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## RESEARCH BRIEF #19

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## What can we learn from research about internships for students with disabilities?

Preliminary results from  
the survey of the *College  
Internship Study*



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## Introduction

Internships in higher education provide academic and career development opportunities during college and post-graduation. They help students acquire skills and apply them to real-world work challenges and cultivate a sense of career adaptability (Tu, 2022). There have been many studies that focus on the benefits of participating in an internship, including influencing students' career decisions (Powers et al., 2018), students' work ethic and preconceptions about the professional world (Taylor, 1988), students' understanding of employability (Green et al., 2011), among other studies that document many other positive outcomes for students (Gillespie et al., 2020; Hora et al., 2017). However, there are significant barriers to accessing internships that can arise as a result of the students' socio-economic status, their limited time, family obligations, academic commitments (Hora, et al., 2019), as well as raced, classed, gendered and other intersectional identity-factors (Wolfgram et al., 2021).

One particular group that often faces significant barriers to internship participation is students with disabilities. A review of recent case law related to the Individuals with Americans with Disabilities Act (ADA) and other disability-related labor laws and government rules, reveals that two major issues that students with disabilities face are (1) satisfying academic and technical prerequisites for a program and (2) disclosing their disability status and requesting appropriate accommodations (Briel & Getzel, 2001). More research is needed on how disability-stigma impacts students' access to internships, especially for students who decline to disclose their disability to potential or current internship supervisors. The research literature highlights the importance of accessing and experiencing internships for students with disabilities and sparks a conversation about limitations to accessing internships and other issues that may add to the difficulty of the transition to post-college work (Barnes, 2009). Companies have included internship programs as a hiring pipeline in order to create a more diverse workforce (Moss-Pech, 2021). Colleges have programs that help student placements by determining accommodations to ensure students with disabilities have equal access to opportunities (American Psychological Association, 2011). Still, there is a lack of research that measure the levels of participation and discuss the barriers to access for college students with disabilities.

This report reviews some of the relevant research literature about the experiences and barriers to internship participation for college students with disabilities, presents preliminary findings from the survey of the *College Internship Study* about the experiences and barriers of a small sample of students who disclosed their disability status during the survey (n=140<sup>3</sup>), summarizes recommendations for practitioners who support students with disabilities, and discusses directions for future research.

More research is needed on how disability-stigma impacts students' access to internships, especially for students who decline to disclose their disability to their potential or current internship supervisor.

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3 One student with disabilities did not provide specific information about the type(s) of disabilities.

## Students with disabilities in the United States

In 2019–20, 7.3 million students, or 14 percent of all public school students ages 3–21, received special education services under the Individuals with Disabilities Education Act (IDEA). The most common category of disability reported in this sample was specific learning disabilities (33%). The 2019 National Center for Education Statistics (NCES) report of undergraduates provides comprehensive information on approximately 20 million undergraduates who were enrolled in Title IV postsecondary institutions in the US during the 2015–16 academic year (Radwin et al., 2018). According to the report, 19.5% of students reported having “Any disability.” This category of disability includes students who reported having deafness or serious difficulty hearing; blindness or serious difficulty seeing even with glasses; a physical, mental, or emotional condition causing serious difficulty concentrating, remembering, or making decisions; or serious difficulty walking or climbing stairs.

Students may have more than one disability, which may amplify barriers to education and career success, particularly for career tracks that are both competitive and involve work-based learning experiences as a professional gatekeeping process. In STEM education and careers, for example, the NSF (2021) has recently reported data indicating that scientists and engineers who report one or more disabilities, have an unemployment rate of 5.27% which is significantly higher than the national average (only 3.70%); whereas the unemployment for those who did not disclose a disability is well below the US labor market at 2.33%.

