MADISON AREA | TECHNICAL COLLEGE

Results from the 1-year longitudinal follow-up analysis for the College Internship Study at Madison College

Matthew Hora, Matthew Wolfgram, Zi Chen, Jared Colston, Vivien Ahrens, Javier Rodriguez S., and Layne Wetherbee

WISCONSIN CENTER FOR EDUCATION RESEARCH | UNIVERSITY OF WISCONSIN–MADISON

DECEMBER 2020

CCWT CENTER FOR RESEARCH ON College-Workforce Transitions

The College Internship Study

EXECUTIVE SUMMARY

This report includes findings from the second round of data collection (Spring 2019 or T2) at Madison College 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 data collected at T2 of the study include follow-up interviews with 8 students and a follow-up online survey of 147 students who participated in the first round of data collection (Spring 2018 or T1). These data are analyzed to provide faculty, staff, and leadership at Madison College with evidence-based insights about the impacts of internship participation on students' lives and careers. Thus, this second round of the *College Internship Study* at Madison College is guided by the following research question: **What are the changes concerning students' internship experiences and outcomes comparing longitudinal data at two time points?**

Some **key findings** from our analysis of the data include:

- The internship participation rate was 42.9% at T2. Thirty-one students who took an internship at T1 had a separate internship at T2, 40 students had an internship at one time but not both, and 75 students did not participate in an internship at either point. The most frequently cited reason for participating in an internship was that it was required to graduate. Overall, these findings suggest that Madison College students are participating in internships—and that some are even participating in more than one internship over a two-year academic program—but that the 75 students in our follow-up sample who did not participate in an internship indicates the potential for Madison College to expand internship participation among its students.
- Recent promising efforts to expand internship participation at Madison College include an innovative collaboration between Career & Employment Services, the STEM Center, and the School of the Arts & Sciences, to streamline the design and approval process for new internship opportunities for Liberal Arts Transfer students. This effort complements the ongoing employer outreach efforts conducted by Madison College faculty and by the Career & Employment Services, including critical outreach to major employers in the Madison area with the potential to support additional internship opportunities for Madison College students.
- For students who participated in separate internships at T1 and T2, the reported quality of mentorship increased, indicating more direction and feedback about internship task performance and career planning at T2 compared to T1.

- Students with internships at both T1 and T2 reported the highest annual income. Additionally, students with internship experiences were more likely to find jobs related to their academic field than graduates with no internship experience.
- There were 75 students who indicated not having participated in an internship at T1 or T2, despite many of them wanting to do so. As their primary obstacles they reported the need to work their current job and a heavy course load. This finding indicates that for some Madison College students, the barriers that obstructed their internship participation at T1 (Hora et al., 2018) remained a concern one year later at T2.
- Regarding measures of students career thinking, students reported decreases of career concern, confidence, and control over time. The longitudinal decreases were especially significant for those who reported internship experience at both time points. Students' career curiosity remained stable over time. This may be associated with increased involvement in vocational exploration or career challenges during college-to-work transitions.
- Students who had participated in an internship at T1 and/or at T2, discussed several key student outcomes during follow-up interviews (n=7): the exploration of their professional field and their career goals, self-exploration, increased confidence or motivation, learning, skill development, real-world experience, socialization into the profession, promotion or employment at the internship site, networking and resume boosting.
- As a complement to the primary data we have collected as part of the *College Internship Study*, we have combined multiple public and proprietary data sources to provide a localized intern labor market analysis. These findings presented Appendix 1 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.

This report concludes with recommendations for specific strategies that students, faculty and staff at Madison College, and employers who supervise Madison College student-interns, can apply to increase the quality and outcomes of internship programs for students.

Table of 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 being 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, Wolfgram, & Chen, 2019), and that participating in an internship does not always yield the expected positive results (Klein and Weiss, 2011; Silva et al, 2018).

The previous 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 have 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, Wolfgram, & Thompson, 2017; Gillespie, Zhang, & Wolfgram, 2020).

Generally, the majority of 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, Pop, & Crocetti, 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.

In the spring of 2019, CCWT conducted a second round of data collection at Madison College as part of the *College Internship Study*. 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 Madison College 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 (Hora et al., 2018).

The survey results from this second round of research for the *College Internship Study* allows us to conduct a longitudinal examination to study if there are any systematic patterns 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. Second, 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=75	Barriers to internship participation	Results section III
Students who participated in separate internships at T1 and at T2	n=31	Internship program features	Results section IV
Graduates with employment outcomes measured at T2	n=44	Job market performance	Results section V
All participating students with longitudinal psychosocial outcomes measured at T2	n=147	Career adaptability	Results section V

One-on-one phone interviews with students provide detailed narratives of students' experiences during their internship, and their perceptions of the outcomes and consequences of their internship. In presenting our results we place students' experiences at the heart of our analyses, and hope to inform the work of educators, employers, and career service professionals in order to aid in designing better, more meaningful and effective internship programs for students.

II. SAMPLE AND INTERNSHIP PARTICIPATION

The second round of data collection took place in May 2019 (T2), a year after the first survey was administered to students in the spring of 2018 (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 386 students; a total of 147 out of these 386 participants from the first-round responded to the second wave of the College Internship Survey, resulting in a response rate of 38%. 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.

