Proposal: The Neurodiversity Lab at the University of Maryland
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A. Introduction/Background

Recent estimates indicate that 1 in 36 people in the United States are diagnosed with autism and, based on these numbers more than 70,000 autistic young adults transition to employment age each year (Centers for Disease Control and Prevention, 2023). If they do not become employed immediately, these young adults either remain unemployed, enter trade school, community college, or a 4-year institute of higher education. Neurodiversity and autistic-specific college support programs exist across the US and internationally to assist neurodivergent students' academic and social successes. In 2021, Nachman, et. al., reported over 74 programs in 29 states with many of them at 4-year, public higher education institutions in the mid-Eastern part of the US. In the last 3 years those numbers have increased significantly. This is true for public and private sectors' creation of neurodiversity hiring programs to help fill the employment talent gap US technology industries are experiencing, referred to as the "missing millions" (Blatecky, et, al., 2021).

More training programs need to be created to meet the underutilization in the technology (Doyle, 2020; Ezerins, et. al., 2023) and non-technology workforce (Cheriyan, et. al., 2021) and to better prepare ND individuals for success in the workplace. Employed autistics are more likely to lose their jobs due to behavioral and social difficulties rather than to their inability to do their job (Bury, 2020). The average autistic adult employee maintains their job for 2 years compared to the national average of 4.2 years (Wei, et. al, 2018).

Difficulties may be partly due to the Double Empathy problem[1] (Milton, 2012; Williams, 2021) rather than not having the skills to do the work (Fong, et. al., 2021; Wen, et. al., 2024). Mismatches in communication between autistic and non-autistic employers and co-workers create problems with finding common ground. In addition, autistic employees experience reluctance to disclose their autism and support needs due to stigmatization (Wen, et. al., 2024). Further, disclosure that leads to receipt of accommodations can create perceived equity concerns and conflict among the autistic person and their coworkers (Ezerins, et. al., 2023; Richards, et. al., 2019).

The types of interventions utilized to improve employment outcomes can range from improving access to employment to more complex, individualized training programs (Ezerins, et. al., 2023, Fong, et. al., 2021). Given the need for evidence-based pre-employment training that addresses ND people's un/under-employment and low retention in the workplace, the purpose of this study is to investigate whether targeted competency-based education-CBE (Gervais, 2016; Newell, et. al., 2023; Voorhees, 2001; Johnstone & Soares, 2014)[2] is an effective method to support the ND person's transition to and maintenance in the workplace.

The National Association of Colleges and Employers (NACE), a professional association connecting university career staff and employers, developed and validated a set of 8 core career competencies that prepare the college educated for success in the workplace and lifelong career management (NACE 2022). As this is the goal for our ND students, we propose to use these competencies as the basis for our pre-employment training program. As this is an employer-endorsed and research validated set of competencies, it benefits the ND community to align with expectations set for the general population. The competencies map onto challenges typically faced by ND students, including the Double Empathy problem, disclosure, and self-advocacy. We propose to assess each participant on the NACE competencies to establish a baseline and to measure progress toward mastery while in the program.

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[1] Double Empathy problem is when people, in this case autistic and non-autistic, with very different experiences & perspectives of the world interact with one another and have communication mismatches and misunderstandings due to differing perspectives.

[2] Johnstone and Soares (2014) state, CBE emphasizes "mastery" and "application of knowledge and skills in the real world" and connects education with employment and connects quality, efficiency, with affordability.

We are cognizant of the concerns Ezerins and colleagues (2023) raised about 1) the research methodology related to lack of representation of identities and intersectionality of them and 2) the Double Empathy problem that may be a contributor to difficulties in self-regulation and executive functioning. Our recruitment and selection process will take intersectionality into account; the Double Empathy phenomenon requires that we provide training for all participants, both the neurodivergent and the neurotypical, in communicating about and valuing neurodiversity.

The research questions are:
1. How fully and effectively do the NACE competencies capture the strengths and needs of ND students?
2. What measures would we use to track baselines and mastery of the NACE competencies, including regulatory and other behavioral skills (e.g., disclosure, self-advocacy, conflict resolution)?
3. To what extent does this training provide an incentive to employers to invest in the career development of ND students when programs look to employers for financial, in-kind, or other sources of support for ND career development programming?

B. Methods - Since 2016, the University of Maryland Neurodiversity and Autism Transition Services (NATS) has supported neurodivergent college students in two of their SIGNA programs, First-Year and Launch. Both programs exist to support SIGNA students' academic success and teach the basic internship-ready soft skills to promote career readiness. The plans are to integrate resources of the UMD Career Center and College of Behavior and Social Sciences to establish a 3rd Tier of the NATS' SIGNA programs - Neurodiversity EmployABILITY Experiential and Research Incubator Lab (ND Lab).

a. Participants - In its pilot year, the ND Lab will admit 10 UMD neurodivergent juniors, seniors, and graduate students. Recruitment and enrollment will aim to ensure students' race/ethnicity, gender, gender identity, sexuality, immigration status, first-generation, and socio-economic status is balanced and to include intersectionality of identities. Students will hold at least a 2.5 GPA and not be at risk or on academic probation. No formal diagnosis of Autism, ADHD, Learning Disabilities, or any other ND condition is required; self-identification of being neurodistinct will be sufficient to qualify for participation. Participants may have other co-occurring disabilities (e.g., physical, visual, hearing).

b. Procedure - Pre-assessments will be administered at the beginning of the program, an individualized plan will be developed for each student based on the NACE career readiness competencies, and students will be assessed at regular intervals for progress in areas identified in the individualized plan. The program would run January to August with recruitment and selection of participants occurring in the preceding semester.
The ND Lab program for students has 3 parts. Students will participate in a:

1. ND Lab non-credit classroom experience that will focus on mastery of competencies identified in the student's plan;
2. Hands-on, on-campus, team-based experiential learning project that will be led by an employer partner. This will:
   ● Provide students with experience in practical use of NACE competencies: technical skills, navigating team dynamics, working with individuals of diverse skill sets and talents, collaborating on ideas and tactical strategies, and learning about projects in commercial or government organizations.
   ● Enable students to be assessed for progress according to their individualized plan.
3. Summer full-time internships will be completed, like their neurotypical peers.

The ND Lab will partner with the University's rich array of expertise and programming in neurodiversity, as well as within campus-based STEM labs and research, and community/government employer partners. In the ND Lab, students will develop career competencies to increase their capacity to manage their neurodiversity in the workplace and to successfully maintain employment.

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