## Legal and Policy Issues

Important factors that impact the policies and supports for academic accommodations are Section 504 of the Rehabilitation Act and the Americans with Disabilities Act, both of which obligate universities to ensure equal access to educational programs. Briel & Getzel (2001) have documented the impact of this legal and policy context on internship participation at Virginia Commonwealth University (VCU). The authors discuss issues of students trying to meet academic and technical standards for a program and disclosing their disability status to request accommodations. At VCU, they identify support strategies for students with disabilities pursuing internships to encourage career readiness upon completing postsecondary education, which includes an institution-specific program designed to support students with disabilities to access useful services. Students self-identify their accommodation needs and the VCU Career Connections Program staff prioritizes placement assistance, on-site learning strategies, and instructional and additional community support systems available to students. Similarly, Bellman and colleagues (2014) studied the University of Washington’s work-based learning projects for students with disabilities to measure academic and career success and propose recommendations to encourage participation in such opportunities. They found that, through participating in these work-based learning programs, students experienced increased employment success, knowledge about career fields, and adaptability to work with colleagues, motivation, and skills to self-advocate for accommodations.

Employers, who are federal contractors and subcontractors, are required by law to provide equal employment opportunity to qualified people with disabilities. The benchmark is having at least 7% of their workforce be individuals with disabilities. Employers often integrate this form into job applications to diversify the applicant pool.

Riesen and colleagues (2021) also indicate ambiguities of the status of internships in the Fair Labor Standards Act in terms of laws, regulations, and requirements for employers. Although work-based learning is essential,

the policies to support students with disabilities are often murky and require more detailed analysis to best support such students. An interesting case study is students in sports management and administration programs. Barnes (2009) explicitly discusses best practices and necessary accommodations for students in that field with required laws in mind to help understand outcomes for such field-specific internship participation where there are pre-existing barriers due to the nature of the sports area.

## **The intersectionality of barriers to internship participation**

Although internships yield several benefits, the opportunity to locate and participate in internships is not equal across student demographic and socioeconomic contexts. There are multiple complex barriers to internship participation for students who are socially and institutionally minoritized by race, gender, and other contextual factors. These multiple social and economic factors intersect and amplify barriers to internship participation (Wolfgram et al., 2021). This issue of the intersectional amplification barriers to internship participation may be further compounded by disability, including the potential amplification entailed by the experience of managing multiple disabilities along with other raced, classed, and gendered forms of marginalization.

The research literature also indicates how intersectional factors of raced, classed, and gendered identities can impact how students with disabilities experience and benefit from internships. For example, one survey study (Burgstahler & Bellman, 2009) found important positive outcomes for students with disabilities who participated in STEM-related internships, such as levels of career motivation, job skills, teamwork skills, and practical knowledge of accommodation strategies. However, the study found variation associated with perceived levels of benefit, with female students reporting more benefits than male students, high school students reporting more benefits than college students, and Caucasian students reporting more benefits than non-Caucasian students.

Such evidence of the coordination of disability status across race and gender statuses suggests that disability may function as a “master status” that establishes a strong barrier to students’ education and career college pathways, similar to how legality functions as a master status impacting undocumented students access to the US labor market (Terriquez, 2015). In particular, evidence suggests that the stigma associated with disclosing a disability during the internship process can have an impact on student participation and outcomes of internships. For example, students with visible disabilities—such as a student with a physical disability requiring the use of a wheelchair, for example—were more likely to report that they learned about disability-related work-site accommodations as they received support managing accommodation for internships. However, students with invisible disabilities—such as learning disabilities, mental health, or chronic health conditions—may feel stigmatized by disclosing their disability and thus, may not benefit from the practical experience of negotiating accommodations in their internships. Overall, these findings suggest the need for more research both on the intersectional factors that impact how students experience college internships and how those factors moderate the outcomes of internships, as well as the impact of various forms of disability—including both publicly visible and publicly invisible forms of disability with differing levels and modes of social stigma—on internships.

The research literature (e.g., Briel & Getzel, 2001) indicates that stigma associated with the disclosure of disabilities impacts students’ participation and outcomes of college internships. The next section presents preliminary findings from the survey of the *College Internship Study*. Through the research conducted at several institutions across the US, we gathered data to measure the number of students with disabilities and their participation in internships, and how the outcomes of their experiences are affected.

