7%)
Not sure	Yes	4 (5.2%)
	No	73 (94.8%)

Nearly two-thirds of students in our sample (64.5%) are part-time students, meaning they are enrolled in less than 12 credits per term. The remaining 35.5% (n = 153) are full-time students. The internship participation rate of full-time students is higher than that of the part-time students: 24.8% compared to 15.1% (Figure 15). This difference is statistically significant based on a chi-square test of independence (χ^2= 6.18, p = 0.013, φ -0.1197).

Figure 15. Internships in the Past 12 Months (Yes/No) by Enrollment Status (n = 431)

Full time, at least 12 credits	Yes	38 (24.8%)
	No	115 (75.2%)
Part time, less than 12 credits	Yes	42 (15.1%)
	No	236 (84.9%)

Additionally, we examined internship participation rates by disciplinary areas. We adopted the major field categories defined by the National Survey of Student Engagement (NSSE, 2018). Figure 16.1 presents the distribution of majors for all GLTC students in our sample who reported pursuing a major (n = 431, left figure), as well as the distribution of majors of those who participated in an internship (n = 80 , right figure). The largest share in our sample included students pursuing a Business degree (21.6%). Among students who have participated in an internship, however, the largest two groups consist of those in the Social Service Professions (27.5%) and those in the Arts and Humanities (21.3%).
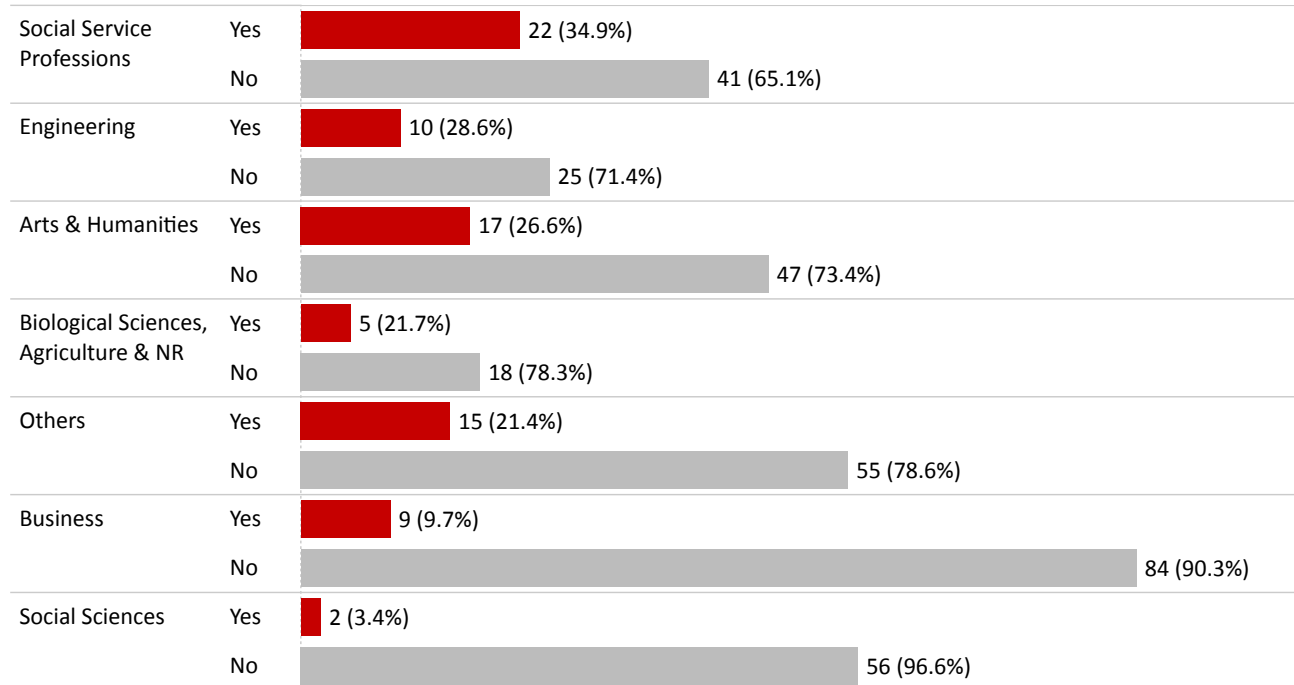
Figure 16.1. Students' distribution by Program Disciplinary Area

NSSE Major for all GLTC students in the sample (n = 431)

Business	93 (21.6%)
Others	70 (16.2%)
Arts & Humanities	64 (14.8%)
Social Service Professions	63 (14.6%)
Social Sciences	58 (13.5%)
Engineering	35 (8.1%)
Biological Sciences, Agriculture & NR	23 (5.3%)
Physical sciences, Math, & CS	15 (3.5%)
Health Professions	7 (1.6%)
Communications, Media, & PR	3 (0.7%)

NSSE Major for GLTC internship participants (n = 80)

Social Service Professions	22 (27.5%)
Arts & Humanities	17 (21.3%)
Others	15 (18.8%)
Engineering	10 (12.5%)
Business	9 (11.3%)
Biological Sciences, Agriculture & NR	5 (6.3%)
Social Sciences	2 (2.5%)

Note: NR = Natural Resources, CS = Computer Sciences, PR = public relations

Figure 16.2 displays internship participation rates by disciplinary areas. The Social Service Professions have the highest participation rate (34.9%, n = 22), followed by Engineering (28.6%, n = 10), Arts & Humanities (26.6%, n = 17), and Biological Sciences, Agriculture, & Natural Resources (21.7%, n = 5). Students in other disciplines participate in internships at lower rates. The differences between these disciplinary areas are statistically significant based on a chi-square test of independence (χ^2 = 36.04, p < 0.001, Cramér's V = 0.289).

16.2. Relationship between Internship Participation and Students' Program Areas (n = 406)

Program Area		
Social Service Professions	Yes	22 (34.9%)
	No	41 (65.1%)
Engineering	Yes	10 (28.6%)
	No	25 (71.4%)
Arts & Humanities	Yes	17 (26.6%)
	No	47 (73.4%)
Biological Sciences, Agriculture & NR	Yes	5 (21.7%)
	No	18 (78.3%)
Others	Yes	15 (21.4%)
	No	55 (78.6%)
Business	Yes	9 (9.7%)
	No	84 (90.3%)
Social Sciences	Yes	2 (3.4%)
	No	56 (96.6%)

Note: NR = Natural Resources. No students reported doing an internship in the Physical Sciences, Math and Computer Science disciplines, in the Health Professions, or in Communications, Media and Public Relations.

Academic performance and internship participation

Finally, we examined the relationship between participating students' grade-point average (GPA) and internship participation. The GPA variable in our dataset is a self-reported measure where we asked the students a single question: "Thinking about the past 2019-2020 academic year, which of the following best describes your grade point average?" The question allowed for a numeric input on a sliding scale that contained letter markers. As a result, we have a continuous measure that ranges from 1.3 to 4, with a mean of 3.33 and a standard deviation of .56 for the 431 students in our sample. Descriptively, students who have participated in an internship (n = 80) appear to have, on average, a slightly higher GPA (mean = 3.43, SD = .47) than those who have not (mean = 3.31, SD = .57). A t-test suggests that this difference between the two groups (0.12) is statistically significant at conventional significance levels (p = 0.39).

In order to test for the potential influence of GPA on the likelihood of participating in an internship, we fit a linear probability model where the probability of doing an internship is estimated based on the GPA of all students in the sample. Results show that GPA is not a statistically significant factor influencing the likelihood of students at GLTC participating in an internship for students.

VII. RESULTS: Barriers to participation in internships for students at the Great Lakes Technical College

In this section, we present findings from the online survey and student interviews regarding barriers to participation in internships for students at GLTC. Access to internships is a critical issue with respect to problems of inequality and social mobility students face in higher education and society more broadly. Since internships may provide students with valuable social and cultural capital and may enhance their employability in the labor market, these barriers to internship participation are important to consider.

Survey results: How many students wanted to participate in an internship but could not? If not, why not?

A total of 195 (or 55.6%) of the 351 students at GLTC who did not participate in an internship wanted to do so (see Figure 17).

Figure 17. You indicated that you did not participate in an internship in the past 12 months. In the past 12 months, were you interested in participating in an internship? (n = 351)

Interest yes	195 (55.6%)
Interest no	156 (44.4%)

We asked these students to rank the various reasons from most important to least important for not pursuing an internship. Figure 18.1 presents the percentages of students who indicated facing each of the different barriers to participation mentioned in our survey. In general, 70.9% (n = 139) of students reported their need to work at their current job as a significant barrier, 54.6% (n = 106) reported a lack of internship opportunities, 49% (n = 96) reported a heavy course load as a barrier, 39.3% (n = 77) reported insufficient pay offered as a barrier, 31.1% (n = 60) reported the lack of transportation as a barrier, and 23.5% (n = 46) reported that the lack of childcare was an important barrier to their participation in internship programs.

Figure 18.2 shows how students ranked the barriers overall. The reasons that students ranked as the number one factor influencing their decision not to pursue an internship included the need to work at their current job (n = 86), a lack of internship opportunities (n = 39), and their heavy course load (n = 29). The number two ranked reasons included a heavy course load (n = 33), a need to work at their current job (n = 31), and a lack of internship opportunities (n = 28). Figure 18.2 also presents the third to sixth ranked reasons and their corresponding frequencies. Insufficient pay and a lack of internship opportunities stood out in the third and fourth ranked reasons. In sum, students' need to work at their current job, a lack of opportunity in their field, a heavy course load, and insufficient pay offered by potential internship sites were the most commonly reported reasons by students for not pursuing an internship.

