



Results from the College Internship Study at Tennessee State University

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The **College Internship** Study

EXECUTIVE SUMMARY

This report includes findings from the first round of data collection (Spring 2020) at Tennessee State University (TSU) for *The College Internship Study*, which is a national mixed-methods longitudinal study of internship programs conducted by the Center for Research on College-Workforce Transitions (CCWT) at the University of Wisconsin-Madison (UW-Madison). The findings are based on an interdisciplinary sample of students who took an online survey (n = 252), interviews with students who have and who have not had an internship experience (n = 9), and interviews with career advisors, faculty, and employers (n = 7).

We would like to thank TSU for allowing our research team to conduct this study with your students, faculty, and community members, and hope that our findings are useful as you work towards improving internships and work-based learning for your students. As our research moves into its second year, we will focus on the impacts of the COVID-19 pandemic on the students, faculty and staff at TSU and employer partners with respect to internships and students' overall experiences with the pandemic and its impacts on their studies and career goals.

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

Some key findings from our analysis include:

- Tennessee State University (TSU) is an urban, comprehensive, coeducational, land-grant university founded in 1912. Located in Nashville, TSU is the state's only public, Historically Black College/University (HBCU). In Fall 2018, 75% of students enrolled at TSU were Black, over 35% were the first in their families to attend college; 73% of full-time undergraduates received the Pell grant.
- Educators considered internships to be valuable for their students by providing professional development and the opportunity to develop specific job skills such as communication and knowledge regarding work-place culture. They were particularly sensitive to struggles faced by first-generation and minoritized students at TSU when accessing internships. Some educators at TSU discussed their practice of designing internships to accommodate students' limitations on account of a disability or other experiences, and we consider this practice of incorporating accommodations within internship design to be a practice worthy of emulating.

- About 20% of the respondents to our survey had participated in an internship program within the past year (n = 51), which also means that about 80% (n = 201) did not participate in any internship.
- Of the students who had participated in an internship, 40.9% were in programs that did not require an internship while 28.6% reported that internships were required to graduate.
- Students who are first-generation college students or are part-time enrolled in their academic programs were less likely to participate in an internship.
- About 64.2% of students who did not participate in an internship (n = 201) had wanted to do so. Barriers to participation include a lack of internship opportunities (43.3%), a heavy course load (42.8%), the need to work at their current job (30.3%), a lack of transportation (28.9%), insufficient pay offered (21.9%), and a lack of childcare (13.9%). These obstacles often intersected with one another such that individual students experienced more than one at a time. Interview participants (n = 9) also reported several additional barriers to their participation in internships, including a perceived lack of institutional support for internships, difficulty finding an internship in the relevant academic or career field, a lack of time due to academic obligations, and the need to travel for internships.
- Relatedness to academic program and the clarity of internship tasks and goals are positively associated with students' internship satisfaction. Additionally, how related an internship was to the student's academic program was positively associated with the student's perceived internship value for both their academic and career development.
- While the outcomes of internship participation on employment status and wages will be studied over the next 12 months, data from the interviews suggest that short-term outcomes of participating in an internship program for this sample of TSU students include the opportunity to explore one's career interests and refine career plans, and an increase in self-confidence and communication skills.

This report concludes with recommendations for specific strategies that students, faculty, and staff at TSU, as well as employers who supervise TSU student-interns, can employ to increase participation, access, and program quality for TSU students. We provide these recommendations with the recognition that faculty, staff, and administrators at TSU 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 students' learning and facilitate their transition to the workforce. Advocates argue that through internships, students can develop new skills and abilities by transferring academic knowledge to real-world tasks, explore different career options, develop new professional networks and even obtain full-time employment. At the same time, employers can use internship programs to develop a pipeline of new recruits that can be vetted on the job for future employment, and postsecondary institutions can increase their students' career prospects and real-world experiences. Given these potential outcomes, internships are often described as a “win-win-win” situation for higher education, employers, and students themselves (National Association of Colleges & Employers, 2018). Furthermore, internships and similar forms of work-based learning (WBL) have been designated as a “high-impact” practice that improves student outcomes (Kuh, 2008; Parker, Kilgo, Sheets & Pascarella, 2016), leading many state governments, colleges and universities, and workforce development boards to promote internship programs as a desirable solution to regional education-to-employment problems.

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

Internships are often described as a “win-win-win” situation for higher education, employers, and students themselves.

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

In early 2018, the Center for Research on College-Workforce Transitions (CCWT) at the University of Wisconsin-Madison launched the College Internship Study as a translational research program that could provide key stakeholders with robust, actionable evidence about internship programs. Our aim in this study is to provide institutional leaders, faculty and instructors, and career services professionals at TSU with rigorous data on issues related to internship program access and quality. In doing so, we place students' experiences and perspectives at the heart of the analysis while also attending to the critical issue of institutional capacity—two considerations that should guide decision-making about future policy and practice around internship programs.

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

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

NSSE data claims that internships are a high-impact practice that universally lead to student engagement and success should be interpreted with caution.

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

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

In our study, we build upon promising lines of inquiry that examine how features of internship program structure - such as compensation,

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.

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

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

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)

III. INSTITUTIONAL CONTEXT



Tennessee State University (TSU) is an urban, comprehensive, coeducational, land-grant university founded in 1912. Located in Nashville, TSU is the state’s only public, Historically Black College/ University (HBCU). TSU has two locations, a 500-acre main campus located near the Cumberland River and a downtown Avon Williams location near the central business and government district. TSU is designated by the Carnegie Classification of Institutions of Higher Education as a “high-research” (R2) institution of higher education. TSU’s sponsored research budget exceeds \$32 million.



According to Tennessee State University’s mission posted on their website, TSU, “fosters scholarly inquiry and research, lifelong learning, and a commitment to service” (TSU, 2020a). In “Reimagining Our Future: Impact 2020,” the university’s strategic plan, further asserts that TSU:

Building on our heritage of strong instruction and solid research, we prepare you for leadership, professional success, personal achievement, and service to local, national, and international communities in our global society (TSU, 2020b).

The university has a total of 71 degree offerings and 77 majors: 2 associate degree majors, 38 undergraduate majors, 24 graduate degree programs, including 7 doctoral degree programs across 9 colleges and schools, including Arts and Sciences, Business, Education, Engineering, Technology, and Computer Science, Health Sciences, Life and Physical Sciences, Public Service and Urban Affairs, Agriculture and Consumer Sciences, and lastly, Nursing.

Enrollment Information

As of Fall 2017, the most recent available data, 7,774 students were enrolled at TSU (6,121, undergraduate/ 1,653 graduate students), with 18% part-time and 82% full-time students. The retention rate among first-time full-time students is 64% for students who enrolled from Fall 2017 to Fall 2018. Seventy-five percent of students enrolled at TSU are Black and over 35% are the first in their families to attend college (i.e., first generation college students). Of the students enrolled at TSU, 62% identified as women and 38% as men. There are over 400 full-time academic faculty at TSU. The student-faculty ratio is 12 to 1. At TSU, 73% of full-time undergraduates receive the Pell grant, and the average amount of aid received is \$4,948 (NECES).

Snapshot of the Regional Economy

TSU is located in Davidson County and is part of the Nashville-Davidson-Murfreesboro-Franklin metropolitan statistical area, which comprises several counties in Tennessee. With nearly two million people living and working in the region, Nashville and its neighboring urban places constitute one of the medium-sized metropolitan areas of the United States. According to official statistics, 56% of the population in Davidson County is non-Hispanic white. Non-Hispanic African Americans and Hispanics, the other two largest groups in

the county population, represent 27% and 10%, respectively (American Community Survey, 1-year estimates, 2018).

Nearly 72% of residents that are at least 16 years old in Davidson County are in the labor force, meaning they are either working individuals or are actively looking for a job. Nearly a quarter of them have jobs in the educational services, health care and social assistance industries (23.6%), which are, by far, the dominant industries in the area in terms of numbers of jobs. Combined with jobs in the professional, scientific, management and administrative services (13.7%), in the entertainment, recreation, accommodation and food services (12.5%), and in retail trade (10.9%), they account for the majority share of employed people in the county (61%). Industries like manufacturing (7.8%) and construction (6.1%) account for much smaller shares of the employed labor force in the area (American Community Survey, 1-year estimates, 2018).

In terms of the size of its economy, the Nashville metropolitan area generates over 132 billion dollars in gross domestic product (GDP), which places it in the top tier in the ranking of metropolitan areas by contribution to the national GDP. The most recent data shows that the local economy is dominated by the private sector, which contributes 92% to the local gross domestic product (see Table 1). In the private sector, finance, insurance and real estate is the largest contributor with 16.8%. Educational services, health care and social assistance industries, which, again, account for nearly a quarter of all jobs in the area, make up 14.7% of the local GDP –and it is the health and social assistance industry that makes up the largest share of this contribution at 13.2%. The professional and business service industry makes up 14.6% of the local GDP, and the rest of the industries represent substantially smaller shares of the local economy (Bureau of Economic Analysis, 2019).

Table 1. Gross Domestic Product (GDP) Nashville-Davidson-Murfreesboro-Franklin, TN Metropolitan Statistical Area 2018 (thousands of current dollars)

Description	GDP 2018 (current USD)	% of industry total
All industry total	132,202,284	
Private industries	122,012,657	92.29
Agriculture, forestry, fishing and hunting	167,255	0.13
Mining, quarrying, and oil and gas extraction	336,192	0.25
Utilities	266,273	0.20
Construction	5,907,225	4.47
Manufacturing	13,595,912	10.28
Durable goods manufacturing	8,527,191	6.45
Nondurable goods manufacturing	5,068,721	3.83

Description	GDP 2018 (current USD)	% of industry total
Wholesale trade	9,303,972	7.04
Retail trade	8,048,718	6.09
Transportation and warehousing	4,767,683	3.61
Information	5,659,160	4.28
Finance, insurance, real estate, rental, and leasing	22,238,413	16.82
Finance and insurance	(D)	
Real estate and rental and leasing	(D)	
Professional and business services	19,267,457	14.57
Professional, scientific, and technical services	10,865,525	8.22
Management of companies and enterprises	2,955,553	2.24
Administrative and support and waste management and remediation services	5,446,379	4.12
Educational services, health care, and social assistance	19,489,602	14.74
Educational services	2,066,423	1.56
Health care and social assistance	17,423,179	13.18
Arts, entertainment, recreation, accommodation, and food services	9,790,210	7.41
Arts, entertainment, and recreation	4,865,925	3.68
Accommodation and food services	4,924,285	3.72
Other services (except government and government enterprises)	3,174,585	2.40
Government and government enterprises	10,189,627	7.71

Source: Bureau of Economic Analysis, December 12, 2019 update

Gross Domestic Product (GDP) is in thousands of current dollars (not adjusted for inflation). Industry detail is based on the 2012 North American Industry Classification System (NAICS).

