LiNCIT

An Evaluation of North Carolina’s Neurodiversity Internship Initiative
Executive Summary

Linking North Carolina with Innovative Talent (LiNC-IT) is an initiative founded in 2018 under the North Carolina Business Committee for Education (NCBCE) that connects employers, service providers and interns to provide internship opportunities for early career professionals on the autism spectrum. LiNC-IT leverages existing employer relations, state resources, and expert direct service providers (DSPs) to support both employer organizations and interns. The initiative enables employers to design a program that meets their organizational needs while supporting interns to be successful in their roles.

An evaluation of LiNC-IT’s impact was completed in partnership with a graduate student team from Project on Workforce Development at Harvard University. The team interviewed LiNC-IT staff, direct service providers, state officials, employers, and interns to collect qualitative data on their experience with the initiative. The team conducted a survey to collect quantitative data from interns on personal and professional goal attainment to measure the impact of the program and job coaches on interns.

Findings from qualitative and quantitative data suggest that LiNC-IT has a noteworthy positive impact on both employers and autistic early career professionals. For employers, partnership with the initiative led to comprehensive talent acquisition and inclusive recruitment strategies, as well as improvement in organizational needs assessment and managerial capabilities for mentorship. For interns, the LiNC-IT internship and job coach pairing were associated with various positive outcomes, including increases in financial independence, opportunities for professional development and long term employment, and general satisfaction in life.

Given its successes to date, LiNC-IT is uniquely positioned to scale its program to new public and private sector employers in different industries across North Carolina. Alongside this growth, LiNC-IT and its direct service provider partners will need to create additional resources for employer partners so that they can cultivate the institutional knowledge needed to operate and expand their neurodiversity initiatives.

In summary, LiNC-IT offers its employer partners the opportunity to engage with a new untapped pool of highly skilled talent at a time where new talent pipelines are sorely needed. Creating neurodiverse talent initiatives not only brings enormous positive impact to neurodivergent individuals, but to society at large, while having a positive effect on organizational performance.
Impact Opportunity

The United States is facing a major labor shortage. Exacerbated by the COVID-19 pandemic, recent estimates suggest that over 11.5 million jobs are unfilled, with record high numbers of workers voluntarily opting out of their jobs and even the workforce entirely\(^1\). As of March 2022, there were roughly 400,000 unfilled jobs in North Carolina alone. The pandemic has also accelerated a shift in the type of workers needed in the economy. For example, demand for workers in “low-skilled” occupations such as customer sales and service, food sales, and less-skilled office support has declined compared to pre-pandemic predictions, while demand for medium to high-skilled occupations in healthcare, technology, and financial and creative services has increased.\(^2\) Labor shortage for early career professionals is particularly alarming, as 40% of companies nationwide report that they cannot find the entry-level workforce required for medium- and high-skilled occupations.

With an insufficient talent pipeline and high opt-out rates risking organizational performance and output across industries, it is crucial to invest in initiatives that attract highly skilled professionals into the workforce, including those that are often systematically excluded. One such population that remains largely untapped is the neurodiverse community, and specifically, those on the autism spectrum. Autism Spectrum Disorder, or ASD, refers to a group of developmental disabilities that are typically associated with challenges of varying severity in the areas of behavioral and social interaction\(^3\). While workplace processes must be adjusted to accommodate these differences, employing high functioning and highly educated working aged neurodivergent professionals offers enormous impact and return on investment opportunities for both the employers and neurodiverse workforce.

Impact For Employers

Beyond the value of addressing labor demand needs, employers that have invested in developing neurodiverse talent pipelines have highlighted numerous additional benefits. Some examples include productivity gains, quality improvement, improvement in innovative capabilities, and higher employee retention rates\(^4\). Research corroborates these findings, as neurodiverse professionals demonstrate significantly better attention to detail, more sustained positive work ethic, and stronger loyalty\(^5,6\). Additionally, neurodiverse talent initiatives often result in improved managerial performance and have been found to boost company-wide employee engagement, morale, and sense of purpose. Therefore, developing a neurodiverse pipeline is a remarkable business opportunity for employer organizations.
Impact For Individuals with ASD

Less than 15% of working aged neurodiverse professionals have full-time paid employment - a percentage that has barely budged since 2007⁷. Employer-based initiatives to create neurodiverse talent pipelines could offer better job matches for existing working professionals and enable more neurodiverse individuals to join the workforce.

