



Results from the College Internship Study at a North Carolina University

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CENTER FOR RESEARCH ON
College-Workforce Transitions



The **College Internship** Study

EXECUTIVE SUMMARY

This report includes findings from the first round of data collection (Fall 2019) at a North Carolina University (NCU) for *The College Internship Study*, which is a national mixed-methods longitudinal study of internship programs conducted by the Center for Research on College-Workforce Transitions (CCWT) at the University of Wisconsin-Madison (UW-Madison). The findings are based on three datasets: an interdisciplinary sample of students who took an online survey (n=276), focus groups with students who have and who have not had an internship experience (n=20), and interviews with career advisors and faculty (n=5).

Four research questions guide our study: (1) How many students are participating in internship programs, and does participation vary by student demographics, academic status, or life/employment situation? (2) What barriers exist for students to participate in internship programs? (3) What is the structure and format of internship programs? And (4) How, if at all, is program structure and format associated with student satisfaction with their internships and their estimation of the value of the internship on their career development?

Some key findings from our analysis include:

- The North Carolina University is a comprehensive regional and Historically Black University that is part of the larger University of North Carolina system. The student body, faculty, and staff today rank among the nation's most diverse campus communities. The university has strong undergraduate and graduate programs in teacher education, the arts and sciences, health professions, business and economics, and is developing programs in unique and emerging fields.
- Interviews with educators (n=5) at the NCU indicated that there are several staff and faculty who are invested in internships for students. This investment stems, in part, from the perception that the completion of internships will help students to gain valuable skills for their transition to graduate school and/or jobs. These individual educators each described specific ways in which they support this effort through their positions on campus. All indicated that the administration of internships on campus is decentralized.
- About a quarter (26%) of the student respondents to our survey indicated that they had participated in an internship program within the past year (n=71) and 74% (n=205) did not take an internship.
- Of the students who responded to the survey, 61% (n=167) reported that they were in programs that did not require an internship while 22% (n=61) reported that internships were required for them to graduate.
- Using the sample of participating students in this survey, participation in internships was not associated with many of the demographic variables measured in our survey, such as gender, race, first-generation college student or disability status. However, students with a higher GPA, full-time academic enrollment status, and no full-time employment were more likely to have participated in an internship.

- From the student survey data, 68% (n=139) of students who did not take an internship indicated they had wanted to do so. Barriers to participation in internships included: a need to work at a current job (62.6%, n=87), a heavy course load (57.6%, n=80), a lack of internship opportunities (55.4%, n=77), insufficient pay (43.9%, n=61), a lack of transportation (35.3%, n=49), and a lack of childcare (29.5%, n=41). These obstacles often intersected with one another such that individual students experienced more than one at a time, inhibiting their ability to pursue an internship.
- Themes from focus group interviews with students (n=20) offered an opportunity to deepen our understanding of some of these barriers, including: the need to travel to/from internships, unpaid internships and financial considerations, a perceived lack of institutional support to help students, difficulty finding internship opportunities within their desired academic and career area, and familial and work responsibilities that make completing an internship challenging. For most students, multiple barriers intersected and intertwined and impacted their ability to complete an internship.
- Student survey data indicated that supervisor support is positively associated with student internship satisfaction. The extent to which an internship was related to students' academic program is positively associated with students' perceptions that the internship was valuable to their academic development. Supervisor mentoring, autonomy, and the students' perception of the similarity of the internship to an entry-level job were associated with students' perception that the internship was valuable to their career development.
- According to the theory of career adaptability, one of the psychological resources that is important for individuals to positively manage career-related challenges and changes is their beliefs about their capacities to execute career tasks and make career decisions, which is called "confidence". For students in our sample, higher confidence was associated with students' higher internship satisfaction and perceived developmental value.
- While outcomes such as employment status and wages will be studied over the next 12 months, data from the focus groups suggest that short-term outcomes of participating in an internship program for this sample of the NCU students include the opportunity to explore one's career interests, gain real-world experience, professional skills, and self-confidence, cultivate professional networks, and boost one's resume and obtain post-graduation employment.

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

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I. INTRODUCTION: Why Study College Internships?

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

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However, the research literature clearly indicates that internships are neither easy to design and implement, nor are they a panacea for the long-standing problems of cultivating students' skills and easing their entry into the labor market (Hora, Wolfgram, & Thompson, 2017). Access to internships themselves can be difficult, particularly for students from particular groups, including students who are low-income or economically marginalized, first-generation college students, students who are members of underrepresented racial and ethnic groups, and students who may be unable to engage in unpaid labor and/or lack social networks that facilitate participation in internship programs. Furthermore, while internships can provide a rich, experiential learning opportunity for students, long promoted by education theorists and learning scientists (e.g., Dewey, 1938; Resnick, 1987), designing a robust learning experience within an internship is much easier said than done. Not all internship experiences are designed and implemented with attention to best practices in the field, which could be due to a lack of knowledge about internships, adequate human and financial resources, or institutional capacity and supervisory expertise at the college or internship site.

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

In early 2018, the Center for Research on College-Workforce Transitions (CCWT) at UW-Madison launched the College Internship Study as a translational research program that could provide key stakeholders with

robust, actionable evidence about internship programs. Since in-depth data on internships tend to be difficult to access, our aim in this study is to provide institutional leaders, faculty and instructors, and career services professionals at the North Carolina University (NCU) with rigorous data on issues related to internship program access and quality. In doing so, we place students' experiences and perspectives at the heart of the analysis while also attending to the critical issue of institutional capacity—two considerations that should guide decision-making about future policy and practice around internship programs.

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

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

However, the literature is also limited in several important ways. One of the biggest challenges facing the field of internship research is the lack of clear and standardized definitions regarding internships in general, and the paucity of empirical research on the structure of internship programs themselves. Given their similarity with other co-curricular experiences like coops or practicums and the variability in internship program design with respect to factors such as duration and task quality, it is highly unlikely that participants across studies are answering questions about their internships with a similar frame of reference in mind. The National Survey of Student Engagement (NSSE, 2018), for example, is an important source of information about college internships in the United States, but the survey item encompasses a diverse array of (undefined) experiences that can be interpreted in a myriad of ways by survey respondents. Thus, claims based on NSSE data that internships are a high-impact practice that universally lead to student engagement and success (e.g., Kuh, 2008) should be interpreted with caution.

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Furthermore, before assuming that causal relationships exist, we must first describe experiences and the mechanisms that may govern their relations (Loeb et al., 2017). Consequently, descriptive research on critical mediating factors such as “the structure and format of internships” is essential in order to avoid treating the internship experience like a “black box” that mysteriously transforms students into work-ready individuals (Silva et al., 2016, p. 704). Similarly, it is untenable to assume that all internships provide a robust experiential learning

opportunity in the spirit of the types of hands-on learning envisioned by educational theorists (e.g., Dewey, 1938 and Resnick, 1987). As a result, research examining the specific structural features of the learning environment that comprise the internship experience is particularly needed to inform internship policy and practice (Cannon & Geddes, 2019).

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

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

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

Outcomes of internships examined in this study:

- Student satisfaction with the experience
- Enhanced sense of career goals
- Enhanced understanding of academic coursework
- Wages (for longitudinal data)
- Employment status (for longitudinal data)

Finally, career advisors and postsecondary educators are increasingly concerned about the problem of access, particularly for low-income, first-generation students who may be unable to engage in unpaid labor and/or lack transportation, child-care, or social networks that facilitate participation on internship programs (Curiale, 2009; Finley & McNair, 2013; Perlin 2012). Additionally, internship opportunities in rural areas and for students in certain fields (e.g., arts and humanities) may be limited, further exacerbating the access problem that may afflict students in many of our nation's colleges and universities. Consequently, we examine the obstacles that may be preventing some students from pursuing and successfully completing an internship, with the ultimate goal of helping your institution to address these barriers so that all students can participate in a high-quality work-based learning experience.

III. METHODOLOGY

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

The data collected for the study include an online survey of students, focus groups with students who have and who have not had an internship experience, interviews with individuals (e.g., career advisors, faculty, and area employers) involved in internship program administration and implementation, and documents and online resources about internship programs and services at the institution. A team of trained researchers collected this data at the NCU in Fall 2019. The online survey was administered to 1719 students in the second half of their program (with the exception of students in education programs), and 276 responded, which resulted in a response rate of 16.1%. The survey included questions about student demographics, characteristics of internship programs, barriers to internship participation, self-efficacy beliefs and outcome expectations, and students' career adaptability (i.e., a psychological construct linked to positive vocational outcomes). At the conclusion of the survey, students were asked to indicate an interest in volunteering for focus groups. Twenty students participated in 12 focus groups. Focus groups lasted approximately 45 minutes each, included between 1 and 4 students, and asked more in-depth questions about experiences with and barriers to internships. In addition, 5 educators participated in approximately 1 hour-long interviews regarding their own experiences administering internships (see Table 2).

¹ The data reported here represent the first phase of data collection at the North Carolina University in Fall 2019 (Time 1). Data also will be collected in Fall 2020 (Time 2), and will include a follow-up survey of students who responded to the T1 survey, which will represent a panel of students to track as they enter the workforce. Interviews will also be conducted with a sub-sample of these students, and educators and employers in order to assess the nature of internship programming and/or effects over time.

Table 1: Description of Fall 2019 sample

	Survey	Focus Groups	Interviews
Students	276	20	N/A
Educators	N/A	N/A	5
Faculty/instructors	N/A	N/A	3
Career advisors	N/A	N/A	2
Employers	N/A	N/A	0

Table 2: Description of student sample

	Survey Sample	Institutional Population
Total	276	1,719
Gender	Male = 64 23.19% Female = 204 73.91% Transgender/Non-binary = 7 2.53% Gender Identity not listed = 1 0.36%	Male = 576 33.5% Female = 1,143 66.5%
Race	Asian = 7 2.8% Black = 165 66% Hispanic = 15 6% American Indian or Alaska Native = 1 0.4% White = 55 22% Other/Not listed = 7 2.8% Two or more race/ethnic identities = 26 9.42%	Asian = 37 2.2% Black = 1,022 59.5% Hispanic = 164 9.5% White = 350 20.4% Multi-Race = 49 2.9% Unknown = 62 3.6%
1st gen status	Yes = 138 50% No = 138 50%	Yes = Not reported No = Not reported

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

V. RESULTS: Institutional capacity and procedures for administering internship programs

One of the goals of our research was to map the institutional practices in place regarding how internship programs are designed, implemented, and monitored on campus. This kind of diagnostic assessment can provide a "road map" of the five Ws—where, who, what, when, and why—of a program or initiative. The last question about why educators support student internships will be addressed in the next section (Section V) titled, "Insights from educators about the value of internships for students." Without such information at hand, it is difficult to ascertain precisely how programs like internships function within a complex organization, what kinds of mechanisms may be at work in shaping student outcomes, and where strengths and weaknesses exist that could be addressed in future programming. In the case of internship programs, which are often not administered through a centralized unit (e.g., a single career services office) but are managed by multiple parties across (and even outside of) campus, this type of diagnostic mapping is even more important. We collected information on these issues from staff and students, along with an analysis of online and hard-copy documents.

Are internships required to graduate from North Carolina University?

At the NCU, completing an internship is not a university-wide curriculum requirement. Having internships as a requisite for graduation is department-specific. Twenty two percent of the students in our sample were within a major/department requiring an internship. Some of the students who were not required to complete an internship indicated that they have received encouragement to pursue internships. Students reported receiving details regarding internship opportunities from a variety of sources on campus, including career services, department staff, faculty, and fellow students. The overall perception of the quantity of internship opportunities varied across students.

Who administers internship programs?

Internship programming at the NCU is fairly decentralized across the institution. At this time, there is no singular organizational structure that oversees all internship programs on campus, and many of the individuals who are offering internship opportunities at the NCU are not connected with one another and do not receive incentives or staff support from the administration to pursue these efforts.

Internships are supported by individual faculty and departments across campus, with various internship and career support services offered by Career Services. Some faculty collaborate with Career Services to push out internship opportunities to identified students and incorporate resume-writing or other professional

development workshops into the curriculum while others work independently within their departments or units.

At Career Services, the Internship Coordinator position is currently in the process of being filled. This position is envisioned to serve the role of managing internships at the university level. The Employer Outreach Coordinator is another position that serves to support internships with Career Services. This role serves to increase internship opportunities on campus by directly reaching out to potential employers to build relationships with the NCU, as well as bringing employers to campus for programming or career fairs for students.