## Students with Disabilities in the *College Internship Study*: Preliminary findings

The *College Internship Study* examines the long-term impacts of internships on students' lives and careers. It is a mixed-methods, longitudinal research project that aims to document the characteristics of undergraduate students' internship experiences, investigate how internship participation is related to certain student characteristics, and analyze how participating in an internship affects students' career trajectories. We collected quantitative data on internship participation for students with disabilities and the types of internships, learning outcomes, and barriers.

### Data collection instruments and sample

We used the *College Internship Study* survey to collect data. Students were asked to provide demographic information (age, race, and gender, disability status, etc.), internship participation information, as well as financial and social class related information. Students who had completed an internship were asked to report additional descriptive information about their internship was collected, including internship compensation and duration, and features of organizations that housed the internship. And students who had not completed an internship were asked to describe their reasons for not taking internships and any barriers that have prevented them from taking an internship. A total of 2,432 students from 9 institutions of higher education in the US answered this survey item. Of these participants, 140 students reported they had a disability while 2,292 students reported not having a disability.

In this sample, female students were overrepresented in both students who disclosed (65.5% n=91) and those who did not disclose a disability (64.6% n=1,480). White students accounted for a higher percentage of students who disclosed a disability relative to those who did not (50.7% n=71 vs 43.2% n=990). Hispanic/Latino accounted for a relatively smaller percentage of students in the group that disclosed a disability relative to the group of those who did not (12.9% n=14 vs 19.7% n=452). African American/Black students account for similar percentage of students in both groups (28.6% n=40 vs 25.6% n=586).

Among these 140 students who disclosed a disability on the survey, 15.7% (n=22) of students have Attention Deficit or Attention Deficit Hyperactivity disability, 16.4% (n=23) of students suffer from Psychological or Mental Health Disability, 12.1% (n=17) of students suffer from Chronic Health. Eighteen point six percent (n=26) of respondents reported other types of disabilities.

The major categories of disability that students disclosed during the *College Internship Study* include Attention Deficit or Attention Deficit Hyperactivity, Psychological or Mental Health Disability, and Chronic Health issues.



**Table 1. Student disability types**

Disability Types	Number of Observations	Percentage
Other	26	18.6%
Psychological or Mental Health Disability	23	16.4%
Attention Deficit or Attention Deficit Hyperactivity	22	15.7%
Chronic Health	17	12.1%
Mobility Impairment	14	10.0%
Learning Disability	12	8.6%
Autism Spectrum	8	5.7%
Decline to answer	8	5.7%
Hearing Loss	4	2.9%
Visual Disability	4	2.9%
Traumatic Brain Injury	1	0.7%
NA	1	0.7%

### Analysis Method

In this research study, we examined whether there are significant differences between students with and without a disability in internship participation outcomes; or in the barriers that may have that have prevented them from internship participation. Informed by the research literature and our own internship inquiry, we studied three key aspects of internship participation, namely prevalence and purpose, internship quality, as well as equitable access (Hora et al., 2020). Specifically, we selected several key items that assess these dimensions and presented preliminary research results. It is our hope that these findings can help design tools and interventions that promote internship participation and work-based learning for students with disabilities.

Chi-square test and t-test were conducted to address our research questions. Specifically, Chi-square test was conducted to examine whether there are differences between students with and without disabilities in categorical variables of interest (e.g., internship participation barriers, paid or unpaid internships). And t-test was used to evaluate group differences in means of continuous variables (e.g., internship experiences such as internship duration, career adaptability, supervisor support and mentoring, academic and career development) across disability status.