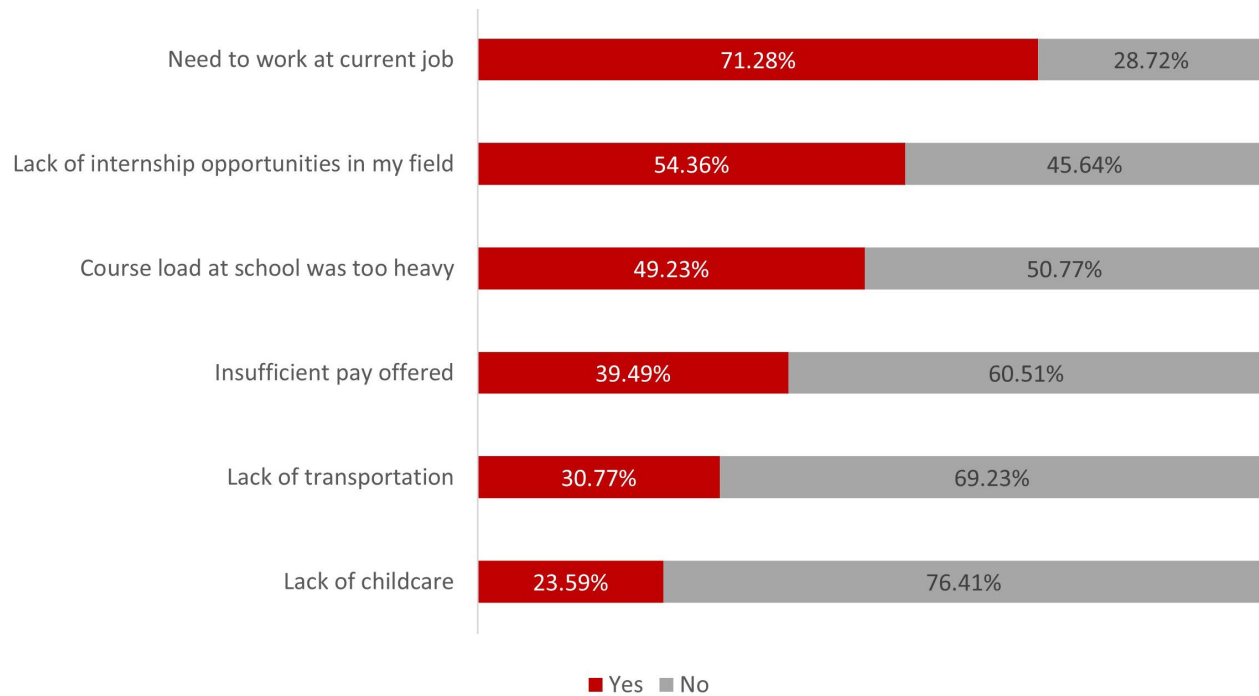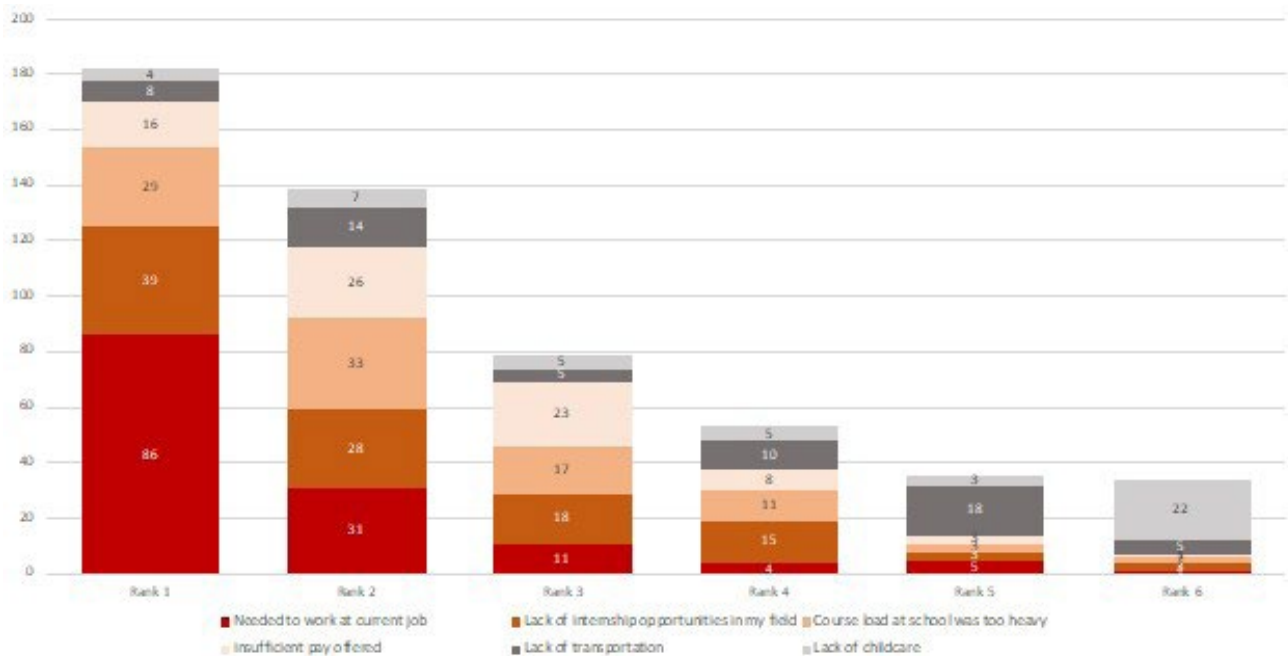**Figure 18.1. In the past 12 months, why were you not able to pursue an internship? (n = 195)**

Legend: ■ Yes ■ No

Reason	Yes	No
Need to work at current job	71.28%	28.72%
Lack of internship opportunities in my field	54.36%	45.64%
Course load at school was too heavy	49.23%	50.77%
Insufficient pay offered	39.49%	60.51%
Lack of transportation	30.77%	69.23%
Lack of childcare	23.59%	76.41%

Figure 18.2. Ranking of the reasons from most important to least important for not pursuing an internship.

Legend: ■ Needed to work at current job ■ Lack of internship opportunities in my field ■ Course load at school was too heavy ■ Insufficient pay offered ■ Lack of transportation ■ Lack of childcare

Interview Themes: What concerns and difficulties do students describe as impacting their decisions about whether to participate in internships?

Data from phone interviews with 22 GLTC students helped to further highlight some of the concerns and issues that students consider when deciding whether to pursue an internship. Students discussed several barriers to their participation in internships, including concerns regarding the application process, a lack of time and challenges with time management, financial considerations, and travel to the internship location. Additionally, the current COVID-19 pandemic added an additional layer of stressors and difficulties, including internships being cancelled or delayed, health concerns, increased familial responsibilities, financial worries, and/or challenges related to required internship coursework. These themes and examples are summarized in Table 3 and further elaborated upon in the text that follows.

Table 3. GLTC Student Concerns and Difficulties in Participating in Internships (n = 22)*

Concern	Example
The application process	Unclarity and insecurity about internship requirements, necessary qualifications, application materials and steps, as well as timing
Lack of time and time management	Difficulty balancing an internship with other responsibilities such as work, family, and courses
Financial considerations	Concerns about unpaid internships or expenses involved in an internship, inability to take an internship because of the need for financial stability and/or a conflicts due to a current job(s)
Need to travel	Stressors and logistical concerns connected to traveling to an internship site
*Note: *This sample includes GLTC interview participants who had and had not participated in internships*	

Students had varying concerns regarding the application process. Several students were doubtful about internship requirements and whether they qualified for internships, for example, because of their status as international students or transfer students. One student stated: "Since I'm in that transfer option, I'm not sure if they provide us internships. I'm not sure if I can just apply for internships in general myself privately. I'm not sure if I can do that since I just have an associate's degree."

For many students it was not possible to apply for internship positions, due to conflicting work or familial responsibilities. Most students in an internship mentioned struggling to balance multiple obligations. As one student describes: "Sometimes, like, being in school and working that internship, I still had my own job, like, separate from internship. Being on time was a little difficult. I would definitely have to say time management."

In connection with balancing internships and work, most students discussed financial concerns. For many, "unpaid work" or maintaining their regular job, were the deciding factors steering then away from pursuing

an internship. Asked how she financially managed to complete an unpaid internship, as a single mother of two children while in college, this student responded: "I don't know. I still say I don't know how I'm making it (…) Financially it hurts the most, but I'm still here and my kids still eat. So still got a roof over our head. I can't complain."

A lack of reliable transportation (e.g. car or public transportation) or the need to relocate for an internship was a concern for several students. One student, in particular, described not being able to pursue an internship, because she was not able to drive a car due to an anxiety disorder: "I kind of have pretty bad anxiety issues and driving is something that tends to not go well with that, so I kind of rely on my family to give me a lot of rides and whatnot. So, it would—if it would kind of not really work out with that"

While we highlight these four major concerns separately here, they may intersect and affect students simultaneously. For example, one student may be struggling financially, may not have a car, and may also be juggling multiple responsibilities.

VIII. RESULTS: What types of internships are students at the Great Lakes Technical College taking and what are their experiences?

In this section, we present findings regarding the types of internship programs that students at GLTC have participated in, and their experiences during their internships. After using survey data to describe key features of students' internship programs (e.g., organization type, sector, length, compensation), we then report how students described their internship with respect to characteristics that the literature suggests are associated with positive student outcomes and experiences (e.g., supervisor support, task clarity, etc.). Finally, we use interviews to discuss students' observations about their internship experiences.

Survey results: Features of internship programs

Of the 80 GLTC students in our study sample that had taken an internship in the past year, (as shown in Figure 19), 48.8% did so at a for-profit company, 41.3% did so at a non-profit organization, and 10% participated in an internship with a government agency. As Figure 20 demonstrates, 21.3% of these students participated in internships in the Health Care and Social Assistance industries, 17.5% participated in industries providing services other than those shown in the graph (and not including Public Administration services), and 10% participated in Accommodation and Food services. Another 30% of the student interns were, more or less, evenly spread across industries providing Waste Management and Remediation services (6.3%), the Arts and Entertainment (8.8%), Public Administration services (6.3%), and Retail Trade (8.8%). The remaining (approximately) 20% of students were split between all other industries shown in figure 20.

