UNIVERSITY OF WISCONSIN OSHKOSH

Results from the one-year longitudinal follow-up analysis for the College Internship Study at University of Wisconsin-Oshkosh

Matthew Wolfgram, Jared Colston, Zi Chen, Mary Dueñas, & Matthew Hora

WISCONSIN CENTER FOR EDUCATION RESEARCH | UNIVERSITY OF WISCONSIN–MADISON

MARCH 2021

CCWT CENTER FOR RESEARCH ON College-Workforce Transitions

The College Internship Study

University of Wisconsin-Oshkosh 1-year follow-up: Executive Summary

This report includes findings from the second round of data collection (Spring 2020 or T2) at the University of Wisconsin-Oshkosh (UW-Oshkosh) for The College Internship Study. The data collected at T2 include follow-up interviews with 11 students and a follow-up online survey of 149 students who participated in the first round of data collection (Spring 2019 or T1). These data are analyzed to provide faculty, staff, and leadership at UW-Oshkosh with evidence-based insights about the impacts of internship participation on students' lives and careers. This second round of the College Internship Study at UW-Oshkosh is guided by the following research question: What are the changes concerning students' internship experiences and outcomes comparing longitudinal data at two points in time?

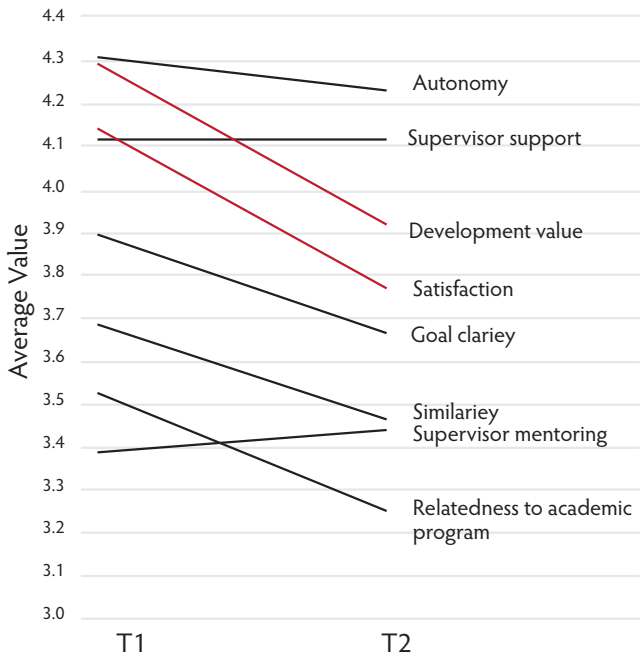
KEY FINDING 1

Two thirds of respondents participated in an internship at either T1 or T2. This table shows that roughly 33% did not participate in an internship at either time.

Internship Group	Total (%)
Neither T1 nor T2	49 (32.9%)
T1 but not T2	48 (32.2%)
T2 but not T1	30 (20.1%)
Both T1 & T2	22 (14.8%)

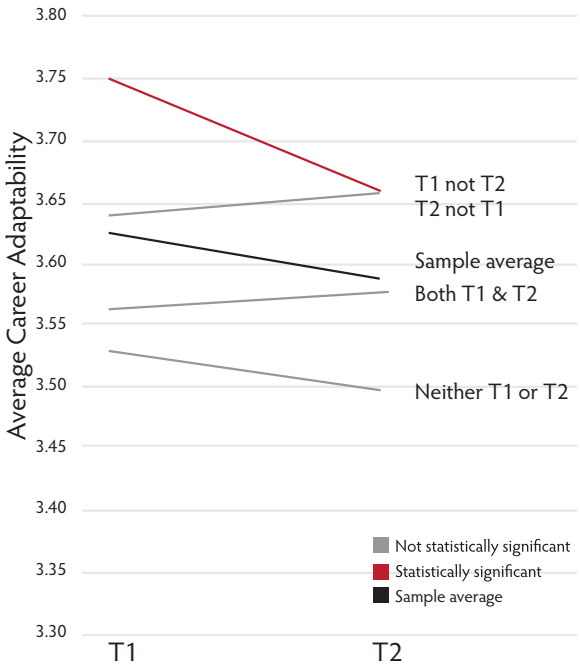
KEY FINDING 2

For students who participated in internships at both Time 1 and Time 2, though most metrics for internship quality declined over time, **there was a slight increase in quality of mentorship in Time 2.** This figure shows the changes in average scores for each measure of internship experience between T1 and T2. **There were also statistically significant decreases in developmental value and internship satisfaction.**



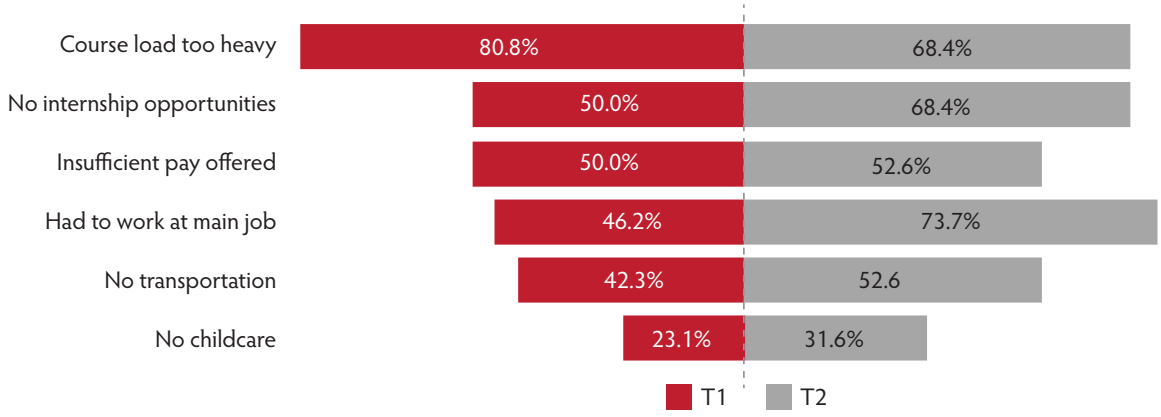
KEY FINDING 3

Students' reported ability to adapt to career changes decreased between T1 and T2 on average. This figure shows the change between T1 and T2 broken down by when students participated in internships. **The average decrease is largely driven by students who took an internship in T1 but not T2.** This change is statistically significant, shown with a red line.



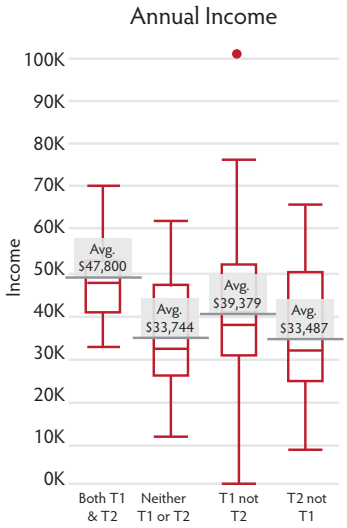
KEY FINDING 4

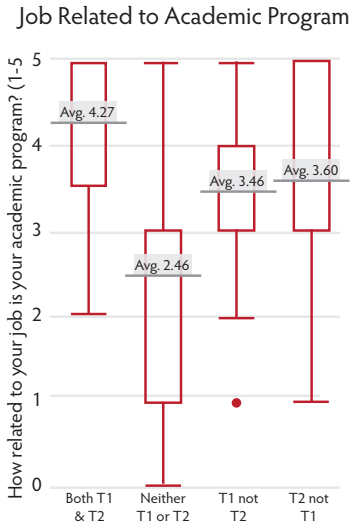
Of the 49 students who did not participate in an internship at either time, 19 reported wanting to participate in T1 while 26 reported as such in T2. This figure shows their primary reported barriers to participation compared across T1 and T2. **A heavy course load was consistently the highest reported barrier across both times, a lack of opportunity was highly reported in T1, and having to work at their current job was highly reported in T2.**

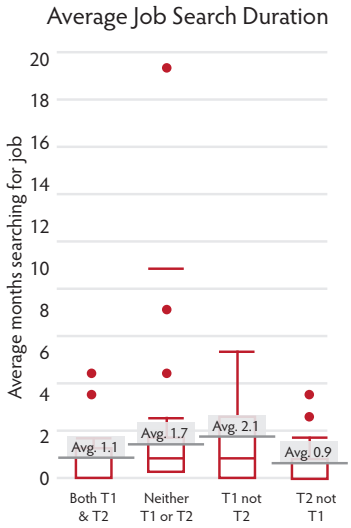


KEY FINDING 5

Graduates with some internship experience reported that their jobs were more related to their academic program compared to their peers. There does not appear to be many differences for income or length of job search, however. These three figures show the distribution based on internship participation, with the box plot showing the range of values and the averages highlighted.