(D) Not shown to avoid disclosure of confidential information; estimates are included in higher-level totals.

Compared to the beginning of the decade, the industries that have registered the most growth in numbers of jobs are the professional, scientific, management and administrative services, and manufacturing, with 38.4% and 18.2% more jobs in 2018 than at the beginning of the decade, respectively. Notably, industries that have seen a significant decline in the numbers of jobs compared to the beginning of the decade are retail trade (-13.5%) and public administration (-24%) (American Community Survey, 2010, 2018).

The unemployment rate in the Nashville metropolitan area remained largely stable between January 2018 and March 2020 at about 2.5-3%. At the time our survey was conducted, unemployment hovered around 2.5%. Official unemployment records show that, by April 2020, the local unemployment rate had jumped to 15.2% due to the economic slowdown produced by the global COVID-19 pandemic (Local Area Unemployment Statistics, 2020). Finally, official accounts also show that the estimated poverty rate for the county is 15.4%, and that the median household income is 60,856 dollars (2018, adjusted for inflation) (American Community Survey, 1-year estimates, 2018).

This overall picture of the regional economy, including the sectoral distribution and strength of the economy, and the rates of participation in the workforce, are an important context for understanding the internship participation and experiences of students at TSU.

IV. 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, interviews with students who had internship experience and who have not had an internship experience, interviews with educators and professionals (e.g., career advisors, faculty, and area employers) who were 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 TSU in the Spring of 2020. There is a total of 6093 students in the second half of their program (with the exception of students in teacher education and nursing programs). With a goal to select a representative sample based on resource constraints, we capped the size of the study sample at 1,261 students using random stratified sampling method based on two strata –gender and race. As a result, 252 completed our survey, which resulted in a response rate of about 20% (see Table 3). The survey included questions about student demographics, characteristics of internship programs, barriers to internship participation, and students' career adaptability (i.e., a psychological construct

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

linked to positive vocational outcomes). At the conclusion of the survey, 9 students volunteered for phone interviews, which lasted approximately 30-40 minutes each, and researchers asked more in-depth questions about their internship experience, and barriers and challenges to obtaining an internship. Additionally, 6 educators and 1 employer participated in an hour-long phone interview regarding their own experiences administering internships, helping students with or during internships, and discussing the overall purpose of internships (see Table 2).

Table 2: Description of Spring 2020 sample

	Survey	Interviews
Students	252	9
Educators	N/A	6
Faculty/Deans	N/A	5
Career advisors	N/A	1
Employers	N/A	1

Table 3: Description of student survey sample

	Survey Sample	Institutional Population
Total	252	6093
Gender	Male = 55 21.8% Female = 195 77.4%	Male = 1221 49.2% Female = 2228 36.6%
Race	Asian = 3 1.2% Black = 174 69% Hispanic = 7 2.8% White = 51 20.2% Two or more races/ethnicities= 13 5.2%	Asian = 186 3.1% Black = 4436 72.8% Hispanic = 125 2.1% White = 1188 19.5%
1st gen status	Yes = 97 38.6% No = 154 61.4%	Yes = Not reported No = Not reported

The data was analyzed using a variety of techniques, including qualitative analytic techniques, such as inductive theme analysis of interview 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 for administering internship programs at TSU

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

Are internships required to graduate from TSU?

Internship graduation requirements vary among the schools and colleges at TSU. In some cases, undergraduate students are not required to complete an internship prior to graduation. However, there are several departments at TSU that require an experiential learning component as a for-credit and non-credit option, including, Sociology, Child Development and Family Studies, Healthcare Administration, Criminal Justice, Political Science, and Business Administration Hospitality Management. The Department of Human Performance and Sport Science is revising its undergraduate curriculum to add a 150-hour internship requirement. Within the Department of Sociology there are two pathways to obtain credit for an internship: 1.) as part of a senior project and 2.) through an internship course. The faculty supervisor decides if an internship qualifies for academic credit, which requires that the agency must place the student in an entry-level position that requires specialized training (a degree) within the organization. Similarly, in the department of Child Development and Family Studies, the internship has two components (i.e., teaching in the early learning center and site work at an agency within the community) during the semester which require 175-hours during each component. Academic credit for internships is determined on the departmental level; and thus, the number of hours and other criteria vary. For example, in Criminal Justice, students are required to complete a 12 credit-hour internship. The designated faculty internship supervisors/coordinators are decision-makers in determining academic credit for internships, and this is the practice for most academic departments at TSU. College students at TSU not only complete internships within academic departments (for/non-credit), but they also

do internships that focus on professional development (non-credit) which are facilitated through the Career Development Center.

Who oversees internship programs at TSU?

TSU's decentralized structure involves a central staff in the Career Development Center (CDC), support staff within schools and colleges that are tasked with career services, and the faculty who take on dual roles as the professor and internship supervisor. The Career Development Center at TSU is staffed to support student (non-credit) internships. Furthermore, many departments rely on the professional connections of faculty, especially those that provide supervision for internships, to maintain a database of sites willing to place student interns. In the Department of Sociology, for example, the internship supervisor utilizes their networks to connect with organizations and identify internship opportunities for students. The practice of faculty coordinators reaching out to agencies for students is shared among most of the departments, including Child Development and Family Studies, Healthcare Administration, Criminal Justice, and others. Students can also research and secure internships on their own. These internships may be vetted by professors in the same ways as existing internship sites; often a letter is presented with an introduction and (if approved) a contract is drafted between the agency, the student, and the supervisor.

The College of Business (COB) has a Director of Experiential Learning and Career Engagement that manages the career coaching for students. Students find internships in many ways, including the use of the CDC and Handshake, through their own networks, company requests, and through relationships with the industry through the COB. Another key resource is the COB Opportunity Seekers Network, which is a listserv with an average 200+ student users. Since 2015 the Network has collected 2000+ business contacts who use this tool to disseminate opportunities to COB students directly. Additionally, the COB receives alumni referrals, referrals from the professional networks of faculty and support staff, and, as mentioned, referrals from the university's Handshake account.

What is involved in the administration of internship programs?

The faculty internship coordinators and career service staff provide internship support in multiple ways, including seminars, workshops and orientations, careering advising/coaching, placements, resume audits, internship courses, and agreements. Additionally, they serve as the point of contact for sites that are seeking student interns within their organization. In the College of Business, the Career Service Director, is the contact person for sites with specific requests (e.g., a company that requests for a student intern to have qualitative quality management or auditing training) and facilitates the communication between the student, the professor and the site.

When do these activities take place?

The timing of student internships varies widely across departments and programs on campus. Internships tied to particular courses are usually completed during the semester in which the course is completed. Internship opportunities often become available during the academic year (depending on the employers' needs) and several students in our interviews stated that they preferred summer internships, which they found easier to schedule because they were not enrolled in courses for the summer term.

Why are educators engaged in supporting student internships?

Faculty and advisers that we interviewed at TSU cited numerous reasons for their support of internship programs. They highlighted, for example, the role of internships as opportunities for professional development and socialization into the world of work that would further students' post-graduation success. TSU staff also emphasized that internships allow students to learn professional culture, communication skills, and develop additional job skills.

Educators emphasized that the student population at TSU is primarily first-generation college students. Additionally, a significant number of students come from marginalized backgrounds; as one educator explained "One of the problems we have at TSU is that our students have very complicated lives." Another educator echoed this sentiment, and explained how constraints on students' resources limit their ability to locate suitable internship opportunities for students:

I only have like maybe four students per year do internships because our students, when they work they have to get paid for it. It's very few students who can afford to put between 15 and 20 hours a week into an internship when they have to work 20 to 30 hours for pay....

Educators felt they had an obligation to help students overcome obstacles and enter the professional workforce. Several of these educators discussed their practice of incorporating accommodations within the internship design in order to facilitate student success. This includes targeting paid internships or internships with scheduling flexibility for students with financial constraints or childcare responsibilities; or targeting online internships for students with mobility constraints. We consider this practice of incorporating accommodations within internship design to be a best practice worthy of emulating.

VI. RESULTS: Which students are taking internships at TSU?

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

Survey results: How many students are participating in internships?

One of the most fundamental questions facing research, policy, and practice regarding college internships is how many students are participating in these programs. In our T1 study, we collected 252 responses from the students at TSU. Among them, about 20.2% (n = 51) have participated in internship programs in the past 12 months (see Figure 1). Thirty-two (62.7%) out of the 51 students had one internship experience, 13 students (25.5%) had two, and the remainder of students (11.8%) had three or more internships.

Figure 1. In the past 12 months, have you participated in an internship? (n = 252)



These results indicate that a large number – about 80% of the study sample – have not had any internship experience. This finding should be carefully interpreted and considered along with other issues, including

barriers to participation for students (e.g., compensation), availability of employer hosts, and requirements of and relevance for individual students and/or their academic programs. In the following sections of this report, we examine some of the factors associated with internship participation.