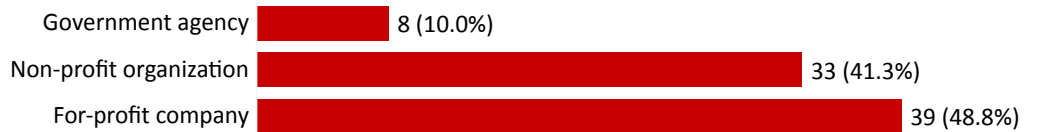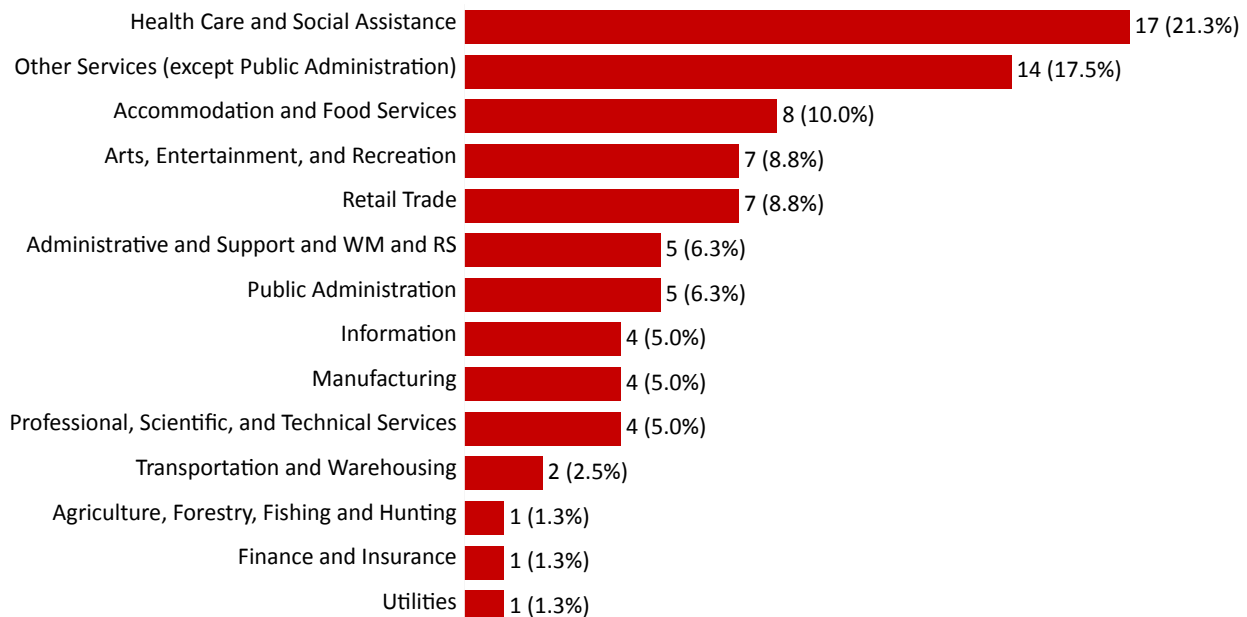**Figure 19. In what type of organization did you participate in this internship? (n = 80)**

Government agency	8 (10.0%)
Non-profit organization	33 (41.3%)
For-profit company	39 (48.8%)

Figure 20. In what industry or field was this internship? (n = 80)

Health Care and Social Assistance	17 (21.3%)
Other Services (except Public Administration)	14 (17.5%)
Accommodation and Food Services	8 (10.0%)
Arts, Entertainment, and Recreation	7 (8.8%)
Retail Trade	7 (8.8%)
Administrative and Support and WM and RS	5 (6.3%)
Public Administration	5 (6.3%)
Information	4 (5.0%)
Manufacturing	4 (5.0%)
Professional, Scientific, and Technical Services	4 (5.0%)
Transportation and Warehousing	2 (2.5%)
Agriculture, Forestry, Fishing and Hunting	1 (1.3%)
Finance and Insurance	1 (1.3%)
Utilities	1 (1.3%)

Note: WM = Waste Management, RS = Remediation Services

In terms of duration of the internship, as shown in Figure 21, the largest group of survey respondents participated in an internship that lasted more than 24 weeks (28.8%). They are followed by the group who participated in an internship that lasted between 17-20 weeks (25%). On average, students in our sample took internship positions that lasted about 22 weeks. Furthermore, 55% of these students were compensated for their internship work, whereas 45% were not (Figure 22). The average hourly wage for these students was $13.47, which is above the estimated living wage for one adult with no children in the metropolitan area ($11.62) (MIT Living Wage Calculator, 2019).

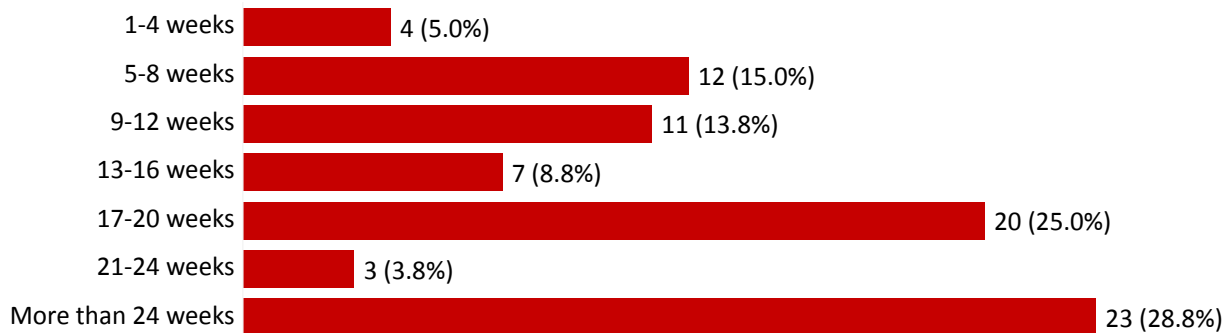**Figure 21. For how many weeks did you participate in this internship? (n = 80)**

Weeks	Count (%)
1-4 weeks	4 (5.0%)
5-8 weeks	12 (15.0%)
9-12 weeks	11 (13.8%)
13-16 weeks	7 (8.8%)
17-20 weeks	20 (25.0%)
21-24 weeks	3 (3.8%)
More than 24 weeks	23 (28.8%)

Figure 22. Was the internship paid or unpaid? (n = 80)

	Count (%)
Paid	44 (55.0%)
Unpaid	36 (45.0%)

Survey results: presence of internship characteristics associated with positive student outcomes

Next, we turn to one of the primary research questions driving this study: What is the structure and format of the internship programs in which GLTC students are participating? Examining this issue, we focus on features of internships that the research literature suggests are associated with positive student outcomes.

Link between academic program and internship

One of the core principles of experiential education is the integration of academic or theoretical concepts with opportunities to apply new knowledge in hands-on situations. Research on internships indicates that close coordination between academic coursework and internship experiences is linked to interns' satisfaction (e.g., Hergert, 2009).

For GLTC students who participated in an internship, 80% (n = 64) felt that their internship was very related or extremely related to their academic coursework (Figure 23).

Figure 23. How related do you feel your internship was to your academic program? (n = 80)

Relatedness	Count (%)
A little related	4 (5.0%)
Somewhat related	12 (15.0%)
Very related	25 (31.3%)
Extremely related	39 (48.8%)
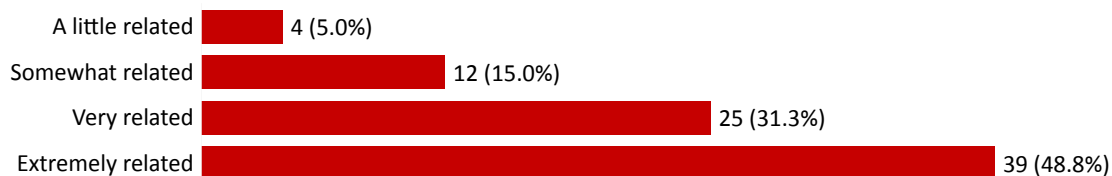
Perceived supervisor support

Next, the literature indicates that supervisors' active support of interns' career development and on-the-job satisfaction is strongly associated with positive student outcomes (McHugh, 2017). Students rated four questions regarding how supportive their supervisors were by choosing from 1 = *not at all*, 2 = *a little*, 3 = *some*, 4 = *quite a bit*, to 5 = *a great deal*. The average score for the four questions equals 4.13 with a standard deviation 1.06. The four questions were: (1) In this internship, how much did your supervisor care about your well-being? (2) In this internship, how much did your supervisor care about your satisfaction at work? (3) In this internship, how much did your supervisor appreciate the amount of effort you made? (4) In this internship, how much respect did you feel you received? Below we report results from two of these items as examples.

Among the GLTC sample students who had recently participated in an internship, 72.6% (n = 58) reported that their supervisors cared about their satisfaction at work either quite a bit or a great deal (see Figure 24), and 82.6% (n = 66) reported that their supervisors appreciated the amount of effort they made either quite a bit or a great deal (see Figure 25). Taken together, these represent important indicators of supervisory support.

Figure 24. In this internship, how much did your supervisor care about your satisfaction at work? (n = 80)
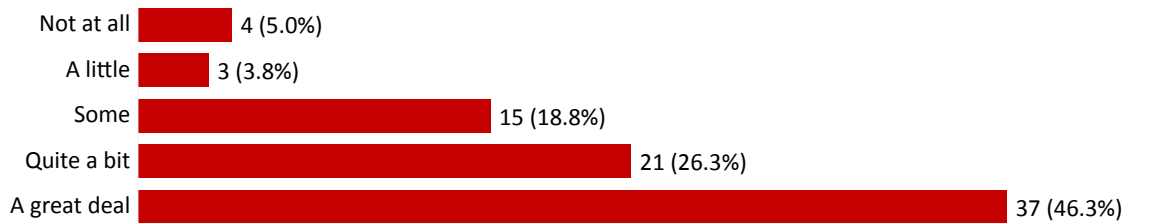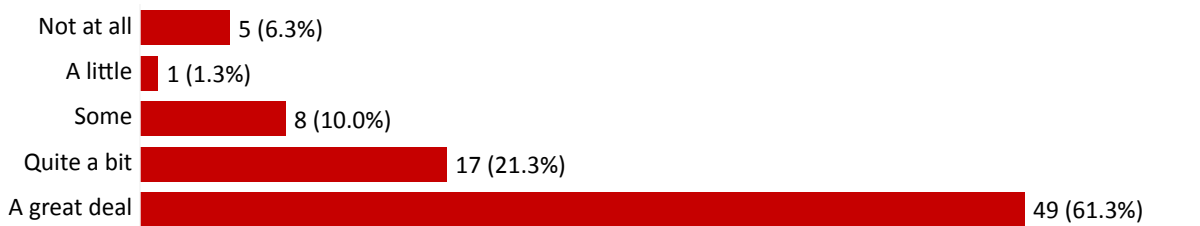
Response	Count (%)
Not at all	4 (5.0%)
A little	3 (3.8%)
Some	15 (18.8%)
Quite a bit	21 (26.3%)
A great deal	37 (46.3%)

Figure 25. In this internship, how much did your supervisor appreciate the amount of effort you made? (n = 80)

Response	Count (%)
Not at all	5 (6.3%)
A little	1 (1.3%)
Some	8 (10.0%)
Quite a bit	17 (21.3%)
A great deal	49 (61.3%)

Supervisor mentoring

Another aspect of supervisor behavior found in the literature to be positively associated with intern satisfaction is supervisor mentoring. This pertains to the provision of direction and feedback regarding task performance and career planning. For the survey, this construct was measured using five questions with a five-point Likert scale from 1 = never to 5 = extremely often. The average score for the five questions equals 3.64 with a standard deviation 1.02. The five questions are: (1) How often did your supervisor suggest specific strategies for achieving career goals? (2) How often did your supervisor encourage you to try new ways of behaving in the job? (3) How often did your supervisor give you feedback regarding job performance? (4) How often did your supervisor give you assignments that presented opportunities to learn new skills? (5) How often did your supervisor help you finish tasks or meet deadlines that otherwise would have been difficult to complete? Below we report results from two of these items as examples.