### Internship Participation and Duration

Results reveal there are no significant differences in internship duration between these two groups ( $t = -1.159$ ,  $df = 705$ ,  $p = .247$ ). On the other hand, students with disabilities are less prone to participate in internship relative to students without disabilities ( $\chi^2 = 5.399$ ,  $df = 1$ ,  $p = .020$ ). It seems that students with disabilities are likely to take unpaid internship positions, whereas the students without disabilities are more likely to take paid internship positions ( $\chi^2 = 8.893$ ,  $df = 2$ ,  $p = .012$ ). For those who participated in an internship, a higher percentage of students with disabilities attend internships offered by government agency (7.14% vs 6.20%), whereas a higher percentage of students without disabilities take internships from for-profit companies (12.79% vs 3.57%). Since government agencies more frequently offer unpaid internships, this might partially explain why students with disabilities are more likely to take unpaid internships ( $\chi^2 = 10.997$ ,  $df = 3$ ,  $p = .012$ ). Inequitable access to paid internship may impact student internship learning experiences and subsequent employment outcomes.

It seems that disability students are more likely to take unpaid internship positions in contrast with students who did not disclose a disability.

### Internship Learning Outcomes

There are no significant differences between the students with and without disabilities in career adaptability ( $t = .783$ ,  $df = 2430$ ,  $p = .434$ ), supervisor support ( $t = 1.512$ ,  $df = 713$ ,  $p = .131$ ), academic development ( $t = 1.179$ ,  $df = 404$ ,  $p = .239$ ) and career development ( $t = .699$ ,  $df = 713$ ,  $p = .485$ ). Yet, there is a significant difference between students with and without disabilities in supervisor mentoring ( $t = 2.014$ ,  $df = 713$ ,  $p = .044$ ). Students with disabilities are less likely to report high level of supervisor mentoring (Mean=3.17 SD=1.17; Mean=3.52 SD=.913).

There is a significant difference between students with and without disabilities in supervisor mentoring. Students with disabilities are less likely to report high level of supervisor mentoring.

### Possible Internship Barriers

Overall, evidence from the survey of the *College Internship Study* indicates that students both with and without disabilities report significant barriers to internship participation.

Results indicate that students with and without disabilities are equally likely to report heavy course load ( $\chi^2 = 4.495$ ,  $df = 2$ ,  $p = .106$ ) and insufficient pay ( $\chi^2 = 4.452$ ,  $df = 2$ ,  $p = .108$ ) as important barriers for internship participation. On the other hand, students with disabilities are more prone to view work at the current job ( $\chi^2 = 6.153$ ,  $df = 2$ ,  $p = .046$ ), lack of transportation ( $\chi^2 = 9.303$ ,  $df = 2$ ,  $p = .010$ ), lack of childcare services ( $\chi^2 = 4.676$ ,  $df = 2$ ,  $p = .096$ ), and lack of internship opportunities in their fields ( $\chi^2 = 5.400$ ,  $df = 2$ ,  $p = .067$ ) are barriers that had prevented them from getting an internship.

The evidence from the survey of the College Internship Study indicates that students both with and without disabilities report significant barriers to internship participation.

Interestingly, while both students with and without disabilities stated that they faced considerable barriers to internship participation, only a small percentage of students actually disclosed that they faced educational

challenges associated with a disability. Significant findings included that for those students who did disclose a disability, they were more likely to participate in an unpaid internship (in particular, in the government sector), and their internship supervisors were less likely to provide a quality mentorship experience than their peers who did not disclose a disability. There is strong evidence that unpaid interns often receive less supervisory support and mentorship than their paid peers, perhaps because supervisors are more likely to invest time and social-emotional support in interns who are also being invested in financially (McHugh, 2017). The association that college students with disabilities are more likely to participate in unpaid internships, and that they report lower levels of mentorship, should be a cause for concern for educators and employers who support their education and career goals.

## **Recommendations to support internships for college students with disabilities**

Given the findings from the survey of the *College Internship Study*, it will be important for educators and employers to support students with disabilities' access to paid internships and to ensure that such internships maintain appropriate levels of supervision and mentoring.

The research literature describes several pedagogical practices and support services that can enhance access, experiences, and outcomes of internships for college students with disabilities. For example, research documents the importance of increasing campus life participation for students with disabilities (Johnson, 2000) and of partnering with relevant industries to support students (Farley & Vorwald, 1993), both of which can be oriented to improving access and support for internship and other career development opportunities.