KEY FINDING 6

In interviews with students who had an internship experience, several key outcomes emerged. Internships helped students to:

- Socialize into their desired profession
- Gain real-world experience
- Increase self-exploration
- Learn new skills and gain career knowledge

See the Appendix of this report, where we combined multiple public and proprietary data sources to provide a localized intern labor market analysis. These findings presented in the Appendix are intended to help contextualize the internship experiences at UW-Oshkosh with respect to the availability, competitiveness, and quality of internships in regional economy.

Contents

I. INTRODUCTION

In higher education, internships are widely considered beneficial co-curricular opportunities that help undergraduate students acquire real-world professional experience and become better prepared for their transition to the workforce. Increasingly, however, the promise of internships is subjected to empirical scrutiny as some evidence suggests that internship programs are not available to all students on account of socioeconomic and other barriers (Hora, et al., 2019), and that participating in an internship does not always yield the expected positive results (Klein & Weiss, 2011; Silva et al, 2018).

The literature on internship outcomes has largely focused on students' ability to secure a job and avoid unemployment (Baert et al., 2019; Nunley et al., 2016; Rigsby et al., 2013). Thus far, the evidence regarding labor market outcomes of internship participation continues to be mixed. Individuals' background and internship specific contexts seem to matter substantially in terms of the extent to which internships can benefit students in their job search (Klein & Weiss, 2011). Some argue that internships benefit students by affording them necessary connections rather than contributing to their practical learning (Weiss et al., 2014). Such arguments challenge the notion that internships are always a rich, experiential learning opportunity. Additionally, a myriad of studies has focused on other outcomes of internship participation, including influencing students' career decisions (Powers et al., 2018), students' work ethic and preconceptions about the professional world (Taylor, 1988), students' perceptions of employment traits (Green et al., 2011), among other studies that document positive outcomes for students (Hora et al., 2017; Gillespie et al., 2020).

Generally, most studies on employment or psychosocial impacts of internship participation are cross-sectional, with few studies that document the longitudinal impact of internships for students (Negru-Subtirica et al., 2015; Ocampo et al., 2020; Silva et al, 2018). One interesting exception is Ocampo and colleagues' recent study (2020) on the longitudinal impact of internship participation on students' level of career adaptability. Career adaptability is an important psychosocial competency, which refers to "the readiness to cope with the predictable tasks of preparing for and participating in the work role and with the unpredictable adjustments prompted by changes in work and working conditions" (Savickas, 1997, p. 254). It is measured in relation to four psychological traits that interns display at work: levels of concern, control, curiosity, and confidence (Porfeli & Savickas, 2012). Ocampo et al. (2020) conducted a survey of 173 undergraduate hotel and restaurant management students in China, measuring the career adaptability of interns and non-interns at five points in time before, during, and up to five months after the completion of their internships. They found that for the students who interned, all measures of career adaptability increased linearly overtime; whereas for the students who did not intern, there was no growth in the career adaptability except for the dimension of career concern. The findings indicate that internship participation may provide students the opportunity to acquire increased psychological skills and resources to manage career planning and adjustment, and that such a benefit may persist over time.

In contrast, Negru-Subtirica and colleagues (2015) studied 1151 adolescents with an average age of 16.45 years and found that all four dimensions of career adaptability that were characterized by high initial levels significantly decreased over time. They suggested that individuals who initially reported high career adaptability gradually become vulnerable and experienced a longitudinal decrease in career concern, control and confident, while career curiosity remained stable throughout the academic year. This finding suggests the somewhat

counter-intuitive possibility that career preparation through internships might associate with less of a feeling of career adaptability—that is, the more you know about the workforce the lower levels of career adaptability you may have. More research is required to measure various longitudinal outcomes of internship participation. Results presented in this second report, to some extent, provide more insight into these claims.

The College Internship Study is a mixed-methods, longitudinal research project that aims to document the characteristics of undergraduate students' internship experiences, investigate how internship participation is related to certain student characteristics, and analyze how participating in an internship affects the career trajectories of students. The first round of research conducted at the UW-Oshkosh resulted in a report with information regarding the internship participation rates, characteristics, and outcomes for students, as well as findings about barriers that students face when attempting to access internships. The T1 results indicated that internship participation was associated with positive outcome measures of students' career adaptability, internship satisfaction, and perceived developmental value (Chen et al., 2019). In the spring of 2020, CCWT conducted a second round of data collection at the UW-Oshkosh as part of the College Internship Study.

The survey results from this second round of research for the College Internship Study allow us to study if there are any systematic patterns over time in internship experiences and outcomes for students with or without internship experience before graduation. Specifically, we were able to compare internship experiences between Time 1 and Time 2 (e.g., supervisor support, supervisor mentoring, goal clarity, etc.), and describe changes in attitudes and perceived benefits for students who reported internship experiences at both times. Furthermore, this second round of data allows us to compare how different students fared in the labor market post-graduation. The current report provides descriptive results regarding the job search process for students who did and did not participate in internships as undergraduates, including the graduates' job search strategies, the duration of time spent finding a job, and the pay they receive upon being hired. Additionally, we analyzed students' career adaptability across T1 and T2. Table 1 summarizes the different samples and the outcomes that are presented in this report.

Table 1. Description of longitudinal sample and outcome measures

Description of sample	Sample size	Outcomes measured	Reported
Students who did not participate in an internship at either T1 or T2	n=49	Barriers to internship participation	Results section III
Students who participated in separate internships at T1 and at T2	n=22	Internship program features	Results section IV
Graduates with employment outcomes measured at T2	n=89	Job market performance	Results section V
All participating students with longitudinal psychosocial outcomes measured at T2	n=149	Career adaptability	Results section V

One-on-one phone interviews with students provide detailed narratives of students' experiences during their internship experience, and their perceptions of the outcomes and consequences of their internship. In presenting our results we place students' experiences at the center of our analyses, and hope to further inform the work of educators, employers, and career service professionals to help design better, more meaningful, and effective internship programs for college students at UW-Oshkosh.

II. SAMPLE AND INTERNSHIP PARTICIPATION

The second round of data collection took place in spring 2020 (T2), a year after the first survey was administered to students in the spring of 2019 (T1). The data collected at T2 include an online survey of students who participated in the T1 survey and one-on-one phone interviews with students who participated in focus groups at T1 (see Table 2). Specifically, the online survey was administered to the 221 students who completed the survey at T1, of which 149 responded to the T2 survey, resulting in a response rate of 67%. The survey included questions regarding student demographics, career adaptability, characteristics of internships, and post-graduation employment questions for those who had graduated or stopped attending college. In this report we only include the results that pertain to the comparisons between T1 and T2 internship experiences, as well as to the longitudinal outcomes for students who had been employed after they graduated.

Eleven students participated in one-on-one follow-up phone interviews and all but three of those students had participated in a least one internship by the time of the second round of data collection.

Table 2. Description of the Summer 2020 T2 sample

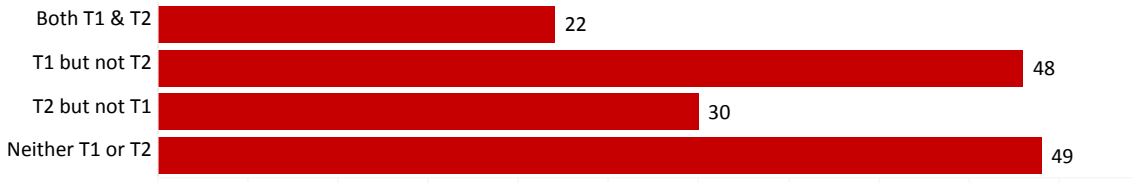
	Survey Sample	Interview Sample
Total	149	11
Gender	Male = 47 (31.5%) Female = 102 (68.5%) Transgender = 0 (0%)	Male = 2 (18%) Female = 8 (72%) Transgender = 1 (1%)
Race[1]	American Indian or Alaskan Native = 4 (2.7%) Asian = 5 (3.4%) Black = 4 (2.7%) Hispanic = 8 (5.4%) Native Hawaiian/Pacific Islander = 2 (1.3%) White = 125 (83.9%) Other = 1 (0.7%)	American Indian or Alaskan Native = 0 (0%) Asian = 0 (0%) Black = 0 (0%) Hispanic = 0 (0%) Native Hawaiian/Pacific Islander = 0 (0%) White = 11 (100%) Other = 0 (0%)
First-generation college student	Yes = 54 (36.2%) No = 95 (63.8%)	Yes = 7 (64%) No = 4 (36%)