The Career Services Office uses Handshake to support internships by advertising available positions, coordinating application process, and tracking internship participation. Handshake is an online platform managed by Career Services that allows employers to post internship opportunities for the NCU students. Students are encouraged to sign up for this service during their first year of enrollment and are able to view and apply to opportunities directly through the Handshake platform.

What is involved in the administration of internship programs?

Career Services Administration of Internships

Within Career Services, internship programs are supported by career services staff and via Handshake. External internship opportunities are advertised by Career Services, faculty emails and outreach, career fairs, or Handshake. The Employer Outreach Coordinator contacts potential employers to build relationships and increase internship opportunities on campus. This outreach has been primarily directed toward in-state opportunities in major metropolitan regions, which are typically paid internships or research opportunities. Efforts to increase internship opportunities thus far have been mostly driven by identifying potential employers, informing specific department faculty of said potential employers, and asking faculty to refer or nominate “top” students to said opportunities.

The Internship Coordinator position is designed to support faculty in academic departments that offer internships, increase communication with students about internship opportunities, and work with financial aid to develop work-study opportunities on campus that mirror internship learning. At this time, administrators reported that students have been requesting to remain local and find opportunities within the North Carolina city. One administrator pointed out that: “a lot of our students would like something local, but there’s not a lot of paid opportunities local.” Administrators also reported an increased effort to provide non-paid academic internships during the school year. However, administrators on campus noted that due to the hour requirements for internships to count towards course credits, students who work part-time may be precluded from participating.

Academic Department Administration of Internships

The following academic disciplines at the NCU offer internship courses: Accounting, Business Administration, Healthcare Management, Communications, English, Criminal Justice, Sports Management, Government, and Sociology. In addition, practicum courses are offered in Nursing, Theater, and Social Work. Academic departments across campus support internships in a variety of ways. Some require internships for graduation.

Others offer specific courses that are designed to prepare students for and connect them with internship opportunities. These courses are generally supported by the efforts of individual faculty. Academic departments reported receiving limited administrative or institutional support to further build these programs. There is no one method used for administering and developing internship experiences across departments. However, all internships offered for course credit through internship courses require at least 100 hours of student participation time over the course of a 16 week semester, and all have some level of structured agreement with the interns' supervisor setting expectations for the nature of the work and establishing mechanisms by which employers provide assessments of student work. A variety of factors impact whether and how departments organize their internship programs, including the geography of opportunities for internships within a discipline, the duration of internship programs within departments, and the pertinence of internships for specific majors.

The internship experiences themselves also vary substantially across majors and occupational areas. Some programs may require students to complete a specific number of hours, assignments, and/or a final project. For example, credit-based internships within the Communications and Criminal Justice departments are only open to students who complete preparatory internship courses. Through these credit-based internships, students are matched with employers who have an ongoing relationship with the academic department. In Communications, approved internships may be paid or unpaid, whereas opportunities in Criminal Justice are mostly unpaid. In Communications, 3-credit internships require students to work a minimum of 100 hours across the 16-week semester and require a final paper. In Criminal Justice, students can choose to complete internships as part of their coursework for either 6 weeks (120 hours, 3 credits) or for the full semester (240 hours, 6 credits). In the Chemistry department, two spring semester internship courses were developed in the past year as a requirement for pre-health and pre-pharmacy students. Students enrolled in these courses are matched with practicing medical professionals in an unpaid, shadowing experience aimed at providing students the opportunity to network and learn from professionals. The course also includes professional development such as mock interviews, interview skills, and MCAT preparation. In each of these departments, ongoing employer relationships are managed and maintained by faculty. They identified the coordination of internships as a time-consuming task that can be challenging to maintain in addition to other faculty responsibilities.

Internship courses at the NCU serve different purposes within departments. Each major and departmental program offer their own range of opportunities, courses, and credit requirements. Faculty who manage internships reported that they have been engaging in efforts to increase opportunities and formalize agreements with potential employers to increase access and decrease the individual demands on their time. More specifically, faculty instructing internship courses described developing reference lists of available opportunities to share with students. These lists are either departmentally developed or organized by motivated faculty and/or the department's internship coordinator who may use their own network to find students' internships. In some cases, faculty will create new internship opportunities for students via their personal networks.

In summary, staff and faculty on campus who are serving as official or unofficial internship coordinators try to provide students with practical experiences that mirror the rigor of an entry level position. Their goal is to prepare students for their transition to work or graduate pursuits post-graduation. Though internship coordination is mostly decentralized across campus, faculty and staff involved in student internships at the NCU work hard to assist interested students to find and complete internships.

When do these activities take place?

Student internship completion varies widely across campus. For-credit internships take place during the academic year or summer, depending on the department. Preparatory internship courses may be available during the fall or spring semester, and may be offered only once a year. Internship courses are commonly recommended to students during the second half of their programs of study. Available summer internships are most commonly external to the university and outside of the North Carolina city (e.g., in a larger city in NC, or out of state). These internships often are shared with students by Career Services or faculty and often pay stipends.

Why are educators interested in promoting internship opportunities for students?

Staff and faculty at the NCU reported numerous reasons for their support of internship programs. Instructors and internship coordinators emphasized the importance of internships in providing opportunities for professional development and socialization into the world of work that would further students' post-graduation success. One educator noted that internships are "incredibly important for the students' professional development." This educator cited students' ability to learn via completing meaningful shadowing experiences and building networking connections with professionals. Another staff member noted that internships provide unique practical learning experiences. They pointed out that students have opportunity to experience being "out in the real world, getting a job, going to work." Another educator similarly saw internships as an opportunity to gain knowledge that will later help students as they transition into the world-of-work. The educator indicated that they saw this "like the beginning of the job you are going to perform."

Throughout the interviews, staff and faculty emphasized that internships provide students with opportunities to learn professional culture, communication, and specific job skills. One faculty member described individual efforts undertaken in his department to increase students' access to internship opportunities and improve students' competitiveness for graduate school. He said: "I let the students contact me... to find out what their primary interest is, and then I try to knock on doors and make phone calls in the community to try to best match to the interests."

In summary, faculty and staff expressed being involved in internship opportunities for students in order to increase students' access to opportunity, support students' career development, and increase students' post-graduation marketability to employers and graduate schools.

VI. RESULTS: Which students are taking internships at the North Carolina University?

In this section we present findings from the online survey and student focus groups regarding the number of students at the North Carolina University who have (and have not) participated in internships.

Survey results: How many students are participating in internships?

One of the most fundamental questions facing research, policy, and practice on college internships is how many students are participating in these programs. Among our study sample (n=276) we found that 25.7% took an internship in the past 12 months. Of those who had completed an internship, 43 students (60.6%) had completed one internship, 15 students (21.1%) had completed two internships, and 13 students (18.3%) had three or more internship experiences.

Figure 1. In the past 12 months, have you participated in an internship? (n=276)



These results indicate that a large number – nearly three quarters of the study sample – have not participated in an internship. This finding should be carefully interpreted and considered along with other issues, including barriers to participation for students (e.g., compensation), availability of employer hosts, and requirements of and relevance for individual students and/or their academic programs to complete an internship. In the following sections of this report, we examine some of the factors associated with internship participation. This survey did not include a question asking whether students intend to take an internship, which may provide important information regarding students’ motivation to pursue internships in the future.

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

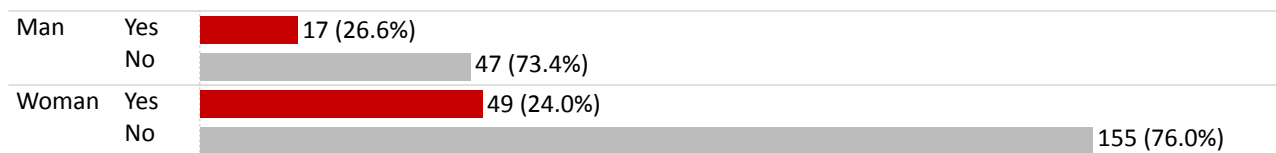
A wide range of factors may explain why a student elects to take an internship (or not). Understanding these factors is essential for institutional stakeholders who aim to improve access to workplace learning experiences. In this section we report findings regarding differences in internship participation according to four categories: demographic variables (i.e., gender, race/ethnicity, first-generation college status, disability status, and parents’ income), life circumstances (i.e., employment status, food insecurity, paying rent or mortgage), psychological variables (i.e., career adaptability), and features of academic programs (i.e., requirement to take internships, academic enrollment, major, and GPA). Importantly, this study did not collect information regarding student class year. Because many students at the NCU do not complete an internship until the summer before their senior year or their senior year, gathering this information in future surveys will help to further contextualize these findings.

Demographic characteristics and internship participation

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

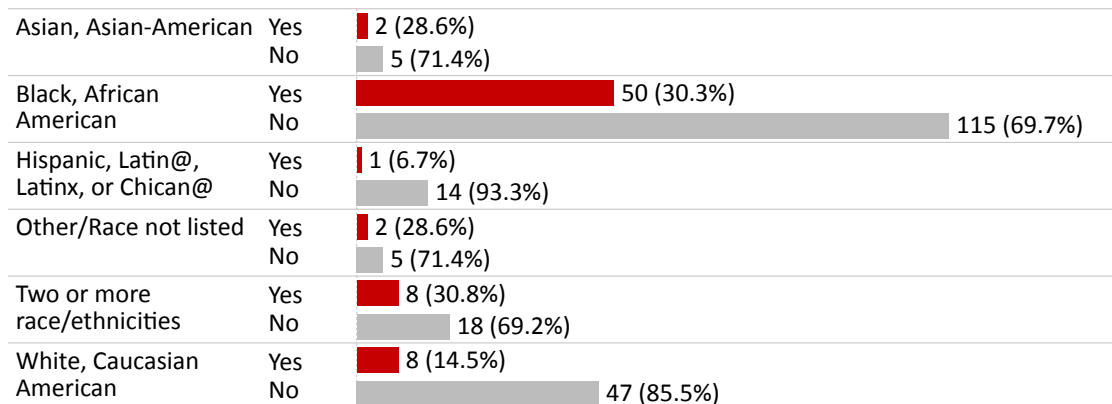
The results show similar participation for female and male students (see Figure 2; 26.6% vs. 24%). Most of the students (59.8%) who participated in the survey identified as Black or African American. Of these Black or African American students, 30% had internship experiences and 70% had no internship experiences (See Figure 3). Figure 4 shows similar internship participation for first-generation college student status and continuing generation students.

Figure 2². Internship in the Past 12 Months (Yes/No), by Gender (n=224)



Note: Transgender, Non-binary, and Other were excluded from this figure due to small sample size.

Figure 3. Internship in the Past 12 Months (Yes/No), by Race / Ethnicity (n =275)



Note: American Indian or Alaska Native were excluded from this figure due to small sample size.

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

Figure 4. Internship in the Past 12 Months (Yes/No), by First Generation College Student Status (FGS) (n=276)

Continuing Generation Student	Yes		36 (26.1%)
	No		102 (73.9%)
First Generation Student	Yes		35 (25.4%)
	No		103 (74.6%)

Lastly, parental income is used here as an indicator of students' socio-economic status. The association between parental income and internship participation is not statistically significant with the data at hand (see Figure 5.1). We further explored the relationship between internship participation and parental income based on state and local median annual income. The median annual household income in 2018 was \$53,855³ in North Carolina and \$46,679 in the North Carolina city⁴. The parental income brackets did not fit exactly with the median income, so we grouped students' self-reported parental income into below and above \$40,000, the closest cut point below and above the median annual household income. The internship participation rate for students from above the state median household income (28.5%, n = 39) was higher than the participation rate of those with below median household income (23.4%, n=32; see Figure 5.2).

Figure 5. Internship in the Past 12 Months (Yes/No), by Parental Income (n=274)

\$0-\$19,999	Yes		15 (27.3%)
	No		40 (72.7%)
\$20,000-\$39,999	Yes		17 (20.7%)
	No		65 (79.3%)
\$40,000-\$59,999	Yes		13 (27.1%)
	No		35 (72.9%)
\$60,000-\$79,999	Yes		11 (30.6%)
	No		25 (69.4%)
\$80,000-\$99,999	Yes		2 (14.3%)
	No		12 (85.7%)
\$100,000-\$119,999	Yes		5 (29.4%)
	No		12 (70.6%)
\$120,000-\$139,999	Yes		5 (55.6%)
	No		4 (44.4%)
\$140,000-\$159,999	No		4 (100.0%)
	Yes		1 (25.0%)
\$160,000-\$179,999	No		3 (75.0%)
	Yes		1 (100.0%)
\$180,000-\$199,999	No		1 (100.0%)
	Yes		2 (50.0%)
\$200,000 and above	No		2 (50.0%)
	Yes		2 (50.0%)

Note: Two participants did not answer this question and were excluded from this figure.