The benefits of gainful employment for neurodiverse populations are enormous. Research suggests that gainful employment can significantly improve quality of life, physical and psychological health, and cognitive performance⁸,⁹. It also enables increased financial independence, as well as reduced reliance on public services and family support¹⁰,¹¹. Measures of increased autonomy and quality of life vary, but often include outcomes such as retaining a job, obtaining a driver’s license, adjusting living accommodations and/or contributing to household needs, and having more opportunities to pursue passions.

While working aged neurodiverse individuals may face some initial challenges transitioning into the workforce, the short and long term impacts of pursuing gainful employment can be life changing for the individual and their family, as well as entail broader social and economic impact.
Situation and Complication

For Employers

Employer-based initiatives to create neurodiverse talent pipelines are relatively new. The first formal neurodiverse talent pipeline program was introduced by Ernst & Young in 2016, with several major companies including Dell, Microsoft, SAP, and Goldman Sachs investing in neurodiverse talent acquisition. The process of creating and operating these in-house organizational initiatives can require substantial expertise and designated resources; existing processes related to recruiting, interviewing, onboarding, management, and day-to-day operations including accommodations must be modified to fit different needs of neurodivergent talent.

For Individuals with ASD

North Carolina has a high population of early career professionals on the autism spectrum. The number of young neurodiverse adults is expected to increase from 1 in 150 in 2012 to 1 in 44 in 2028\(^{12}\). Neurodiversity affects professionals across all ages, gender and background. Highly educated and qualified working aged neurodiverse professionals experience challenges in obtaining sustainable employment that is a good match for their skills and interests and are often relegated to low-wage jobs. The chronic unemployment and underemployment of neurodiverse individuals are reflected in numbers:

- Only 23% of autistic adults with average or above-average intellectual abilities have a paid job\(^{13}\).
- The current unemployment rate for autistic individuals is 86%.
- 51% of neurodiverse professionals who are employed reported that their skills were higher than those their job required (professionals with ASD are often hired for low-skilled, repetitive work).
- 77% of unemployed neurodiverse individuals reported willingness to work\(^{14}\).
- For neurodiverse professionals only half of their applications result in an interview, compared with 69% for neurotypical candidates\(^{15}\).

Historically the state of North Carolina has had robust service provision and infrastructure to support individuals with disabilities and is a one of the leading states for business expansion\(^{16}\). The state is experiencing an acute labor shortage, particularly in the Triangle area, where the number of vacant job positions exceed the number of job seekers\(^{17}\).
Resolution: LiNC-IT

To address the situations and complications described above, the North Carolina Business Committee for Education (NCBCE), the education and workforce nonprofit in the Office of the Governor, founded LiNC-IT, which stands for Linking North Carolina with Innovative Talent, as the first statewide neurodiversity program. Established in 2018, LiNC-IT operates as a connector between the state government, nonprofits, and employers to place highly educated working aged individuals with ASD into internships that match their skill sets and areas of study.

The LiNC-IT team accomplishes this by leveraging existing relations with North Carolina-based employers to identify host sites for intern placements. Then, LiNC-IT partners with state sponsored direct service providers from the Autism Society of North Carolina (ASNC) and University of North Carolina TEACCH Autism Center (UNC TEACCH) to offer vocational rehabilitation to interns while simultaneously offering sensitivity trainings to host managers and helping the host employer to better support their neurodiverse employees more broadly. Through LiNC-IT, employers secure a new source of talent and benefit from productivity gains, while early career professionals with ASD that have no previous work experience or only “low-skilled” experience obtain professional work experience that matches their skill-set and interests.