Campus disability service providers are experts on providing academic and employment accommodations to students with disabilities. These service providers also support employers on how to work with individuals with disabilities, which can include interns. Educators and service providers are encouraged to help students access appropriate career advising on campus and to provide advice and support related to the specific issues of disclosing and negotiating internship accommodations. Note that of the problem of disability-related stigma students may choose to not disclose a disability to their potential or current internship supervisor.

Online internships provide more flexibility for students to participate in internship opportunities remotely but replaces the traditional face-to-face interactions that further their experiences. Virtual internships are often considered a way to access a more diverse pool of participation, including for college students with disabilities (Kraft, Jeske, & Bayerlein, 2019). Virtual internships reduce geographical and physical access barriers, ideally without limiting needed communication between interns and employers. Although virtual internships were not widely popular prior to the COVID-19 pandemic, many employers made the switch to transition to virtual internships while trying to retain the essence of a traditional face-to-face internship experience. It is important to note, however, that while there is potential for virtual internship to increase access for student with disabilities, a national survey of virtual internships during the pandemic found that such internships are often unpaid. Students who participated in virtual internship/online internship also reported lower satisfaction, career and academic developmental value, skills development, network development, and high-skill tasks than in-person interns. (Hora, Lee, Chen, & Hernandez, 2021). In consequence, educators and service providers are encouraged to provide extra attention that such internships provide high-quality learning opportunities for students.



## Questions for future research

There is a real need for research on all aspects of college internships for students with disabilities, from measuring rates of participation, to research on the barriers, characteristics, and outcomes of internships for students with disabilities, to studies on the best practices and institutional resources need to support the college-workforce transition for students with disabilities. A few research foci to consider as priorities include the following suggestions.

- There is a lack of rigorous and reliable national data on internship participation for students with disabilities. More work is needed to determine the best ways to measure student experiences related to participation in internship programs and the barriers they may face.
- Research is needed on the impact of disability-stigma in the internship application process, and its consequences for supervision, mentorship, and work-task design. Qualitative research which collects interview materials from interns with disabilities, including life-history and longitudinal follow-up interviews, will likely provide rich data about the experiences of interns with disabilities. Ethnography of internship sites and experiences, and participatory action research conducted by college students who are themselves advocates and allies of students with disabilities, are also appropriate methods to document the experience and consequences of disability-stigma on internships. It will be particularly important for such investigations to document and analyze the intersectional nature of barriers to internship participation and career success.
- Evidence suggests that there may be important differences in the experiences and outcomes of students with disabilities, depending on the stigma and social visibility of the disability. More research is needed to measure the consequences of different forms of disability on internship access and experiences—comparing all varieties of disability, including psychiatric, learning, physical, perceptual, communication, and other forms.
- Lastly, universities provide different levels and forms of support for students with disabilities. Research and evaluation studies are needed to measure the effectiveness of support services for interns with disabilities, both at colleges as well as at the sites of internship programs, and to identify and theorize the factors that moderate the success of college work-force transitions for students with disabilities.

## Conclusion

Students with and without disabilities experiences barriers to college internships (Hora et al., 2019; Wolfgram et al., 2021). From the survey of the *College Internship Study*, we are able to see that internship participation for students with disabilities is different from their counterparts when evaluating the essential components of an internship. Students with disabilities are less likely to participate in internships, and to access paid internships in particular; and they report less supervisor mentoring than their peers. Further research should investigate ways to support students as they navigate the internship experience and to assist institutions to develop effective internship programming that supports the needs and concerns of students with disabilities. It will be important to ask more questions about how internship participation for students with disabilities relates to their academic fields, and to evaluate the level and degrees of supports that they receive from their respective departments to succeed in the college-workforce transition.