Taken together, students from GLTC who participated in internships seemed to have an overall positive opinion about the mentoring role of their supervisors. More than half of the GLTC participating students (51.3%, n = 41) reported that their supervisors encouraged them to try new ways of performing on the job either very often or extremely often, and 71.3% (n = 57) reported they received feedback from their supervisors either very often or extremely often. Ambivalent answers to both of these questions (i.e. reporting they received suggestions to try new ways or feedback only "sometimes") amount to 31.3% in the case of the former question, and only 16.3% in the case of the latter question (see Figures 26 and 27). In general, the less favorable views on supervisor mentoring for all items in the survey never surpass a fifth of the students who participated in internships.

Figure 26. How often did your supervisor encourage you to try new ways of performing in the job? (n = 80)
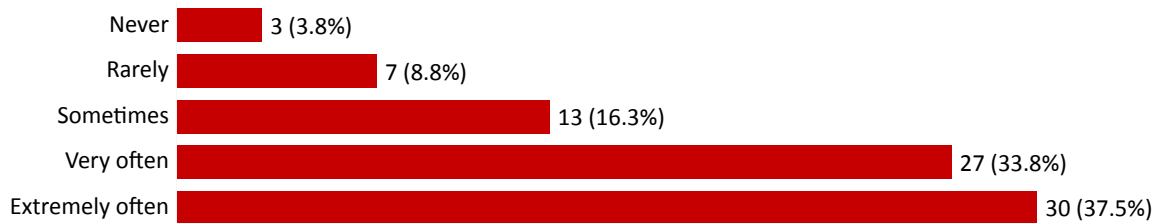
Never	6 (7.5%)
Rarely	8 (10.0%)
Sometimes	25 (31.3%)
Very often	20 (25.0%)
Extremely often	21 (26.3%)
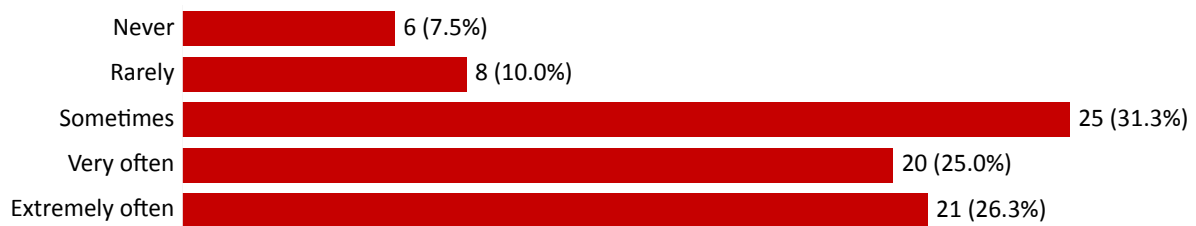
Figure 27. How often did your supervisor give you feedback regarding job performance (n = 60)

Never	3 (3.8%)
Rarely	7 (8.8%)
Sometimes	13 (16.3%)
Very often	27 (33.8%)
Extremely often	30 (37.5%)

Goal clarity

Task goal clarity, or clear expectations regarding work products and their evaluation, is associated with reduced stress and increased satisfaction on the internship site (Beenen & Rousseau, 2010). For example, students who complete internships that are poorly designed and lack meaningful work may end up working on ill-structured and poorly managed tasks (Frenette, 2013). Task goal clarity was measured using two questions with a five-point Likert scale from 1 = *not at all clear*, 2 = *a little clear*, 3 = *somewhat clear*, 4 = *very clear*, to 5 = *extremely clear*. The average score for the two questions equals 3.94 with a standard deviation 0.98. Below we report results from these items (see Figures 28 and 29).

The results indicate that the majority (77.5%, n = 62) of participating GLTC students felt that they were given very clear or extremely clear explanations about the tasks to be completed in their internship. A similar proportion of students (76.3%, n = 61) felt the goals to be accomplished were either very clearly or extremely clearly stated to them by their supervisor.

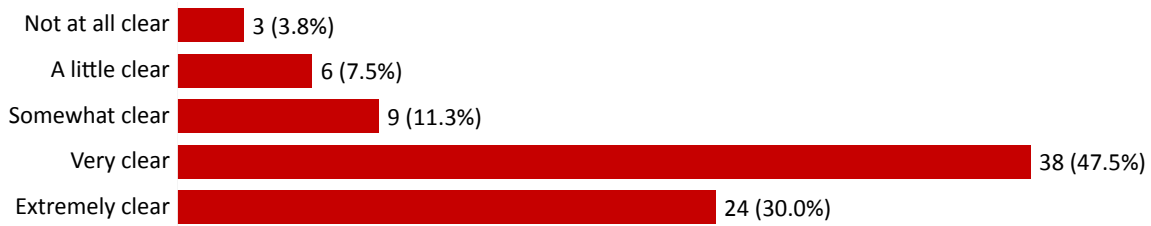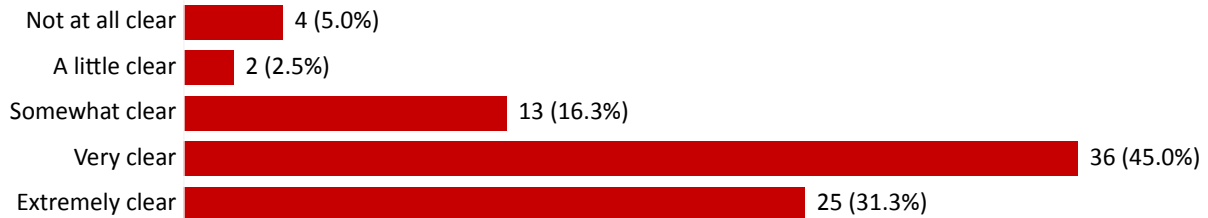**Figure 28. In this internship, how clear you felt about the tasks to be completed? (n = 80)**

Not at all clear	3 (3.8%)
A little clear	6 (7.5%)
Somewhat clear	9 (11.3%)
Very clear	38 (47.5%)
Extremely clear	24 (30.0%)

Figure 29. In this internship, how clear you felt about the goals to be accomplished? (n = 80)

Not at all clear	4 (5.0%)
A little clear	2 (2.5%)
Somewhat clear	13 (16.3%)
Very clear	36 (45.0%)
Extremely clear	25 (31.3%)

Task autonomy

In addition to benefiting from clearly defined tasks, interns also report higher rates of satisfaction when they are given autonomy and discretion to perform the tasks assigned to them (McHugh, 2017). Task autonomy was measured using two questions with a five-point Likert scale from 1 = *none*, 2 = *a little*, 3 = *some*, 4 = *quite a bit*, to 5 = *a great deal*. The average score for the two questions equals 4.03 with a standard deviation 1.10. Below we report results for these items (see Figures 30 and 31).

For GLTC students, 73.7% (n = 59) reported having considerable flexibility in how they completed their work and 68.8% (n = 55) reported having adequate freedom to decide how to do their work, indicating that for these students the internship provided some opportunity to function with autonomy in the workplace.

Figure 30. In this internship, how much flexibility did you have in how you completed your work? (n = 80)
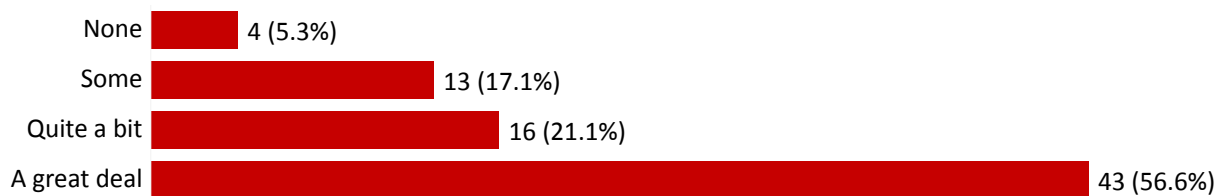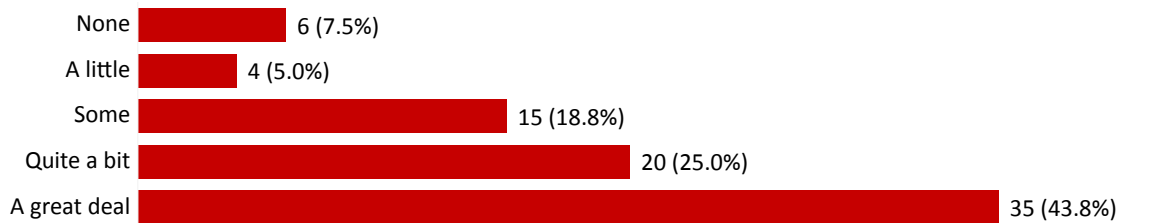
None	4 (5.3%)
Some	13 (17.1%)
Quite a bit	16 (21.1%)
A great deal	43 (56.6%)

Figure 31. In this internship, how much freedom did you have to decide how to do your work? (n = 80)

|	
None	6 (7.5%)
A little	4 (5.0%)
Some	15 (18.8%)
Quite a bit	20 (25.0%)
A great deal	35 (43.8%)

Task similarity to entry-level jobs

Finally, one of the persistent questions in the literature is whether interns are provided with work that is of equal difficulty to entry-level employees (Hora, Wolfgram & Thompson, 2017). This construct was measured using one question with a five-point Likert scale from 1 = *not at all similar*, 2 = *a little similar*, 3 = *somewhat similar*, 4 = *very similar*, to 5 = *extremely similar*. The average score for the question was 3.95 with a standard deviation 0.93.