1 For the 13 students who listed two races, we include the first race listed.

	Survey Sample	Interview Sample
Major Discipline[2]	Arts & Humanities = 17 (11.4%) Bio. Sci., Agri, & NR = 19 (12.8%) Business = 45 (30.2%) Comm., Media, & PR = 10 (6.7%) Engineering = 3 (2.0%) Health Professions = 9 (6.0%) Phys. Sci., Math, & CS = 10 (6.7%) Social Service Prof. = 11 (7.4%) Social Sciences = 25 (16.8%)	

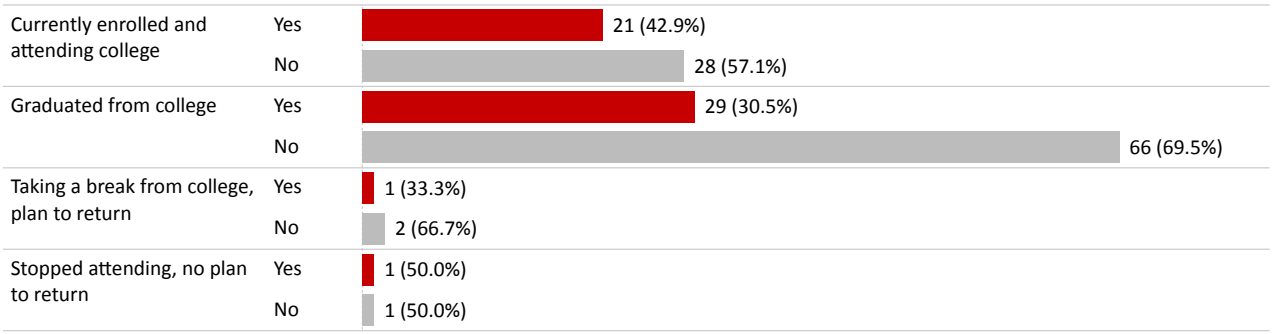
In terms of internship participation, 52 (34.9%) of the 149 survey respondents reported having participated in an internship program during the past 12 months. We analyzed the data by comparing students' internship participation across T1 and T2 and found that 30 students reported internship experience at T2 but not T1, while 48 students reported having participated in internship(s) at T1 but not T2. A total of 22 students reported having participated in a separate internship in both instances of data collection. In contrast, 49 students (51%) reported not having participated in an internship at either time (see Figure 1). Their barriers to internship participation will be explored and discussed in the next section.

Figure 1. Internship participation across T1 and T2 (n=149)



Regarding graduation status, 95 (63.8%) students had graduated by the second wave of data collection, and 49 (32.9%) students were still enrolled in college. In terms of internship participation, 30.5% (n=29) of students who already graduated took part in internship programs, while 42.9% (n=21) of those still enrolled participated in an internship (see Figure 2).

Figure 2. Internship in the Past 12 Months (Yes/No), by Graduation Status (n=149)

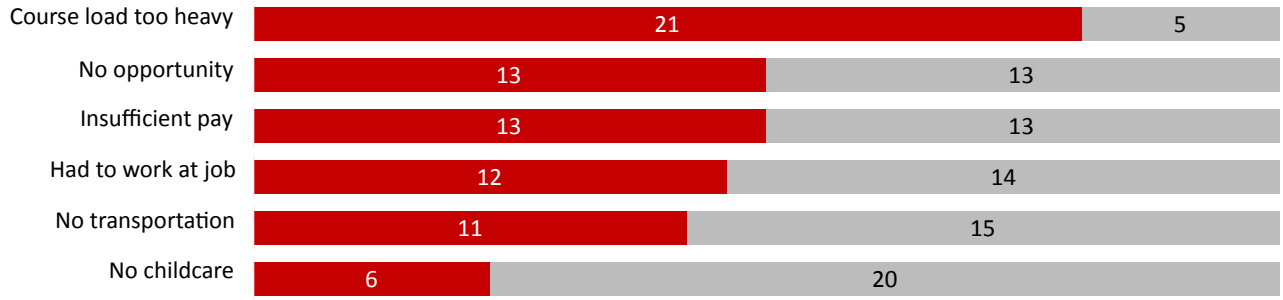


2 Based on T2 major; Majors recoded using NSSE classifications

III. RESULTS: BARRIERS TO INTERNSHIP PARTICIPATION ACROSS T1 AND T2

In this section, we present findings from the 49 respondents who reported not having participated in any internship experiences across T1 or T2. Twenty-six (53.1%) reported at T1 that they were interested in participating in an internship but were unable to participate in one, while 19 (38.8%) in T2 reported an interest but were unable to participate one. Of the 26 respondents that reported interest at T1, 15 (57.7%) reported so again in T2, suggesting that barriers to participation may persist over time for some students. Figures 3 & 4 show the breakdown of reported barriers to internship participation at T1 and T2. Figure 3 reports on those 26 who reported interest at T1, while Figure 4 reports on those 19 who reported interest at T2.

Figure 3. Barriers to internship at T1 for students who did not participate at either time. (n=26[3])



Note: Red bars represent the number of students who reported specific barriers and gray bars represent the number of students who did not report such barriers.

Figure 4. Barriers to internship at T2 for students who did not participate at either time. (n=19)

Note: Red bars represent the number of students who reported specific barriers and gray bars represent the number of students who did not report such barriers.

3 Participants could choose multiple barriers.

In both T1 and T2, a *heavy course load* was listed consistently for students as a barrier to participating in an internship. *A lack of childcare*, while remaining a concern for a handful of students across time periods, is consistently the lowest cited barrier. *Having to work at a job* increased as a cited reason in T2, suggesting there may be shifting priorities to consider for internship programs as students progressed through their studies. This change may also be due to the general decline in participation interest in T2 versus T1. Though having to work at a job increased relative to other barriers, the total number of students citing this issue only increased by 2.

IV. RESULTS: STUDENTS' INTERNSHIP EXPERIENCES ACROSS T1 AND T2

This section focuses on students who reported separate internships at T1 and T2. We compared the survey measurement scores that characterize multiple internship program features and students' experiences. We analyzed interview data to understand the reasons why students participated in multiple internships.

At Time 2, two students indicated having completed two or more internships, and 4 students decided not to pursue a second internship because they either enjoyed their first internship or wanted to enhance other technical skills. This was the case for a UW-Oshkosh music business major whose first internship provided career-relevant experiences and described her experience as "priceless." Table 3 presents a summary of each dimension of internship program features that reflect students' internship experiences. All questions were measured using a 5-point Likert scale. Consistent with T1 data, at T2, the supervisor support score was higher than the mentorship score, suggesting the need for further study to differentiate between supervisors supporting individuals and not mentoring them in a meaningful way.

Additionally, to evaluate these program features' longitudinal nature, we also compared scores of each of the measures across the T1 and T2 surveys (see Table 3). Results showed that the mean score of internship satisfaction was significantly lower for the internship measured at T2 and that overall internship developmental value was significantly lower for T2. We are hesitant to interpret these results, given the small sample size. The change could be due to chance, a general decline in experiences for the second internship, or external factors. The most likely explanation would be that T2 was measured during the COVID-19 pandemic, which surely impacted the delivery and quality of internships at T2. These results are not causal, and these explanations are simply theories.