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

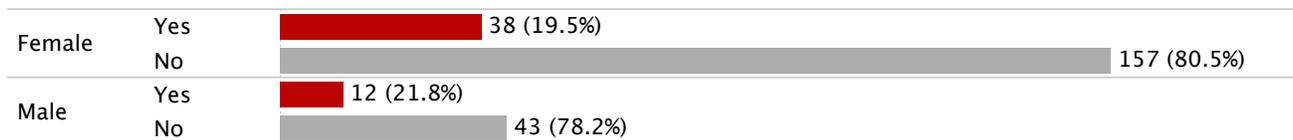
A wide range of factors may explain why a student elects to take an internship (or not), and understanding these factors is essential for institutional stakeholders who aim to improve access to these workplace learning experiences. In this section we report findings regarding differences in internship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

Demographic characteristics and internship participation

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

The results show small differences in participation rates for female and male students (see Figure 2; 19.5% vs. 21.8%) in our sample. Most of the students (69%, n = 174) who participated in the survey identified themselves as Black or African American. Of these students, only 21.3% (n = 37) had internship experiences (See Figure 3). About twenty percent (n = 51) of the survey identified themselves as White or Caucasian American. Other racial categories (e.g., Asian, Hispanic, etc.) all had very small numbers of students. Chi-square tests display insignificant differences in internship participation rates across all racial groups.²

Figure 2. Internship in the Past 12 Months (Yes/No), by Gender (n = 250)³

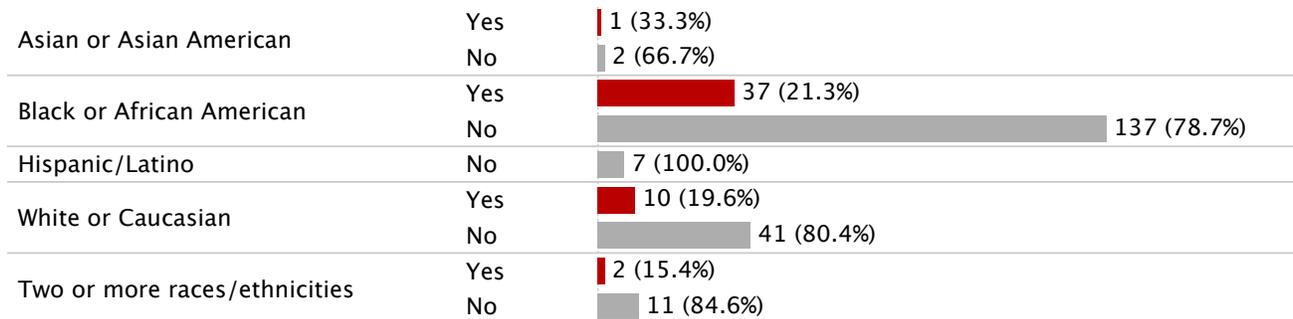


*Note: Transgender, Non-binary, and Other were excluded from this figure due to small sample size.

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

³ Figure labels describe frequency of each bar and internship participation rate within each group.

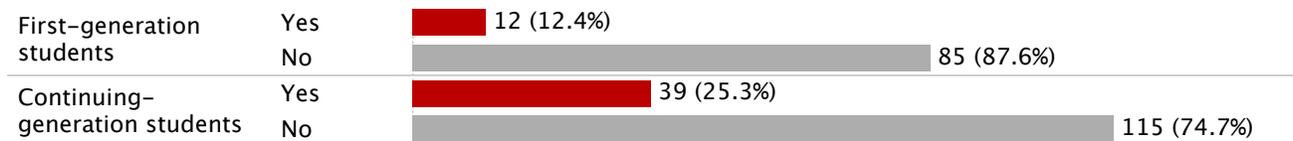
Figure 3. Internship in the Past 12 Months (Yes/No), by Race / Ethnicity (n = 248)



*Note: Four students that identify themselves as other than the above race groups were excluded from this figure.

Participation in internships was also analyzed for student respondents based on first-generation college status (see Figure 4). The internship participation rate of TSU’s first-generation students (12.4%, n = 12) is significantly lower⁴ than that of the continuing-generation students (25.3%, n = 39, see Figure 4). Internship participation rates across different parental income brackets are shown in Figure 5.1. The differences were not statistically significant based on the current sample.

Figure 4. Internship in the Past 12 Months (Yes/No), by First Generation College Student Status (FGS) (n = 251)



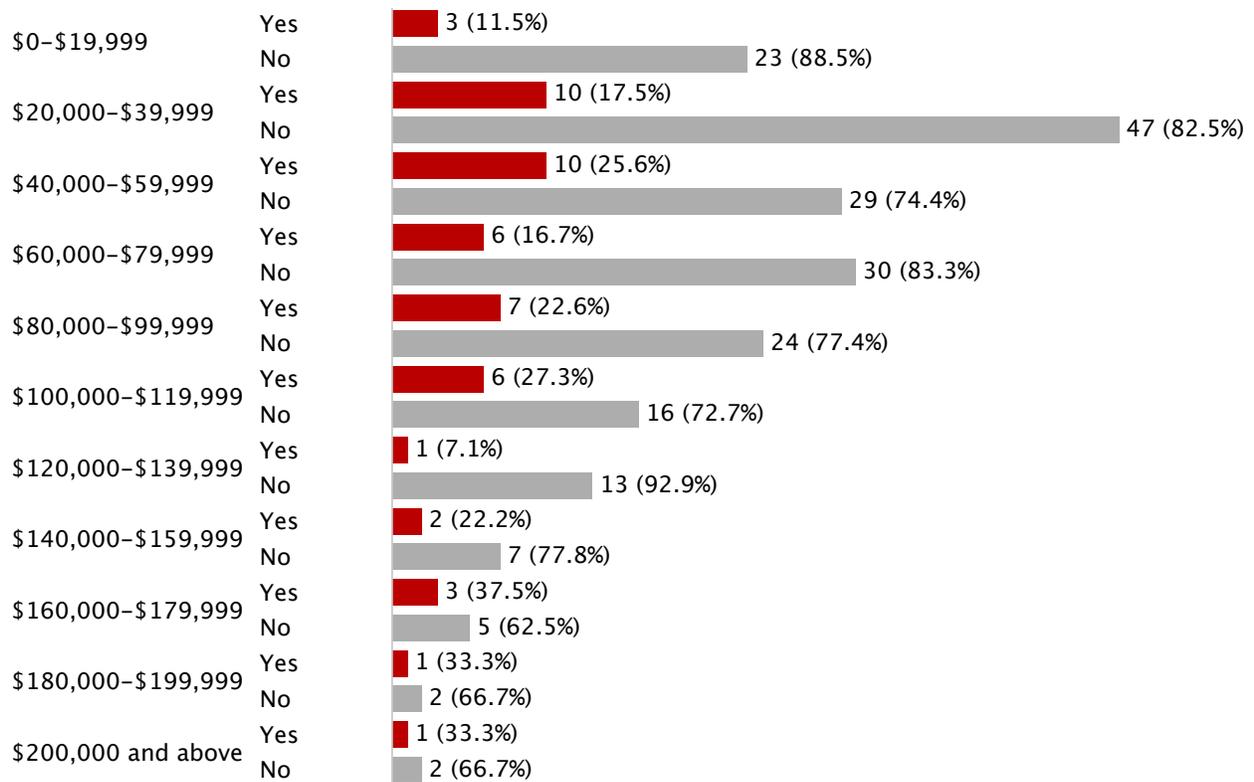
*Note: One student did not answer this question, so we removed that individual from our calculation.

Parental income is used here as an important indicator of students’ socioeconomic status. Students in our sample mainly come from low-income households. Almost 50% of the students who responded to our survey indicated that their parents’ income is below \$60,000, and nearly 65% reported their parents make less than \$80,000 per year. Figure 5.1 shows the difference of internship participation rates across self-reported parental income groups. We further explored the relationship between internship participation and parental income based on state median annual income. The median annual household income in 2018 was \$52,375 in Tennessee.⁵ Our parental income brackets did not fit exactly with the median income. We grouped students’ self-reported parental income into below and above \$60,000, the closest cut point below and above median annual household income. The internship participation rate for students from above the state median household income (21.4%, n = 27) was slightly higher than the participation rate of those below the median household income (18.9%, n = 23; see Figure 5.2). The difference was, however, not statistically significant ($p = 0.64$).

⁴ Based on a Chi-square test, the difference of participation rate between first-generation students and continuing-generation students is statistically significant, $\chi^2(df=1, N=251) = 5.39, p = 0.020$.

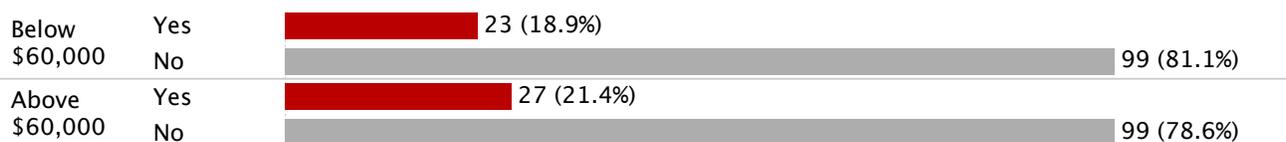
⁵ The median annual income of Tennessee comes from Data USA: <https://datausa.io/profile/geo/tennessee#economy>.

Figure 5.1. Internship in the Past 12 Months (Yes/No), by Parental Income (n = 248)



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

Figure 5.2. Internship in the Past 12 Months (Yes/No), by Parental Income Below and Above Median Annual Income (n = 248)



Note: Four participants did not report parents' income and were excluded from this figure.

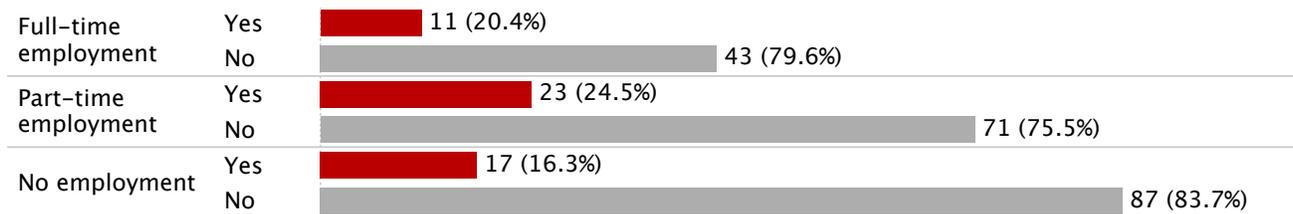
Life circumstances and internship participation

Research on college affordability and students' basic needs has indicated that issues such as food insecurity, rising costs of college tuition, and related concerns have a negative impact on students' persistence and achievement (e.g., Maroto, Snelling & Linck, 2015). To examine these potential constraints we report employment status, reliance on food assistance, and challenges related to housing costs. Additionally, 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 internship participation by employment status (PT/FT/No-employment). Students who worked part time at a job that was not an internship during the last 12 months were most likely (24.5%, n = 23) to participate in internships, while students who were not otherwise employed were least likely to have participated in internships (16.3%, n = 17). The differences were, however, not statistically significant.

Figure 6. Internship in the Past 12 Months (Yes/No) by Employment Status (n = 252)



Awareness about college students' challenges with securing adequate food, also known as food insecurity, is growing in the U.S. (Broton & Goldrick-Rab, 2016). In our survey, we included a question asking if students had received free food or meals using the Supplemental Nutrition Assistance Program or a food bank. The results indicate approximately 6.7% (n = 17) of students reported relying on these resources in the past 30 days (Figure 7). Those who did not rely on food assistance are more likely to participate in internships, although the differences are not statistically significant (see Figure 7). Given that housing costs may put a strain on students' financial situation, we also asked about problems related to paying rent or mortgages, with 6.0% (n = 15) of students reporting housing cost problems (Figure 8). Those who faced difficulties paying rent or mortgages were less likely to participate in internships, although the differences are not statistically significant (Figure 8).