The results indicate 73.8% (n = 59) of the participating GLTC students considered their internship tasks very similar or extremely similar to those of entry-level positions. Only 7.6% (n = 6) of participating GLTC students considered their internships tasks not at all similar or a little similar to those of an entry-level position (see Figure 32).

Figure 32. During your internship, how similar in nature were your tasks to those in entry level jobs in the organization? (n = 80)

Not at all similar	1 (1.3%)
A little similar	5 (6.3%)
Somewhat similar	15 (18.8%)
Very similar	35 (43.8%)
Extremely similar	24 (30.0%)
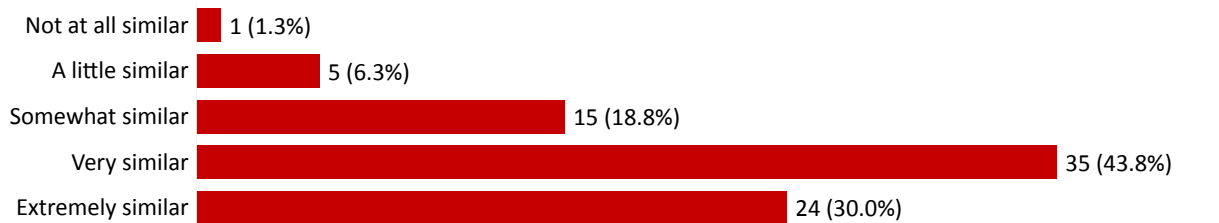
Interview results: What were students' experiences with their internship?

In addition to these results from our online survey, we held phone interviews with 22 GLTC students. Eleven of these students had participated in an internship and described several key features of their internship experiences, including supervision and autonomy, coordination with their academic program, and task relevance and compensation. These themes and examples are summarized in Table 4 and further elaborated upon in the text that follows.

Table 4. Great Lakes Technical College Student Experiences in Internships (n = 11)*

Concern	Example
Supervision and autonomy	Quality of supervision, mentorship, feedback, and relationship with supervisor
Coordination with academic program and internship requirements	Internship requirements (e.g. course requirements), communication with academic staff, academic credits, and the relation of course content to internship tasks
Task relevance and relation to coursework	Relevance of tasks performed at internship to student's interests or career goals and their academic courses
Compensation	Pay as a factor of the internship experience
Notes. *This sample only includes those GLTC interview participants who had internships.	

As a major factor shaping their internship experience, students emphasized the relationship with their supervisor. Many described their supervisors as new role models or as sources of motivation or pointed out specific traits or skills they had learned from their mentors. For example, one student describing her mentor states: "She is - she knows her stuff. I watched her in court. She - she inspired me to go ahead and continue my education." Mentors also seemed to play a key role in socializing students into the new working environment and introducing them to workplace etiquette and values. As one student pointed out, her mentor showed her that "if you're going to be in law enforcement you really, really have to know that you, like, you really have to trust your other people, like, your partners and stuff." Furthermore, students often highlighted a guided and gradual increase of responsibility and autonomy as a positive learning experience. One student notes:

> "She coached me along and showed me the ropes from how to do everything, how to ask people questions, if I needed to. She showed me how to write the notes and everything. She looked over my notes, we did mock interviews. She pretty much got me to a position where they were comfortable enough to let me go out. (...)"

Students often discussed academic requirements that shaped their internship experience and communication with academic staff in preparation for and throughout the course of the internship. Many students were enrolled in an GLTC internship course requiring reports and regular check-ins. Most students characterized this communication as a positive, supportive experience. As one student describes:

> "Yes, I found that very helpful, especially if like you needed to cut that internship short, like if it just wasn't the right fit. They were really good about trying to find you another one right away and then going with you through the process of switching and also the proper way of kind of telling them that you were going to switch or cut that internship early. So, that was really nice."

Some students reflected critically on the internship and the accompanying course as a compulsory requirement for graduation, which posed financial and logistical challenges for them. As this student points out:

> "there are other people that were thinking like, oh, I could have taken a different class instead to cover that credit or not take that class at all and I would have been fine. But now they have to do it and now they have to figure out how they're going to be able to go to those job sites given like location or timing and if it's going to work out with their scheduling."

Task relevance and alignment with their career goals was an important factor for students' perceptions of their internship experiences as either positive and fulfilling or "a waste of time". The majority of students stated that they were able to apply knowledge from their courses to their internships and/or related experiences from their internships to course content. As this student states:

> "I'm actually taking my family law class this semester. And so that's, kind of, coincided with things that I have been doing at the internship, so I—I definitely understand the course work a lot better than I would have if I had never done any—any of these things before. And definitely, like, other classes I've taken have, you know, kind of, better prepared me for what to expect when working with clients and filling out forms and things like that."

All students addressed compensation for internships. Some of the students we interviewed discussed how a lack of compensation influenced their choice of internship sites—leading them to forego unpaid or low-paid internships for paid internships—whereas students with access to financial support stated that compensation was not a factor in their decision-making process. Besides the four major aspects outlined here, students also discussed internship characteristics and interconnecting aspects, such as project-based learning or the relationship of the internship to their career goals.

IX. RESULTS: Outcomes of internships

The impacts that internships have on students is one of the most important questions facing the field of higher education and workforce development, given their growing prominence in educational policy and programming. In empirical research on internships, this question is answered by tracking changes in variables such as employment status, wages, or vocational self-concept over time. In fact, our research team will be following the panel of students who participated in T1 of our study at GLTC for at least two additional years, with these questions being addressed in 2021 and 2022. For this cross-sectional analysis of T1 data, we report outcomes in terms of satisfaction with the internship and student perceptions of how well (or how poorly) the experience enhanced their knowledge, skills, and career aspirations.
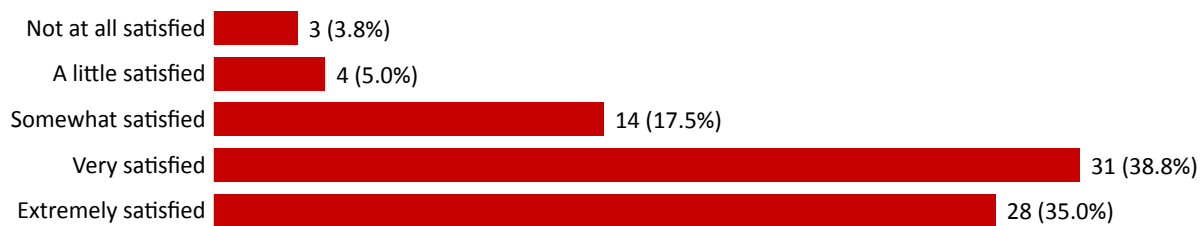
Survey results: Outcomes of internships
Level of satisfaction with internship experiences

An important indicator of the usefulness and impact of an internship experience is how students themselves perceive their experience. For this issue we asked a single question regarding overall satisfaction where students rated themselves from 1 = *not at all satisfied*, 2 = *a little satisfied*, 3 = *somewhat satisfied*, 4 = *very satisfied*, to 5 = *extremely satisfied*. The average score for the question was 3.96 with a standard deviation of 1.04.

Of the students who had completed an internship in this sample, 73.8% (n = 59) of them reported that they were very satisfied or extremely satisfied with their internship experience, and 17.5% (n = 14) said they were somewhat satisfied, leaving less than 9% (n = 7) of students reporting they were only a little or not at all satisfied with their experience (see Figure 33).

Figure 33. How satisfied were you with your internship experience? (n = 80)

Not at all satisfied	3 (3.8%)
A little satisfied	4 (5.0%)
Somewhat satisfied	14 (17.5%)
Very satisfied	31 (38.8%)
Extremely satisfied	28 (35.0%)

To investigate the relationship between internship program features and students' internship satisfaction, we conducted correlation and multiple regressions analyses. Please see Table 2 in Appendix B for the correlation and multiple regression results. The results indicate that supervisor support, supervisor mentoring, goal clarity, relatedness to academic program, autonomy, and similarity to entry-level jobs are all positively correlated with students' internship satisfaction with coefficients ranging from 0.39 to 0.83. After controlling for other variables, our multiple linear regression analysis showed that students that perceived they received greater supervisor support and mentoring also reported higher levels of satisfaction (see Table 2 in Appendix B).

Developmental value of the internship experience

Next, we examine the impact of program structure on another important outcome of internships – students' perception of how much their internship experiences influenced their academic learning and career development (i.e., developmental value). This Developmental Value scale was developed based on the work by McHugh (2017) and Nghia and Duyen (2019), and consists of 10 items of two sub-scales using a 5-point scale from 1 = *none*, 2 = *a little*, 3 = *some*, 4 = *quite a bit*, to 5 = *a great deal*: a) five items regarding the developmental value of academic learning with an average score of 3.96 and standard deviation of 0.90; and b) five items regarding the developmental value of career development with a similar average score of 3.82 and a standard deviation of 0.95.

The first scale was measured using 5-items: (1) This internship helped me to better understand the knowledge I learned in my courses. (2) The internship gave me opportunities to apply knowledge from my coursework to real-world situations. (3) The internship gave me opportunities to identify academic knowledge gaps that needed to be filled. (4) The internship helped me to recognize what I should focus on studying in my program. (5) The internship motivated me to change from theory-focused to practice-focused learning. The second scale was measured by 5-items: (1) This internship helped me to clarify my career goals. (2) This internship provided me with important skills relevant to my chosen career. (3) The internship gave me opportunities to learn new career-related skills. (4) The internship helped me to identify specific organizations where I can apply for jobs in the future (including the internship site). (5) This internship helped me to become more confident in my ability to pursue future career opportunities. We report below the results from two items of each sub-scale as examples (see Figures 34-37).