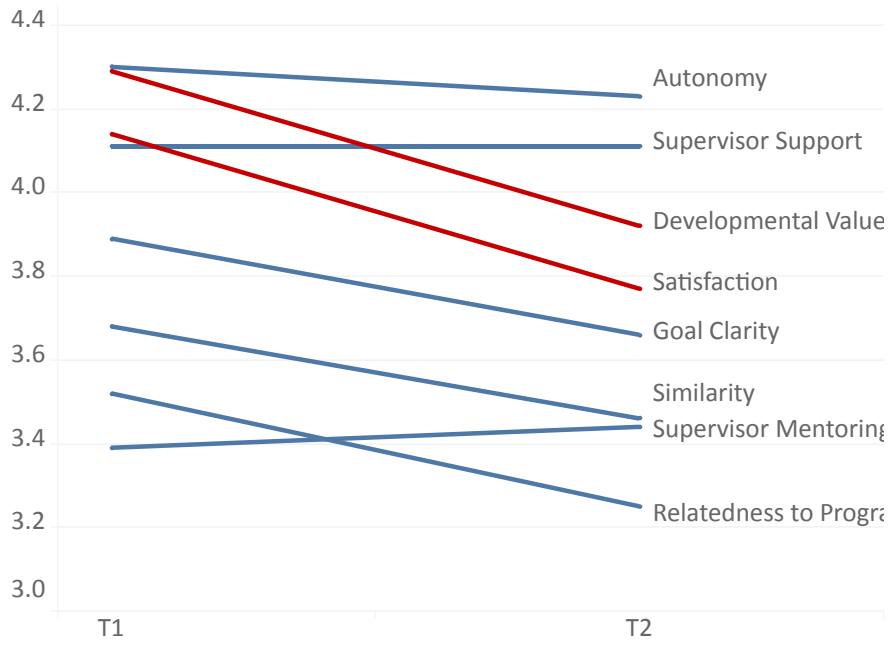
Table 3. Internship experience measurements[4] (n = 22)

Internship Program Features	T1		T2	
	Mean	SD	Mean	SD
Supervisor Support *(1=not at all, 5=a great deal)*	4.11	0.82	4.11	1.05
Supervisor Mentoring *(1=never, 5=extremely often)*	3.39	0.99	3.44	0.97
Goal Clarity *(1=not at all clear, 5=extremely clear)*	3.89	0.89	3.66	1.20
Relatedness to academic program *(1=not at all well, 5= extremely well)*	3.52	1.12	3.25	1.34
Autonomy *(1=not at all, 5=a great deal)*	4.30	0.78	4.23	1.11
Similarity *(1=not at all similar, 5=extremely similar)*	3.68	1.13	3.46	1.10
Internship satisfaction *(1=not at all satisfied, 5=extremely satisfied)*	4.14	0.94	3.77	0.92
Internship developmental value *(composite score of 10 questions, all 1-5)*	4.29	0.80	3.92	0.88

Figure 5 shows the change in these scales between T1 and T2, with the red lines indicating a statistically significant change over time.

4 The perceived **supervisor support** scale consists of four items assessing the way the internship participants evaluated their relationship with their supervisor. The **supervisor mentoring** scale assesses the provision of direction and feedback about task performance and career planning using five items. The **goal clarity** scale consists of two questions and aims to capture how clear the job duties were for the intern. The **relatedness to academic program** question measures how related a student feels the internship was to their academic program. The **autonomy scales** measure how much flexibility and freedom the participant had in his or her job. Lastly, the **similarity** question captures how similar the participant's tasks were at his or her internship to those of an employee at an entry-level position at the organization. The internship **satisfaction** question measures how satisfied students were with their internship experience. Finally, **internship developmental value** questions assess students' perception of how well the internship experience contributed to their own career development. Please refer to Time 1 technical report for detailed information of the questions for each measurement (Chen et al., 2019).

Figure 5. Change in internship experiences over time. (n=22)



V. RESULTS: JOB MARKET PERFORMANCE AND PSYCHOSOCIAL OUTCOMES

By the second wave of data collection, 95 of the 149 respondents had graduated from UW-Oshkosh. Among the 95 graduates, 89 of them (93.7%) were employed. The remaining six students who were not employed at that time attributed their unemployment to two reasons: *Personal reasons* (e.g., medical issues, family responsibilities, financial difficulty) and a *lack of employment opportunities*.

Survey results: Employment, job search, and earnings at T2

For the 89 employed college graduates, the average number of months that they searched for and found a job was 1.6 months, with a standard deviation[5] of 2.6 months. As shown in Figure 6, 47.2% (n=42) of respondents found their jobs very or extremely related to their majors in college. About 24.7% (n=22) of students reported that their current jobs were *not at all* or *a little* related to their majors, indicating a sizeable degree of discrepancy between fields of study and current career paths.

5 The standard deviation is a measure of the amount of variation of a set of values. A low standard deviation indicates that values are close to the average, and a high standard deviation means that values are spread out over a wider range.

Figure 6. How much is your current position related to the field you studied in college? (n=89)

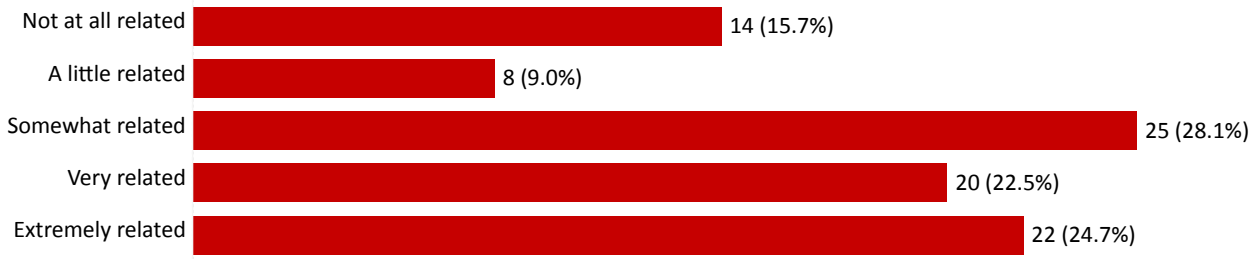
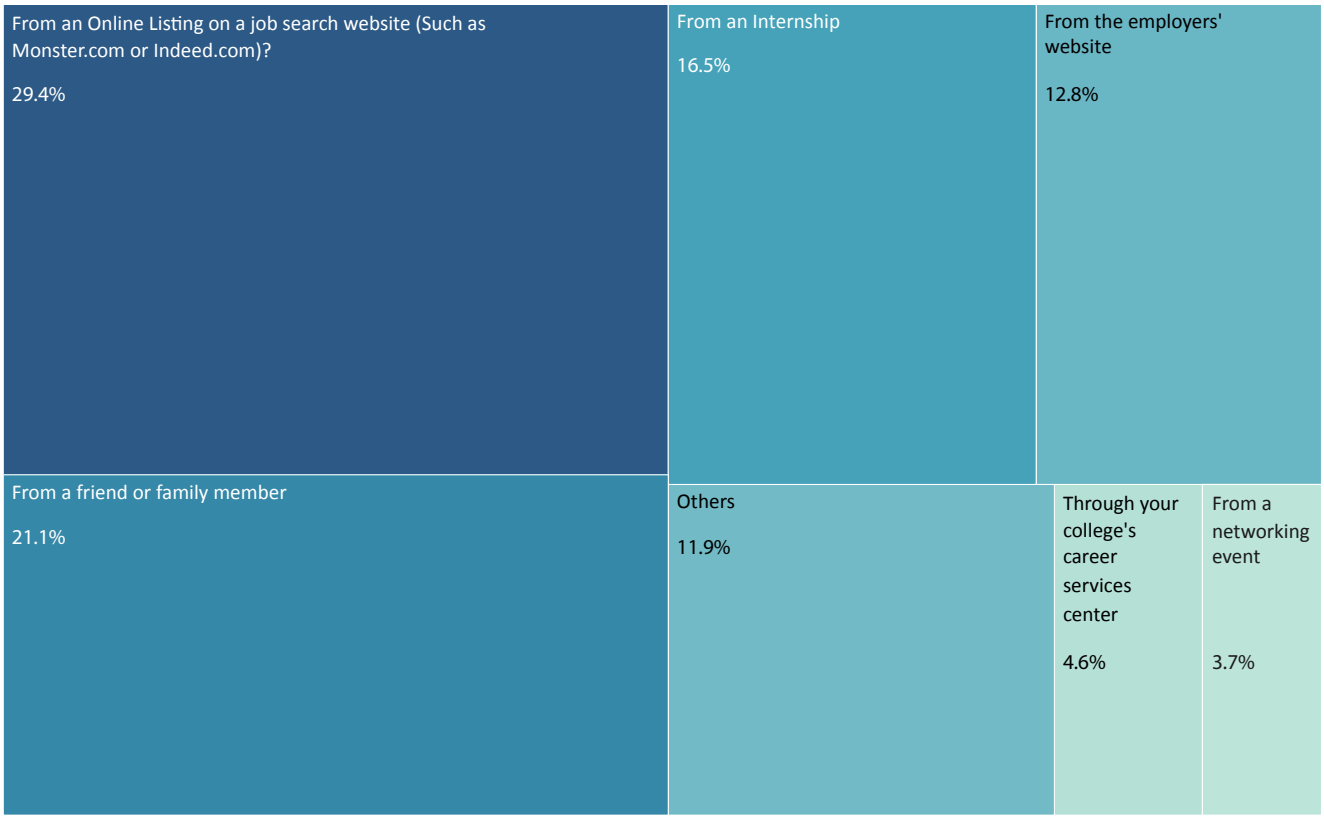


Figure 7 shows the students' job searching methods. It demonstrates that online career opportunities and various methods of networking are two major approaches to finding jobs, while internship participation exhibited limited impact.