³ The Median annual income of North Carolina comes from Data USA: <https://datausa.io/profile/geo/north-carolina>

⁴ The Median annual income of the North Carolina city comes from Data USA (link not included to maintain anonymity)

Figure 5.2. Internship in the Past 12 Months (Yes/No), by Parental Income Below and Above Median Annual Income (n=274)

Below \$40,000	Yes		32 (23.4%)
	No		105 (76.6%)
Above \$40,000	Yes		39 (28.5%)
	No		98 (71.5%)

Note: Two participants did not answer this question and were excluded from this figure.

Life circumstances and internship participation

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

Figure 6 displays employment status (PT/FT/No-employment) and internship participation. Only 14.9% (n=11) of students who worked at a full-time job also participated in an internship. In contrast, 24.8% (n=28) students who worked part-time participated in an internship, and students who were not employed had the highest internship participation rate 36.4% (n=32).⁵

Figure 6. Internship in the Past 12 Months (Yes/No) by Employment Status (n = 275)

No employment	Yes		32 (36.8%)
	No		55 (63.2%)
Part-time employment	Yes		28 (24.8%)
	No		85 (75.2%)
Full-time employment	Yes		11 (14.9%)
	No		63 (85.1%)

Note: One participant reported having a job but working zero hours per week, therefore the sample size is smaller than the total.

⁵ The association between internship participation and employment status is statistically significant based on a chi-square test of independence, $\chi^2(2, 275) = 10.13, p = .006, V = .19$. The value of Cramer’s V indicated that relationship between these two variables was small, meaning that interpreting this result should be approached with caution (Cohen, 1988).

Although we are using p value to infer statistical significance in the current study, it is worth noting that p value should not be taken as a definitive validation of relationships between variables. Many factors may influence p value such as effect size, size of sample and spread of the data (Dahiru, 2008; Ziliak and McCloskey, 2008), so p value does not necessarily preclude a cautious analysis of results based on survey data. p should be used as a warning signal on the possibility how likely it is that any observed difference between groups is due to chance.

Awareness about college students' challenges with securing adequate food, or what is known as food insecurity, is growing in the US (Broton & Goldrick-Rab, 2016). In our survey, we included a question asking if students had received free food or meals using the Supplemental Nutrition Assistance Program or a food bank, and the results indicate that for students who received food stamps and who have not had an internship, approximately 15.1% (n=31) reported relying on these resources in the past 30 days (see Figure 7). Given that housing costs can strain a student's financial situation, we also asked about problems with paying rent or mortgages, with 8.7% (n=24) of students reporting housing cost problems, 7 of whom participated in internships (See Figure 8).

Figure 7. Internship in the Past 12 Months (Yes/No) by Students Requiring Food Assistance (n = 276)

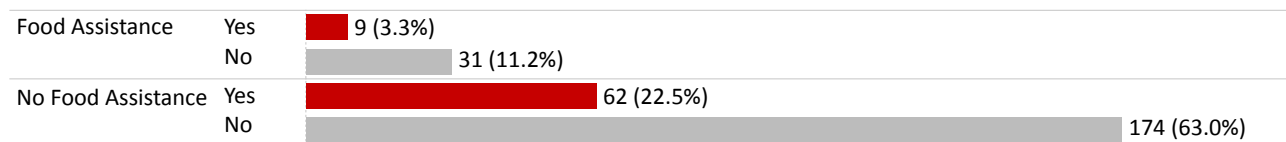
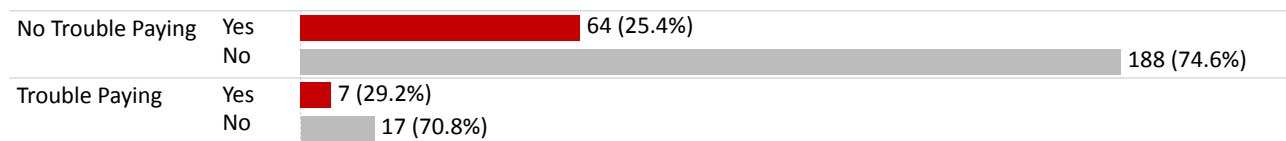
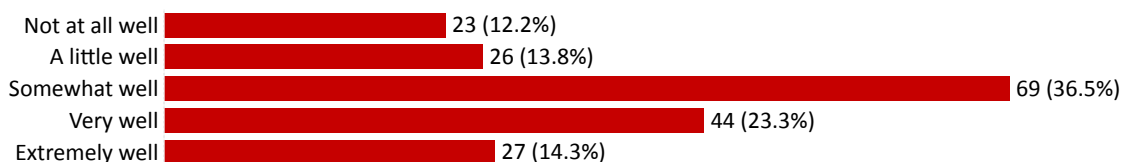


Figure 8. Internship in the Past 12 Months (Yes/No) by Students Having Trouble Paying Rent or Mortgage (n = 276)



Given that many students reported working part- or full-time, we explored the extent to which they perceived their job as contributing to their career goals (see Figure 9). Results indicate that 37.6% (n=71) of the students with a non-internship job felt that their main job was providing important career-related skills very well or extremely well. In contrast, 26% (n=49) of the students reported that their main job provided them with important skills a little well or not at all well.

Figure 9. How well do you think that your main job provides you with important work-related skills, knowledge, and abilities that you will need in your desired career? (n = 189)



Psychological factors and internship participation

Research in counseling and vocational psychology indicates that psychological factors are related to a variety of career-related outcomes. For instance, career adaptability is a psychosocial resource that facilitates a person's ability to manage career-related tasks and changes (Savickas, 1997). Career adaptability is associated with one's adaptive behaviors (e.g., career planning, career exploration, self-efficacy), employability, vocational self-identity, and satisfaction regarding life, career and school experiences (Rudolph, Lavigne, & Zacher, 2017).

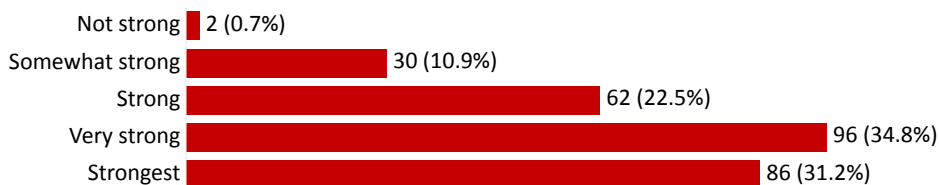
Scholars argue that career adaptability is especially valuable in the current labor market given frequent job and/or career changes, rising precarity (and lower job security) of work, and unanticipated shocks to regional and national labor markets that may lead to mass layoffs and forced job and/or career changes (e.g., 2008 recession, coronavirus pandemic).

In this study, we examined the relationship between career adaptability and internship programs, using a validated career adaptability survey developed by Savickas and Porfelli (2012). These survey items encompass four sub-scales including concern about the future, control over one’s future, curiosity about different career options, and confidence to achieve one’s goals, each of which are measured by six items that elicit how strongly the respondent rates themselves on these attributes. These items use a five-point Likert style set of response options (1=not strong; 5=strongest).

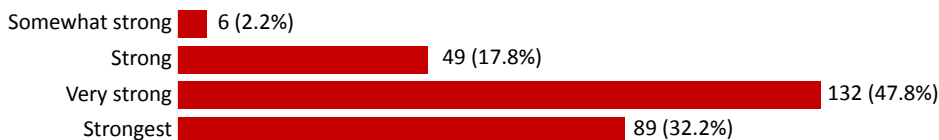
The results indicate that the survey respondents from North Carolina University rate themselves as follows across the career adaptability sub-scales: concern (M=3.90, SD=0.79), control (M=3.95, SD=0.78), curiosity (M=3.76, SD=0.84), and confidence (M=3.87, SD=0.79). The mean scores for all sub-scales were similar between the two groups: Concern (Internship: 3.95; No Internship: 3.88) Control (Internship: 3.83; No Internship: 3.99) Curiosity (Internship: 3.83; No Internship: 3.73) Confidence (Internship: 3.85; No Internship: 3.88). None of these differences were found to be statistically significant.

To illustrate the types of questions that are included in the career adaptability survey, we report one example for each sub-scale from the North Carolina University dataset (see Figures 10 - 13).

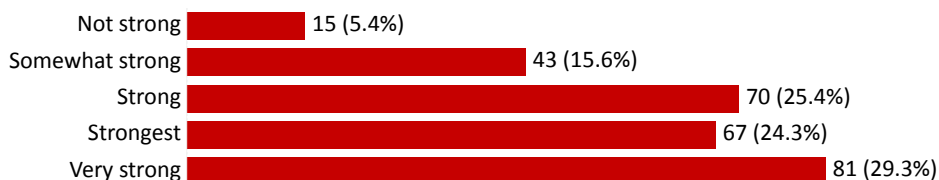
**Figure 10. Please rate how strongly you have developed each of the following abilities:
Becoming aware of the educational and vocational choices that I must make (n = 276)**



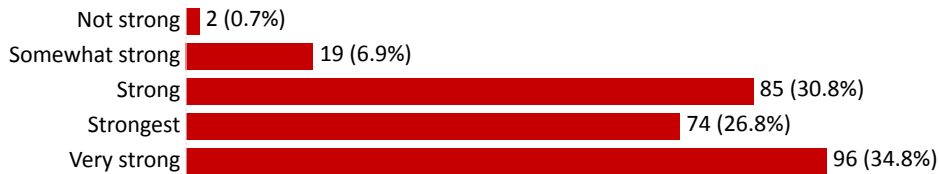
**Figure 11. Please rate how strongly you have developed each of the following abilities:
Taking responsibility for my actions (n = 276)**



**Figure 12. Please rate how strongly you have developed each of the following abilities:
Exploring my surroundings (n = 276)**



**Figure 13. Please rate how strongly you have developed each of the following abilities:
Performing tasks efficiently (n = 276)**

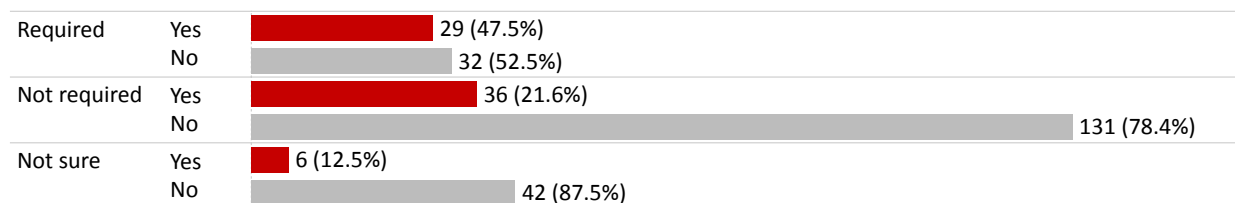


Features of academic programs and internship participation

It is also possible that some features of a students’ academic program and performance (e.g., whether an internship is required for graduation, part-time versus full-time enrollment status, disciplinary sector, grade point average) may be related to their participation in internships. Here, we examine the relationship between students’ academic programs and their participation in internship programs.