As a testament to the work of LiNC-IT and their partners, North Carolina Governor Cooper recently cemented the state’s commitment to supporting professionals with ASD by announcing additional resources for LiNC-IT’s direct service provider partners to offer career coaching for all neurodiverse state employees. The Governor’s endorsement and notable cross-sector support undoubtedly stem from LiNC-IT’s positive impact to date.
LiNC-IT Outcomes

Background

To date, LiNC-IT has placed 71 highly educated working aged professionals with ASD into internships. 70% of interns have bachelor’s degrees as their highest level of education, while an additional 13% of interns have graduate degrees. Before applying for the LiNC-IT internship, 66% of interns had previously worked with direct service providers from either ASNC or UNC TEACCH. LiNC-IT has a waitlist of 79 working aged individuals with ASD. At the time of applying to LiNC-IT, 34% of all applicants had no previous work experience and an additional 56% had no previous work experience within their area of study.

32 total employers have taken LiNC-IT interns to date. A majority of LiNC-IT employers are private sector companies in fields including but not limited to technology, healthcare, and financial services. Several employers are nonprofits that focus on the arts and creative services. Finally, several employers are state agencies.

LiNC-IT Impact on Service Providers

“*When east meets west, one person bows and the other person shakes their hand, which one is right?”*

According to service providers, LiNC-IT has successfully leveraged its connections to find the right person in large organizations and has been an effective bridge between the intern and large organization. State level service providers such as Vocational Rehabilitation Services, support individuals with disability to obtain and maintain employment, and meet rehabilitation needs. However, historically there were no efforts particularly tailored for individuals with ASD. Current support system for service providers mainly focuses on mental health, substance abuse, intellectual disabilities, and does not cover autistic individuals. Service providers are great recommenders as they have been working with interns and their families for long-term. Facilitating experiential and transitional experiences, LiNC-IT's connection has allowed service providers the opportunity to foster business relationships with the employers at a higher level.

Finding the right person within an employer organization is one of the biggest challenges identified by service providers where LiNC-IT has made a great contribution. This continued intermediary connection has also enabled buy-in from new employers. LiNC-IT also matches interns by their interest and educational qualifications and connects with employers requiring high-skilled employees. This has allowed interns previously working in low-skilled and low wage sectors through the service provider to work at positions that match their skill-set and interests.

The initiative also provides additional professional growth opportunities. Vocational Rehabilitation Services, for instance, has an internship program, however the work is limited to 28 hours a week, as the service provider is restricted by ACA rules. Furthermore the internship can be up to 18 weeks. As LiNC-IT directly works with
employer partners and facilitates direct recruitment through the employer organization, it provides more flexibility for both interns and employers. The employer pays for the internships as they are high level internships with 40 hours of weekly work.

**LiNC-IT Impact on Employer Partners**

"Sometimes it’s all about giving someone a chance. I was trying to build my team, it felt like a great opportunity to make a difference in someone’s life. I am still a mentor to this day and the person I hired was promoted and this has been a big step for us as an organization"

**Effect on Broader Talent Acquisition Strategy**

One of the primary goals of LiNC-IT is to match the varied skill sets of early career professionals with ASD to the changing skilled labor needs in various sectors. Employer partners reported that collaborating with LiNC-IT prompted them to establish stronger internal alignment between legal, human resources, and diversity, equity and inclusion (DEI) teams. As hiring managers recruited LiNC-IT candidates, they set explicit recruitment and talent acquisition goals centered on the specific emerging needs of departments and their broader organizations.

LiNC-IT also enables employers to strive towards their business goals and their organizational values at the same time through a single initiative. Given that neurodiverse recruitment is positively associated with talent acquisition, inclusivity, social impact, employee retention, managerial performance, and productivity, employers commented on the “double win” that becomes attainable when adopting neurodiverse recruitment practices with LiNC-IT’s support and expertise.