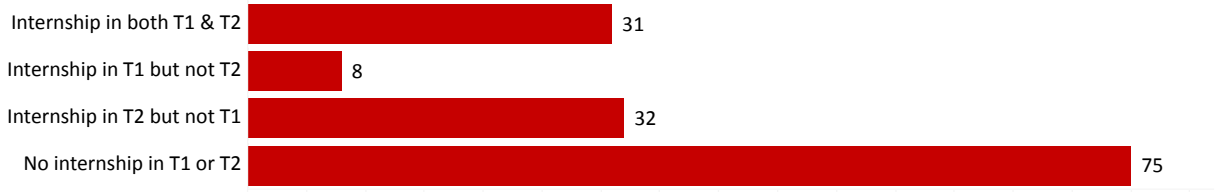
Eight students participated in one-on-one follow-up phone interviews and all but one of those students had participated in a least one internship by the time of the second round of data collection.

Table 2. Description of the Spring 2019 T2 sample

	Survey Sample	Interview Sample
Total	147	8
Gender	Male = 60 (40.8%)	Male = 2 (25%)
	Female = 85 (57.8%)	Female = 6 (75%)
Race	Asian = 12 (8.2%)	Asian = 1 (12.5%)
	Black = 4 (2.7%)	Black = 1 (12.5%)
	Hispanic = 7 (4.8%)	Hispanic = 1 (12.5%)
	White = 120 (81.6%)	White = 4 (50%)
	Other = 6 (2.7%)	Other = 1 (12.5%)
First-generation college student	Yes = 38 (25.9%)	Yes = 3 (37.5%)
	No = 109 (74.1%)	No = 5 (62.5%)

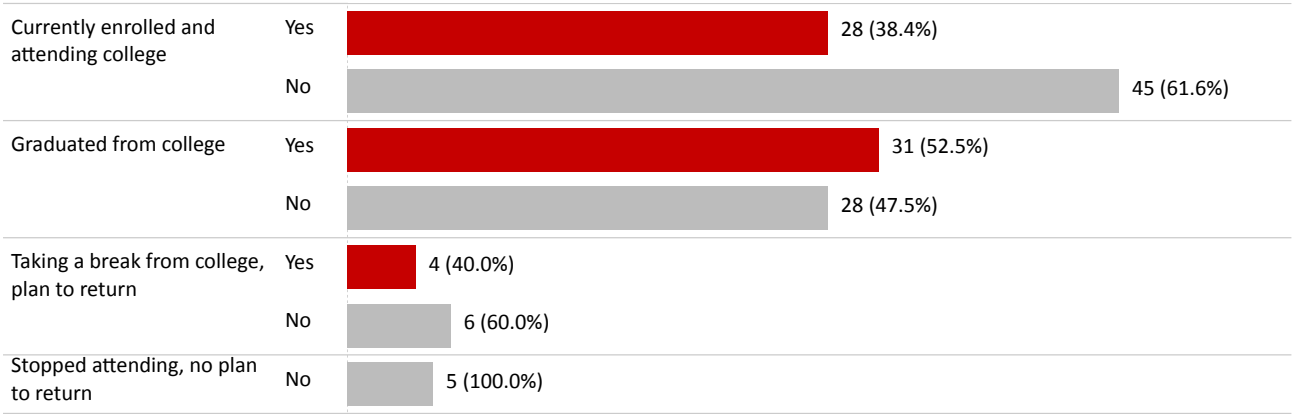
In terms of internship participation, 71 (42.9%) of the 147 survey respondents reported having participated in an internship program during the past 12 months. We analyzed the data by comparing students' internship participation across T1 and T2 and found that 32 students reported internship experience at T2 but not T1, while 8 students reported having participated in internship(s) at T1 but not T2. In addition, a total of 31 students reported having participated in a separate internship in both instances of data collection. In contrast, 75 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=146[1])



Regarding graduation status, 59 (40.1%) students had graduated by the second wave of data collection, and 73 (49.7%) students were still enrolled in college. Of those 59 who reported graduating, however, 14 listed 2019 as the graduation year despite the data being gathered in Spring 2019. These students are included based on their response in Figure 2 but are not included in post-graduation analyses. In terms of internship participation, 52.5% (n = 31) of students who already graduated took part in internship programs, while only 38.4% (n = 28) 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=147[2])



1 We are missing internship information for one individual at Time 1, making any figure including data from Time 1 use a sample of 146
2 Of the 59 respondents who reported graduating from college, 14 listed their graduation year as 2019. The data were collected in early Spring 2019, however, so these 14 were excluded in post-graduation analyses in Section V.

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

In this section, we present findings from the 75 respondents who reported not having participated in any internship experiences across T1 or T2. Thirty-seven (49.3%) reported at T1 that they were interested in participating in an internship but were unable to participate in one, while 32 (42.8%) in T2 reported an interest but were unable to participate one. Of the 37 respondents that reported interest at T1, 26 (70.3%) reported so again in T2, suggesting that barriers to participation may persist over time. Figures 3 & 4 show the breakdown of reported barriers to internship participation at T1 and T2 for these 75 respondents.