Figure 7. Internship in the Past 12 Months (Yes/No) by Students Requiring Food Assistance (n = 252)

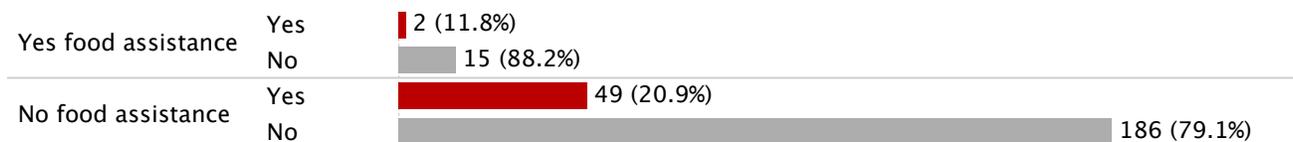
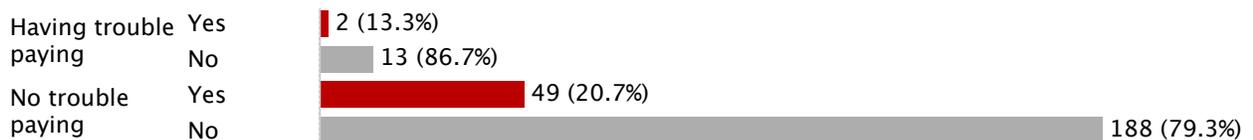


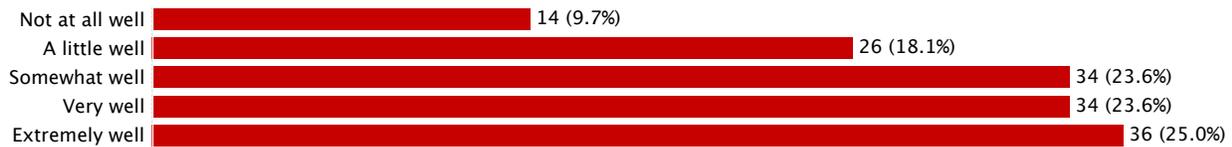
Figure 8. Internship in the Past 12 Months (Yes/No) by Students Having Trouble Paying Rent or Mortgage (n = 252)



Given that many students work part- or full-time, we explored the extent to which they perceived their job as contributing to their career goals (Figure 9). We see in Figure 9 that 47.6% (n = 70) of the students with a non-internship job felt that their main job was providing important career-related skills, very well or extremely well.

On the other end, 27.1% (n = 40) 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 = 144)



Psychological factors and internship participation

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

In this study, we examined the relationship between career adaptability and internship programs, using a validated career adaptability survey developed by Savickas and Porfelli (2012). These survey items encompass four sub-scales, including concern about the future, control over one’s future, curiosity about different career options, and confidence to achieve one’s goals, each of which are measured by six items that elicit how strongly the respondent rates themselves on these attributes. These items use a five-point Likert style set of response options (1 = *not strong*; 5 = *strongest*). Cronbach’s alpha of the four subscales, using the current sample data, ranges from 0.87 to 0.89.

The results indicate that the survey respondents from TSU rate themselves relatively high across the career adaptability sub-scales: concern (M=3.91, SD=0.78), control (M=3.95, SD=0.73), curiosity (M=3.71, SD=0.79), and confidence (M=3.86, SD=0.76). The mean scores for all subscales were similar between the two groups: Concern (Internship: 3.92; No Internship: 3.91), Control (Internship: 3.81; No Internship: 3.99), Curiosity (Internship: 3.78; No Internship: 3.70), and Confidence (Internship: 3.81; 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 subscale from the TSU 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 = 252)



Figure 11. Please rate how strongly you have developed each of the following abilities: Taking responsibility for my actions (n = 252)

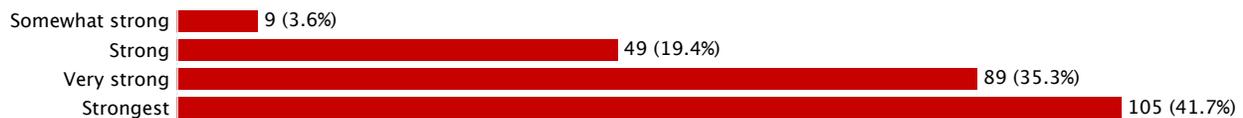


Figure 12. Please rate how strongly you have developed each of the following abilities: Exploring my surroundings (n = 252)



Figure 13. Please rate how strongly you have developed each of the following abilities: Performing tasks efficiently (n = 252)



Features of academic programs and internship participation

It is also possible that some features of a students' academic program and performance (e.g., whether or not 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 students' participation in internship programs.

Figure 14. Relationship between internship participation and whether or not an internship was required to graduate from your academic program (n = 252)

Required	Yes		22 (30.6%)
	No		50 (69.4%)
Not Required	Yes		17 (16.5%)
	No		86 (83.5%)
Not sure	Yes		12 (15.6%)
	No		65 (84.4%)

The results indicate that 28.6% (n = 72) of the respondents were in academic programs that required internships. Figure 14 shows that these students were significantly more likely to participate in an internship compared to students who were not required to take an internship to graduate (30.6% vs. 16.5%). There were also a noticeable proportion (30.6%, n = 77) of students who were unsure if their program required an internship. These students were slightly less likely to participate than students who were sure that internships were not required (15.6% vs. 16.5%). Overall, the differences of internship participation among the three groups are statistically significant, $\chi^2(2, N=252) = 6.67, p=0.0356$.

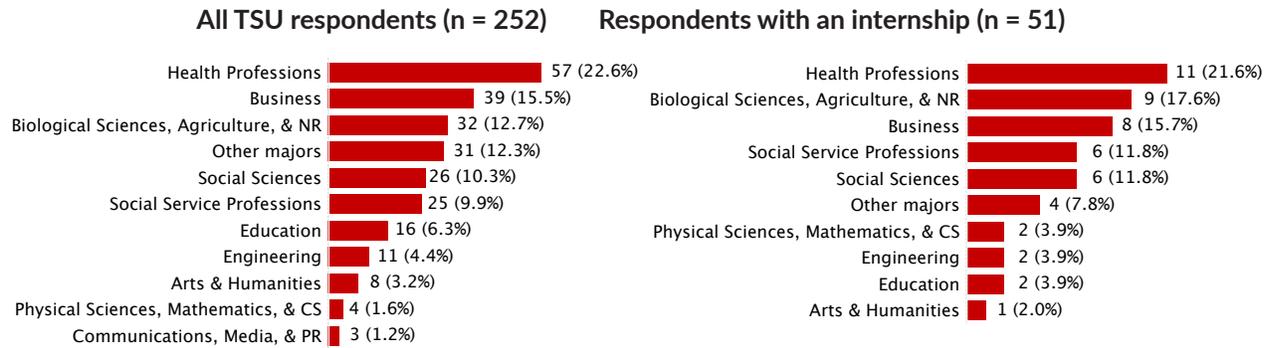
Additionally, 77.8% (n = 196) of the survey respondents were full-time students and 22.2% (n = 56) were part-time students. Internship participation rate of full-time students (23.5%) is significantly higher than that of the part-time students (8.9%), $\chi^2(1, N=252) = 5.71, p=0.017$ (Figure 15).

Figure 15. Internship in the Past 12 Months (Yes/No) by Enrollment Status (n = 252)

Full time, at least 12 credits	Yes		46 (23.5%)
	No		150 (76.5%)
Part-time, less than 12 credits	Yes		5 (8.9%)
	No		51 (91.1%)

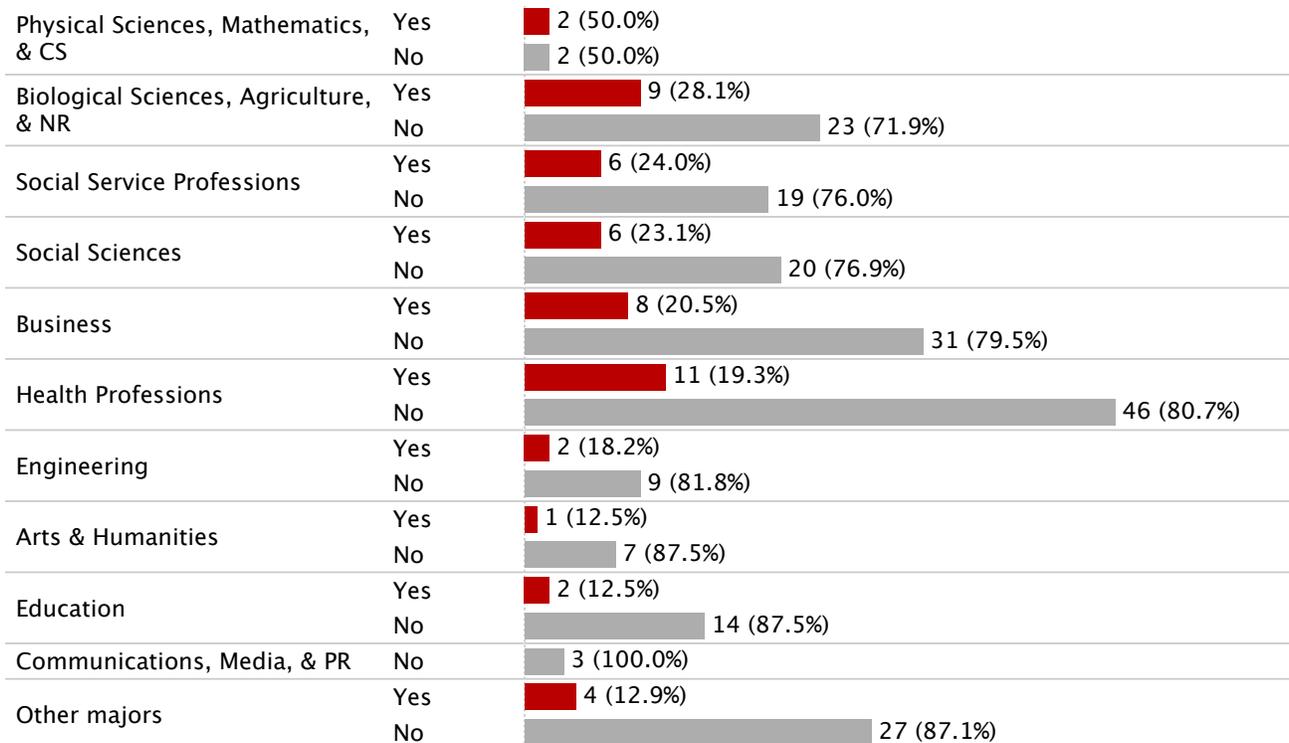
We also examined internship participation rates based on disciplinary sectors. We adopted the major field categories defined by the National Survey of Student Engagement (NSSE, 2018). Figure 16.1 presents the distribution of seven majors for all TSU participating students (n = 252, left figure) as well as for respondents who participated in an internship (n = 51, right figure). The results indicate that the disciplinary sector with the largest proportion of students who participated in internships? came from Health Professions (22.6%, n = 57). The disciplinary sector with the largest proportion of students who completed an internship also included Health Professions (21.6%, n = 11). Figure 16.2 displays internship participation rates by disciplinary sectors. Physical Sciences, Mathematics, and Computer Science have the highest participation rate (50.0%, n = 2), followed by Biological Sciences, Agriculture, and Natural Resources (28.1%, n = 9), Social Service Professions (24.0%, n = 6), Social Sciences (23.1%, n = 6), Business (20.5%, n = 8), Health Professions (19.3%, n = 11), Engineering (18.2%, n = 2), Other majors (12.9%, n = 4), Education (12.5%, n = 2), and Art & Humanities (12.5%, n = 1). Due to the small number of students in each subcategory, we will not use the current data to infer their relationships with internship participation.