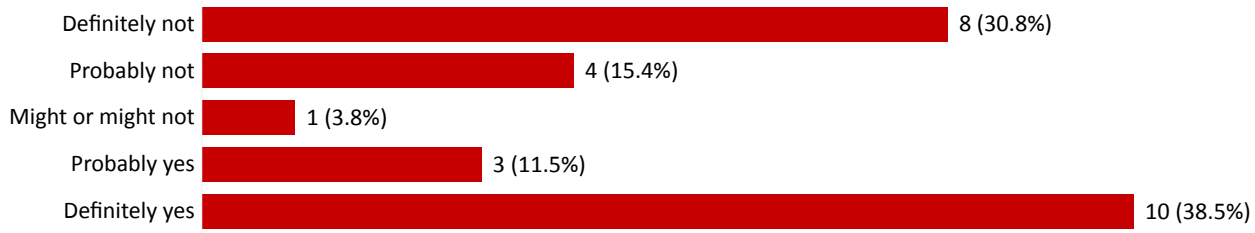
Figure 7. How did you find out about your current job? (n=89)



Note: Participants could choose multiple job search methods

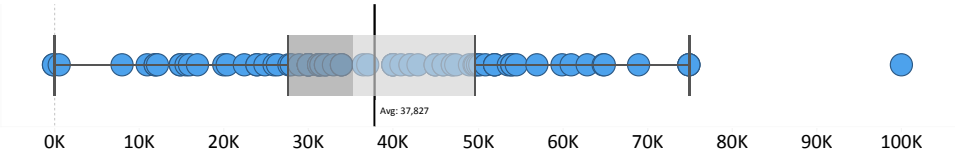
Among the 89 employed graduates, 26 had internships before graduation. Of these 26 students, half (n=13) claimed that their internships *probably* or *definitely* led them to their current jobs (see Figure 8).

Figure 8. You indicated that you previously had an internship(s), did your internship lead to your current employment? (n=26)



Eighty-six students reported their annual income. The average income of these students being $37,827, with a standard deviation of $18,377; the median[6] is $35,250. Figure 9 shows the distribution of their annual income.

Figure 9.[7] What is your estimated annual income (before taxes or other deductions)? (n=86)



Survey results: Job market performance by groups

Twenty-four of the 89 employed graduates did not participate in any internships during college, 15 reported internship participation at T2 but not T1, 39 reported internship participation at T1 but not T2, and 11 reported participation in an internship at both T1 and T2. The job market performance of these four groups of students is compared below.

We compared the average job search time in months among the 89 who were employed at the time of the survey between internship groups. The shortest average search time was for those students who had an internship at T2 but not T1, at 0.87 months. The longest average search time was for students who had an internship at T1 but not T2, at 2.05 months. These differences were not statistically significant.

Students who had an internship were more likely to find jobs related to their fields of study[8] (see Figure 10), although the differences are not statistically significant. Among the 86 graduates who reported their income, those who had internship experiences at both T1 and T2 had the highest annual income ($47,800), and those

6 Median is a value that separates the higher half from the lower half of a data sample.
7 The gray box represents the 25th and the 75th percentiles. The line separating the dark and light boxes is the median. The lines extending out from the box represent the minimum and maximum, excluding outliers. Outliers are values above the 95th percentile of the distribution.
8 The relatedness between current job and college major was measured by one single question asking, "how much is your current position related to the filed you studied in college?" using a 5-point Likert scale from 1=Not at all related; 2=A little related; 3=Somewhat related; 4=Very related; 5=Extremely related

who had internships in T2 but not T1 had the lowest annual income ($33,487, see Figure 10). The difference between incomes for students without any internships and students with an internship at both time points is statistically significant.[9] The difference between those students with an internship at both times and those who had an internship at T2 but not T1 is marginally significant but does not reach the .05 threshold. [10]

Figure 10. How much is your current position related to the field you studied in college, on scale 1-5, by internship participation?

Figure 11. What is your estimated annual income (before taxes or other deductions), by internship participation?

Overall, most of the graduated students were employed and most indicated that their current jobs were at least somewhat related to their college majors. About half of the students reported that their previous internships lead to their current employment. When asked specifically to list where they found their job, however, *online job searches* and *personal relationships* captured more than half of the responses. Additionally, graduates who had participated in internships tended to find jobs that were more related to their college majors. Students who participated in multiple internships reported the highest annual income.

Though a larger sample size would be required to confirm these findings, results point to the significance of internships in students' post-graduation labor market performance, especially regarding job earnings and its relatedness to their field of study. However, the underlying mechanisms of the role of internships in individuals' job search processes need to be further investigated. We plan to continue exploring the longitudinal effects of internship experiences on student's employment outcomes based on the above-mentioned findings which utilizes a data set that aggregates the survey results from all sites participating in the *College Internship Study*. The results of the follow-up interviews highlight some of the specific ways that students perceive their internships to benefit their academic and career development.

---

9 t = 2.06, df = 85, p = .043

10 t = 1.91, df = 85, p = .06. The higher p-value for this difference compared to note 12 is due to wider standard errors. t = 1.91, df = 85, p = .06. The higher p-value for this difference compared to note 12 is due to wider standard errors.

Survey results: Career adaptability development

This analysis uses career adaptability as an important psychosocial competency. It was measured using the 24-item Career Adapt-Abilities Scale (CAAS; Savickas & Porfelli, 2012), consisting of 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 these subscales are measured by six questions that elicit how strongly the respondent rates themselves on these attributes on a five-point Likert scale (1=*not strong*, 2=*somewhat strong*, 3=*strong*, 4=*very strong*, 5=*strongest*).

Table 4 shows the T1 and T2 mean scores and standard deviations for each sub-scale and the composite score for all the 149 students. In general, the scores of all four dimensions—control, control, curiosity, and confidence—show slight decreases from T1 to T2. We found that while the difference in average career adaptability score across T1 and T2 was not statistically significant, the difference in the Concern subscale was statistically significant. [11]

We then assessed individuals' career adaptability development over time for different internship participation groups. It is important to note that among all groups there are small sample sizes. Despite these restrictions, we found that the statistically significant difference between T1 and T2 is driven by the 48 students who participated in an internship at T1 but not at T2. The other internship participation groups did not have statistically significant differences and their average composite scores changed a bit.

The identified longitudinal decreases of career adaptability are aligned with literature findings that career adaptability is a dynamic process and students with an initial high level of career adaptability may experience longitudinal decreases in their career adaptability dimensions except for curiosity. That means individuals may become less in control of, concerned over, and confident in terms of their career prospects over time. Curiosity remained stable over time (Negru-Subtirica et al., 2015).

Table 4. Career Adaptability Results across T1 and T2. (n=149)

Career Adaptability Composite and Sub-Scales	T1		T2	
	Mean	SD	Mean	SD
Career Adaptability Composite	3.63	0.65	3.59	0.54
Sub-Scale: Concern	3.74	0.77	3.51	0.74
Sub-Scale: Control	3.61	0.77	3.60	0.65
Sub-Scale: Curiosity	3.41	0.80	3.44	0.71
Sub-Scale: Confidence	3.75	0.73	3.70	0.64

11 Statistical significance at a .1% confidence level ($p < 0.001$)

Career Adaptability Composite Score by Internship Participation	T1		T2	
	Mean	SD	Mean	SD
Internship at both T1 & T2 (n=22)	3.57	0.61	3.58	0.57
Internship at T2, not at T1 (n=30)	3.64	0.73	3.66	0.52
Internship at T1, not at T2 (n=48)	3.75	0.62	3.66	0.54
No Internship at T1 or T2 (n=49)	3.53	0.64	3.50	0.55

Interview results: Student internship outcomes

From the nineteen students who participated in the initial interview (T1), eleven students participated in the follow-up study (T2). Among the eleven participants, two participants self-identified as males, 8 as females, and 1 as transgender. All participants during Time 2 were white and ranged between majors, such as economics, social work, biology, music business, and sociology, among others. Additionally, about half of the students had graduated from the UW-Oshkosh and were either in graduate school, employed, or seeking employment.

Students shared a wide range of experiences and benefits after participating in an internship experience. Below we described the most common outcomes of internship experiences, which include: Obtaining real-world experience, socialization into the profession, learning at the internship, exploration of self, and alignment with degree completion (Table 5).