Figure 3. Barriers to internship at T1 for students who did not participate at either time. (n=37[3])

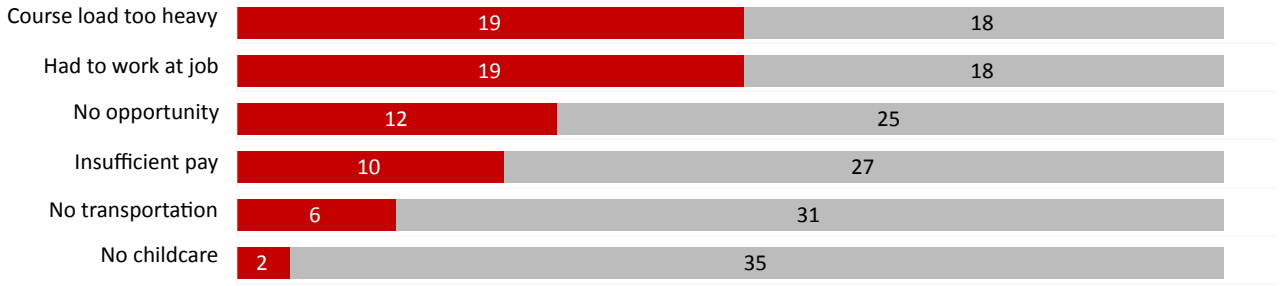
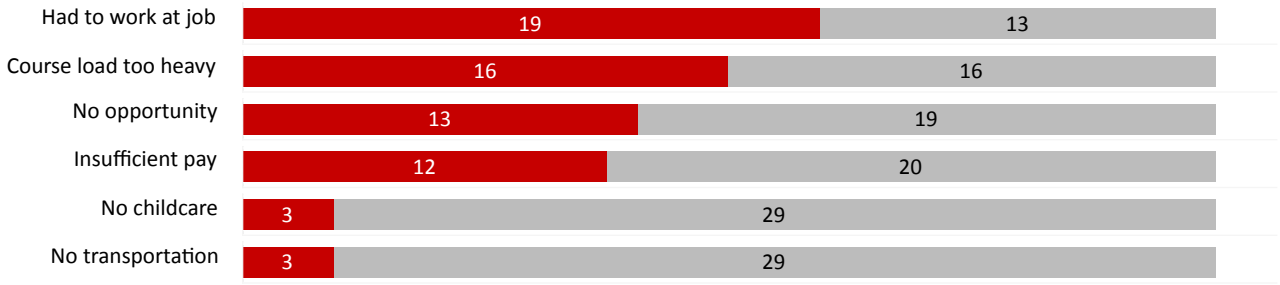


Figure 4. Barriers to internship at T2 for students who did not participate at either time. (n=32)



For the most part, the same barriers persisted from T1 to T2, including the need to work at their current job and a heavy course load being primary factors contributing to a student's inability to participate in an internship. Lack of transportation and lack of childcare remained consistently low in frequency across both studies.

3 Participants could choose multiple barriers.

IV. RESULTS: STUDENTS' INTERNSHIP EXPERIENCE 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.

Some of the students that we interviewed in this second round of the study completed two or more internships during and after college. A few students decided to pursue a second internship because they felt disappointed by their first. This was the case for a Madison College design student whose first internship provided too little career-relevant experience. Another student experienced a socially challenging work environment during her first internship. As a result, she immediately started applying for other opportunities and was able to obtain a high-quality international internship. Other students used a second internship to transition to another job within the same company. For example, one student interning at the front desk of a clinic used a second internship to transition to a new role in another department in the same clinic.

Table 3 presents a summary of each dimension of internship program features that reflect students' internship experiences. All questions were measured using a five-point Likert scale. Consistent with T1 data, at T2, the supervisor support score was higher than the mentorship score,[4] suggesting the need for further study to differentiate between supervisors supporting individuals but not mentoring them in a way that is meaningful. Additionally, in order to evaluate the longitudinal nature of these program features, 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 supervisor mentorship was significantly higher for the internship measured at T2[5]. These data seem to support the interview findings that at least some students pursued a second internship because they felt unsatisfied with the quality or career-relevance of their first experience, including dissatisfaction due to a lack of adequate supervision or mentorship. Furthermore, it seems that some of these students were able to participate in a more supportive experience in their subsequent internships.

4 Using the present sample, the result is statistically significant, $t = 10.06$, $df = 62$, $p < .001$.

5 Using the current sample, the result was statistically significantly, $t = 3.41$, $df = 30$, $p = .002$.

Table 3. Internship Experience Measurements[6] (n = 31)

Internship Program Features	T1		T2	
	Mean	SD	Mean	SD
Supervisor Support (1=not at all, 5=a great deal)	4.29	0.74	4.19	0.77
Supervisor Mentoring (1=never, 5=extremely often)	2.91	0.72	3.28	0.89
Goal Clarity (1=not at all clear, 5=extremely clear)	3.87	0.65	3.83	0.92
Relatedness to academic program (1=not at all well, 5= extremely well)	3.71	0.78	3.51	0.83
Autonomy (1=not at all, 5=a great deal)	4.06	0.76	3.90	0.98
Similarity (1=not at all similar, 5=extremely similar)	3.74	1.12	3.71	0.94
Internship satisfaction	4.06	0.77	4.03	0.79
Internship developmental value	4.07	0.83	4.07	0.69

V. RESULTS: STUDENT OUTCOMES A YEAR LATER: JOB MARKET PERFORMANCE AND PSYCHOSOCIAL OUTCOMES

By the second wave of data collection, 44[7] of the 147 respondents had graduated from Madison College. Among the 44 students, 38 of them (86.4%) had found jobs. The remaining six students who had not found jobs at that time attributed their unemployment to various reasons such as a "Lack of motivation" and a "Lack of employable skills."