"I think about the future of work and how we are defining abilities for future workers, and how we can capture different skill sets to address unmet needs in IT spaces. Companies don’t have a lot of experience in recruitment for neurodiverse professionals. There is not enough structure for private companies to hire professionals with disabilities, but you realize in the future of work you need diverse talent because they allow companies to grow.”

In summary, employers celebrate LiNC-IT as “the one stop shop” where they can access a talent pool of highly qualified candidates while also accessing the expertise and resources needed to best support employees with ASD. Employers credit LiNC-IT and its partners for positive shifts in talent acquisition strategy, offering them an advantage, especially when considering the future of work.
Assessment of Organizational Needs

“I had a job description for what I thought I needed but it was not clear how the employee could grow in that role”

One of the major aspects of recruitment is job description. Research has found that rigid and long job descriptions do not appeal to candidates and can deter candidates from applying. This is only exacerbated for neurodiverse professionals. Oftentimes, neurodiverse professionals want to ensure that they meet all the criteria for a job, so longer job descriptions and requested competencies that are not actually necessary for the job can discourage candidates from applying for the position. Through numerous inquiries from the student interns, the service providers identified long incoherent job descriptions as a hurdle in the recruitment process. Employer partners reported that this exercise has allowed them an opportunity to assess the needs of their organization and their open positions more thoroughly so that the organization can have succinct, accurate job descriptions and attract more qualified candidates.

Effect on Candidate Evaluation

“It makes you think differently about standard practices and makes the organization a better place for anybody. Starting from interviews and onboarding, we learned to be more sympathetic and understand that certain social cues are less important. We learned to be more practical, to ask specific questions – these are good interview techniques, we have been able to see that this is a better way forward.”

LiNC-IT assists employers in hosting interns with the possibility of extending the internship or obtaining permanent employment. One private sector employer noted that, after working with LiNC-IT, their hiring team had a more sophisticated understanding of how ASD presents differently for different candidates during the interview processes. They also noted the value of incorporating direct service providers into the interview process. Direct service providers were able to successfully request adjustments on behalf of candidates, such as obtaining interview questions in advance or enabling candidates to write their responses to questions instead of communicating verbally. LiNC-IT’s direct service provider partners also assisted employers in adjusting their interviews so that they were largely task and project-based as opposed to behavioral or situational. Hiring managers and team members within several organizations also expressed that, upon considering candidates, they could better parse out and actively prioritize evaluation of skills critical for the job over limited responsiveness to social cues or concerns about “culture fit”.
Effect on Diversity, Equity and Inclusion (DEI) Efforts

“LiNC-IT has the knowledge and helped us all along the way, gave us access to training and interns, and created awareness. ASD can be difficult to understand, it is a topic of its own.”

Employers report that conventional DEI initiatives overshadow the needs of employees with disability, particularly employees with ASD as there are many priorities. Therefore, LiNC-IT’s presence has allowed deeper commitment and alternate recruitment strategies for neurodivergent professionals. Employers expect that engagement with the initiative will make current employees more comfortable with disclosing their disability status and give companies confidence and toolkits to meet the accessibility needs of neurodivergent employees. Accommodations and accessibility are covered under ADA, but as a part of LiNC-IT cohort, employers are more understanding of accommodations and want to assist employees to excel at their work.

Effect on Managerial Performance

Managers from the employer partner organizations both in the private and public sector are champions and advocates seeking to make their organizations more inclusive. These managers reported that their managing and mentorship quality have improved across the board after sensitivity training or knowledge sharing and mentoring experience with neurodivergent employees.

Effect on Employee Retention

Neurodiverse employees typically stay at the organization upon receiving a final job offer. It has also been found that recruiting and supporting neurodivergent professionals lead to a better workplace environment and therefore can help the organization with overall employee retention. Mitigating accessibility needs and providing opportunities for professional growth are centered on trust and confidence in retaining talent that is developed within the organization.

Best Practices According to Employer Partners

Employer partners working with LiNC-IT have identified the following business practices to create a sustainable work environment for neurodivergent employees.