Table 5: Perceived Outcomes of Internship Participation at the University of Wisconsin-Oshkosh (n=11)[12]

Outcomes	Examples
Real world experience	Gaining hands on practical experience in the field of practice and/or in the workplace setting that is different from the classroom environment.
Socialization into the profession	Familiarization with behaviors, attitudes, communication styles within the company culture, a work setting or field. Developing personal workplace ideals or values.
Learning at the internship	Students identify internships as a "learning" experience, including learning concepts. Students also identify academic outcomes of internship participation, such as better grades or higher motivation to succeed in school.
Exploration of self	Becoming aware of personal strengths or weaknesses, and oneself.
Aligned with degree completion	Internship fulfilled a requirement for graduation

12 This sample includes the 11 follow-up interviews with students who had participated in an internship from the University of Wisconsin-Oshkosh; the characteristics of internship experience include those that were discussed most frequently, in descending order of frequency.

The most frequent benefit students described when participating in an internship was the real-world experience they received, such as by applying skills learned in the classroom to the work environment or gaining hands-on experience outside the classroom setting. Some students, for example, stated that they learned during their internship to work with a diverse group of individuals; others stated that they benefited from a new understanding of how things work in the "real world." Improved communication skills were another benefit, for example, a student shared that "reaching out to different people and not being ashamed to ask for help" was something common within Business Management or in a corporate environment. When she first began the internship, she said she wished she "would have asked more questions or not be afraid to reach out and ask for help" because as an intern, there are individuals who are familiar with the work, and are willing to help. The student quickly learned that an internship opportunity can be eye-opening experience. In a comparable manner, another student shared:

> *Completing an internship is getting hands on-experience; so, you can get a better feel for whether or not that's what you want to do for your career. You can also network and meet a bunch of people, and that could help you get a job in the future since I feel like most jobs now are through referrals.*

One student we talked to shared that the internship experience was something they "had never really done before" and that the experience "was very helpful" and get to see "the unseen stuff."

Additionally, students indicated socialization into the profession as a second outcome of internships. For example, students shared how they would meet with a mentor or supervisor to review progress, as one student explained, "she was always there if I [had] questions … I would meet with her like every other week and we would set goals for myself. Like SMART goals, and then we would touch base if I accomplished them or not." The socialization into the profession provided students a breath of knowledge. For example, a student shared:

> *I gained an appreciation for the experience that business professionals gave me. Even in my classes, we have been having, business professionals come in and talk to us every Wednesday. I got to speak with the plant manager, who was the one who the last one to interview me. He spoke about the position a bit more and just from the way that he spoke about the activities I would be responsible for, and just what the plant does, I could just you know, I could hear how much more experience he had than me, so it is given me a better. I recognize now that I can learn from people who have been there and done it before.*

There was an understanding of what could be learned from such experience when it comes to their profession. Another student also shared, "I really gained a lot of professional development skills. This was my first internship in the business world. And I don't know really how to act, or dress and it just really taught [me] professional attire." A third student reflected on how the internship experience provided a glimpse into the future. They said, "it really builds you into becoming the professional that you want. And [you learn that] if you want to put in the bare minimum work than you might not get a promotion, or a raise or people might not rely on [trust] you in future projects."

The third most common outcome during Time 2 was learning. A student shared how the enriching experience offered "an opportunity to get a broader picture of what goes on and learn from people who do the job differently." Another student shared that they learned accountability and how to work on a larger team. Another student described that he learned how to work independently. In other words, internships provided an experience that placed students outside their comfort zone that encouraged them to learn and grow differently.

The fourth most common outcome was an exploration of self, which refers to becoming aware of personal strengths or weaknesses. For instance, a student reflected on how previous employment opportunities drew him to become a college student at the UW-Oshkosh but to his current internship position. He said:

> *Right out of high school, I worked with school counseling and corrections as a correctional officer. I progressed through that and became a parole officer, worked in the call center for [name] and parole after hours. I took a few jobs. I was there for nine years. Quit that four years ago, three years ago, to go back to school to a local technical college. Then transferred to Oshkosh last fall. Which lead me to acquire my current internship.*

Adopting and learning about the self was something new for many students. Another student shared that the ability to adapt to new environments by stating, "when you don't really have a sense of direction…you do things independently, and you just have to figure it out for yourself." While the self-exploration also includes knowing that a particular internship (or experience) is not the right fit. For example, the following shared:

> *The biggest thing for me was what I didn't want to do. I felt like it was a role that I didn't find myself feeling very challenged and I didn't think it was like the type of role I wanted to be in. So, it's like, when I see these types of positions in general or look for something that is different than this — I know I don't want to go back to doing that. That is like the biggest takeaway that I got from it.*

Finally, aligning with degree completion refers to how the internship connected or fulfilled a requirement for graduation. Students commonly shared that their interests in obtaining an internship was because their academic major required it. Overall, these examples illustrate how, over time, students were able to leverage internship experiences in their favor for various positive outcomes, including real-world experience, socialization into the profession, learning at the internship and self-exploration, and alignment with degree completion.

Interview 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 at UW-Oshkosh. We were interested in exploring how students' academic trajectories, career development, and internship experiences had been impacted by the onset of the global pandemic. For some, academic expectations and college experiences changed; for instance, one student shared:

> *COVID-19 affected my college experience. I'm graduating and currently I'm taking 18 credits online and it is by no means what I signed up for. I've taken online classes. It's very overwhelming managing 18 credits online and then doing it with a full-time job. But I've always been a busy person, and I committed to this. Before COVID-19, I was only supposed to have like five papers to write for graduation, now I have 25.*

For another student, she felt it was unfair that there was an assumption that there is more time at home to complete assignments, which was not the case for her due to her home-care responsibilities.

Students also shared their thoughts as it related to their internship and more specifically, the internship application process. For example, several students were in the process of either submitting their internship applications or completing their training. One student stated:

> *Some of the changes that have happened was just it was hard to find [internship] employment because a lot of companies are remote. But then it's like they don't know when they are going to get back up and then I have had a couple interviews and stuff that I had had that they decided to stop the process just because they are more concerned about the economy.*

For some, the adjustment or transition has not been as difficult. Students expressed making minor changes to their day-to-day lifestyle; as one student explained:

> *I'm home a lot more than I used to be. No big changes. I didn't have a ton. Well, I did have some activities after work. I had a fitness class that I can't go to right now, a gym membership that I can't use right now, and one thing to that too, internships in COVID. I understand that we're getting a lot more used to doing things from home, doing things through a virtual world.*

Students shared about sources of support to cope during these challenging times. For instance, a student said, "talking to people about it, sharing my frustrations. My mom and my aunt I've talked to a lot because they share some similar frustrations. And then I would say other than that, just like distracting myself, trying to stay busy." Additionally, one student shared, "family support, social support in general, my friends, my partner, and [using] technology as a way to stay connected with other people."

Keeping their minds occupied and talking with relatives was helpful during these times. Additionally, creating structure and routine was a helpful and useful way to cope during these challenging times. A student shared:

> *I get out of the house every day and take a walk around in the morning … every day, I have set guidelines for timelines when I'm allowed to do things, and I stick to those guidelines. I generally have a very successful day. It really is about self-imposed discipline and how I can go about every day being productive and useful still.*

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 flexibility, adjustment, and empathy is required on behalf of all administrators, supervisors, and staff when it comes to working with students. Students understand that this can be challenging times and the need for time to adjust to these changes is appreciated.

VI. CONCLUSIONS AND RECOMMENDATIONS

The first round of data collection for the *College Internship Study* at the University of Wisconsin-Oshkosh indicated that there were social and economic barriers that some students faced to participating in internships. It also suggested that students who participated in internships had relatively high career adaptability, as well as positive outcomes of internship outcomes, including internship satisfaction and perceived internship developmental value. Furthermore, these internship outcomes were associated with high quality of supervisor support, the presence of supervisor mentoring, the clarity of work tasks, task similarity to entry-level jobs, the link between academic programs and internships, and the amount of the intern's autonomy in performing their work (Chen et al., 2019).

The findings of this one-year follow-up study indicate that barriers to internship participation persist for some students, particularly heavy course loads. They also highlight several noteworthy longitudinal outcomes

of internship participation. Students who graduated from the UW-Oshkosh with multiple internships had higher average incomes than graduates with one or fewer internships. While nearly all internship outcomes for students who participated in both T1 and T2 declined in T2, supervisor mentorship increased. Those participants who had graduated by T2 and had participated in an internship at both times were more likely to find jobs related to their fields of study than students who had not participated in an internship.

In general, respondents reported a decrease in career adaptability over time, largely driven by a decline in career concern. When compared across internship participation types, students who had an internship in T1 but not T2 reported the largest decrease in career adaptability. This possibly suggests a shift in focus for those students who already completed their internships, though it is very likely that the resulting decline in career concern is due to other concerns brought on by the COVID-19 pandemic. Given the current sample size and many other influential factors indicated in the literature (e.g., gender, institution type, age, personality traits, culture, etc.; Negru-Subtirica et al., 2015, Ocampo et al., 2020), further longitudinal analysis of students' career adaptability will be conducted using aggregated datasets.