6 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 measures 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 (Hora et al., 2018).

7 One of these 44 students reported graduating but did not answer any post-graduation questions. They have been excluded from the following figures and analyses.

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

For the 38 employed graduates, the average number of months that they searched for and found a job was 2.5 months, with a high standard deviation[8] of 6.2 months. As shown in Figure 3, 68.4% (n = 26) of them found their jobs "very" or "extremely" related to their majors in college. About 21.1% (n = 8) of students reported that their current jobs were "not at all" or "a little" related to their majors, indicating a certain degree of discrepancy between fields of study and current career paths.

Figure 5. How much is your current position related to the field you studied in college? (n = 38)

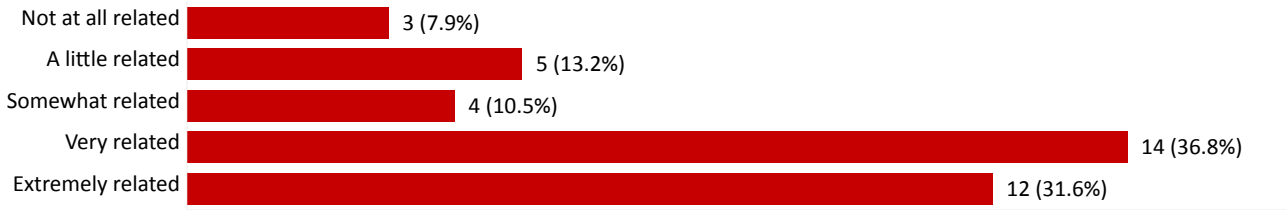
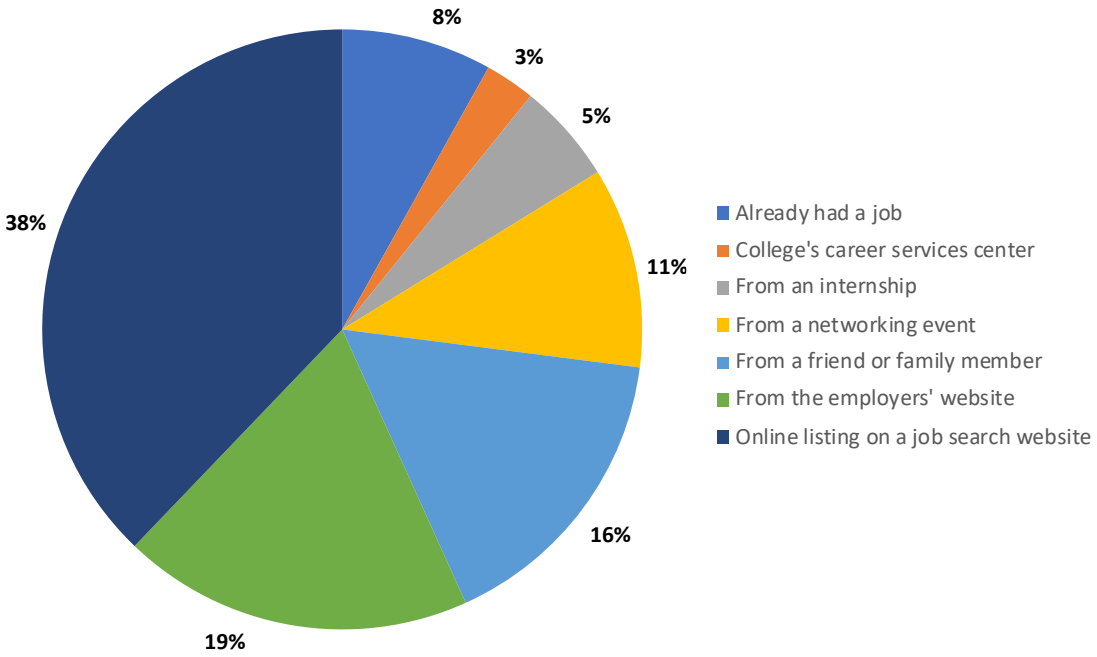


Figure 6 shows the students' job searching methods. It demonstrates that online career opportunities and various methods of networking are two major approaches to finding jobs, while internship participation exhibited limited impact.

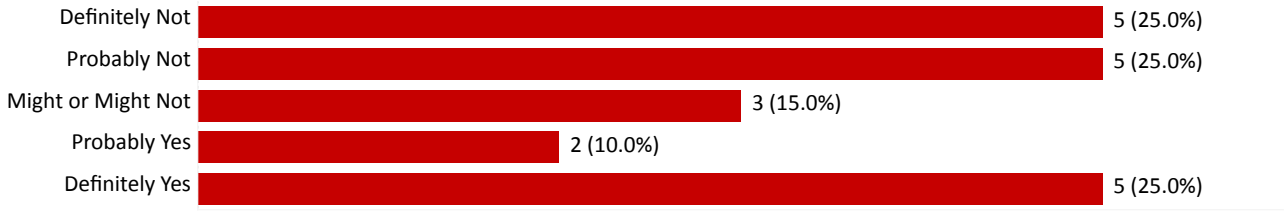
Figure 6. How did you find out about your current job? (n = 38)



8 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.