Employers have identified a cohort based model in recruitment as one of the practices to create awareness and a flexible work environment for neurodivergent talent. They have also indicated that synthesizing job descriptions and providing clarity on expectations and company needs have not only supported the neurodiverse employee but also helped the management to measure success. The amount of time to prepare for interviews has also allowed company hiring managers to be more intentional and goal oriented in the recruitment process. Some employer partners have reported about taking a human capital oriented approach where professional development and mentorship are central to employee well-being.
Private sector organizations also reported having affinity groups for employees to support employees and allowing them to be self-advocates. Furthermore, having sensitivity training through partnership with service providers and job coaches have helped managers understand different social cues. Companies have actively fostered close partnership between the managers and the hiring team to create an accessible support system for employees from onboarding. Some organizations have also supported their interns and employees in identifying other professional areas of growth that are not directly related to their day to day task. Having a mentor outside of the management chain was reported as a practice that made the employee more comfortable.

Companies have also started to document practices, along with being clear and concise with knowledge management and transmission within the company. Some companies have taken active steps in integrating neurodivergent employees in leadership roles and decision making. Organizations have also kept in touch with the job coaches and are initiating to create institutional knowledge on different models of work. As the majority of the employer partners are global fintech companies they also hope to expand these inclusive recruitment and assessment models to have a broader social impact.

**LiNC-IT Impact on Interns**

A survey was designed to evaluate the impact of the LiNC-IT program on interns. The questions were divided into three parts, as reflected below. Direct service providers at ASNC and UNC TEACCH assisted the LiNC-IT interns in completing the survey. A total of 14 responses were collected.

**Experience with Job Coaches**

LiNC-IT interns largely found their job coach pairings to be helpful during their recruiting, interviewing, and onboarding processes. Job coaches provided interview preparation support, attended interviews alongside applicants when requested, and served as a resource to both interns and their managers once on the job. Several interns also noted that their job coaches helped them progress on specific personal and professional goals, such as navigating the interview process, improving time management, and securing transportation to and from work. Noteworthy survey results and quotations are highlighted below.

- 86% of respondents somewhat or strongly agree that their job coach worked to connect them to employers that they wanted to work for.
- 86% of respondents somewhat or strongly agree that their job coach was available and helpful during their internship recruiting and interview processes.
- 79% of respondents somewhat or strongly agree that their job coach helped them solve workplace and job related issues during their internships.
- 93% of respondents somewhat or strongly agree that their job coach maintained a connection with them after their first month on the job.
● 86% of respondents would somewhat or strongly recommend job coaching for other neurodiverse professionals.

“[My job coach] helped me get through orientation and before I got the job, she helped me search for other job suggestions.... She helped me fill out a few resumes and stood by my side whenever I had interviews with employers.”

“[My job coach] helped by being a presence during the interviews, which aided my confidence.”

“It was really rough searching for a job but my job coach stuck with me for over a year...and I finally landed a job that allows me to work remotely and honestly I feel incredibly lucky.”

“Networking is very difficult for me. I would have never been able to find this job without this program.”

Experience on the Job
Overall, LiNC-IT interns found their internships to be beneficial. Managers and teammates generally offered the support needed to feel respected, appreciated, comfortable, and accomplished in the workplace. Most interns were able to receive accommodations or otherwise address barriers that impeded their ability to work. Interns also largely expressed satisfaction with pay and professional development opportunities. Several interns also noted their progress towards specific professional goals, such as refining coding skills, working for longer durations, and improving communication skills. Noteworthy survey results and quotations are highlighted below.

● 93% of respondents somewhat or strongly agree that their work responsibilities were a good match for their skill-sets.

● 79% of respondents somewhat or strongly agree that they felt accomplished at work.

● 93% somewhat or strongly agree that they felt respected and/or appreciated by their manager and colleagues.

● 93% of respondents somewhat or strongly agree that they felt comfortable at work.