Figure 16.1. Students' distribution by Program Disciplinary Sector



NR = natural resources; CS = computer science; PR = public relations

16.2. Relationship between Internship Participation and Students' Program Sectors (n = 252)



NR = natural resources; CS = computer science; PR = public relations

Academic performance and internship participation

Finally, we examined the relationship between participating students' grade-point average (GPA) and internship participation. The GPA variable in our dataset is a self-reported measure where we asked the students a single

question: “Thinking about the past 2019-20 academic year, which of the following best describes your grade point average?” The question allowed for a numeric input on a sliding scale that contained letter markers. The GPAs ranged from 1.0 to 4.0, with a mean of 3.32 and a standard deviation of .56 for the 250 students who reported their GPA in our sample. About 80% (n = 200) of self-reported GPAs are 3.0 or above. Descriptively, students who have participated in an internship (n = 51) appear to have, on average, a slightly higher GPA (mean = 3.44, SD = .40) than those who have not (mean = 3.29, SD = .59). A t-test suggests that the difference between the two groups is statistically significant at conventional significance levels ($t(111) = -2.14, p = 0.035$).

Linear probability regression also shows that there exists a positive and statistically significant relationship between students’ grade-point average (GPA) and internship participation, such that the higher the students’ GPA the more likely they are to have participated in an internship.⁶ These results suggest that students with low GPAs may require additional support, encouragement, or assistance in securing an internship.

VII. RESULTS: Barriers to participation in internships for students at TSU

In this section, we present findings from the online survey and student interviews regarding barriers to participation in internships for students at TSU. Access to internships is a critical issue with respect to problems of inequality and social mobility that students face in higher education and society more broadly. 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 201 students who did not participate in an internship, 64.2% (n = 129) of them had wanted to do so (see Figure 17).

Figure 17. You indicated that you did not participate in an internship in the past 12 months. In the past 12 months, were you interested in participating in an internship? (n = 201)



We asked students to rank the various reasons (from most important to least important) for not pursuing an internship. Figure 18.1 presents the frequency and percentages of students who cited certain barriers to participation. In general, 67.4% (n = 87) reported a lack of internship opportunities as a barrier, 66.7% (n = 86) reported a heavy course load as a barrier, 47.3% (n = 61) of students reported their need to work at their current job as a barrier, 45.0% (n = 58) reported a lack of transportation as a barrier, 34.1% (n = 44) reported insufficient pay offered as a barrier, and 21.7% (n = 28) reported a lack of childcare as a barrier to internship participation.

⁶ Linear probability regression results indicate that a one more grade point increase in GPA is associated with a 8.7% increase in the probability that a student is participating in internship. This means that an increase from an average 2.0 to 3.0 is associated with a nearly 8.7% increase in the probability of participating in an internship. This result was statistically significant ($p = 0.10$) after controlling for a number of demographic variables in the model.

Figure 18.2 shows how students ranked the barriers overall. The reasons that students ranked as the number one important factor influencing their decision not to pursue an internship included: a heavy course load (n = 42), a lack of internship opportunities (n = 39), and the need to work at their current job (n = 21). The number two ranked reasons included: a heavy course load (n = 28), the need to work at their current job (n = 21), and a lack of internship opportunities (n = 18). Figure 18.2 also presents the third to sixth ranked reasons and their corresponding frequencies. Insufficient pay and the lack of internship opportunities stood out in the third and fourth ranked reasons. In sum, one's need to work at a current job, a heavy course load, a lack of opportunity in one's field, and insufficient pay were the most commonly reported reasons students provided for not pursuing an internship.

Figure 18.1. In the past 12 months, why were you not able to pursue an internship? (n = 129)

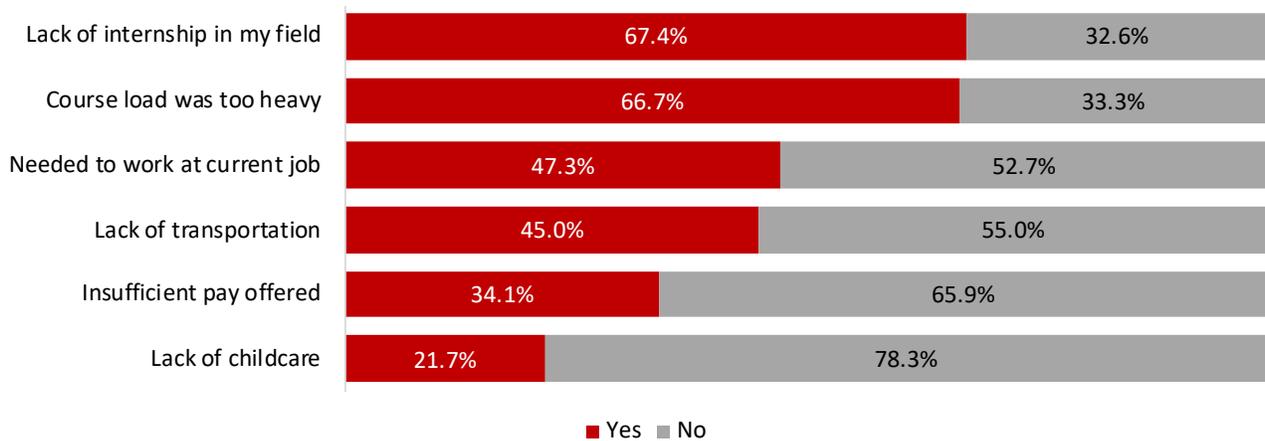
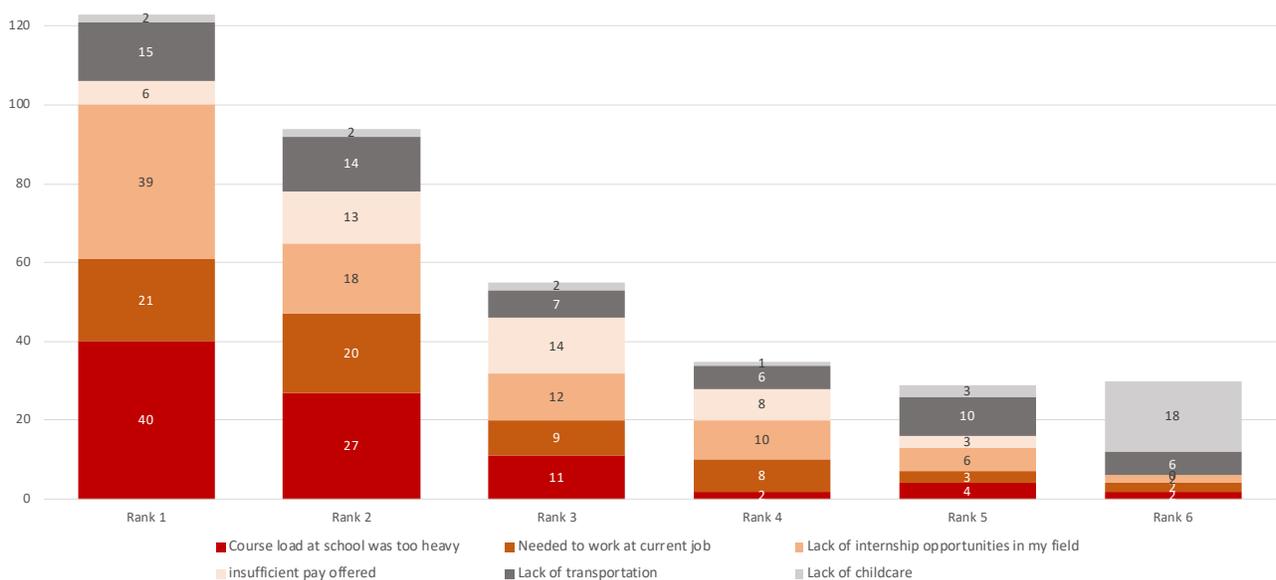


Figure 18.2. Rank the reasons from most important to least important for not pursuing an internship. (n = 129)



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

Data from interviews with 9 TSU students helped to further highlight some of the concerns and issues that students consider when deciding whether or not to pursue an internship. Students discussed several barriers to their participation in internships, including a perceived lack of institutional support for internships, difficulty finding an internship in the relevant academic or career field, the lack of time due to academic obligations, and the need to travel for internships. These themes and examples are summarized in Table 4 and further elaborated upon in the text that follows.