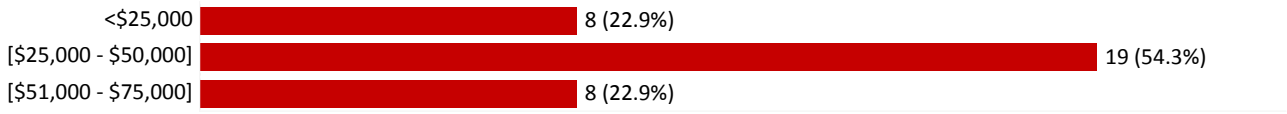
Among the 38 employed graduates, 28 had internships before graduation. Twenty of them answered the question asking whether internships lead to their current job. Only 35% (n = 7) of the twenty responses claimed that their internships "probably" or "definitely" led them to their current jobs (see figure 7).

Figure 7. You indicated that you previously had an internship(s), did your internship lead to your current employment? (n = 28)



Thirty-five students reported their annual income. The average income of these students being $35,735, with a standard deviation of $17,259; the median[9] is $37,000. Figure 8 shows the distribution of their annual income.

Figure 8. What is your estimated annual income (before taxes or other deductions)? (n = 35)



Survey results: Job market performance by groups

Fourteen of the 38 employed students did not participate in any internships during college, 7 reported internship participation in T2 but not T1, 4 reported internship participation in T1 but not T2, and 13 reported participation in an internship at both T1 and T2. The job market performance of these four groups of students is compared below.

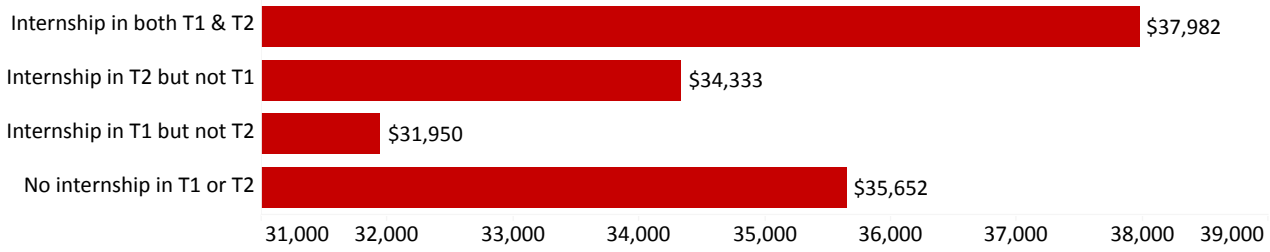
We compared the average job search time in months among the 38 who were employed at the time of the survey between internship groups. The average search time for those who had internships at both T1 and T2 was 1.45 months, which is not significantly different from that of the other three groups. This is after removing two outliers who had internships in both T1 and T2 but spent 13 and 36 months before obtaining a job.

Students who had an internship were more likely to find jobs related to their fields of study[10] (see figure 9), although the differences are not statistically significant. Among the 35 students who reported their income, those who had internship experiences at both T1 and T2 had the highest annual income ($37,982), and those who had internships in T1 and not T2 had the lowest annual income ($31,950, see figure 10). The difference between groups, however, is not statistically significant.

9 Median is a value that separates the higher half from the lower half of a data sample.
10 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 five-point likert scale from 1=Not at all related; 2=A little related; 3=Somewhat related; 4=Very related; 5=Extremely related.

Figure 9. How much is your current position related to the field you studied in college, on scale 1-5, by internship participation?

Figure 10. What is your estimated annual income (before taxes or other deductions), by internship participation?



We also investigated the relationship between internship participation and post-graduation employment status for all 44 students who had graduated from Madison College. No significant correlation was found between these two variables, which is likely due to the small sample size, especially of the unemployed students.

Overall, most of the graduated students were employed and most indicated that their current jobs were very or extremely related to their college majors. However, only about one-third of the students reported that their previous internships lead to their current employment. In contrast, online job searches and networking were two main approaches graduates used to obtain employment. 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 students' 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.

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 of the 147 students. In general, the scores of all four dimensions— control, control, curiosity, and confidence—show decreases from T1 to T2. We found that the difference in average career adaptability score across T1 and T2 is statistically significant,[11] with this result being largely driven by the Concern sub-scale. Longitudinal differences of both the Confidence and Control sub-scales were also marginally significant.

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 relatively small sample sizes. Despite these restrictions, we found that the statistically significant difference between T1 and T2 is driven largely by the 31 students who participated in an internship at both times. The other internship participation groups did not have statistically significant differences and their average composite scores changed relatively little.

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, while curiosity remained stable over time (Negru-Subtirica et al., 2015).

11 Statistical significance at a 1% confidence level (p = 0.006)

Table 4. Career Adaptability Results across T1 and T2. (n=147)

Career Adaptability Composite and Sub-Scales	T1		T2	
	Mean	SD	Mean	SD
Career Adaptability Composite	**3.71**	**0.64**	**3.58**	**0.64**
Sub-Scale: Concern	3.73	0.80	3.47	0.79
Sub-Scale: Control	3.77	0.71	3.65	0.70
Sub-Scale: Curiosity	3.49	0.81	3.45	0.79
Sub-Scale: Confidence	3.86	0.73	3.74	0.75

Career Adaptability Composite Score by Internship Participation	T1		T2	
	Mean	SD	Mean	SD
Internship at both T1 & T2 (n=31)	3.90	0.64	3.65	0.64
Internship at T2, not at T1 (n=32)	3.57	0.71	3.39	0.61
Internship at T1, not at T2 (n=8)	3.73	0.70	3.55	0.55
No Internship at T1 or T2 (n=75)	3.70	0.61	3.63	0.66

Interview results: Student internship outcomes

We conducted follow-up interviews with eight students, seven of which had participated in at least one internship by T2. This sample included both students who had graduated and students who were still enrolled at Madison College. During the interviews, the students reflected on a wide range of takeaways from their internship experiences. Below we describe the most frequently discussed outcomes, including the exploration of their professional field and career goals, self-exploration, increased confidence or motivation, learning, skill development, real-world experience, socialization into the profession, promotion or employment at the internship site, networking, and resume boosting (Table 5).