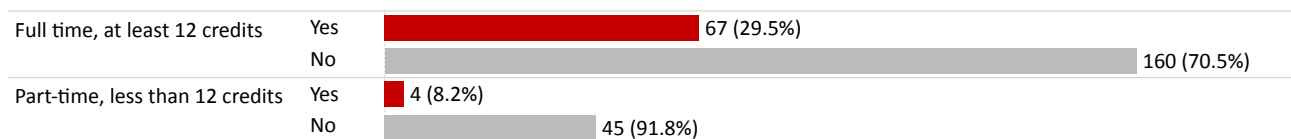
The results indicate that 29.1% (n=61) of the respondents were in academic programs that required internships. These students were more likely to participate in an internship as compared to students who were not required to take an internship to graduate (27.5% vs. 21.6%).⁶ There were also a noticeable portion (17.4%, n=48) of students who were unsure if their program required an internship; these students were less likely to participate than students who were sure (12.5% vs. 28.5%).⁷

Figure 14. Relationship between Internship Participation and whether an internship was required to graduate from your academic program (n=276)



In addition, 82.3% of the 276 survey respondents were full-time students and 17.8% were part-time students. The internship participation rate of full-time students (29.5%) was higher than that of part-time students (8.2%).⁸

Figure 15. Internship in the Past 12 Months (Yes/No) by Enrollment Status (n=276)



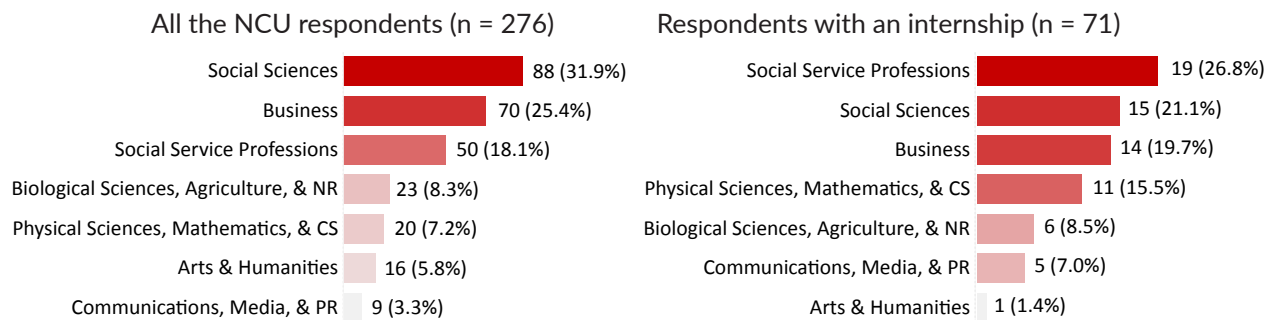
⁶ The difference of internship participation between internship requirement and no requirement groups was statistically significant, $\chi^2(1, 228) = 13.35, p < .001$.

⁷ The internship participation significantly differed between students who were sure and those who were not sure about the requirement based on a Fisher test of independence, $p < .001$.

⁸ The internship participation significantly differed between full-time enrolled students and part-time enrolled students based on a Fisher test of independence to account for smaller cell sizes, $p = 0.019$.

Additionally, we examined internship participation rates by disciplinary sectors. We adopted the major field categories defined by the National Survey of Student Engagement (NSSE, 2018). Figure 16.1 presents the distribution of seven major fields for all survey respondents at the NCU (n=276, left figure) as well as only respondents with an internship (n = 71, right figure). The results indicate that the disciplinary sector with the largest proportion of students was Social Sciences (31.9%, n=88) and that the disciplinary sector with largest proportion of students who completed an internship is Social Service Professions (26.8%, n=19).

Figure 16.1. Internship in the Past 12 Months (Yes/No) by Program Disciplinary Sector



NR = Natural Resources; CS = Computer Science; PR = Public Relations

Figure 16.2 presents internship participation rates across all major disciplines. The results indicate that the Communications, Media, and Public Relationship program had the greatest internship participation rate (55.6%, n=5), followed by Physical Sciences, Math, & CS (55%, n=11), Social Service Professions (38%, n=19), Biological Sciences, Agriculture, & Natural Resources (26.1%, n=6), Business (20%, n=14), Social Sciences (17%, n=15), and Arts and Humanities has the lowest participation rate (6.3%, n=1).⁹

16.2. Relationship between Internship Participation and Students' Program Sectors (n = 276)

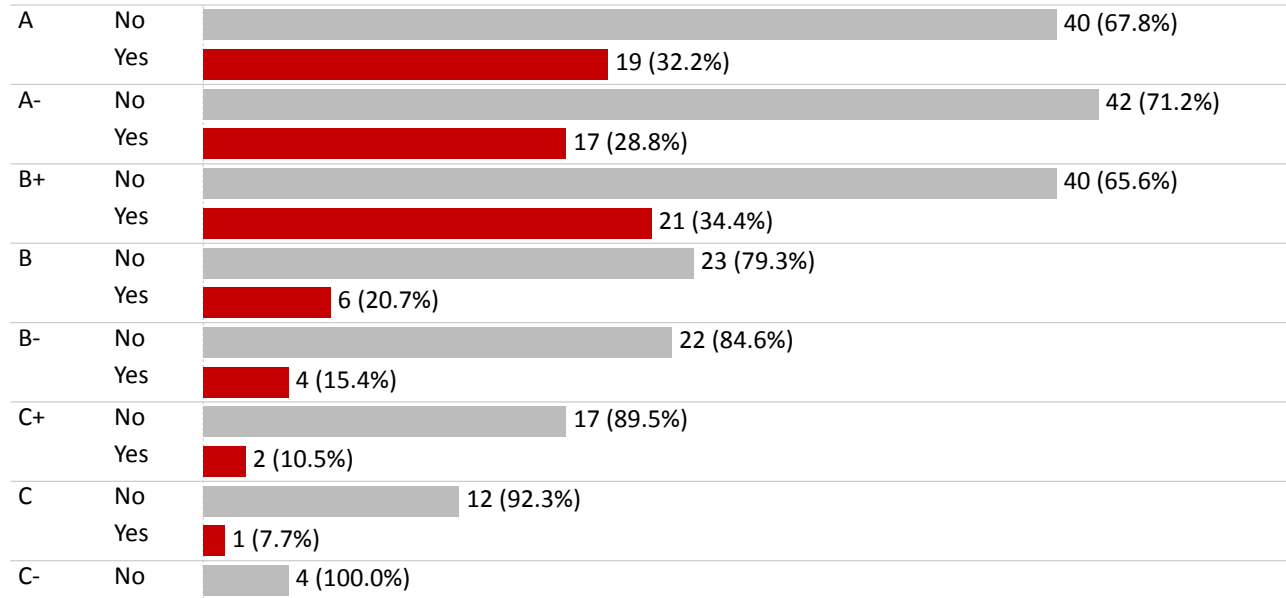
Disciplinary Sector	Yes	No
Social Sciences	15 (17.0%)	73 (83.0%)
Business	14 (20.0%)	56 (80.0%)
Social Service Professions	19 (38.0%)	31 (62.0%)
Biological Sciences, Agriculture, & NR	6 (26.1%)	17 (73.9%)
Physical Sciences, Mathematics, & CS	11 (55.0%)	9 (45.0%)
Arts & Humanities	1 (6.3%)	15 (93.8%)
Communications, Media, & PR	5 (55.6%)	4 (44.4%)

⁹ The internship participation significantly differed across different majors based on a Fisher test of independence to account for smaller cell sizes, p < .001.

Academic performance and internship participation

Finally, we examined the relationship between participating students' grade-point average (GPA)¹⁰ and internship participation. Figure 17 describes internship participation frequency and rate for each GPA level. We included GPA in a linear probability model¹¹ and found that higher GPA was associated with larger probability for an individual to participate in an internship.¹²

Figure 17. Relationship between Internship Participation and Students' Grade Point Average (n=270)



Note: six participants who reported “no grade or don’t know” were excluded from this figure

10 The GPA variable in our dataset is a self-reported measure where we asked the student a single question: “Thinking about the past 2018-19 academic year, which of the following best describes your grade point average (10 choices from A to D)?”. We then recoded the responses to match standard GPA reporting (i.e., 4.0 = A+/A, 3.7 = A-, 3.3 = B+, 3.0 = B, 2.7 = B-, C+ = 2.3, C = 2.0, C- = 1.7, D+ = 1.3, D = 1.0).

11 A linear probability model (LPM) is a regression model where the outcome variable is a binary variable, and one or more explanatory variables are used to predict the outcome. We chose LPM for its ease of interpretation.

12 The probability Linear Model results indicate that a one unit increase in GPA is associated with a 19% increase in the probability that a student is taking an internship. This means that an increase from C average (2.0) to B average (3.0) is associated with a nearly 19% increase in the probability of participating in an internship. This result was statistically significant after controlling for several demographic variables in the model.

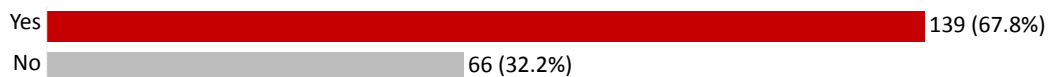
VII. RESULTS: North Carolina University Students' barriers to participation in internships

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

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

For the 205 students who did not participate in an internship, 139 (67.8%) of them indicated that they had wanted to do so (see Figure 18).

Figure 18. You indicated that you did not participate in an internship in the past 12 months. In the past 12 months, were you interested in participating in an internship? (n = 205)



Next, we asked students to select and rank the various reasons from most important to least important for not pursuing an internship. Figure 19.1 presents the frequency and percentages of students who cited certain barriers to participation. In summary, 62.6% (n=87) of students reported their need to work at their current job as a barrier, 57.6% (n=80) a heavy course load, 55.4% (n=77) considered a lack of internship opportunities a barrier, 43.9% (n=61) insufficient pay offered, 35.3% (n=49) reported a lack of transportation, and 29.5% (n=41) saw a lack of childcare as a barrier to internship participation.

Figure 19.1. In the past 12 months, why were you not able to pursue an internship?

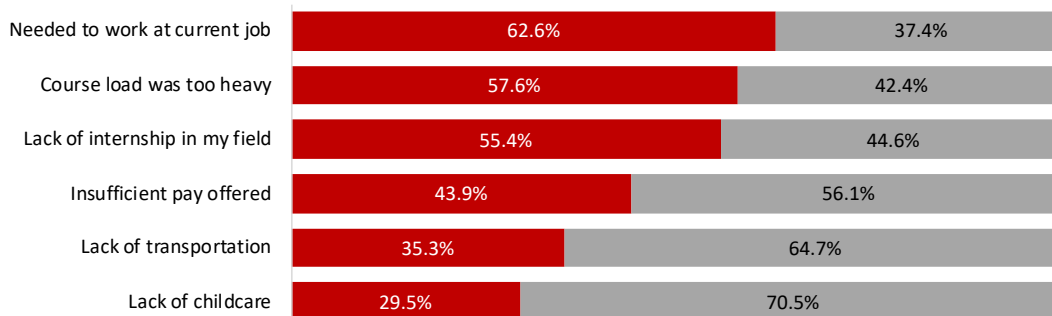
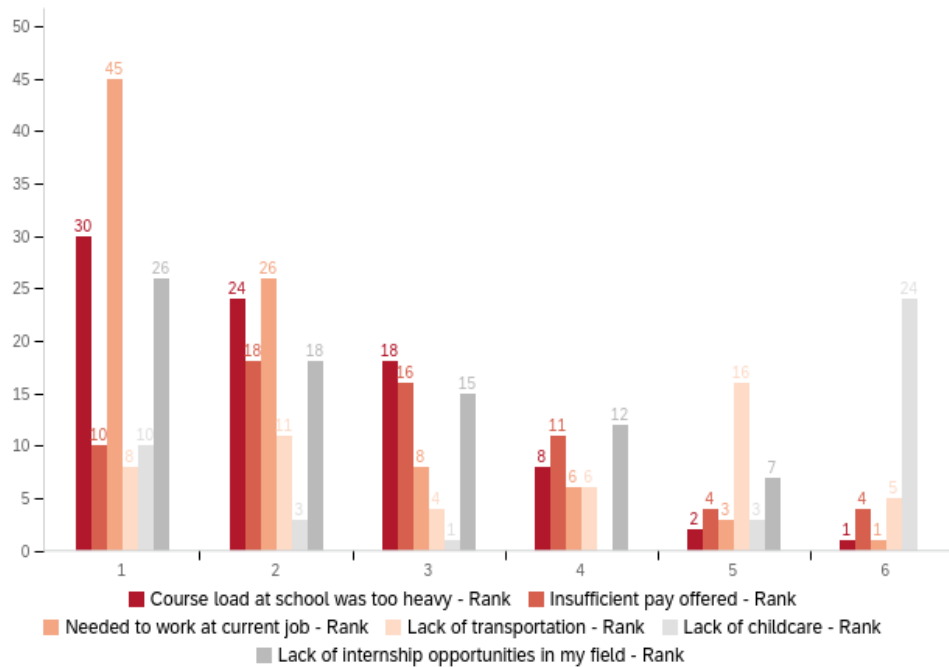


Figure 19.2 shows how students ranked the barriers overall. The reasons that students ranked as the number one factor influencing their decision not to pursue an internship included: their need to work at their current job (n=45), a heavy course load at school (n=30), and a lack of internship opportunity (n=26). The number two ranked reasons included: a need to work at their current job (n=26), a heavy course load (n=24), insufficient pay

(n=18), and a lack of internship opportunity (n=18). Figure 19.2 also presents the third to sixth ranked reasons and their corresponding frequencies. In sum, one's need to work at current a job, a heavy course load, a lack of opportunity in one's field, and insufficient pay were the most common reasons reported by students for not pursuing an internship.