The first report from the *College Internship Study* at UW-Oshkosh contained recommendations for students, educators, and employers to ensure quality internship experiences for students. The results of the T2 follow-up highlight the importance of the following recommendations:

- There remain students who want to participate in internships but who face financial and other obstacles—such as the need for continuous paid employment—and educators and employers are encouraged to find ways to remove this barrier by finding ways to compensate interns whenever possible.
- There is evidence that multiple internships may be associated with additional positive outcomes, including higher annual income after graduation and closer connections between employment and fields of study in college. However, there is also evidence that some students pursue subsequent internships because their first internships may not have provided adequate career mentorship. Students should be coached on how to advocate for their needs with employers and to communicate their need for mentorship. Additionally, educators and employers should work to ensure that internship supervisors understand the need and are equipped to provide supportive mentorship to their interns.
- It is encouraging that students who participated in internships at T2 reported an increased internship mentoring in comparison to their than their T1 internship, especially when students are dealing with the stress of the COVID-19 pandemic. However, students' other internship value scores declined in the T2 study. This indicates the need for more attention from educators and employers and possibly better contingency plans for external stressors.
- Career adaptability plays a significant role in college students' school-to-workforce transitions. Regarding the identified decreases in students career concern from T1 to T2, educators and internship employers are encouraged to proactively offer support for building student readiness and resources for dealing with present and future career challenges (Savickas, 2013). Despite experiencing decreases in career concern, students remained curious, confident, and in control about their careers. Practitioners are encouraged to help students access more vocational opportunities, not only internships but also various work-based learning and career exploration activities to help students make important connections between education and work.

References

Baert, S., Neyt, B., Siedler, T., Tobback, I., & Verhaest, D. (2019). *Student Internships and Employment Opportunities after Graduation: A Field Experiment* (IZA Discussion Paper No. 12183). Institute for the Study of Labor (IZA). https://www.iza.org/publications/dp/12183/student-internships-and-employment-opportunities-after-graduation-a-field-experiment

Gillespie, I, Zhang, J., & Wolfgram, M. (2020). *Psychosocial Factors and Outcomes of College Internships: An Integrative Review.* Center for Research on College-Workforce Transitions, University of Wisconsin-Madison (Literature Review No. 3). http://ccwt.wceruw.org/documents/CCWT_report_LR%20Psychosocial%20Factors%20and%20Outcomes%20of%20College%20Internships.pdf

Green, B. P., Graybeal, P., & Madison, R. L. (2011). An exploratory study of the effect of professional internships on students' perception of the importance of employment traits. *Journal of Education for Business*, *86*(2), 100-110.

Chen, Z., Wolfgram, M., Her, P. & Hora, M. T. (2019). *Results from the College Internship Study at UW-Oshkosh* (Technical Report). Center for Research on College-Workforce Transitions, University of Wisconsin-Madison. http://ccwt.wceruw.org/documents/CCWT_report_results%20from%20UW%20Oshkosh.pdf

Hora, M. T., Wolfgram, M. & Thompson, S. (2017). *What do we know about the impact of internships on student outcomes? Results from a preliminary review of the scholarly and practitioner literatures* (Research Brief No. 2). Center for Research on College-Workforce Transition, University of Wisconsin-Madison. http://ccwt.wceruw.org/documents/CCWT-report-Designing-Internship-Programs.pdf

Hora, M. T., Wolfgram, M. & Chen, Z. (2019). *Closing the doors of opportunity: How financial, sociocultural and institutional barriers inhibit access to college internships* (Research Brief No. 8). Center for Research on College-Workforce Transitions, University of Wisconsin-Madison. http://ccwt.wceruw.org/documents/CCWT_report_Closing%20the%20doors%20of%20opportunity.pdf

Klein, M., & Weiss, F. (2011). Is forcing them worth the effort? Benefits of mandatory internships for graduates from diverse family backgrounds at labour market entry. *Studies in Higher Education*, *36*(8), 969-987.

Negru-Subtirica, O., Pop, E. I., & Crocetti, E. (2015). Developmental trajectories and reciprocal associations between career adaptability and vocational identity: A three-wave longitudinal study with adolescents. *Journal of vocational behavior*, *88*, 131-142.

Nunley, J. M., Pugh, A., Romero, N., & Seals Jr, R. A. (2016). College major, internship experience, and employment opportunities: Estimates from a résumé audit. *Labour Economics*, *38*, 37-46.

Porfeli, E. J., & Savickas, M. L. (2012). Career Adapt-Abilities Scale-USA Form: Psychometric properties and relation to vocational identity. *Journal of Vocational Behavior*, *80*(3), 748-753.

Ocampo, A. C. G., Reyes, M. L., Chen, Y., Restubog, S. L. D., Chih, Y. Y., Chua-Garcia, L., & Guan, P. (2020). The role of internship participation and conscientiousness in developing career adaptability: A five-wave growth mixture model analysis. *Journal of Vocational Behavior*, *120*(103426), 1-15.

Powers, K., Chen, H., Prasad, K., Gilmartin, S., & Sheppard, S. (2018, January). Exploring How Engineering Internships and Undergraduate Research Experiences Inform and Influence College Students' Career Decisions and Future Plans. *In Proceedings of the American Society for Engineering Education Annual Conference, June 24-27, 2018. Salt Lake City, Utah.*

Rigsby, J. T., Addy, N., Herring, C., & Polledo, D. (2013). An examination of internships and job opportunities. *Journal of Applied Business Research, 29*(4), 1131-1144.

Savickas, M. L. (2013). Career construction theory and practice. *Career development and counseling: Putting theory and research to work, 2*, 147-180.

Silva, P., Lopes, B., Costa, M., Melo, A. I., Dias, G. P., Brito, E., & Seabra, D. (2018). The million-dollar question: can internships boost employment? *Studies in Higher Education, 43*(1), 2-21.

Taylor, M. S. (1988). Effects of college internships on individual participants. *Journal of Applied Psychology, 73*(3), 393.

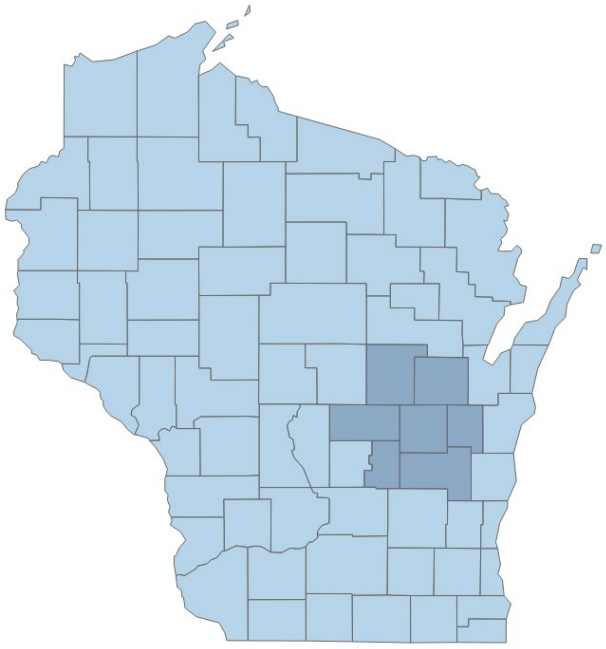
Weiss, F., Klein, M., & Grauenhorst, T. (2014). The effects of work experience during higher education on labour market entry: learning by doing or an entry ticket? *Work, Employment and Society, 28*(5), 788-807.

Appendix 1: Intern Labor Market Analysis[13]

As a complement to the primary data collected for the *College Internship Study*, we have combined multiple public and proprietary data sources to provide a localized intern labor market analysis. These findings are intended to help contextualize the internship experiences at your institution with respect to the availability, competitiveness, and quality of internships in your regional economy.

We determine Intern Labor Markets based on Commuting Zones (CZ). CZs are statistically derived clusters of counties generated by the USDA and were most recently updated by Fowler et al. (2016). These zones are created based on commutes from home to work reported to the Census as well as a hierarchical cluster analysis of consumer data from local economies.[14] CZs are preferable to metropolitan statistical areas (MSAs) for nation-wide comparisons because every geographic region in the country is included. MSAs, on the other hand, have population-based cut-offs. The metric we use to measure Intern Labor Markets is the Intern Supply Ratio, which is simply the ratio of supply and demand for interns in the CZ. Demand is based on Burning Glass Technologies Labor Insights job ad data, while supply is the total enrollment of all post-secondary institutions in the CZ. Figure 1 shows a map of the counties included in UW-Oshkosh's CZ highlighted among their neighboring counties.