Table 5: Perceived Outcomes of Internship Participation at Madison College (n=7)*

Outcome	Examples
Exploration of field and career goals	Changing or narrowing the focus for a specific career goals, determining a positive or negative career fit.
Exploration of self and increased confidence or motivation	Becoming aware of personal strengths or weaknesses, developing a feeling of personal independence and efficacy, increased motivation directed towards personal growth, pursuing a particular career, or finishing an academic program.
Learning, skill development and real-world experience	Learning and practicing skills specific to the field or job, including applying skills learned in the classroom to the work environment or gaining hands-on experience that is different from a classroom setting.
Socialization into profession, understanding of company culture	Familiarization with behaviors, attitudes, communication styles within a work setting or field. Developing personal workplace ideals or values.
Promotion or employment at internship site	Gaining more responsibility, autonomy or salary at the same internship site or transitioning from internship to part- or full-time regular employment.
Networking and resume boosting for employment outside of internship site	Developing connections with other people in the field or workforce who can support future job searches; or referencing internship on a resume to improve employability.

*This sample includes the 7 follow-up interviews with students who had participated in an internship from Madison College; the characteristics of internship experience include those that were discussed most frequently, in descending order of frequency.

The most frequently reported beneficial outcome of internship participation was the opportunity for meaningful career exploration. Students reported clarifying their career goals and interests and gaining knowledge about specific career paths within their fields. One student, for example, explained how her internship "clarified a lot of things" about her career options:

> *"Oh, it clarified very much how I didn't really know what it was like out there in the areas of palliative care, hospice, and patient advocacy. And so, I got to be a really clear — I got a real, very clear idea of how these things work, and it just clarified a lot of things, so that I'll be able to make better choices when I'm looking for employment."*

Students also described gaining a feeling of increased self-confidence in their abilities, as one student realized, *"I really do have the particular facility for working with people and trying to derive like what they need and making a business case for that."* Another student discussed his increased motivation to succeed academically, as his internship showed him that "I still have a lot to learn."

Students described how they acquired specialized skills and knowledge during their internships, including technical skills such as practices with specific software (e.g. "Angular" or "Java Script") or certain hardware. One design student, for example, acquired highly specialized skills required to design and install smart walls in offices. Most of the students we interviewed also highlighted developing new "soft skills" during their internships, such as "professional communication" or "time management."

Besides gaining general soft skills, students often described new insights into navigating the unwritten rules of a specific business or professional field. One student, for example, described adapting his own needs in relation to the company culture:

> *"I have to move around and walk, and some people aren't very talkative, which is kind of hard for me, because I'm a very social person. So, that's, I'm adjusting to it. And now that I get in the groove of it, I understand why everybody is kind of like heads down because it's a lot of projects to do in a short time. But still, that was, I think, one of my biggest challenges. (…)"*

Four of the seven students that we interviewed were offered regular employment or a promotion at their internship site, including one human services student who was offered a full-time position at the community center where she interned. Other students discussed how the internship helped them to add skills to their resume, to attend conferences and build professional connections, and to obtain recommendations. For example, one student pursuing a Medical Administration Specialization was able to use her internship to attend conferences and build connections with the board of directors of the hospital where she interned. Thanks to a reference by her internship supervisor, she was offered full-time employment at a division within the same firm. Because of the connections built during her internship, she now considers several positions accessible:

> *"So, how I benefited is I have a connection, and I got a letter of reference, recommendation from her [former supervisor]. And so, I look forward to, once I'm finished with my education, being able to at least have resources here that regardless of which department I choose, to have a connection that's already here and already have a foot in the door."*

These examples illustrate how, over time, students were able to leverage internship experiences in their favor for various positive outcomes, not only ones related to academic and career development, but also ones related directly to employment opportunities as well.

VI. CONCLUSIONS AND RECOMMENDATIONS

The first round of data collection for the *College Internship Study* at Madison College indicated that there were social and economic barriers that some students faced when interested in participating in internships. It also suggested that Madison College students had relatively high levels of career adaptability, and that they experienced positive outcomes of internship participation, including internship satisfaction and 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 (Hora et al., 2018).

The findings of this one-year follow-up study indicate that barriers to internship participation persist for some students. They also highlight several noteworthy longitudinal outcomes of internship participation. Students who graduated from Madison College with multiple internships had a higher annual income than graduates with only one or no internships. Interestingly, students reported better mentorship during their second internship than during their first, meaning that the second time around interns received more directions and feedback from their supervisors regarding internship task performance and career planning. This finding is supported by evidence from the interviews that some students pursued a second internship because they were unsatisfied with their first. Also, students who had an internship experience at T1 and graduated from Madison College one year later at T2 were more likely to find jobs related to their fields of study than students who had not participated in an internship.