Figure 19.2. Rank the reasons from most important to least important for not pursuing an internship.



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

Data from focus groups with 20 NCU students helped to further illuminate some of the concerns and issues that students consider when deciding whether to pursue an internship. Students discussed several barriers to their participation in internships, including: the need to travel for an internship, financial concerns, lack of time due to other academic and work-related commitments, and difficulty finding an internship in their field. These themes and examples are summarized in Table 4 and further elaborated upon below.

Table 4. Student Concerns and Difficulties in Participating in Internships (n=20)*

Concern/Difficulty	Examples
Need to travel for internships	<i>Issues around traveling or moving for an internship; lack of transportation; travel conflicting with coursework or other responsibilities; financial concerns with travel</i>
Unpaid work; Financial considerations	<i>Issues with the need for financial stability, inability to take unpaid internships; unable to afford transportation/housing</i>
Lack of time because of work or academic obstacles	<i>Issues around scheduling conflicts with work or academic responsibilities, concern about leaving paid work/job</i>
Lack of institutional support	<i>Issues with the applicability of internship opportunities students were aware of; unaware of who to ask at institution about internships; perception of lack of communication and follow up</i>
Difficulty finding internship in their field	<i>Issues finding internships in their major; difficulties finding accessible internship in preferred future field of interest</i>
Application process	<i>Concerns about GPA limiting competitiveness; GPA requirements from sites; lack of viable, responsive references; short application deadlines</i>
Familial/relational responsibilities	<i>Issues balancing familial responsibilities with demands of internships including childcare costs and time; familial responsibilities including significant other work demands</i>
<p><small>*This sample includes all focus group participants from North Carolina University; these difficulties include those that were discussed most frequently, in descending order of frequency</small></p>	

Several students described *travel, the need to commute long distances, and finding local internships relevant to their careers* as barriers. One student described their desire to participate in an internship experience in this way: “Yes, if I had transportation at that point because I recently, my transmission just went out so that just put me, you know, in a hole. But, yeah, if I had transportation, definitely I would get the experience that I need.”

Many students pointed out that the internships in which they were interested required moving to another city or commuting long distances. They felt that these internships were not feasible, and saw them as unattainable. Even students who reported participating in internships expressed concerns about the cost of travel. One student who was participating in an internship at the time of the focus group noted that they had only considered on-campus internships. Another described challenges in their required internship experience in this way: “I drive 45 minutes to my internship, and so that, you know, eats up gas money. And then for my son to stay in afterschool care it's \$10 per day. So usually it costs me about a hundred dollars.”

This perception of the lack of available local, applicable internships in students' career fields of interest was shared by other students. One student described it in this way: "I've seen the probation officer here in town but it's unpaid. And then I've seen some other internships. I used to work at a place called Unilever in Raeford where they make body wash and stuff, but I don't want to do internship that ain't got nothing to do with my field."

Another related concern reported by students was *financial considerations*. Students noted that they could not pursue or accept internship opportunities due to the need to support themselves financially and the prevalence of unpaid or low-paid internships. One student indicated that they were unable to participate in a STEM research opportunity offered to students, explaining: "And it just was, like, you know, so -- we did have representation, but so many students were already like, you know, we kind of can't afford to go do this. Like -- and then, most internships are non-paid."

This theme often emerged in conjunction with students' report that they had a lack of time to participate in internships due to other commitments. One student illustrated this point, saying: "I really do need it to work around my schedule.... unless I get a paid one, so then, like, I could still be able to pay my bills or whatnot." Several students expressed that the primacy of financial concerns and need to maintain their income complicated or effectively stopped their internship search process.

Students also noted concerns with *balancing internship with familial responsibilities and obligations*, including the demands of childcare and prioritizing significant others' work. Students noted these obligations often intersected with other barriers, including transportation, lack of time, and financial concerns.

Some students noted a lack of *institutional support and concerns regarding the application process*. Some students reported being unsure of who to contact at the University for internship support and several indicated that they perceived internships that were being sent out as inaccessible to them. More specifically, some students viewed internships that they were informed of through departments as "too competitive," having "high standards", or as inaccessible due to distance, stipend, and transportation.

Relatedly, students reported concerns around the application process, particularly their competitiveness for positions due to *GPA requirements and a lack of viable references*. One student described it in this way,

"I've applied to a few and I've been rejected for a variety of reasons. I'm too far away. I don't have the GPA they're looking for.... I'm going to keep trying since I'm going to be here for about another year, see if somebody will take me... I've failed to mention that I was working on top of taking classes. So there's a reason why my GPA is sitting where it's at. But, yeah, I'm going to keep trying."

Some students reported a need for more support around the internship process on campus (e.g., workshops to help students write resumes, identify internship opportunities that are a good fit, and complete applications). In general, students indicated that these types of activities would be useful and that applying to internships forwarded via a campus email does not always feel viable for students who believe they need more help in the process to be competitive.

VIII. RESULTS: What types of internships are students at the North Carolina University taking, and what are their experiences in them?

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

Survey results: Features of internship programs

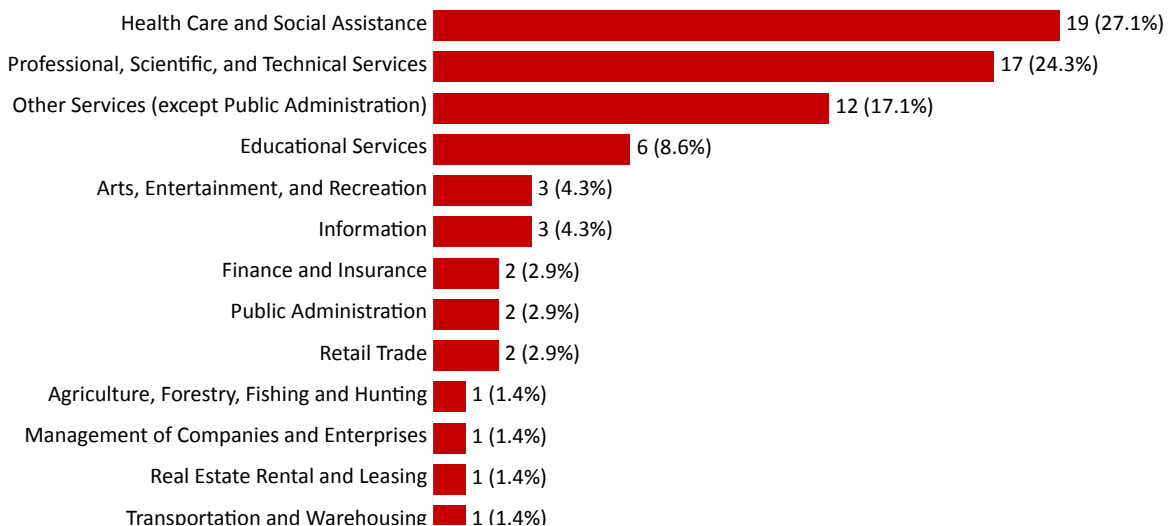
For the 71 students at the NCU in our study sample that had taken an internship in the past year, the largest proportion (44.3%) of them did so at a non-profit organization, with the remainder at government agencies (30%) and for-profit companies (25.7%). Nearly half of these internships were concentrated in two fields: Health Care and Social Assistance (27.1%) and Professional, Scientific, and Technical Services (24.3%). The third largest field in terms of participation was Other Services (except Public Administration) (17.1%), with the rest of the respondents being well dispersed among the remaining industries.¹³

Figure 20. In what type of organization did you participate in this internship? (n = 70)



Note: One participant responded that they had participated in an internship but did not respond here.

Figure 21. In what industry or field was this internship in? (n = 70)

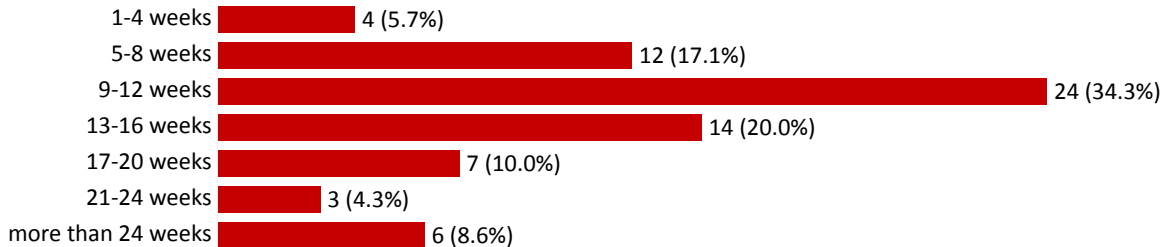


Note: One participant responded that they had participated in an internship but did not respond here.

¹³ As defined by the North American Industry Classification System (NAICS), the Information sector “comprises establishments engaged in the following processes: (a) producing and distributing information and cultural products, (b) providing the means to transmit or distribute these products as well as data or communications, and (c) processing data.” More information on this sector is available at <https://www.bls.gov/iag/tgs/iag51.htm>

With regard to the duration of internship experiences, results indicate that the largest proportion of survey respondents who had taken an internship did so for 9-12 weeks (34.3%) as depicted in Figure 22.

Figure 22. For how many weeks did you participate in this internship? (n = 70)



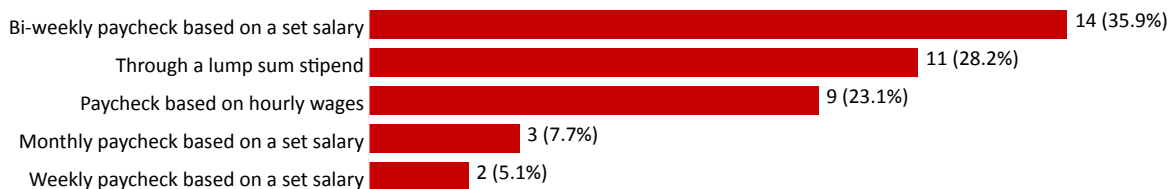
Note: One participant responded that they had participated in an internship but did not respond here.

With regards to compensation, 54.9% of students were compensated for their internship work as compared to 45% who were not (see Figure 23). The most common form of payment for these students was a bi-weekly paycheck based on a set salary (n=14, 35.9%). Nearly a quarter of the students (n=9, 23.1%) were paid hourly (see Figure 24). The average hourly payment was \$12.70, and the average total internship compensation was \$4,576.50 for the entire experience. The average hourly compensation is slightly above the estimated living wages for one adult with no children in the North Carolina city, NC (\$11.77) (MIT Living Wage Calculator, 2020).

Figure 23. Was the internship paid or unpaid? (n = 71)



Figure 24. Types of compensation for internships (n = 39)



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

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

Link between academic program and internship

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

For North Carolina University students who participated in an internship, 63.4% (n=45) felt that their internship was very or extremely related to their academic coursework (Figure 25). In addition, 52.1% (n=37) of the students reported that their academic program staff and internship supervisors cooperated very well or extremely well to ensure this integration. However, 19 students (26.8%) reported “a little well” or “not at all well” (Figure 26).