Findings indicate 77.5% (n = 62) of participating GLTC students considered their internships providing quite a bit or a great deal of opportunities for them to apply knowledge from coursework to the real-world. Of GLTC participants, 68.8% (n = 55) reported internships as valuable in terms of providing quite a bit or a great deal of opportunities for them to identify academic knowledge gaps. Additionally, when reflecting on the value of internships for career development, 75% (n = 60) of participating GLTC students valued the skills they learned at internships as quite a bit or a great deal important for their career development, and 63.8% (n = 51) reported internships as quite a bit or a great deal helpful in clarifying their career objectives.

Figure 34. This internship gave me opportunities to apply what I have learned in my courses to real-world situations. (n = 80)

Category	Value
None	2 (2.5%)
A little	3 (3.8%)
Some	13 (16.3%)
Quite a bit	26 (32.5%)
A great deal	36 (45.0%)
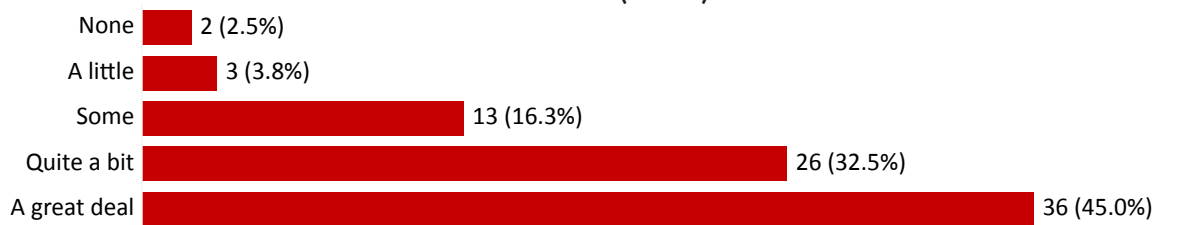
Figure 35. This internship helped me identify my academic knowledge gaps. (n = 80)

Category	Value
None	4 (5.0%)
A little	5 (6.3%)
Some	16 (20.0%)
Quite a bit	32 (40.0%)
A great deal	23 (28.8%)
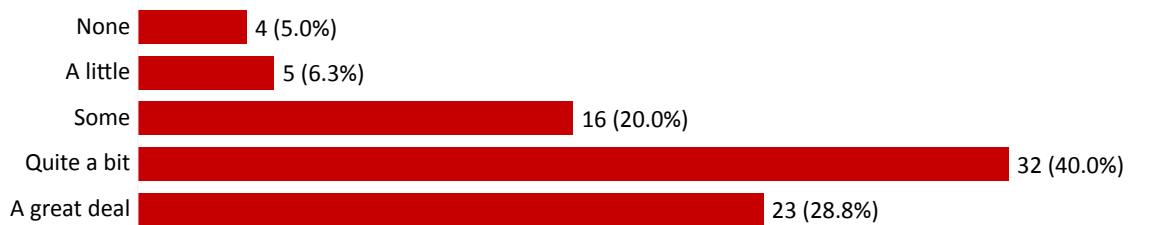
Figure 36. This internship provided me with important skills relevant to my chosen career. (n = 80)

Category	Value
None	3 (3.8%)
A little	5 (6.3%)
Some	12 (15.0%)
Quite a bit	31 (38.8%)
A great deal	29 (36.3%)
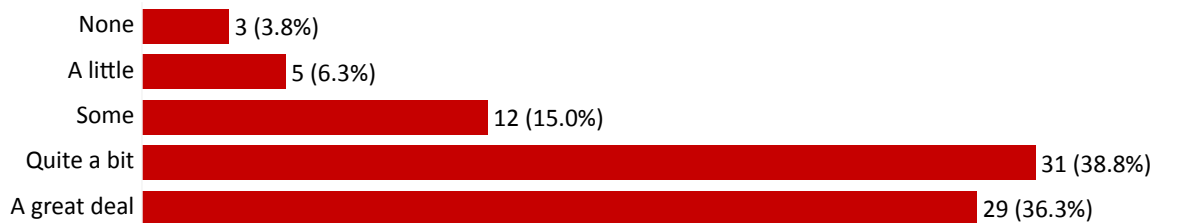
Figure 37. This internship helped me clarify my career goals. (n = 80)

Category	Value
None	3 (3.8%)
A little	2 (2.5%)
Some	24 (30.0%)
Quite a bit	27 (33.8%)
A great deal	24 (30.0%)

To investigate the relationship between internship program features and the developmental value of students' internship experiences, we conducted correlation and multiple regression analyses. Please see Table 3 in

Appendix B for the correlation and multiple regression results. The results indicate that supervisor support, goal clarity, supervisor mentoring, autonomy, relatedness to academic program, and similarity to entry-level jobs positively correlate with students' perceived internship developmental value, with coefficients ranging from 0.35 to 0.67. After controlling for other variables, multiple regression results demonstrate that students that perceived they received greater supervisor mentoring also perceived a higher level of developmental value of their internship experiences (see Table 2 in Appendix B).

We also looked at the developmental value of academic learning and career development respectively. Regression results show that, in both models, students that perceived they received greater supervisor mentoring were more likely to report greater internship developmental value to both their academic learning and their career development .

These results indicate that there are a variety of structural factors that may contribute to a students' perception of whether or not their internship was a satisfactory and valuable experience. Thus, as institutions and employers work towards improving these co-curricular experiences, these factors should be observed as areas worthy of further attention, investment, and improvement.

Interview results: Outcomes of internships

The students who had internships and participated in our phone interviews (n = 11) described how the internships affected them, most often discussing learning and skills development, exploration of their professional field and career goals, increased self-confidence and motivation, networking and resume boosting, and "real-world" experience. These themes are summarized in Table 5 and further elaborated upon in the text that follows.

Table 5. Perceived Outcomes of Internship Participation Great Lakes Technical College (n = 11)*

Concern	Example
Learning and skill development	Learning and practicing of skills specific to the field or job, for example technical skills, specialized knowledge, or particular communication skills relevant to the field
Exploration of field and career goals	Learning about possible career paths, changing, or narrowing the focus for a specific career trajectory, determining a positive or negative career fit
Exploration of self and increased self-confidence or motivation	Becoming aware of personal strengths or weaknesses, developing a feeling of personal independence and efficacy, of increased motivation directed toward personal growth or toward finishing the academic program
Networking and resume boosting	Developing connections with other people in the field or workforce who can support future job searches and including an internship experience on a resume to improve employability
Real-world experience	Applying skills learned in the classroom to the work environment or gaining hands-on experience that is different from a classroom setting
This sample only includes those GLTC interview participants who participated in internships.	

Students gave examples for a vast array of skill development and learning experiences as a result of their internships. These skills and experiences ranged from specialized technical skills (e.g. filling out specific reports or using certain software) to soft skills, such as professional communication or time management. For example, one student described that she learned how to remain calm and de-escalate tense situations through verbal and non-verbal communication:

> "I've seen improvement in myself on you know, what to say, what not to say, you know it's all about your body language. Always remain open. Always leave yourself a way out. You know, never let no one back you in a corner. But I've learned a lot."

Students reported gaining clarity regarding their career goals and interests, as well as gaining knowledge about specific career paths within their fields. For one student, the internship presented new career options she had not considered before:

> "I went into occupational therapy thinking I was going to work in pediatrics and I think after this placement, geriatrics isn't out of the, you know, the running at all now. And it was a lot to do with the feedback I got from the vets and my clinical instructor that maybe that is a good career path for me as well."

These positive experiences often helped students to believe in their own abilities and motivated them to pursue a certain career path. As this student describes, the internship:

> "gave me the push I needed to continue my education. When I started the internship I was in my first human services class. And I kind of wanted to quit because you know, it's not a lot of money in the human services field. So I got kind of down about that. But then - actually being out and working in that field gave me the push I needed to continue. And now I'm at the end, you know? (…) It gave me the confidence that I needed, the boost that I needed to know money isn't everything."

As a positive aspect of their internship experience, several students highlighted the opportunity for networking and the importance of building their resume. Addressing this, one student reflects:

> "Well, I definitely feel like when you apply for jobs, they always ask for like a year or two of experience right away. Doing this internship, you can at least show that you have some experience and you're not just going in there with none. So, I feel like that plays a huge role with like future jobs and things like that as well."

Finally, many students were appreciative of the opportunity to apply theoretical knowledge outside the classroom to "real-world" situations. One of the students illustrates how she was able to identify complex and overlapping concepts during her work with an actual patient in her internship—ones she had originally learned about class, yet in a contained and simplified manner. She states:

So, there's a lot of times that in the field you realize that all of a sudden—you know, there's so much more to it than just thinking of someone that may be without a home. You know, they may have all of these other things that they're dealing with and it's not necessarily something that you learn about in school. In school you really learn about every individual aspect. I mean, you know, you have an idea that these could all be combined, but I

think that was a big thing for me too, to realize that every single person, every single case, every single patient is so individualized, you know.

This overview demonstrates that students reflected on the highly diverse outcomes of their internship experiences, many of which are not exhausted by the most frequently discussed aspects discussed above.

X. RESULTS: STUDENT EXPERIENCES WITH COVID-19

Interviews with students occurred following restrictions to face-to-face classroom teaching in Spring, 2020. As such, we sought to understand how the COVID-19 pandemic had impacted students. In particular, we were interested in exploring how students' academic trajectories, career development, and internship experiences had been impacted by the onset of the pandemic.

Students described multiple impacts of the pandemic on their internship plans or experiences. For many, financial and familial priorities shifted, making investing resources into the internship application process impossible. For example, several students, who were working in the retail and service industry prior to the pandemic lost their jobs, making finding ways to save and earn money a crucial new priority. As one student stated: "One thing is that so I'm not what they call, I'm not considered an essential worker. So, I have been laid off from both of my jobs. Both my jobs are retail." Another student described the new experience of being responsible for her kids full time:

> "I've been at home since mid-March. I have not left my house - I'm stuck in the house with my two kids, which is different because this has never been - this never happened in my life. I am now a home teacher - I teach - I'm teaching my kids and you know I'm helping them with you know, their studies and I'm trying to keep up with my studies. (…) But just my main focus is to keep my family safe, you know? (…) I have a three-year-old and a ten-year-old. I've been home with them every single day."