Table 4. TSU Student Concerns and Difficulties in Participating in Internships (n = 9)*

Concern/Difficulty	Examples
Perceived lack of institutional support for internships	<i>Students perceived a lack of resources to support their participation in an internship, or were unaware of how to obtain support on campus</i>
Difficulty finding an internship in the relevant academic or career field	<i>Students felt that the available internship opportunities were not relevant to their academic or career interests</i>
Lack of time because of work and academic obligations	<i>Time conflicts or pressures created by work, academics, or extracurriculars which make it difficult to participate in an internship</i>
Need to travel for internships	<i>Concerns about the cost of travel and relocation for distant internships</i>
*This sample includes all interview participants from TSU; these difficulties include those that were discussed most frequently, in descending order of frequency	

Some students perceived a lack of institutional support for internships or described being unaware of the resources that were provided by TSU to support their internship participation. Students, for example, described that professors would advise them on the importance of internships for their career development, but they could not provide connections or resources to help students obtain an opportunity. Another student, close to graduating, described the lack of circulation regarding internships stating, “Internships weren’t really on my radar or no one really spoke to you about it.” Several students describe attending the career fair in an effort to make connections to obtain an internship. The students collected several business cards during the fair but felt uncomfortable contacting employers directly to ask about internships.

Another issue faced by students was a struggle to find an internship relative to their particular academic or career interests. For example, students described receiving flyers, emails, and other information regarding internships in the STEM fields, but nothing related to their own interests. Another student in the speech

therapy program and one in education expressed a similar concern that internships seemed to focus on STEM fields. Another concern expressed by students was a lack of time available to participate in internships due to a combination of paid work responsibilities, academics, and extracurricular activities. Students, for example, discussed how internships during the summer would conflict with summer classes and studying for the GRE, the MCAT, and other high-stakes examinations. Another student felt that the time commitment associated with band participation would not permit participation in an internship as well. Lastly, students described concerns regarding the costs of relocation and travel for distant internships. As one student explained, “The internship I would like is out of my hometown; like, it's out of state and I don't know if most internships, you know, do the housing and food thing.” Other students who expressed this concern self-selected to only apply to internships that would not require travel or relocation.

Overall, students’ major concerns regarding participating in an internship consisted of being unaware of institutional resources to support internship opportunities, difficulty finding a relevant internship, a lack of time due to other obligations, and the costs associated with travel for internships.

VIII. RESULTS: What types of internships are TSU students participating in and what are their experiences?

In this section, we present findings regarding the types of internship programs that students at TSU 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 then report how students described their internship with respect to characteristics that the literature suggests are associated with positive student outcomes and experiences (e.g., supervisor support, task clarity, etc.).

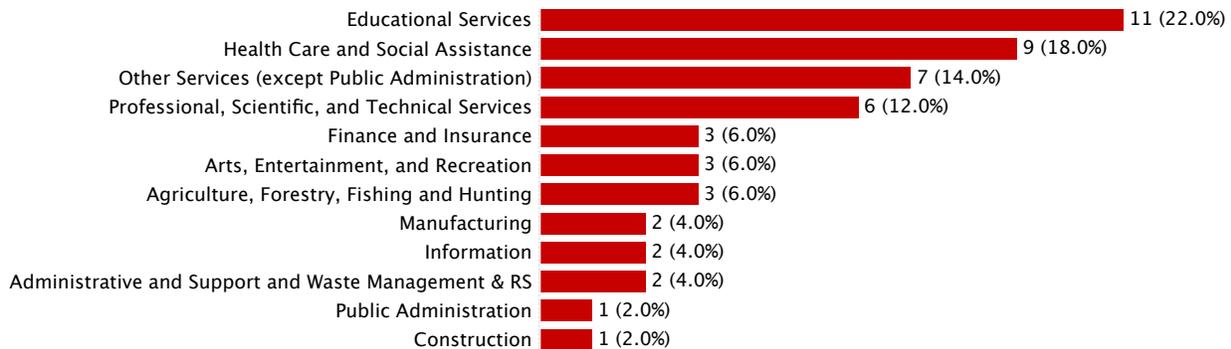
Survey results: Features of internship programs

For the 51 TSU students in our study sample that participated in an internship in the past year, as shown in Figure 19, 35.3% of them did so at non-profit organizations, 35.3% of them at government agencies, and 29.4% at for-profit organizations. Figure 20 shows that many of these internships were concentrated in fields such as Educational Services (22.0%), Health Care and Social Assistance (18.0%), Other Services (except Public Administration) (14.0%), Professional, Scientific, and Technical Services (12.0%), Agriculture, Forestry, Fishing and Hunting (6.0%), Arts, Entertainment, and Recreation (6.0%), and Finance and Insurance (6.0%), with the rest of the respondents being well dispersed among the remaining industries.

Figure 19. In what type of organization did you participate in this internship? (n = 51)



Figure 20. In what industry or field was this internship? (n = 50)



RS = Remediation Services

As shown in Figure 21, the largest proportion of survey respondents participated in an internship lasting 9-12 weeks (30.6%). Furthermore, 45.1% of these students were compensated for their internship work, whereas 54.9% were not (Figure 22). The average hourly payment is \$14.76, which is above the estimated living wage for one adult in Tennessee (\$10.97) (MIT Living Wage Calculator, 2019).

Figure 21. For how many weeks did you participate in this internship? (n = 49)

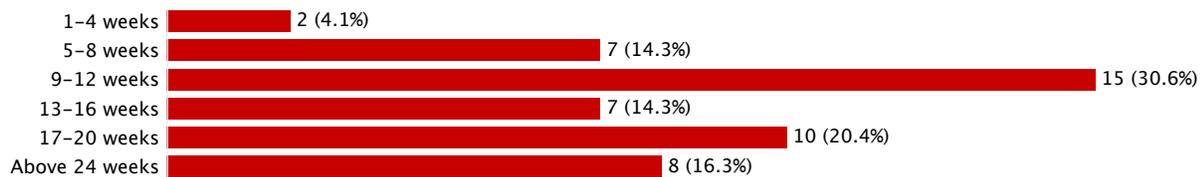


Figure 22. Was the internship paid or unpaid? (n = 51)



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

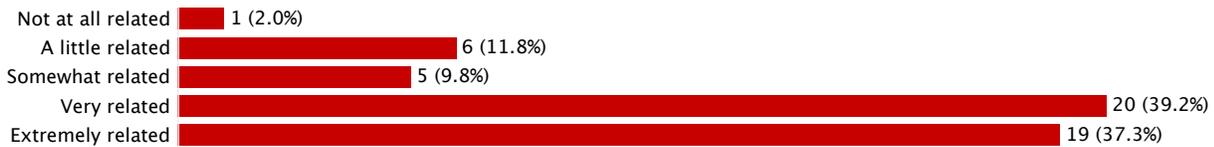
Next, we turn to one of the primary research questions driving this study: What is the structure and format of internship programs in which TSU students participate? Examining this issue, we focus on features of internships that the research literature suggests are associated with positive student outcomes.

Link between academic program and internship

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

For the TSU students who participated in an internship, 76.5% (n = 39) felt that their internship was very related or extremely related to their academic coursework (Figure 23).

Figure 23. How related do you feel your internship was to your academic program? (n = 51)



Perceived supervisor support

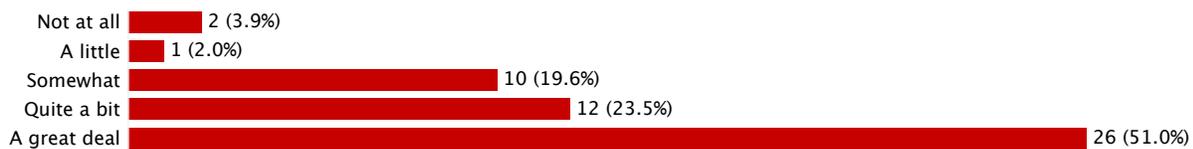
The literature also indicates that supervisors’ active support of interns’ career development and on-the-job satisfaction is strongly associated with positive student outcomes (McHugh, 2017). Students rated four questions regarding how supportive their supervisors were by choosing from 1 = *not at all*, 2 = *a little*, 3 = *some*, 4 = *quite a bit*, to 5 = *a great deal*. The average score for the four questions equals 4.16 with a standard deviation 0.98. 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.

Among the sample of TSU students who had recently participated in an internship, 82.4% (n = 42) reported that their supervisors cared about their satisfaction at work either quite a bit or a great deal (see Figure 24), and 74.5% (n = 38) reported that their supervisors appreciated the amount of effort they made either quite a bit or a great deal (see Figure 25). Taken together, these represent important indicators of supervisory support.

Figure 24. In this internship, how much did your supervisor care about your satisfaction at work? (n = 51)



Figure 25. In this internship, how much did your supervisor appreciate the amount of effort you made? (n = 51)



Supervisor mentoring

Another aspect of supervisor behavior found in the literature to be positively associated with intern satisfaction is supervisor mentoring. This pertains to the provision of direction and feedback 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 3.82 with a standard deviation 0.82. 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 on 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.

Over half of the TSU participating students (58.8 %, n = 30) reported that their supervisors very often or extremely often encouraged them to try new ways of performing in the job, and 72.5 % (n = 37) of the students reported that their supervisors very often and extremely often provided feedback regarding their performance (see Figures 26 and 27).

Figure 26. How often did your supervisor encourage you to try new ways of performing in the job? (n = 51)

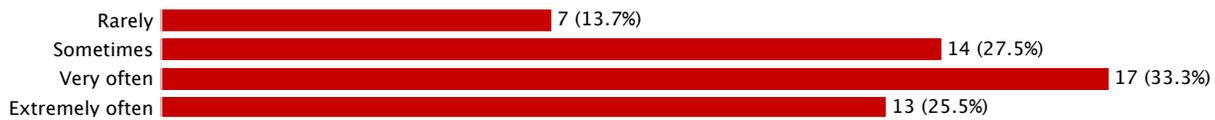


Figure 27. How often did your supervisor give you feedback regarding job performance (n = 51)



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 3.88 with a standard deviation 0.94. Below we report results from these items (see Figures 28 and 29).

The results indicate that the majority (84.3%, n = 43) of participating TSU students who participated in internships felt that they were given very clear or extremely clear tasks to be completed. About 72.5 %, (n = 37) of students felt the goals to be accomplished were somewhat very clear or extremely clear.