## Work Cited

- American Psychological Association. (2011). *Students With Disabilities in the Social and Behavioral Sciences*. Washington, DC.: American Psychological Association. Retrieved from <https://www.apa.org/pi/disability/dart/toolkit-one>
- Bellman, S., Burgstahler, S., & Ladner, R. (2014). Work-based learning experiences help students with disabilities transition to careers: A case study of University of Washington projects. *Work*, 48(3), 399-405.
- Burgstahler, S., & Bellman, S. (2009). Differences in perceived benefits of internships for subgroups of students with disabilities. *Journal of Vocational Rehabilitation*, 31(3), 155-165.
- Briel, L., & Getzel, E. (2001). Internships in higher education: Promoting success for students with disabilities. *Disability Studies Quarterly*, 21(1).
- Barnes, J. (2009). Sports management and administration internships and students with disabilities: Responsibilities and practices for success. *Quest*, 61(2), 191-201.
- Farley, G., & Vorwald, D. (1993). Facilitating internships for students with disabilities. *Hospitality & Tourism Educator*, 5(3), 47-50. <https://www.tandfonline.com/doi/abs/10.1080/23298758.1993.10685503>
- Getzel, E. E., & Wehman, P. (2005). *Going to College: Expanding Opportunities for People with Disabilities*. Brookes Publishing Company. PO Box 10624, Baltimore, MD 21285. Chapter "Internships and Field Experiences" (Lori W. Briel and Elizabeth Evans Getzel).
- Gillespie, I, Zhang, J., & Wolfgram, M. (2020). *Psychosocial Factors and Outcomes of College Internships: An Integrative Review*. Center for Research on College-Workforce Transitions, University of Wisconsin-Madison (Literature Review No. 3). [https://ccwt.wceruw.org/wp-content/uploads/2021/02/CCWT\\_report\\_LR-Psychosocial-Factors-and-Outcomes-of-College-Internships.pdf](https://ccwt.wceruw.org/wp-content/uploads/2021/02/CCWT_report_LR-Psychosocial-Factors-and-Outcomes-of-College-Internships.pdf)
- Green, B. P., Graybeal, P., & Madison, R. L. (2011). An exploratory study of the effect of professional internships on students' perception of the importance of employment traits. *Journal of Education for Business*, 86(2), 100-110.
- Johnson, D. (2000). Enhancing out-of-class opportunities for students with disabilities. *New Directions for Student Services*, 2000(91), 41-53.
- Hora, M. T., Lee, C., Chen, Z., & Hernandez, A. (2021). *Exploring online internships amidst the COVID-19 pandemic in 2020–2021: Results from a multi-site case study* (WCER Working Paper No. 2021-5). University of Wisconsin–Madison, Wisconsin Center for Education Research.
- Hora, M.T., Wolfgram, M. & Thompson, S. (2017). *What do we know about the impact of internships on student outcomes? Results from a preliminary review of the scholarly and practitioner literatures* (Research Brief No. 2). Center for Research on College-Workforce Transition, University of Wisconsin-Madison. <https://ccwt.wceruw.org/wp-content/uploads/2021/02/CCWT-report-Designing-Internship-Programs.pdf>