The new situation added various stressors to students' day-to-day lives, including social-emotional as well as logistical challenges. For example, students described difficulties with the transition to online classes, struggles with the lack of social interaction, feelings of loneliness, and stress due to supply shortages and difficulties reaching the grocery store. One student described her frustration with long lines at polling places, misinformation about the voting process and lack of social distancing and hygiene:

> I spent two hours waiting at one of the fire places we were able to vote. By the time I got in and actually did my name and stuff they told me I was at the wrong place. So, I went to the right place and they actually closed at eight. (…) People weren't really, nobody was really doing the social distancing. I mean, you had a couple people but it wasn't enough. (…) It was putting a lot of people at risk because at the end of the day they're saying that you don't know if you have it until 14 days later.

Some students' who already struggled with anxiety prior to the pandemic, stated experiencing increased difficulty focusing, sleeping, studying, and working. One student, asked about challenges due to the pandemic, responded:

> It's not so much COVID itself, but the changes it did to one of my classes. It ended up giving us a new course workload that I felt—well, that I feel is a bit much for a one-credit course with, like, six weeks left in

the semester. And that has activated my anxiety and depression a bit. I've had a couple of bad days since the email about the assignment change came out and I think it's starting to affect my sleeping because I'm having issues just having a long, restful sleep.

These circumstances not only made it difficult for many students to invest time and resources into finding an internship position, it also posed a challenge when adapting to changing internship plans. For several students, who had already been accepted for an internship position, these opportunities were often canceled or delayed. Sometimes, internships were offered in adapted online versions. One student's field placement, for example, was postponed, while his accompanying class was transferred online:

> So, yeah, I'm happy that they had decided to go forward with our online class, like I mentioned earlier, it's changed, so a lot of the requirements and things that we were doing in that class that would apply to our fieldwork and internship placement has to be kind of tweaked into something else. (...) So, I think everybody is just getting real creative right now. I have the opportunity to take a couple of classes online for our accrediting exam for occupational therapy. (...) Obviously, nobody really knows when we're going to have the opportunity to take that because we still have to finish our last fieldwork placement.

For many students a canceled or delayed internship affects their graduation timeline. As one student illustrates:

> "So, we still have to do our final, you know, internship, and, for us, our fieldwork placement can't be done online. You know, you need real world, hands-on is what the accrediting body states you can take the exam and then, you know, have your degree. So, yeah, we're kind of just—everyone is just sitting around, waiting for places to start accepting students again.

None of the students we spoke offered that they were actively trying to find an online internship during the pandemic. But, they generally expressed skepticism about the opportunities available and their ability to apply and be accepted. They also felt that companies would be less likely to hire interns given the current economic uncertainty on account of the pandemic.

Besides these added stressors and uncertainties, several students were able to see and make use of positive aspects of the new circumstances. Some students appreciated "having more time to read" or "reconnecting with family". Others were able to develop new self-care strategies like walks or hobbies at home and online. One photography student for example found ways to "stay sharp" while at home:

> So, I am lucky enough I have saved up and bought my own equipment. So, how I'm kind of dealing with COVID-19 situation is I'm really just trying to stay sharp doing photography and kind of experimenting at home with like different macro photography or like long telephoto. So, I can be shooting at home and be trying like a completely new, like, facets of my craft.

Other students managed to continue their internships online, such as this student, who was interning as a paralegal assistant:

> I started it in January and now our semester got a little screwed up because of the COVID-19. (...) However they closed down a lot of the courthouse including where our program was running so we've been doing it online using—using Zoom so that we—as long as the client—the client can call in and do it over the phone. Or they can do it via video. And obviously it's much easier on video so that we can help them. We have to type out the forms for them and ask them all the questions and everything.

In summary, our interviews highlight the great variety of students' experiences with the pandemic and its impacts on their internships. Thanks to the quick responses and support from university staff and educators, most students were able to fully transition to online learning. The interviews do however also call attention to a trend: It seems that low-income students who were juggling multiple responsibilities and relying on university support prior to the pandemic may have more difficulty accessing online internships, adapting to changed plans or compensating for cancelled internships. Students who could rely on existing social, emotional, and financial supports (e.g. parents, spouse, savings, stable employment) seemed to adapt more easily to the unexpected circumstances and resulting challenges.

XI. RECOMMENDATIONS FOR PROVIDING EQUITABLE AND HIGH-QUALITY INTERNSHIPS FOR ALL

Research on internships shows that, while they are widely perceived as positive experiences and are often desired to supplement students' formal educational journey, they are not necessarily available to everyone. Simply making internships available does not guarantee that all students can take part in them. Important barriers stand in the way between internship opportunities and students wanting to take them. Often, these barriers have to do with students' characteristics.

Similarly, not every internship opportunity leads to a positive, enriching experience. The literature and the results presented in this report show that a lot depends on how internships are structured by educators and employers, and experienced by students (Kuh & Kinzie, 2018; O'Neill, 2010).

In this final section of our report, we provide recommendations for students, educators, and employers for increasing the availability of high quality and equitable internship programs for all students at GLTC.

What can students do

The literature suggests that students are drivers of their self-exploration, career exploration, and career planning and management. Interested students often are the ones who must take initiative to actively pursue quality internship experiences, which may serve as important work-based learning opportunities. Research suggests that positive internship experiences can help college students better know their interests, boost skills, and become adaptive to future challenges and changes.

What can students do?

- Actively look for assistance in their search for internship opportunities.
- Communicate with career and academic advisors, so that internship opportunities can be pursued in combination with current employment, making the most of both commitments.
- Learn to make the most of the internship experiences by asking for strong support and mentoring from their supervisors.
- Articulate their short- and long-term goals before they embark on an internship program, so that supervisors know how to best orient their experience to their benefit.

As shown in section VI of this report (see, especially, figures 2-8 and 14-16), students who took part in our study consist of a very heterogenous group in terms of demographic and socio-economic status, educational background (enrollment type and program of study), and in terms of their life circumstances as they pursue their studies at GLTC. While we found few significant statistical differences along these lines in terms of students' participation in internship programs, only 19% of the students in our sample participated in an internship. Observed differences remain suggestive of potential patterns, and more than half of the students who had not participated in an internship reported that they were interested in pursuing one.

Considering the results presented in this report, we offer some suggestions hoping that they contribute to making internships accessible to more students, while also signaling the aspects that may make these experiences more fulfilling for the students involved in them.

- Students could be encouraged to actively search for resources, connections, and assistance when looking for and deciding on participating in an internship. This includes utilizing campus resources and asking for support and guidance from faculty, advisors, and peers. Overall, students need to be proactive in discovering opportunities and support systems available within the GLTC community, and if these are lacking, to be vocal to their institution that such support is needed.
- More than 70% of GLTC students work either part-time or full-time jobs. Students could benefit from consulting with career advisors in order to make arrangements and fit flexible internship opportunities into their schedules. Students could also explore the possibility of turning their current jobs into internship opportunities. Students' reports show that, in many cases, their current jobs provide them with training and skills that are beneficial for their career development.
- At internships, the results presented in the report demonstrate that the factors mostly associated with students' satisfaction include supervisor support and mentorship. Students could benefit from professional development opportunities that allow them to learn how to make the most of their experiences by utilizing their supervisors, asking for guidance and feedback, and learning from their relationships with professional mentors.
- Students should articulate their own short-term and long-term goals before entering an internship. Additionally, these goals need to be communicated with their academic program coordinator/faculty and internship site supervisor.

What can faculty and institutions do?

Educators can play a critical role in building the academic foundation for students' future career by connecting students to educational- and career-related opportunities, and by cultivating students' professional development. Educators can also disseminate information about internships to students, facilitate connections with employers who host internships, and help students to anticipate how their course learning might apply to future internships and work settings.

We offer the following suggestions to strengthen educators' and campus leaders' impacts on student development and to facilitate high quality internship programs at GLTC:

- Leaders at GLTC may gain insights from the literature that demonstrates that developing professional connections, networking, and securing professional opportunities is strongly related to the particular endowment of financial, cultural, and social capital that students and their families hold. Most of the students we observed in the sample belong to families who are socio-economically disadvantaged. These

students may need extra help in connecting with potential internship sites and even envisioning clear career-development paths for themselves.

- Institutional leaders at GLTC may benefit from carefully scrutinizing the information presented in the "institutional capacity for internship programs" section of this report. In doing so, educators are encouraged to consider areas that represent strengths, weaknesses, and opportunities for growth. Educators and campus leaders are encouraged to pay close attention to ensuring that issues related to equitable access and program quality are addressed before expanding or mandating internships for students.

What can educators do?

- Be attentive to the needs of students who may lack the financial, cultural and social capital needed to secure professional opportunities, and make the extra effort in helping connect these students to opportunities.
- Devise a strong coordination scheme across campus that works to centralize information and promote opportunities for all students.
- Understand the reasons why students do not take internships and work with the to overcome some common barriers.
- Develop a network of former interns and employers that can facilitate the experience to new students.

- There are a number of formalized coordination efforts that educators can enact and that support the effectiveness of internship programs. This coordination can involve: (1) centralizing communication between different university-stakeholders on sharing resources; (2) having midterm and more frequent check-in meetings as well as a final end-of-internship evaluation meeting with the students and supervisors; and (3) assigning and evaluating a reflective writing assignment or other projects for the student to process their experiences. Perhaps some of this reflective writing or other products can be highlighted on the GLTC website.
- Educators and institutional leaders are encouraged to recognize their students' needs and life circumstances that may function as obstacles to participating in an internship. For example, educators may benefit from communicating with students who do not participate in internships to understand their reasons, seek resources to resolve obstacles to participating in an internship (if desired), and continue to build on students' work or life experiences that may contribute to their professional and personal development.
- Given that a large portion of GLTC students are working students, educators can work with employers to devise ways to turn employment arrangements into meaningful experiences that advance students' careers. Alternatively, educators and career advisors can work with students to find and participate in flexible internship opportunities without having to turn down gainful job opportunities.
- Educators and campus leaders also may benefit from maintaining connections with former students and also building an alumni network for the purpose of internship referrals.
- Educators and campus leaders can support desirable internship outcomes by carefully working with students and employers to design, implement, and continuously evaluate students' experiences within the internship program. These efforts will help educators and campus leaders to ensure that quality work, adequate supervision and mentorship, and relevance to the students' academic program are maintained.