Figure 28. In this internship, how clear you felt about the tasks to be completed? (n = 51)

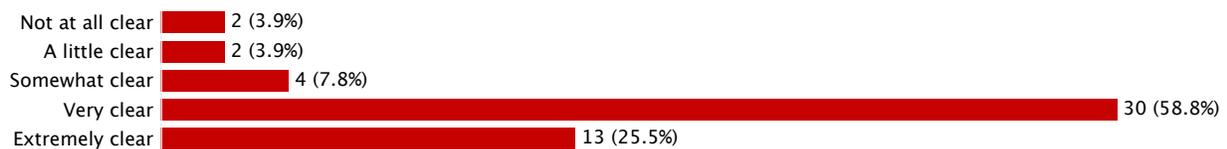
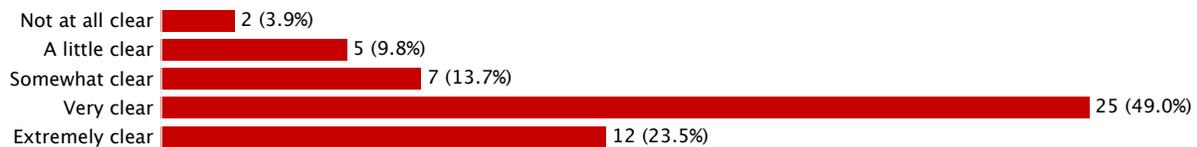


Figure 29. In this internship, how clear you felt about the goals to be accomplished? (n = 51)



Task autonomy

In addition to benefiting from clearly defined tasks, interns also report higher rates of satisfaction when 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 3.91 with a standard deviation 0.89. Below we report results for these items (see Figures 30 and 31).

For TSU students, 76.5 % (n = 39) reported having considerable flexibility in how they completed their work and 56.9% (n = 29) reported having adequate freedom to decide how to do their work, indicating that for these students the internship provided some opportunity to function with autonomy in the workplace.

Figure 30. In this internship, how much flexibility did you have in how you completed your work? (n = 51)

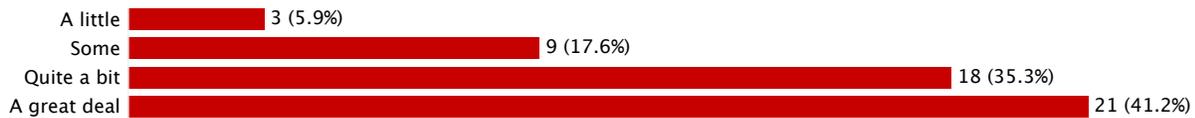
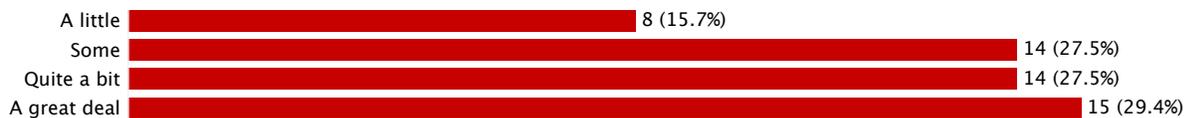


Figure 31. In this internship, how much freedom did you have to decide how to do your work? (n = 51)



Task similarity to entry-level jobs

Finally, one of the persistent questions in the literature is whether interns are provided with work that is of equal difficulty to entry-level employees (Hora, Wolfgram & Thompson, 2017). This construct was measured using one question with a five-point Likert scale from 1 = *not at all similar*, 2 = *a little similar*, 3 = *somewhat similar*, 4 = *very similar*, to 5 = *extremely similar*. The average score for the question was 3.39 with a standard deviation 1.18.

The results indicate 47.1% (n = 24) of the participating TSU students considered their internship tasks very similar or extremely similar to those in entry-level positions. There were 17.6% (n = 9) of participating TSU students that considered their internship tasks not at all similar or a little similar to entry-level employment (see Figure 32).

Figure 32. During your internship, how similar in nature were your tasks to those in entry level jobs in the organization? (n = 51)



IX. RESULTS: Outcomes of internships

The impacts that internships have on students is one of the most important questions facing the field of higher education and workforce development, given their growing prominence in educational policy and programming. In empirical research on internships, this question is answered by tracking over time changes in variables such as employment status, wages, or vocational self-concept. In fact, our research team will be following the panel of TSU students who participated in T1 of our study for at least two additional years, with these questions being addressed in 2021 and 2022. For this cross-sectional analysis of T1 data, we report outcomes in terms of satisfaction with the internship and student perceptions of how well (or poorly) 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 = *a little satisfied*, 3 = *somewhat satisfied*, 4 = *very satisfied*, to 5 = *extremely satisfied*. The average score for the question was 3.92 with a standard deviation of 0.98.

Of the students who had completed an internship in this sample, 78.5% (n = 40) of them reported that they were very or extremely satisfied with their internship experience, and 9.8% (n = 5) were somewhat satisfied, leaving less than 11.8% (n = 6) of them who were only a little or not at all satisfied with their experience. (see Figure 33).

Figure 33. How satisfied were you with your internship experience? (n = 51)



To investigate the relationship between internship program features and students' internship satisfaction, we conducted correlation and multiple regressions analyses. Please see Table 2 in Appendix B for the correlation and multiple regression results. The results indicate that supervisor support, supervisor mentoring, goal clarity, relatedness to academic program, similarity to entry-level jobs, and autonomy are all positively correlated

with students' internship satisfaction, with coefficients ranging from 0.28 to 0.70. After controlling for other variables in the model, our multiple linear regression analysis showed that students with greater level of goal clarity and relatedness of internship to academic program were expected to have greater satisfaction (see Table 2 in Appendix B).

Developmental value of the internship experience

Next, we examine the impact of program structure on another important outcome of internships – students' perception of how much their internship experiences 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) five items regarding developmental value of academic learning with average score 3.76 and standard deviation of 0.93; b) five items regarding developmental value on career development with an average score of 3.84 and a standard deviation of 0.93.

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

Findings indicate that 74.6% (n = 38) of the participating TSU students considered their internships providing quite a bit or a great deal of opportunities for them to apply knowledge from course work to the real-world; and 60.8% (n = 31) reported internships are valuable in terms of providing quite a bit or a great deal of opportunities for them to identify academic knowledge gaps. Additionally, when reflecting the value of internship to career development, 74.5% (n = 38) of participating TSU students valued the skills they learned at internships reporting that they are quite a bit or a great deal important for their career development, and 70.6% (n = 36) reported that their internships helped clarify their career objectives quite a bit or a great deal.

Figure 34. This internship gave me opportunities to apply what I have learned in my courses to real-world situations. (n = 51)

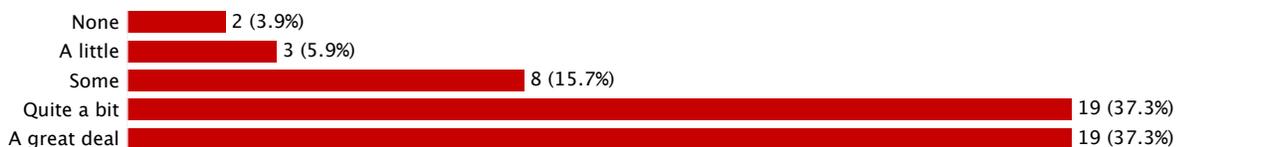


Figure 35. This internship helped me identify my academic knowledge gaps. (n = 51)



Figure 36. This internship provided me with important skills relevant to my chosen career. (n = 51)



Figure 37. This internship helped me clarify my career goals. (n = 51)



To investigate the relationship between internship program features and the developmental value of students' internship experiences, we conducted correlation and multiple regression analyses. Please see Table 3 in Appendix B for the correlation and multiple regression results. The results indicate that supervisor support, mentoring, goal clarity, autonomy, relatedness to academic program, and similarity to entry-level jobs are all positively correlated with students' perceived internship developmental value with coefficients ranging from 0.35 to 0.72. After controlling for the other variables in the model, we found that students with higher scores on relatedness to academic programs were expected to perceive a higher level of developmental value of their internship experiences (see Table 2 in Appendix B).

We also looked at the developmental value of academic learning and career development respectively. Regression results show that, in both models, students with greater relatedness to academic programs were likely to report the greater internship developmental value to both their academic learning and their career development.⁷

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

⁷ The multiple regression results showed $\beta = 0.43$, $p = 0.06$ for academic learning; and $\beta = 0.46$, $p = 0.001$ for career development. β refers to the standardized regression coefficient that demonstrates the change in internship satisfaction per unit change in predictors.

Themes from interviews with students: What were students' experiences and outcomes?

In addition to results from our online survey, we conducted interviews with 9 TSU students. Because there were a limited number of participants in our sample who had completed an internship at the time of our interviews (n=2), little in-depth information is available regarding the experiences of TSU students who have completed an internship. One of the students we interviewed is an engineering major who interned at a large company in the aerospace industry. Overall, he felt "it was a cool experience," in particular because he was able to accomplish his main goal for the internship stating, "I just wanted to see ... the type of work I would be doing as an engineer." His main work task "was to look through the mechanical engineering manuals and to see how they could easily be fixed, fix hyperlinks, make it more user-friendly." Interestingly, while the internship was located at the corporate headquarters, the supervisor worked remotely, which made communication challenging. While the work was relevant to his academic interests in mechanical engineering, the student learned that he did not like the administrative and deskwork involved in some engineering work roles stating "I realized I'm not really a cubicle type of person and I'm more hands-on." In addition to working on the manuals, the student did some computer-aided design work, 3-D printing, and toured some of the garages where engineers were working on hands-on projects. Recalling this experience, the student notes, "I guess for me the best thing for me to do is for me be like physically active in making the plane."

The other student in our sample is a psychology major, and business minor, who interned at a performing arts school. Her main goal for the internship was to broaden her perspective on possible future careers in the business sector, "helping me understand the different angles and different options ... because I know when people think business they think of selling things, but this is a performance art school, so that's like from a different angle on business." The student's work tasks included answering the phone, scheduling appointments, and supporting the teachers, students, and parents who used the facility. The student appreciated the welcoming, friendly, and drama-free work environment, stating that the internship

"has benefited me a lot. I feel as though it has made me come out of my shell with being a receptionist, because I was ... not too excited to answer phones and make phone calls. I was very nervous and I'm still kind of nervous. Like, I have to think of what to say. But I feel like I've improved a lot. And it's also made me be able to open up with people and be able to connect and learn how to network with different ... people in the industry."

Overall, the two students interviewed who had participated in an internship both emphasize the importance of the internship to helping them explore future careers and refine their career plans. One of the students emphasized the role of the internship in increasing her self-confidence and communication skills.

X. RESULTS: Student Experiences with COVID-19

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

In terms of COVID-19's impact on internships, many students shared a belief that their internship process had been impacted by the pandemic. While none of the student reported personally having their internship canceled or postponed, many of them knew of peers who were dealing with that situation. Students also reported difficulty finding internship postings since the pandemic. On account of the pandemic, students limited their pursuit of internship opportunities to online internships, and generally felt skeptical that they would be able to obtain an internship until after the pandemic clears. They also felt that companies would be less likely to hire interns given the current economic uncertainty on account of the pandemic. One student with a specific internship goal to intern at an engineering firm explained that the uncertainty caused by the pandemic made him expand the scope of his search, "I guess it doesn't have to really be engineering if I don't get an internship from them, but if I get an internship from someone else and they like align to something I would like to do, then you know that's fine too."