Figure 25. How related do you feel your internship was to your academic program? (n = 71)

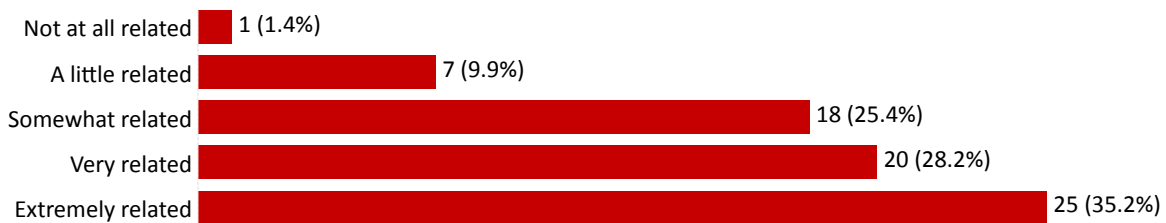
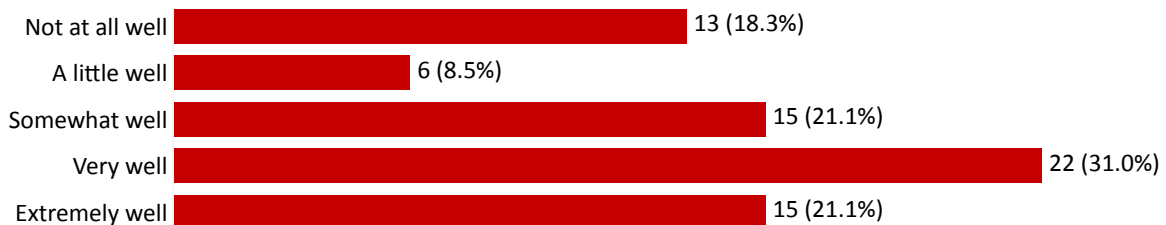


Figure 26. How well did your internship site supervisor and your academic program staff coordinate with one another? (n = 71)



Perceived supervisor support

Next, the literature indicates that supervisors’ active support of interns’ career development and on-the-job satisfaction is strongly associated with positive student outcomes (McHugh, 2017). Students rated four questions regarding how supportive their supervisors were by choosing from 1 = Not at all, 2 = A little, 3 = Some, 4 = Quite a bit, to 5 = A great deal. The average score for the four questions equals 4.05 with a standard deviation 1.05. The four questions are: 1) In this internship, how much did your supervisor care about your well-being? 2) In this internship, how much did your supervisor care about your satisfaction at work? 3) In this

internship, how much did your supervisor appreciate the amount of effort you made? 4) In this internship, how much respect did you feel you received? Below we report results from two of these items as examples.

Of the North Carolina University students who had taken an internship, 73.2% (n=52) reported that their supervisors cared about their satisfaction at work either quite a bit or a great deal (see Figure 27) and 78.9% (n=56) reported that their supervisors appreciate the amount of effort they made either quite a bit or a great deal (see Figure 28). Taken together, these represent important indicators of supervisory support.

Figure 27. In this internship, how much did your supervisor care about your satisfaction at work? (n = 71)

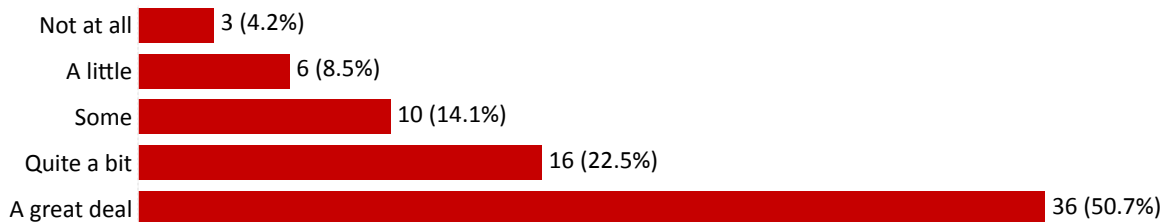
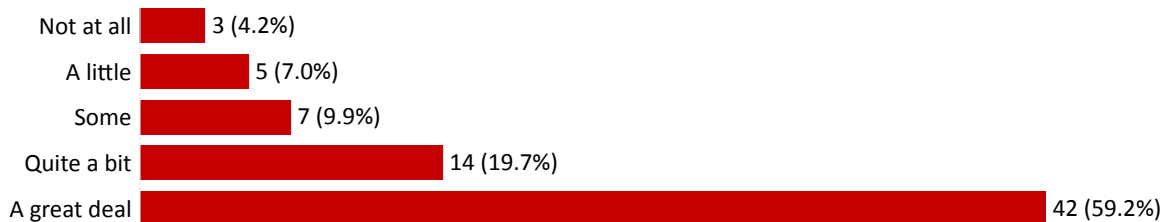


Figure 28. In this internship, how much did your supervisor appreciate the amount of effort you made? (n = 71)



Supervisor mentoring

Another aspect of supervisor behavior found in the literature to be positively associated with intern satisfaction is supervisor mentoring, which pertains to the provision of direction and feedback about task performance and career planning. For the survey, this construct was measured using five questions with a five-point Likert scale from 1=Never to 5=Extremely often. The average score for the five questions equals 3.49 with a standard deviation 1.06. The five questions are: 1) How often did your supervisor suggest specific strategies for achieving career goals? 2) How often did your supervisor encourage you to try new ways of behaving in the job? 3) How often did your supervisor give you feedback regarding job performance? 4) How often did your supervisor give you assignments that presented opportunities to learn new skills? 5) How often did your supervisor help you finish tasks or meet deadlines that otherwise would have been difficult to complete? Below we report results from two of these items as examples.

Of the 71 students who had completed an internship, 47.9% (n=34) indicated that supervisors encouraged them to try new ways of performing tasks at the internship site sometimes, very often or extremely often. However, 35.2% (n=25) of students indicated that they were rarely or never encouraged to try new ways of behaving. The majority of students indicated that most supervisors provided performance-based feedback; 60% (n=42) indicated they received feedback very often, or extremely often, while 18.6% (n=13) reported having never or rarely received supervisor feedback (see Figures 29 & 30).

Figure 29. How often did your supervisor encourage you to try new ways of performing in the job? (n = 71)

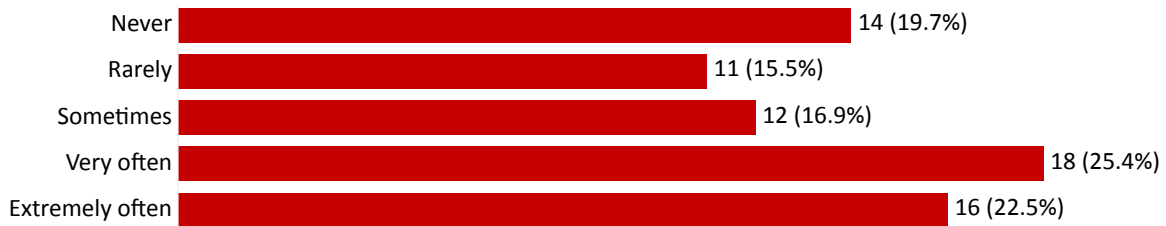
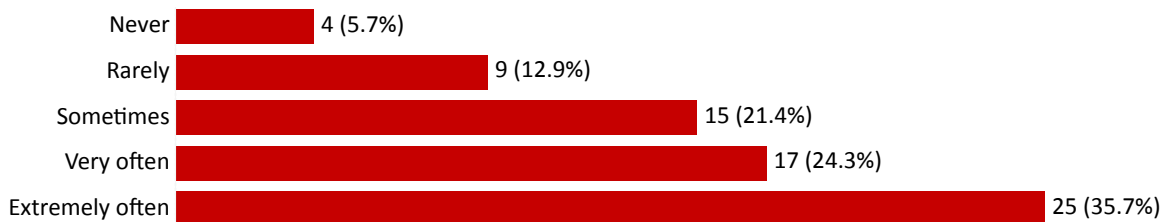


Figure 30. How often did your supervisor give you feedback regarding job performance? (n = 70)



Note: One participant responded that they had participated in an internship but did not respond here.

Task goal clarity

Task goal clarity, or clear expectations regarding work products and their evaluation, is associated with reduced stress and increased satisfaction on the internship site (Beenen & Rousseau, 2010). For example, students who complete internships that are poorly designed and lack meaningful work may end up working on ill-structured and poorly managed tasks (Frenette, 2013). Task goal clarity was measured using two questions with a five-point Likert scale from 1=Not at all clear, 2=A little clear, 3=Somewhat clear, 4=Very clear, to 5=Extremely clear. The average score for the two questions equals 3.94 with a standard deviation 0.89. Below we report results from these items (see Figures 31 & 32).

The results indicate that 69% (n=49) of participating students who participated internships felt that they were given very clear or extremely clear tasks to be completed. A similar proportion (70.4%, n=50) of students felt the goals to be accomplished were very clear or extremely clear.

Figure 31. In this internship, how clear you felt about the tasks to be completed? (n = 71)



Figure 32. In this internship, how clear you felt about the goals to be accomplished? (n = 71)



Task autonomy

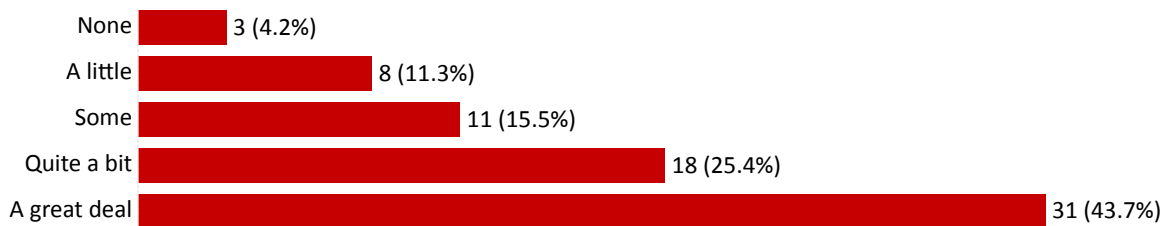
In addition to benefiting from clearly defined tasks, interns also report higher rates of satisfaction when they are given autonomy and discretion to perform the tasks assigned to them (McHugh, 2017). Task autonomy was measured using two questions with a five-point Likert scale from 1=None, 2=A little, 3=Some, 4=Quite a bit, to 5=A great deal. The average score for the two questions equals 4.04 with a standard deviation 0.99, and below we report results for these items (see Figures 33 & 34).

For the NCU students who participated in our survey, 78.9% (n=56) reported having considerable flexibility in how they completed their work and 69% (n=49) reported having freedom to decide how to do their work, indicating that for these students the internship provided some opportunity to function with autonomy in the workplace.

Figure 33. In this internship, how much flexibility did you have in how you completed your work? (n = 71)



Figure 34. In this internship, how much freedom did you have to decide how to do your work? (n = 71)

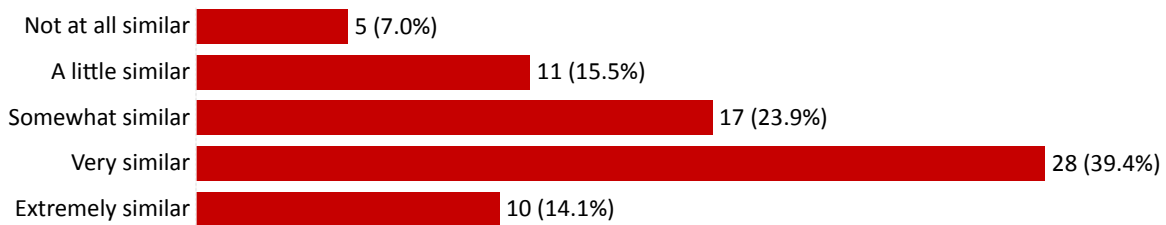


Task similarity to entry-level jobs

One of the persistent questions in the literature is whether interns are provided with work that is of equal difficulty to entry-level employees (Hora, Wolfgram & Thompson, 2017). This construct was measured using one question with a five-point Likert scale from 1=Not at all similar, 2=A little similar, 3=Somewhat similar, 4=Very similar, to 5=Extremely similar. The average score for the two questions equals 3.38 with a standard deviation 1.13.

Findings indicate that 53.5% (n=38) of the participating NCU students considered their internship tasks very similar or extremely similar to those in entry-level employment. In addition, 22.5% (n=16) considered their internship tasks not at all similar or a little similar to entry-level employment (see Figure 35).

Figure 35. During your internship, how similar in nature were your tasks to those in entry level jobs in the organization? (n = 71)



Focus group results: What were students’ experiences with their internship?

In addition to results from our online survey, we held 12 in-person focus groups with 20 students. Because there were a limited number of participants who had completed an internship or were in the process of completing an internship at the time of the focus groups (n=3), little in-depth information is available regarding the experiences of the NCU students who have completed an internship. One of the students reported participating in an un-paid for-credit internship within a campus department, one completed an on-campus research-based internship, and one was in the process of completing an internship at a local company in conjunction with a course requirement

These three students reported that they had sought out their internship experiences because of their perceived value to their future educational and/or career goals. One student described the internship experience as very positive and shared ways they grew personally and professionally. In particular, this student said, “I think it’s going to make me a better educator.... I feel like I’m a better person for going into it. I’m going to come out a better person.” Another student shared the belief that completing the internship would improve their future job application prospects.