● 71% of respondents somewhat or strongly agree that their employers addressed barriers that made it hard for them to work.
● 86% of respondents somewhat or strongly agree that they had opportunities for professional development and/or were satisfied with their chances of advancement within the organization.

● 86% of respondents somewhat or strongly agree that they were satisfied with their pay.

“[My manager was] wonderful to me whenever I needed to know what I had to do. My colleagues were friendly and whenever they asked me to help... I was happy to help out.”

“My team was a great help in getting me accustomed to the role, and they really made me feel welcome.”

“[My manager] provided the experience and networking [necessary] to find a permanent job in the company.”

**Impact on Personal Life**

A majority of LiNC-IT interns found that their internship experiences had ripple effects in other areas of their lives. The most common improvements included increased sense of independence, increased ability to take on responsibilities outside of work, and increased opportunity to pursue passions outside of work. Several interns also noted their progress towards specific personal goals, such as obtaining a driver’s license, improving friendships, and gaining confidence more broadly in social interactions. Noteworthy survey results and quotations are highlighted below.

● 86% of respondents somewhat or strongly agree that they are more satisfied with their lives.

● 64% of respondents somewhat or strongly agree that they are more satisfied with their level of independence.

● 64% of respondents somewhat or strongly agree that they are more satisfied with their ability to contribute to the needs of their household/family.

● 64% of respondents somewhat or strongly agree that they have better accommodation and/or living arrangements.

● 71% of respondents somewhat or strongly agree that they have more opportunities to pursue their passions.
“I was able to plan things around the times I was working better and have a set schedule of when I was working and not working.”

**Growth Opportunities**

LiNC-IT’s impact on interns is overwhelmingly positive, which provides several opportunities for scalability.

First, in order for employers to be even more effective in addressing barriers once on the job, LiNC-IT and its direct service provider partners should proactively provide employers with a comprehensive list of common barriers, as well as detailed guidance on the recommended accommodation requests and process modifications to address those barriers.

Second, in order for employers to effectively operate and scale their existing neurodiversity initiatives, LiNC-IT and its direct service provider partners should create “a la carte” resources that cover topics such as ASD basics, recruiting and interviewing guidance, onboarding guidance, and on the job guidance for managers and teammates. At the time of this publication, the direct service providers at UNC TEACCH are already in the process of undertaking this effort.

Third, LiNC-IT and its direct service provider partners may consider creating a concise, digestible toolkit for interns to refer to that offers guidance on interviewing, onboarding, communication on the job, and professional development. This resource alongside support from direct service providers may enable interns to refine relevant hard and soft skills more efficiently.

Fourth, LiNC-IT should continue to encourage early career professionals with ASD to make use of other existing resources and services offered by partner organizations. For example, the Autism Society of North Carolina offers a peer-to-peer community center through an initiative called IGNITE, which aims to foster community, build interpersonal skills, and increase independence amongst autistic individuals. Pairing the LiNC-IT work experience with other wraparound supports could result in even better personal and professional outcomes for LiNC-IT interns.
Conclusion

Neurodiverse professionals have immense potential and can play a critical role in contributing to North Carolina’s economic growth. Through this opportunity to work as a LiNC-IT intern, neurodiverse young adults are also able to reach their earning potential, meet life goals, and increase their contribution to family and society.

Realizing the benefit of this untapped talent pool presents not only a valuable investment opportunity for employers but also enables them to have a positive organizational footprint. The business impact expands from improved business performance, higher revenue and profit margins to lower employee turnover, higher morale and improved leadership capability\textsuperscript{21}.

The recommendations in this report seek to foster partnerships among employers, interns, service providers and the LiNC-IT initiative to improve access to sustainable employment for neurodivergent talent and to a pool of qualified employees for organizations. In the next phase of this work, LiNC-IT will continue to develop a robust neurodiverse pipeline to facilitate positive work and recruitment experiences for both interns and employers.
Endnotes

1. https://www.bls.gov/news.release/jolts.nr0.htm
5. https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0177607
12. https://governor.nc.gov/media/3184/open