In additions to the impact of COVID-19 pandemic on internships, students reported challenges with the transition to online learning. Students described this transition as "abrupt," "rushed," and "so out the blue, not planned or anything," however, they appreciated their teachers "being really understanding" with academic requirements, and "still trying to help us and still have their one-on-one contact like we would if we was in a classroom...." Generally, students who struggled with the transition to online learning described that it conflicted with their personal learning style, which favored face-to-face interactions with educators and peers; other issues that students reported included struggling with the amount of "screen time" required for online learning, with doing school work in their parents' home, and with technical problems with accessing the internet for online learning. In the face of these struggles and frustrations, students described utilizing a wide variety of coping and self-care strategies, such as intentionally cultivating attitudes of gratitude and optimism, and practices such as meditating, going for walks, spending time with friends and family online, avoiding negative news, prayer, and "keeping busy."

XI. RECOMMENDATIONS FOR PROVIDING EQUITABLE AND 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 of our report, we provide recommendations for students, educators and employers for increasing the availability of high quality and equitable internship programs for all students at TSU.

What can students do?

The literature suggests that students are drivers of their self-exploration, career exploration, and career planning and management. Interested students are often 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 2-16, 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 first-generation status (Figure 4) and academic performance (GPA).

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.

- Students are encouraged to actively search for resources, connections, and assistance in their search for and decision-making around participating in an internship. This includes utilizing campus resources and asking for support and guidance from faculty, advisors, and peers. Basically, students need to be proactive in discovering opportunities and supports available within the TSU community, and if these are lacking, to be vocal to their institution that such support is needed.

What can students do?

- **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;**
- **Identify short-term and long-term goals before entering Internship.**

- Students are also encouraged to consider ways to increase their self-management and time management skills by utilizing campus resources, such as attending workshops or trainings. Students can utilize these resources to continue to gain professional development, knowledge, and skills from their work, coursework, and life experiences.
- It is important for students to manage their relationships with internship supervisors or mentors and work to establish effective communication. Students also are encouraged to seek out and participate in professional development opportunities available to them as interns. Although students' internship satisfaction and perceived contribution of an internship to their career development could be limited by many contextual factors, students are encouraged to treat internships as an opportunity for personal and professional development, regardless of whether the internship is required or elective.
- Students should articulate their own short-term and long-term goals before entering an internship, and just as important, these goals need to be communicated with their academic program coordinator/faculty and internship site supervisor.

What can faculty and institutions do?

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

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

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

What can faculty and institutions do?

- Scrutinize institutional capacity portion of this report 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 work with students and employers to design, implement, and continuously evaluate students' experiences within the internship program.

practice of designing internships to accommodate students' limitations on account of a disability or other life circumstances. We consider this practice of incorporating accommodations within internship design to be a practice worthy of emulating.

- There are a number of formalized coordination efforts that educators enact to support the effectiveness of internship programs. This coordination can involve: (1) centralizing communication between different university-stakeholders on sharing resources; (2) having midterm and more frequent check-in meetings and a final end-of-internship evaluation meeting with the students and supervisors; and (3) assigning and evaluating reflective writing assignments or other projects for the student to process their experiences. Perhaps some of these reflective writing or other products can be highlighted on the TSU website.
- Educators and institutional leaders are encouraged to recognize their students' needs and life circumstances that may function as obstacles to participating in an internship (see Figures 2-16, 18). For example, educators may benefit from communicating with students who do not participate in internships to understand their reasons, seek resources to resolve obstacles to participating in an internship (if desired), and continue to build on students' work or life experiences that may contribute to their professional and personal development.
- Given the number of TSU students who work 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 perceived lack of institutional support for internships and challenges with finding a relevant internship (Figure 19 and Table 4). As such, it is important for educators and campus leaders to continue cultivating relationships with employers. Educators and campus leaders may also benefit from maintaining connections with former students and building an alumni network for the purpose of internship referrals.
- Educators and campus leaders can support desirable internship outcomes by carefully working with students and employers to design, implement, and continuously evaluate students' experiences within the internship program. These efforts will help educators and campus leaders to ensure that quality work, adequate supervision and mentorship, and relevance to the students' academic program are maintained.

What can employers do?

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

- In addition to the labor and recruitment goals that employers may have for their internship programs, internships should

What can employers do?

- Carefully design internship programs to include consistent quality supervision and mentorship;
- Allow for some task autonomy for interns while providing clear objectives and explanation;
- Highlight interns' progress and accomplishments, while also provide periodic feedback on growth areas and improvement plans;
- Value interns' efforts and time through providing emotional support and financial support.

primarily be considered as an educational and developmental opportunity for the students. Internship goal clarity is critical to student internship satisfaction. Employers can also enhance this opportunity by carefully designing internship programs to include clear goal setting strategies and explanations as well as consistent quality supervision and mentorship by the supervisor or by other senior staff in the organization (peer mentorship programs may also be supportive).

- Supervisors are encouraged to allow for some task autonomy for their interns by encouraging their creativity alongside clear objectives and explanations as well as structured guidance regarding expectations for interns. It is also important for supervisors to provide periodic feedback to interns that highlight their progress and accomplishments, while also acknowledging growth areas and proposed action plans for improvement. Feedback can also be regularly solicited from interns to assess and evaluate the internship program to optimize learning goals and outcomes.
- Employers are also encouraged to value interns' efforts and time by providing emotional support and financial support, when possible. As many students named financial barriers as a primary obstacle to internships, 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).
- The relevance of the internship experience to the academic program plays a critical role in students' internship satisfaction as well as their perception of the value of internships to their career development. Internship supervisors are encouraged to discuss short- and long-term academic and career related goals with their interns as well as adjust the internship program when possible to provide experiences that can support those goals.

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APPENDIX

Appendix A: Research Methodology

The College Internship Study is a mixed-methods, longitudinal study (Creswell, 2014; Tashakkori & Teddlie, 2003) of internship programs with three distinct yet interrelated components: (1) an online survey of students while in college and then the workforce, (2) interviews with students while in college and then at work (3) interviews with career advisors and other educators involved in internship program administration and with area employers who host interns from the college. Primary data is collected in two phases: Spring of 2020 (T1) and then 12 months later in the Spring of 2021 (T2). The study aims to document the effects of internship participation and program characteristics on a variety of student outcomes, group differences (e.g., 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 Spring 2020; the current report is based on this data. The online survey was administered to students in the second half of 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, nursing). The definition of the term "internship" that we employed for the survey and other data collection activities was as follows:

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

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

This survey contains questions regarding whether 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	4.16	0.98	0.96
Supervisor mentoring	3.82	0.82	0.88
Goal clarity	3.88	0.94	0.90
Task autonomy	3.91	0.89	0.77
Relatedness to academic program	3.98	1.07	
Similarity to entry-level jobs	3.39	1.18	
Satisfaction	3.92	0.98	
Development value	3.80	0.89	0.90
Academic developmental value	3.76	0.93	0.92
Career developmental value	3.84	0.83	0.93
Career adaptability composite	3.86	0.65	0.87
Concern	3.91	0.78	0.87
Control	3.95	0.73	0.87
Curiosity	3.71	0.79	0.88
Confidence	3.86	0.76	0.89

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

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

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

Prior to the start of the interview, students were given the opportunity to review the IRB-approved consent forms, ask questions, and to voluntarily consent to participate in the research by signing the form. Students received a cash incentive after consenting to participate in the audio-recorded interview. For the interviews at T1, students were separated into those who have participated in an internship (n = 2) and those who have not (n = 7). Students who had an internship experience during college answered questions about the nature of their experience, support from both the academic program and their job-site supervisor, their general level of career adaptability, and so on. For those who have not had an internship, questions focused on the reasons why they have not participated in an internship, as well as their level of career adaptability, and so on.

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

Interviews were transcribed and analyzed in MaxQDA software, which is a discourse analysis software for sorting and coding transcript data, and ultimately, to identify themes and patterns in the corpus. First, two researchers created a procedure to segment the interviews based on the interview protocol. Both researchers practiced with the protocol and coded a set of interviews in parallel. The few discrepancies identified were resolved and the remainder of the interviews were coded by the two researchers. Then, the researchers reviewed the corpus of transcripts to identify themes in the data regarding the obstacles to participating in internships and the characteristics of internship experience (Ryan & Bernard, 2003; Corbin & Strauss, 2014). The codes developed through this process were checked by the pair of researchers applying them in parallel to a selection of 10% of the transcript data; 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 interviews which could not be representative of students from the wide range of academic programs offered at TSU. This was also a non-random sample, with students self-selecting into the pool of volunteers who we contacted and tried to schedule for interviews. Finally, in our study we did not examine whether or not study participants had participated in other work-based learning programs (e.g., apprenticeships), and the potential impacts of these experiences on their learning and career goals.

Appendix B: Results of Regression tables

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

Predictor	Correlation with Satisfaction	Internship Satisfaction	
		β	p
Supervisor support	.51***	-.203	.37
Supervisor Mentoring	.61***	.338	.19
Goal Clarity	.70***	.477*	.02*
Relatedness to academic	.57***	.352*	.02*
Task autonomy	.28*	-.048	.80
Similarity to entry-level jobs	.51***	.041	.75

Dependent variable: internship satisfaction

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

The multiple regression model produces an adjusted $R^2 = 0.60$, $F(25,25) = 4.0$, $p = 0.0005$.

The multiple regression model equation: Satisfaction = 0.48 * goal clarity + 0.35* Relatedness to academic program. Only goal clarity and relatedness to academic program significantly contribute to this multiple regression model.

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

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

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

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

Predictor	Correlation with Development value	Developmental Value Composite	
		β	<i>p</i>
Supervisor support	.46***	-.126	.508
Goal Clarity	.63***	.056	.734
Supervisor Mentoring	.66***	.327	.127
Link between academic program and internship	.72***	.443**	.001
Task autonomy	.35*	.005	.976
Similarity to entry-level jobs	.60***	.152	.173

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

This multiple regression model produces an adjusted $R^2 = .66$, $F(25, 25) = 4.91$, $p < 0.001$.

The multiple regression model equation: Development value = .443 * relatedness to academic program. Only relatedness to academic program had significant positive regression weight.

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

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

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



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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, 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.

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