Despite the fact that all three had successfully secured an internship experience, these three students shared perceptions of challenges related to securing an internship and completing an internship, including financial considerations, ability to accommodate work schedules, anticipated discrimination at various internship sites, and family responsibilities that made completing an internship challenging.

IX. RESULTS: Outcomes of internships

The impacts that internships have on students is an important question facing the field of higher education and workforce development, given the growing push for internships in educational policy and programming. In empirical research on internships, this question is examined by tracking changes in variables such as employment status, wages, or vocational self-concept over time. Our research team will be following the panel of students who participated in Time 1 of our study at the North Carolina University for at least two additional years, with these questions being asked in the Fall of 2020 and 2021.

For this cross-sectional analysis of Time 1 data, we report outcomes in terms of satisfaction with the internship and student perceptions of how well the experience enhanced their knowledge, skills, and career aspirations.

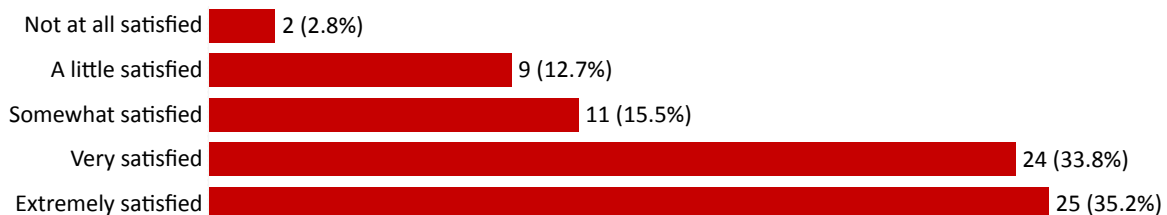
Survey results: Outcomes of internships

Level of satisfaction with internship experience

An important indicator of the usefulness and impact of an internship experience is how students themselves perceive their experience. For this issue we asked a single question about overall satisfaction and students rated themselves from 1=Not at all satisfied, 2=Very satisfied, 3=Somewhat satisfied, 4=A little satisfied, to 5=Extremely satisfied. The average score for the two questions was 3.86 with a standard deviation of 1.13.

Of the students who had completed an internship in this sample, 69% (n=49) reported that they were very or extremely satisfied with their internship experience. However, there were 15.5% (n=11) students who reported being not satisfied or only a little satisfied with their internship (see Figure 36).

Figure 36. How satisfied were you with your internship experience? (n = 71)



To explore the relationship between internship program features and students' internship satisfaction, we conducted correlation and multiple regression analysis (See Table 1 in Appendix B). The results indicate that supervisor support, mentoring, goal clarity, relatedness to academic program, autonomy, and similarity positively correlate with students' internship satisfaction with coefficients ranging from .42 to .75. Our multiple linear regression analysis showed that students with greater supervisor support on these variables were expected to have greater satisfaction, after controlling for the other variables in the model.

Developmental value of the internship experience

Next, we examine the impact of program structure on another important outcome of internships – students' perception of how much their internship experiences have influenced their academic learning and career development (i.e., developmental value). This Developmental Value scale was developed based on the work by McHugh (2017) and Nghia and Duyen (2019), and consists of 10 items of two subscales using a 5-point scale

from 1=none, 2=A little, 3=Some, 4=Quite a bit, to 5=a great deal: a) 5 items regarding developmental value of academic learning with average score 3.9 and standard deviation of 0.88, Figure 37 & 38 present results from two sample questions of this subscale; b) five items regarding developmental value on career development with an average score of 4.0 and a standard deviation of 0.88, Figure 39 & 40 present results from two sample questions of this subscale.

Findings indicate that 73.2% (n=52) of the 71 North Carolina University students who had participated an internship considered their internship as providing quite a bit or a great deal of opportunities for them to apply knowledge from course work to real-world and 69% (n=49) reported internships are valuable in providing quite a bit or a great deal of opportunities for them to identify academic knowledge gaps.

When reflecting on the value of internship to helping students to clarify their career goals, 64.8% (n=46) of the 71 students valued the skills they learned at internships as “quite a bit” or “a great deal” important for their chosen career, and 66.2% (n=47) reported that their internships helped “quite a bit” or “a great deal” clarify their career goals (See Figure 40).

Figure 37. This internship gave me opportunities to apply what I have learned in my courses to real-world situations. (n = 71)

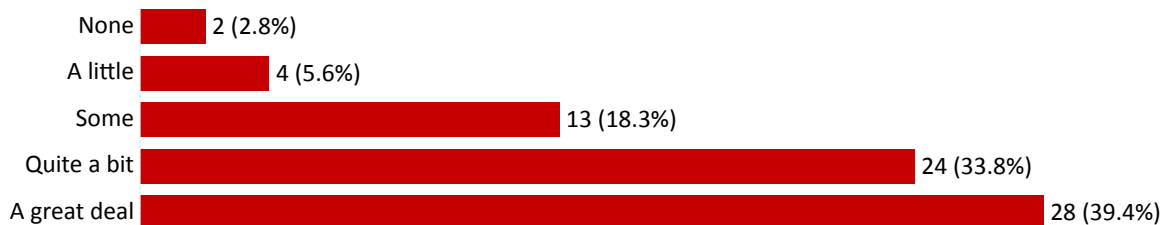


Figure 38. This internship helped me identify my academic knowledge gaps. (n =71)

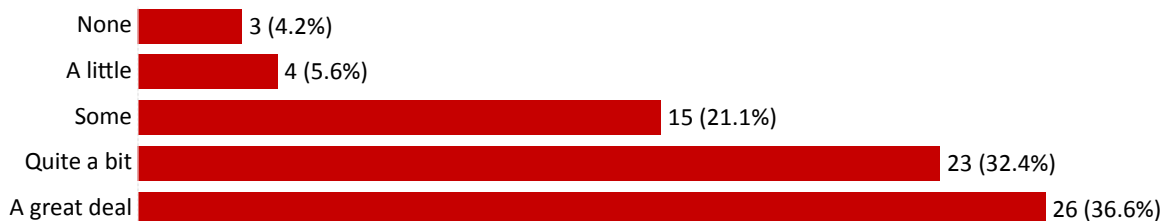


Figure 39. This internship provided me with important skills relevant to my chosen career. (n = 71)

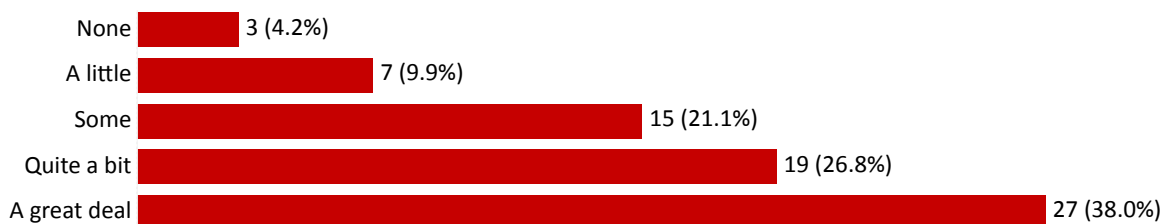


Figure 40. This internship helped me clarify my career goals. (n = 71)



To investigate the relationship between internship program features and students' internship developmental value, we conducted correlation and multiple regressions analysis (See Table 2 in Appendix B). The results indicate that supervisor support, mentoring, goal clarity, relatedness to academic program, autonomy, and similarity positively correlate with students' perceived internship developmental value with coefficients ranging from .50 to .72.

Next, we looked into developmental value to academic learning and career development respectively. We found that students who reported higher levels of their internship's relatedness to academic program were more likely to perceive their internships valuable to academic learning. Additionally, students with internships of greater supervisor mentoring, less autonomy, and greater level of similarity to entry level positions were more likely to perceive their internship experiences valuable to future career development (see Table 3 in Appendix B).

Finally, multiple regression analyses were conducted using career adaptability sub-scales as predictors of internship outcomes (see Table 4 & 5 in Appendix B). Results show that students with more confidence were more likely to report higher internship satisfaction as well as perceived developmental value.

Taken together, results from these analyses should be interpreted with caution due to the relatively small sample size of the NCU students who had completed an internship. These preliminary results suggest that there are a variety of structural factors that may contribute to a students' perception that their internship was a satisfactory and valuable experience.

X. RECOMMENDATIONS FOR PROVIDING EQUITABLE, HIGH-QUALITY INTERNSHIPS FOR ALL

The literature and the data contained within this report highlight a key issue in the world of internships – that simply making them available does not guarantee that they will be accessible to all students or that the experience is guaranteed to have a strong and positive impact on student outcomes. Instead, much depends on how internships are structured by educators and employers, and experienced by students (Kuh & Kinzie, 2018; O'Neill, 2010). In this final section we provide some recommendations for students and educators for increasing the availability of high-quality and equitable internship programs for all students at the NCU.

What can students do

The literature suggests that students are drivers of their self-exploration, career exploration and career planning and management. Interested students often are the ones who must take initiative to actively pursue

quality internship experiences, which may serve as important work-based learning opportunities. Research suggests that positive internship experiences can help college students better know their interests, boost skills, and become adaptive to future challenges and changes.

As illustrated by Figures 2-17 there is considerable social-economic variation among the students who completed our survey, including demographic characteristics, life circumstances, and features of their academic programs. Some of these factors may impact students' ability to access an internship experience, such as employment status (Figure 6), internship requirements by department (Figure 14), academic program enrollment status (Figure 15), academic disciplinary sector (Figure 16.2), and GPA (Figure 17).

While numerous individual and structural barriers exist that make engaging in these activities more challenging for particular students, we offer the following suggestions in hopes that they may assist students in accessing, completing, and making the most of an internship experience.

- Career adaptability is a valuable resource for today's students who are confronted with increasing workforce transitions and challenges. Data from the student survey shows that greater career confidence (an important dimension of career adaptability) is associated with better internship satisfaction and perceived developmental value. Therefore, students are encouraged to take advantage of internship learning activities in order to engage in opportunities to develop greater self-confidence in their ability to complete specific tasks and gain certain skills that will allow them to approach future career development tasks with greater confidence. Specifically, students are encouraged to make efforts to gain skills and abilities to perform tasks and solve problems, ask for support, and negotiate professional challenges.
- Students in the focus groups highlighted numerous barriers, including financial considerations, competing time demands, and limited institutional and other supports as factors affecting their internship participation (Table 4). Within this context, students are encouraged to actively search for resources, connections, and assistance in their search for and decision-making around the feasibility of internship participation. This includes utilizing campus resources (e.g., Handshake, Career Services, faculty and instructors within their academic majors) and asking for support. Students also are encouraged to consider mechanisms by which to increase their self-management and time management skills by utilizing campus resources and attending workshops or trainings. Students can utilize these resources to continue to gain and carry forward professional development, learning, and skills from work, learning, coursework, and life experiences they are involved in.

What can students do?

- Take advantage of internship learning activities in order to develop career confidence
- Actively search for resources, connections, and assistance in their search for and decision-making around the feasibility of internship participation;
- Work to actively establish effective communication with internship supervisors or mentors;
- Seek out and participate in professional development opportunities available to them as an intern.

- Students' experiences on internship appear to have an impact on outcomes such as internship satisfaction and students' perception of the internships' developmental value. In combination, these may influence post-graduation career development. It is, therefore, important for students to manage their relationships with internship supervisors or mentors and work to actively establish effective communication. Students also are encouraged to seek out and participate in professional development opportunities available to them as an intern. Although students' internship satisfaction and perceived contributions of internship to their future development could be limited by many contextual factors, students are encouraged to treat internship as an opportunity for personal and professional development, regardless of whether the internship is required or elective.

What can educators, campus leaders, and institutions do?

Educators are individuals who guide students to know about the world of work and the career future trajectories. Educators on campus may hold a variety of job titles and duties, but all play a critical role in building the academic foundation for students' future career, connecting students to educational- and career-related opportunities, and cultivating students' professional development. Educators also play a critical role in disseminating information about internships to students, facilitating connections with internship employers, and helping students to apply their experiential education with course-specific learning.