Participating Madison College students reported a decrease of career adaptability over time, specifically in the dimensions of career confidence, concern, and control. As an exception, career curiosity seems more stable across time. This indicates that Madison College participating students were initially high in career adaptability and gradually experienced decreases in some of these dimensions as time passed. Such declines were especially salient for those students who were involved in career exploration activities through multiple internships. 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 Madison College contained recommendations for students, educators, and employers to ensure quality internship experiences for Madison College 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, however students' perceived mentoring remained low in the T2 study. This indicates the need for more attention from educators and employers.
- Career adaptability plays a central role in college students' school-to-workforce transitions. Regarding the identified decreases in students career concern, confidence, and control 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 the above discussed three dimensions, students remain curious 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.

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.

Hora, M. T., Scaglione, M., Parrott, E., Chen, Z., Wolfgram, M. & Kolar, A. (2018). *Results from the College Internship Study at Madison College* (Technical Report). Center for Research on College-Workforce Transitions, University of Wisconsin-Madison. http://ccwt.wceruw.org/documents/CCWT_Internship%20Study%20Report_Madison%20College_Nov%202018.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.

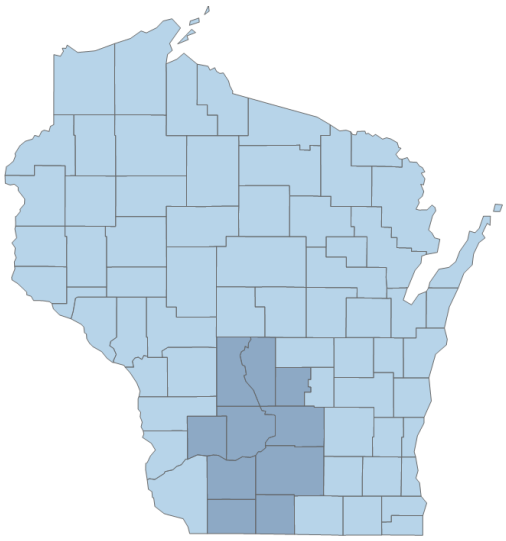
Weiss, F., Klein, M., & Grauenhorst, T. (2014). The effects of work experience during higher education on labour market entry: learning by doing or an entry ticket? *Work, Employment and Society, 28*(5), 788-807.

APPENDIX 1: Intern Labor Market Analysis[12]

As a complement to the primary data we collected as part of 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.[13] 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 all counties in Wisconsin with the counties included in Madison College's CZ highlighted.

Figure 1: Madison College's Commuting Zone



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

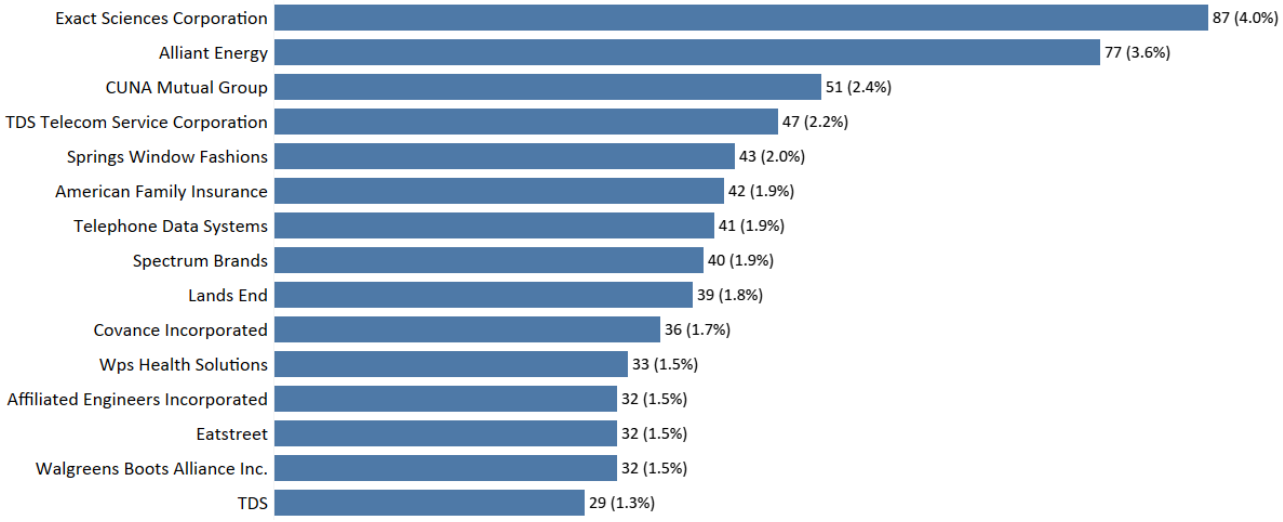
The Intern Supply Ratio is not a perfect metric and is currently being refined to account for the fact that not every enrolled student should be considered a "potential intern". At present, it considers the maximum amount of supply, suggesting that the ratio is inflated to its' greatest supply extent. Table 1 displays the supply, demand, and ratio for the CZ in which Madison College is situated. The ratio indicates that there are roughly 31 potential interns to each internship job posting.[14]

Table 1: Supply and Demand in Intern Labor Market

Variable	Value
Total Enrollment in Commuting Zone	76,086
Total Internship Job Postings	2,436
Intern Supply Ratio	31.23

Figure 2 shows the top 15 employers of interns in Madison College's CZ. Of the 2,436 total job postings, 661 (30.7%) come from these top 15 employers.