What can employers do?

Employers' recruitment, work setting and design, mentorship, and feedback directly impact students' internship experiences and outcomes. Therefore, employers who host internships or who are planning to host internships are encouraged to attend to the following:

- In addition to the labor and recruitment goals that employers may have for their internship programs, internships should primarily be considered as an educational and developmental opportunity for the students. Internship goal clarity is critical to student internship satisfaction. Employers can also enhance this opportunity for students by carefully designing internship programs to include clear goal settings and explanations as well as consistent quality supervision and mentorship by the supervisor or by other senior staff in the organization (peer mentorship programs may also be supportive).

- Supervisors are encouraged to allow for some task autonomy for their interns by encouraging their creativity, while providing clear objectives and explanations as well as structured guidance regarding expectations for interns. It is also important for supervisors to provide interns with periodic feedback that highlights their progress and accomplishments while also providing clear feedback on growth areas and proposed action plans for improvement. Feedback can also be regularly solicited from interns in order to assess and evaluate the internship program and to optimize learning goals and outcomes.

- Employers also are encouraged to value interns' efforts and time by providing emotional support and financial support, when possible. Since many students named financial barriers as a primary obstacle to internship participation, employers interested in recruiting and attracting more diverse applicant pools may also consider financial compensation as a mechanism for successfully recruiting applicants who may not otherwise be able to access and participate in internship experiences.

- The relevance of the internship experience to the academic program plays a critical role in students' internship satisfaction as well as their perceptions of the value of internships to their career development. Internship supervisors are encouraged to discuss short- and long-term academic and career related goals with their interns and adjust the internship program when possible to provide experiences that can support these individual student goals.

> ## What can employers do?
>
> - Provide consistently strong support and mentoring to the interns at their organizations.
> - Be attentive to the short- and long-term goals of interns, and accommodate internship experiences so that they are meaningful learning experiences for them.
> - Provide clear guidance on tasks, and meaningful positive and critical feedback in a way that helps students in their career exploration and development.

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APPENDICES

Appendix A: Research Methodology

The College Internship Study is a mixed-methods, longitudinal study (Creswell, 2014; Tashakkori & Teddlie, 2003) of internship programs with three distinct yet interrelated components: (1) an online survey of students while in college and then the workforce, (2) interviews with students while in college and then at work, and (3) interviews with career advisors and other educators involved in internship program administration and with area employers who host interns from the college. Primary data is collected in two phases: Spring of 2020 (T1) and then 12 months later in the Spring of 2021 (T2). The study aims to document the effects of internship participation and program characteristics on a variety of student outcomes, group differences (e.g., socioeconomic status, race, gender, discipline, and first-generation status) in internship participation and student outcomes, and institutional experiences with hosting and implementing internship programs.

The survey of students and other data collection activities were conducted in Spring 2020; the current report is based on this data. The online survey was administered to students in the second half their degree programs. In order to focus on students' experiences in internships and not on other internship-like programs, data collection for the survey excluded students in programs with a required practicum (e.g., education fields). The definition of the term "internship" that we employed for the survey and other data collection activities was as follows:

An internship is a position held within an established company or organization while also completing a college degree, certificate, or diploma program. It involves working in a position clearly designated as an "internship" by the host organization, and performing tasks similar in nature and skill-level to tasks done by entry-level employees in the organization.

To participate in the survey, students were contacted with an email recruitment letter, which directed them to a unique password-protected URL. Via the link, the students could review the IRB-approved consent form and signal their consent to participate in the research by entering their full name and birthdate. Students who completed the survey via this link received a cash incentive by mail.

This survey contains questions regarding whether or not a student has participated in an internship in the last 12 months while in college, their employment status, and demographic characteristics. Students who answered "no" to having participated in an internship in the last 12 months while in college also answered questions about their career preparation and any factors that may have dissuaded them from pursuing an internship (e.g., finances, child care), as well as questions that measure their level of career adaptability. For students who answered "yes" to already having participated in an internship while in college, questions were asked about the design features of their internship (e.g., compensation, type of mentoring, job-site activities, etc.), along with questions about demographics, career adaptability, and their satisfaction and perceptions of the developmental value of their internship experience.

Descriptive statistics and Cronbach alpha coefficients of the measuring instruments

	Mean	SD	α
Supervisor support	4.13	1.06	0.95
Supervisor mentoring	3.64	1.02	0.92
Goal clarity	3.94	0.98	0.90
Task autonomy	4.03	1.10	0.83
Relatedness to academic program	4.24	0.89	
Similarity to entry-level jobs	3.95	0.93	
Satisfaction	3.96	1.04	
Development value	3.89	0.90	0.95
Academic developmental value	3.96	0.90	0.91
Career developmental value	3.82	0.95	0.91
Career adaptability composite	3.81	0.70	0.95
Concern	3.77	0.80	0.87
Control	3.88	0.78	0.88
Curiosity	3.74	0.81	0.88
Confidence	3.86	0.81	0.91

The results of the survey were analyzed using methods such as Pearson Chi-square test and linear probability regression to explore the effects of demographic background on internship participation. In addition, correlation, simple regression, and multiple regression was utilized to explore influential factors on college students' internship satisfaction and development value.

After completing the survey, the students were asked if they were willing to be contacted to participate in a phone or online interview and to be contacted a year later to participate in the follow-up survey. Students who had and had not participated in internships at the time of the T1 survey were asked to participate in the follow-up survey, thereby constituting distinct groups that can be statistically compared to one another during analysis. Additionally, students who participated in an interview at T1 will be asked if they can be contacted for a follow-up online or phone interview.

For the interviews in T1, students were separated into those who have participated in an internship (n = 11) and those who have not (n = 11). Prior to the start of the interview, students were given the opportunity to review the IRB-approved consent forms, ask questions, and to voluntarily consent to participate in the research by signing the form. Students received a cash incentive after consenting to participate in the audio-recorded interview. Students who had an internship experience during college answered questions about the nature of their experience, support from both the academic program and their job-site supervisor, their general level of career adaptability, and so on. For those who have not had an internship, questions focused on the reasons why they have not participated in an internship, as well as their level of career adaptability, and so on.

Lastly, we conducted an audio-recorded interview with educators, career advisors, university personal, and with employers at GLTC who support student internships. A list of potential recruits from among the GLTC staff and area employers was provided by our colleagues at GLTC. Prior to the start of the interview, participants were given the opportunity to review the IRB-approved consent forms, ask questions, and to voluntarily consent to participate in the research by signing the form. The educator interview focused on the types of resources available for their college and/or company, their views on the sufficiency of these resources, and issues related to designing, managing, and implementing effective programs. Lastly, documents from career services, academic departments, and employers that offer internships were also collected and analyzed for details about design features of internship opportunities.

Interviews were transcribed and analyzed in MaxQDA software, which is a discourse analysis software for sorting and coding transcript data, and ultimately, to identify themes and patterns in the corpus. First, two researchers created a procedure to segment the interviews based on the interview protocol. Both researchers practiced with the protocol and coded a set of interview in parallel. The few discrepancies that were identified were resolved and the rest of the interviews were coded by the two researchers. Next, the researchers reviewed the corpus of transcripts to identify themes in the data regarding the obstacles to participating in internships and the characteristics of internship experiences (Ryan & Bernard, 2003; Corbin & Strauss, 2014). The codes developed through this process were checked by the pair of researchers applying them in parallel to a selection of 10% of the transcript data. Researchers identified and resolved a few discrepancies and applied the codes to the entire corpus.

The limitations of this study include the small sample size of the student interviews which could not be representative of students from the wide range of academic programs offered at GLTC. This was also a non-random sample, with students self-selecting into the pool of volunteers who we contacted and attempted to schedule for interviews. Finally, in our study we did not examine whether or not study participants had participated in other work-based learning programs (e.g., apprenticeships), and the potential impacts of these experiences on their learning and career goals.

Appendix B: Results of Regression tables

Table 2. Results of correlations and multiple regression analysis of internship program features and students' internship satisfaction

Predictor	Correlation with Satisfaction	Internship Satisfaction	
		β	p
Supervisor support	.83***	.65***	< .001
Supervisor Mentoring	.77***	.32**	.007
Goal Clarity	.69***	.00	.969
Relatedness to academic	.45***	.03	.730
Task autonomy	.56***	-.01	.904
Similarity to entry-level jobs	.39***	-.05	.561

Dependent variable: Internship satisfaction

Control variables: gender, race, academic program, GPA, employment status

The multiple regression model produces and adjusted R^2= 0.77, F(24,49) = 10.98, p < 0.001.

The multiple regression model equation: Satisfaction = 0.65 * supervisor support + 0.32 * supervisor mentoring. These two variables are statistically significant and contribute to this multiple regression model.

β refers to the standardized regression coefficient that demonstrated the change in internship satisfaction per unit change in predictors.

Given the low sample size available for running this model, these results should be interpreted with some caution.

*p < 0.05, **p < 0.01, ***p < 0.001

Table 3. Results of correlations and multiple regression analysis of internship program features and students' development value

Predictor	Correlation with Development value	Developmental Value Composite	
		β	p
Supervisor support	.58***	.22	.201
Goal Clarity	.60***	.03	.864
Supervisor Mentoring	.67**	.41*	.011
Link between academic program and internship	.45***	.09	.511
Task autonomy	.37***	-.03	.793
Similarity to entry-level jobs	.35**	-.03	.799

Control variables: gender, race, academic program, GPA, employment status,

This multiple regression model produces an adjusted R^2 = .45, F(24, 49) = 3.44, p < 0.001.

The multiple regression model equation: Development value = 0.41 * supervisor mentoring. Supervisor mentoring is the only variable that had a significant positive regression weight.

β refers to the standardized regression coefficient that demonstrated the change in internship satisfaction per unit change in predictors.

Given the low sample size available for running this model, these results should be interpreted with some caution.

*p < 0.05, **p < 0.01, ***p < 0.001

The mission of The Center for Research on College-Workforce Transitions (CCWT) is to conduct and support research, critical policy analysis, and public dialogue on student experiences with the transition from college to the workforce in order to inform policies, programs, and practices that promote academic and career success for all learners.