We offer the following suggestions to strengthen educators' and campus leaders' impacts on student development and to facilitate high quality internship programs within the NCU's institutional context:

- Institutional leaders at the North Carolina University may benefit from carefully scrutinizing the information presented in the institutional capacity for internship programs section of this report. In doing so, educators are encouraged to consider areas that represent strengths, weaknesses, and opportunities for growth. Regardless of whether a centralized or de-centralized approach is taken with respect to internship programming, educators and campus leaders are encouraged to pay close attention to ensuring that issues related to equitable access and program quality are addressed before expanding or mandating internships for students.

What can educators, campus leaders, and institution do?

- Scrutinize institutional capacity and consider areas that represent strengths, weaknesses, and opportunities for growth;
- Understand and advocate for students' needs, especially life circumstances may function as obstacles to participating in an internship;
- Consider ways to maximize opportunities for students to acquire and practice career-relevant skills in their paying jobs;
- Cultivate relationships with employers and maintain connections with former students to build an alumni network;
- Carefully working with students and employers to design, implement, and continuously evaluate students' experiences within the internship program.

- Given the social and economic needs of students at the North Carolina University, such as maintaining employment and balancing employment and coursework, educators and institutional leaders are encouraged to recognize that these and other unique life circumstances may function as obstacles to participating in an internship for students (see Figures 2-17 & Figure 19). Educators and campus leaders are encouraged to understand and advocate for students' needs. For example, educators may benefit from communicating with students who do not participate in internships to understand their reasons, seek resources to resolve obstacles to completing an internship (if desired), and continue to build on students' work or life experiences that may contribute to their professional and personal development.
- Given the number of the NCU students who worked at least part-time while attending college, academic programs and other campus entities such as Career Services are encouraged to consider ways to maximize opportunities for students to acquire and practice career-relevant skills in their paying jobs. Students indicated a lack of internship opportunities and challenges of finding a relevant internship (Figure 19 & Table 4). As such, educators and campus leaders are encouraged to help students with such challenges by continuing to cultivate relationships with employers and by working with students and employers to increase the link between academic learning and workforce practices among paid work experiences. Educators and campus leaders also may realize benefits from maintaining connections with former students and building an alumni network for the purpose of internship referrals.
- Factors such as an internship's relevance to the student's academic program, the quality of supervisor support and mentoring, and similarity to an entry-level employment may influence the degree to which students perceive their internship as satisfactory and valuable. As such, educators and campus leaders can support desirable internship outcomes by carefully working with students and employers to design, implement, and continuously evaluate students' experiences within the internship program. These efforts will help educators and campus leaders to ensure that quality work, adequate supervision and mentorship during students' internships, and relevance to students' academic program are maintained.

What can employers do?

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

- In addition to the labor and recruitment goals that employers may have for their internship program, internships should primarily be considered as an educational and developmental opportunity for the students. Quality of supervisor support is critical to student internship

What can employers do?

- Carefully designing internship programs to include consistent quality supervision and mentorship;
- Allow for some task autonomy for their interns while providing clear objectives and explanation;
- Highlight interns' progress and accomplishments, while also provide periodic feedback on growth areas and improvement plans;
- Discuss short- and long-term academic and career related goals with interns and adjust the internship program to support those goals.

satisfaction. Supervisor mentoring, the relevance to academic program, and the level of similarity to entry level positions play important roles in students' perceptions regarding the value of their internship experiences. Employers can enhance this opportunity by carefully designing internship programs to include consistent quality supervision and mentorship by the supervisor or by other senior staff in the organization (peer mentorship programs may also be supportive). Employers also are encouraged to value interns' efforts and time through providing emotional support and financial support, when possible. As many students named financial barriers as a primary obstacle to internship, employers interested in recruiting and attracting more diverse applicant pools may also consider financial compensation as a mechanism to successfully recruit applicants who may not otherwise be able to access and participate in internship experiences (see Table 4).

- Supervisors are encouraged to allow for some task autonomy for their interns by encouraging their creativity, while providing clear objectives and explanation as well as structured guidance about expectations for interns. Supervisors are encouraged to provide periodic feedback to interns that highlight their progress and accomplishments, while also providing clear feedback on growth areas and proposed action plans for improvement. Feedback also can be regularly solicited from interns to assess and evaluate the internship program to optimize learning goals and outcomes.
- The relevance of the internship experience to the academic program plays a critical role in students' perceptions of the value of internships to their academic and career development. Internship supervisors are encouraged to discuss short- and long-term academic and career related goals with their interns and adjust the internship program when possible to provide experiences that can support those goals.

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APPENDICES

Appendix A: Research Methodology

The College Internship Study is a mixed-methods longitudinal study (Creswell, 2014; Tashakkori & Teddlie, 2003) of internship programs with three distinct yet inter-related components: (1) an online survey of students while in college and then the workforce, (2) focus groups and interviews with students while in college and then at work (3) interviews with career advisors and other educators involved in internship program administration and with area employers who host interns from the college. Primary data is collected in two phases: Fall 2019 (T1) and then 12 months later in the Fall 2020 (T2). The study aims to document the effects of internship participation and program characteristics on a variety of student outcomes, group differences (e.g., socio-economic status, race, gender, discipline, and first-generation status) in internship participation and student outcomes, and institutional experiences with hosting and implementing internship programs.

The survey of students and other data collection activities were conducted in Fall 2019; the current report is based on this data. The online survey was administered to students in the second half their degree programs. In order to focus on students' experiences in internships and not on other internship-like programs, data collection for the survey excluded students in programs with a required practicum (e.g., education fields). The definition of the term "internship" that we employed for the survey and other data collection activities was as follows:

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

Note: Highly structured practicums, such as those often seen in Educator and Nursing programs, are excluded from the definition of an internship given their unique and regulated nature.

To participate in the survey, students were contacted with an email recruitment letters, which directed them to a unique password-protected URL. The inclusion of incentives for surveys to raise response rates is based on best practices in survey research (Dykema, et al., 2013). Via the link, the students could review the IRB-approved consent form and signal their consent to participate in the research by entering their full name and birthdate. Students who completed the survey via this link received an additional cash incentive by mail.

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

Descriptive statistics and Cronbach alpha coefficients of the measuring instruments

	Mean	SD	α
Supervisor support	4.05	1.05	0.92
Supervisor mentoring	3.49	1.06	0.88
Goal clarity	3.94	0.89	0.90
Task autonomy	4.04	0.99	0.70
Relatedness to academic program	3.57	0.97	
Similarity to entry-level jobs	3.38	1.13	
Satisfaction	3.86	1.13	
Development value	3.94	0.84	0.92
Academic developmental value	3.90	0.88	0.85
Career developmental value	4.00	0.88	0.90
Career adaptability composite	3.87	0.69	0.95
Concern	3.90	0.79	0.86
Control	3.95	0.78	0.87
Curiosity	3.76	0.84	0.89
Confidence	3.87	0.79	0.91

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

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

Additionally, students who participated in the focus group at T1 will be asked if they can be contacted for a follow-up online or phone interview.

For the focus groups at T1, groups comprised of one to four students were separated when possible into those who have participated in an internship (n=3 students) and those who have not (n=17 students) in a total of 12 focus groups. Prior to the start of the focus group, students were given the opportunity to review the IRB-approved consent forms, ask questions, and to voluntarily consent to participate in the research by signing the form. Students received a cash incentive after consenting to participate in the audio-recorded focus group. Focus groups allow for interactions among participants that explore their experiences and thought processes (Kitzinger, 1995). Students who had an internship experience during college answered questions about the nature of their experience, support from both the academic program and their job-site supervisor, their general level of career adaptability, and so on. For those who have not had an internship, questions focused on the reasons why they have not participated in an internship, as well as their level of career adaptability, and so on.

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

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

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

Appendix B: Results of Regression tables

Table 1. Results of correlations and multiple regression analysis of internship program features and students' internship satisfaction

Predictor	Correlation with Satisfaction	Internship Satisfaction	
		β	<i>p</i>
Supervisor support	.75***	.67**	.002
Supervisor Mentoring	.58***	.18	.293
Goal Clarity	.54***	.16	.427
Relatedness to academic	.43***	.04	.790
Task autonomy	.52***	-.01	.929
Similarity to entry-level jobs	.42***	-.06	.640

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

The multiple regression model produces an adjusted $R^2 = .47$, $F(20, 43) = 3.86$, $p < .001$.

The multiple regression model equation is Satisfaction = 0.54 + 0.67 * supervisor support. Only supervisor support significantly contributes to explaining variance of internship satisfaction.

β refers to the unstandardized regression coefficient that demonstrates the change in internship satisfaction per unit change in predictors.

Non-binary, Transgender, and Native American respondents were excluded due to sample size. (n=9)

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

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

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

Predictor	Correlation with Development value	Developmental Value Composite	
		β	<i>p</i>
Supervisor support	.72***	.16	.255
Goal Clarity	.71***	.23	.062
Supervisor Mentoring	.54***	.08	.569
Relatedness to academic	.50***	.17	.109
Task autonomy	.57***	.12	.274
Similarity	.52***	.04	.674

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

The multiple regression model produces an adjusted $R^2 = .51$, $F(20, 43) = 4.27$, $p < .001$.

While the entire model was statistically significant in explaining the variance in the developmental value measure, there was not a statistically significant predictor in the model. This may be because that our sample size is too small to detect medium or small effects (Cohen, 1988).

β refers to the unstandardized regression coefficient that demonstrates the change in internship satisfaction per unit change in predictors.

Non-binary, Transgender, and Native American respondents were excluded due to sample size. (n=9)

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

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

Table 3. Results of multiple regression analysis of internship program features and students' development value to academic development and career development respectively

Predictor	Developmental Value to Academic Development		Developmental Value to Career Development	
	β	p	β	p
Supervisor support	.17	.33	.15	.29
Goal Clarity	.03	.87	.13	.03
Supervisor Mentoring	.03	.21	.27*	.36
Relatedness to academic	.17	.19	.17	.12
Task autonomy	.17	.20	.07	.56
Similarity	.06	.59	.02	.87

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

The multiple regression model of academic development produces an adjusted $R^2 = .35$, $F(20, 43) = 2.70$, $p = .003$. The multiple regression model equation for academic development does not have any statistically significant predictor variables, though the model taken as a whole is a statistically significant predictor of academic development.

The multiple regression model of career development produces an adjusted $R^2 = .54$, $F(20, 43) = 3.70$, $p < .001$. The multiple regression model equation is Career Development = $1.59 + 0.27^*$ Supervisor mentoring, controlling for all other variables in the model. Supervisor mentoring can significantly predict one's perceived internship developmental value to career development.

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

Non-binary, Transgender, and Native American respondents were excluded due to sample size. (n=9)

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

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

Table 4. Results of correlations and multiple regression analysis of career adaptability sub-scales and students' internship satisfaction

Predictor	Correlation with Satisfaction	Internship Satisfaction	
		β	<i>p</i>
Concern	.03	.12	.707
Confidence	.10	.60*	.041
Control	.01	-.04	.569
Curiosity	-.09	-.55	.105

Control variables: gender, race, academic program, GPA, enrollment status, self-reported social class

This multiple regression model produces an adjusted $R^2 = .22$, $F(22, 41) = 1.81$, $p = .04$.

The multiple regression model equation is Satisfaction = 4.50 + 0.6 * confidence, when holding all other variables in the model constant. Only the Career Adaptability Confidence sub-scale was statistically significantly related to internship satisfaction.

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

Non-binary, Transgender, and Native American respondents were excluded due to sample size. (n=9)

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

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

Table 5. Results of correlations and multiple regression analysis of career adaptability sub-scales and students' development value

Predictor	Correlation with Development Value	Developmental Value	
		β	<i>p</i>
Concern	.15	-.01	.977
Confidence	.18	.44*	.049
Control	-.15	-.14	.507
Curiosity	.03	-.01	.958

Control variables: gender, race, academic program, GPA, enrollment status, self-reported social class

This multiple regression model produces an adjusted $R^2 = .14$, $F(22, 41) = 1.45$, $p = .15$.

The multiple regression equation is $\text{Developmental Value} = 4.86 + 0.44 * \text{Confidence}$, while holding all other variables in the model constant. The Career Adaptability Confidence sub-scale was once again statistically significant in predicting the outcome.

Given the low sample size available for running this model and the lack of significance for the overall model fit, these results can only be interpreted with some caution.

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

Non-binary, Transgender, and Native American respondents were excluded due to sample size. (n=9)

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



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.

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.

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