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

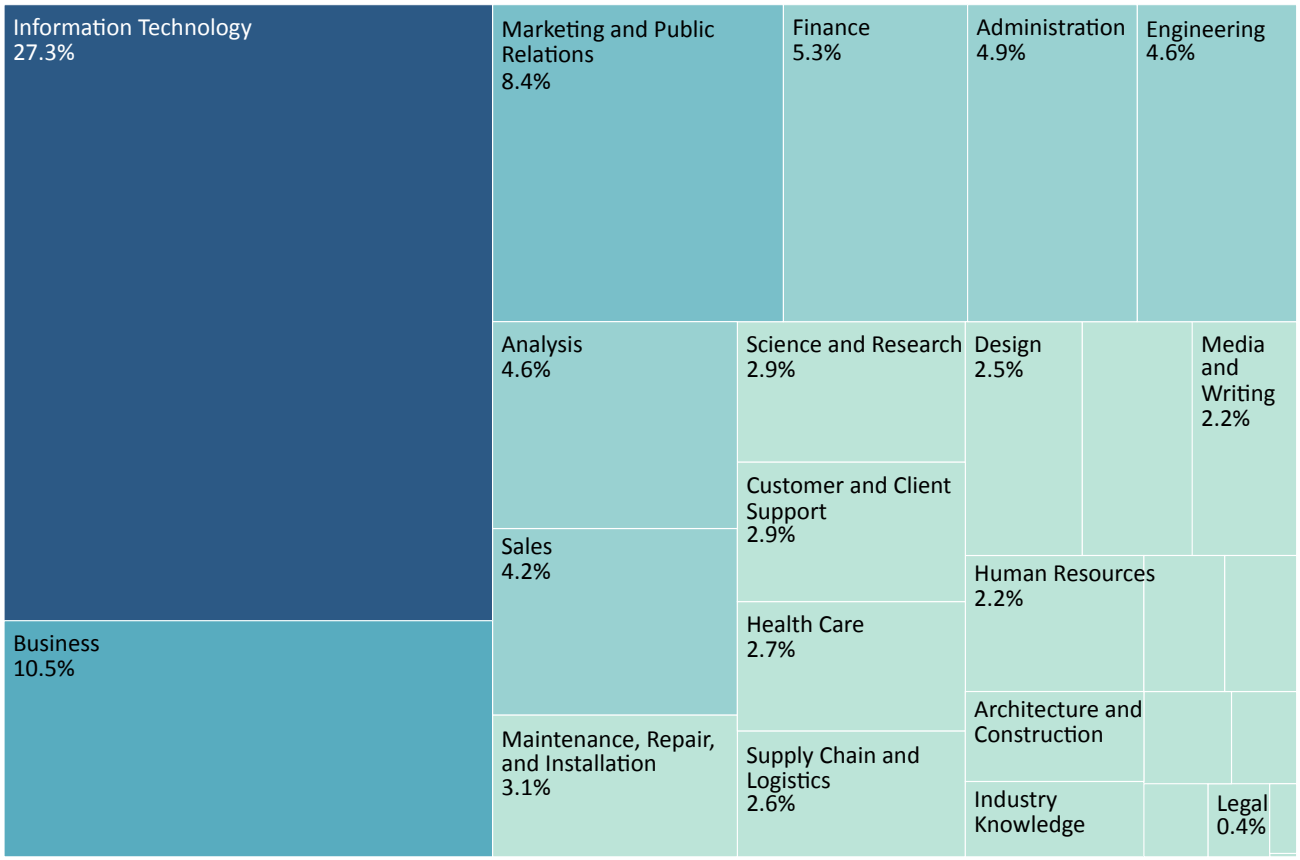


14 Burning Glass data can be broken down by required education, though many internship posts do not include this requirement, so we have not disaggregated by this measure. Most institutions also typically have a mix of degree program offerings, resulting in the decision to leave job postings as aggregated.

15 Percent in parentheses represents share of total job postings, rather than share of top 15. Some employers appear to be listed multiple times by Burning Glass (such as TDS Telecom and TDS), but we have chosen to defer to Burning Glass' employer designation criteria.

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.[16] 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.

Figure 3: Top Skills in Demand for Interns



The tree map presented in Figure 3 indicates a clear demand for interns to have Information Technology skills,[17] with the second tier of skills desired include Business, Marketing and Public Relations, Finance, and Administrative. 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.

16 https://www.burning-glass.com/research-project/skills-taxonomy/

17 While we have deferred to Burning Glass' designations of skill cluster families, it is important to note that basic software skills, such as Microsoft Suite Software, are included as Information Technology. This may be inflating the share, depending on differing definitions of Information Technology.

CENTER FOR RESEARCH ON College-Workforce Transitions

The College Internship Study

Wisconsin Center for Education Research
SCHOOL OF EDUCATION
UNIVERSITY OF WISCONSIN–MADISON

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.

Photo by Madison College.

Center for Research on College to Workforce Transitions (CCWT)
1025 West Johnson Street, Madison, WI 53706
For more information contact Amy Rivera (arivera3@wisc.edu)
ccwt.wceruw.org