- Hora, M.T., Wolfgram, M. & Chen, Z. (2019). *Closing the doors of opportunity: How financial, sociocultural and institutional barriers inhibit access to college internships* (Research Brief No. 8). Center for Research on College-Workforce Transitions, University of Wisconsin-Madison. [https://ccwt.wceruw.org/wp-content/uploads/2021/02/CCWT\\_report\\_Closing-the-doors-of-opportunity.pdf](https://ccwt.wceruw.org/wp-content/uploads/2021/02/CCWT_report_Closing-the-doors-of-opportunity.pdf)
- Hora, M.T., Wolfgram, M., Brown, R., Colston, J., Zhang, J., Chen, Z., & Chen, Z. (2020). *The Internship Scorecard: A new framework for evaluating college internships on the basis of purpose, quality and equitable access*. Research Brief #11. Center for Research on College-Workforce Transitions. University of Wisconsin-Madison. [https://ccwt.wceruw.org/wp-content/uploads/2021/02/ccwt\\_report\\_The-Internship-Scorecard.pdf](https://ccwt.wceruw.org/wp-content/uploads/2021/02/ccwt_report_The-Internship-Scorecard.pdf)
- Kraft, C., Jeske, D., & Bayerlein, L. (2019). Seeking diversity? Consider virtual internships. *Strategic HR Review*.
- McHugh, P. P. (2017). The impact of compensation, supervision and work design on internship efficacy: implications for educators, employers and prospective interns. *Journal of Education and Work*, 30(4), 367-382.
- Moss-Pech, C. (2021). The career conveyor belt: how internships lead to unequal labor market outcomes among college graduates. *Qualitative Sociology*, 44(1), 77-102.
- Powers, K., Chen, H., Prasad, K., Gilmartin, S., & Sheppard, S. (2018). Exploring How Engineering Internships and Undergraduate Research Experiences Inform and Influence College Students' Career Decisions and Future Plans. In *Proceedings of the American Society for Engineering Education Annual Conference*, June 24-27, 2018. Salt Lake City, Utah.
- National Center for Education Statistics (2019). *Profile of Undergraduate Students: Attendance, Distance and Remedial Education, Degree Program and Field of Study, Demographics, Financial Aid, Financial Literacy, Employment, and Military Status: 2015-16*. U.S. Department of Education, Institute of Education Sciences. Retrieved February 20, 2022, from <https://nces.ed.gov/pubs2019/2019467.pdf>
- National Center for Education Statistics. (2021). *Students with Disabilities. Condition of Education*. U.S. Department of Education, Institute of Education Sciences. Retrieved January 10, 2022, from <https://nces.ed.gov/programs/coe/indicator/cgg>.
- National Center for Science and Engineering Statistics (2021). *Women, Minorities, and Persons with Disabilities in Science and Engineering: 2021*. Special Report NSF 21-321. Alexandria, VA: National Science Foundation. Available at <https://nces.nsf.gov/pubs/nsf21321/>
- Radwin, D., Conzelmann, J.G., Nunnery, A., Lacy, T.A., Wu, J., Lew, S., Wine, J., and Siegel, P. (2018). *2015-16 National Postsecondary Student Aid Study (NPSAS:16): Student Financial Aid Estimates for 2015-16: First Look (NCES 2018-466)*. U.S. Department of Education. Washington, DC: National Center for Education Statistics. Retrieved January 30, 2018, from <https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2018466>.
- Riesen, T., Trainor, A.A., Traxler, R.E., Padia, L.B., and Remund, C. (2021). *Understanding Internships for Transition-Age Students With Disabilities*. TEACHING Exceptional Children. doi:10.1177/00400599211018835

- Taylor, M. S. (1988). Effects of college internships on individual participants. *Journal of Applied Psychology*, 73(3), 393.
- Terriquez, V. (2015). Dreams delayed: Barriers to degree completion among undocumented community college students. *Journal of Ethnic and Migration Studies*, 41(8), 1302–1323. doi:10.1080/1369183X.2014.968534
- Tu, F. (2022). *What can we learn from longitudinal studies on the impacts of college internships?* (Literature Review No. 5). Center for Research on College-Workforce Transitions, University of Wisconsin-Madison. [https://ccwt.wceruw.org/wp-content/uploads/2022/01/Final\\_CCWT\\_report\\_LR-What-can-we-learn-from-longitudinal-studies-on-the-impacts-of-college-internships.pdf](https://ccwt.wceruw.org/wp-content/uploads/2022/01/Final_CCWT_report_LR-What-can-we-learn-from-longitudinal-studies-on-the-impacts-of-college-internships.pdf)
- Wolfgram, M., Vivona, B., & Akram, T. (2021). On the Intersectional Amplification of Barriers to College Internships: A Comparative Case Study Analysis. *Harvard Educational Review*. 91(4), 457–481. <https://doi.org/10.17763/1943-5045-91.4.457>



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

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