Figure 1: University of Wisconsin-Oshkosh's Commuting Zone



The Intern Supply Ratio is not a perfect metric and is currently being refined to account for the fact that not every enrolled student should be considered a "potential intern." At present, it considers the maximum amount of supply, suggesting that the ratio is inflated to its' greatest supply extent. Table 1 displays the supply, demand,

13 All job posting data from Burning Glass Technologies Labor Insights (2020)
14 https://www.ers.usda.gov/data-products/commuting-zones-and-labor-market-areas/

and ratio for the CZ in which UW-Oshkosh is situated. **The ratio indicates that there are roughly 42 potential interns to each internship job posting.**[15]

Table 1: Supply and Demand in Intern Labor Market

Variable	Value
Total Enrollment in Commuting Zone	49,561
Total Internship Job Postings	1,179
Intern Supply Ratio	42.04

Figure 2 shows the top 15 employers of interns in UW-Oshkosh's CZ. Of the 1,179 total job postings, 628 (53.27%) come from these top 15 employers.

Figure 2: Top 15 Employers of Interns in Commuting Zone[16]

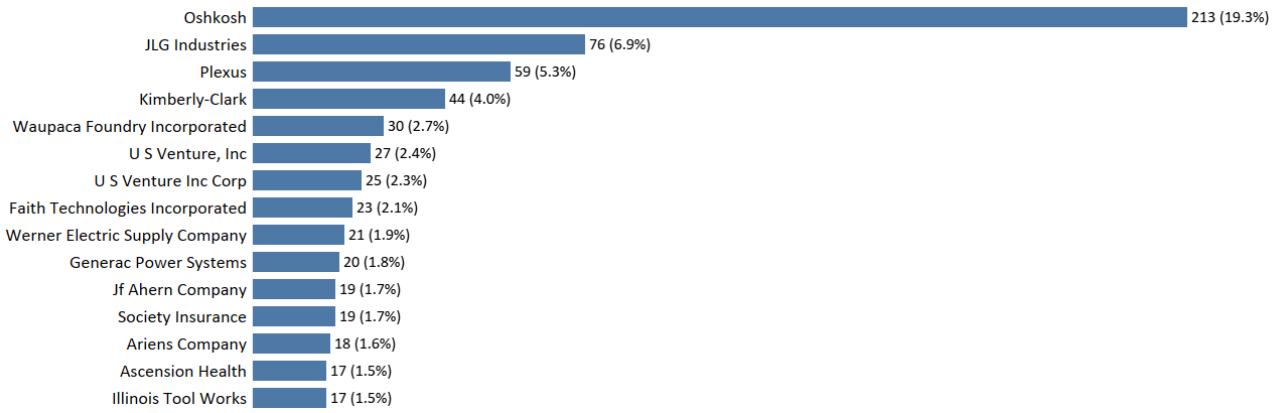
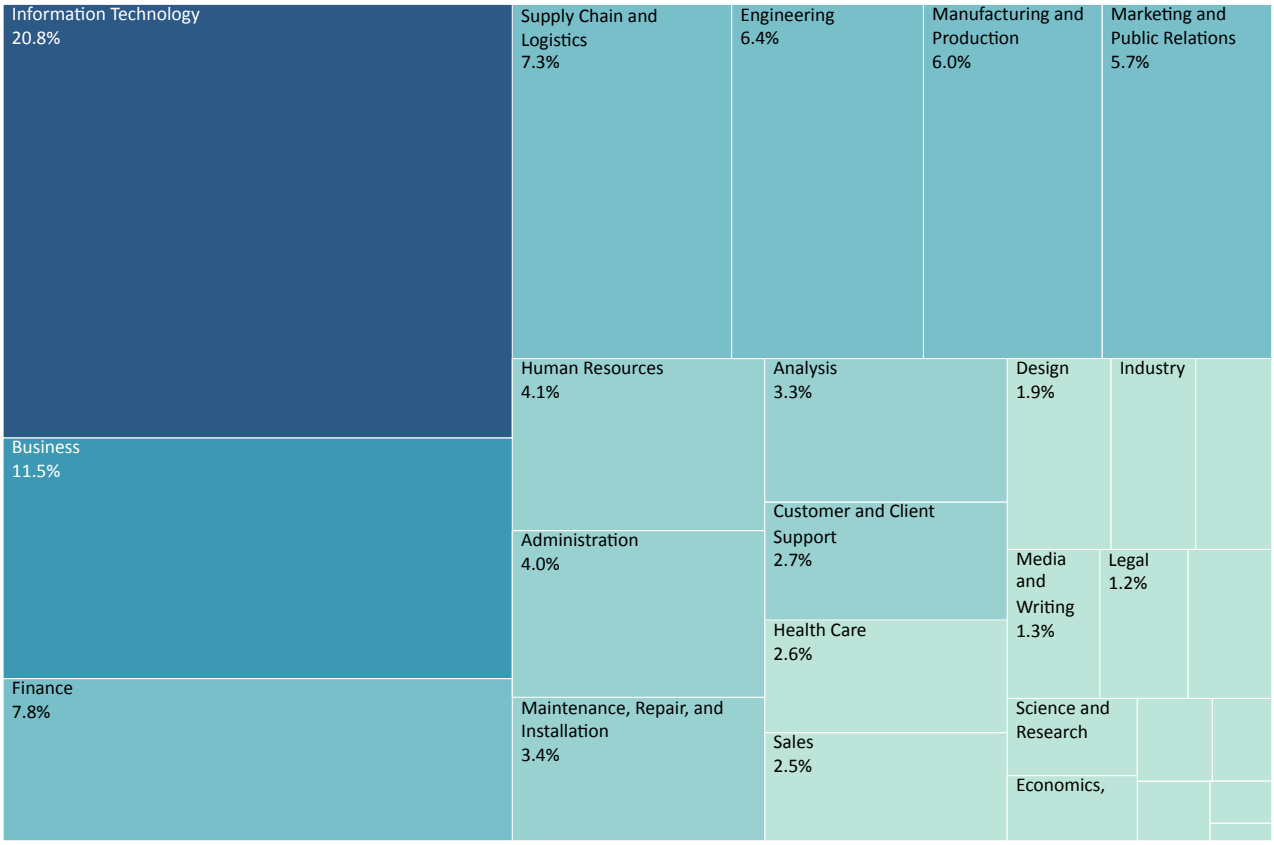


Figure 3 represents the top skill cluster families in demand for interns for the CZ of interest. Skill cluster families are generated by Burning Glass and are explained in their released White Paper . There is a total of 28 skill cluster families. Each job posting can represent more than one skill cluster, meaning that total cluster count should only be considered relative to other skill clusters rather than relative to job postings.

15 Burning Glass data can be broken down by required education, though many internship posts do not include this requirement, so we have not disaggregated by this measure. Most institutions also typically have a mix of degree program offerings, resulting in the decision to leave job postings as aggregated.

16 Percent in parentheses represents share of total job postings, rather than share of top 15. In the event that employers appear to be listed multiple times by Burning Glass, we have chosen to defer to Burning Glass' employer designation criteria.

Figure 3: Top Skills in Demand for Interns



The tree map presented in Figure 3 indicates a diversity of skills in demand for UW-Oshkosh's CZ. Demand for Information Technology skills is clearly the highest among all the skill clusters, making up 1/5 of the skills demanded . Business, Finance, and Supply Chain and Logistics skills are all above 7% of the total skills demand. When added to the IT skills, these four skill clusters make up nearly half of all skills demand for interns in the CZ. The percent values in the figure can be thought of as the proportion of the given skill cluster relative to the total skill cluster codes.

The College Internship Study is generously supported by the National Science Foundation (DGE# 1920560) and the Bill & Melinda Gates Foundation.

Note: CCWT staff are available to conduct program evaluations and/or needs assessments of a college or university's internship program such as the one reported here. Our procedures are guided by the rapid ethnographic assessment method and can involve quantitative and qualitative data sources including surveys, document analysis, focus groups and interviews. After analysis, customized technical reports can be provided to institutional partners with actionable recommendations provided regarding how to address challenges and capitalize on program strengths.

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.

Center for Research on College to Workforce Transitions (CCWT)
1025 West Johnson Street, Madison, WI 53706
For more information contact Center Director Matthew T. Hora (hora@wisc.edu)
ccwt.wceruw.org