

VCU-RRTC-IDD

VCU-RRTC on Employment of Persons with Intellectual and Developmental Disabilities

Cognitive Support Technology for Postsecondary
Students with Autism Spectrum Disorder:
A Randomized Control Trial at the Intervention
Efficacy Stage of Research

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Autism Spectrum Disorder (ASD) in America

- More than 5.4 million adults in the U.S. (2.2% of the adult population) are on the autism spectrum (CDC and Disability Scoop, 2020)
- In 1968, 1 out of every 6,800 children born that year in the U.S. would be diagnosed with some form of autism during childhood
- Today, the prevalence of autism in the U.S. is estimated at 1 in 36 children (CDC, 2023)
 - 4 in every 100 boys and 1 in every 100 girls are diagnosed with ASD
 - Boys are nearly 4 times more likely to be diagnosed with ASD

ASD in America, Continued

- ASD prevalence is lower among white children than among children from other racial and ethnic groups
 - White – 2.4%
 - Black – 2.9%
 - Hispanic – 3.2%
 - Asian or Pacific Islander – 3.3%
- These changes reflect an improvement in outreach, screening, and destigmatization of ASD diagnoses among minority communities
(CDC, 2023)

Without Intervention, the Multi-Systemic Effects of ASD and the Opportunity Gap...

- Limit postsecondary educational options
- Narrow career aspirations and employment opportunities
- Reduce community participation

College Students with ASD

- The number of students with ASD enrolling in American colleges and universities has increased by 800% since 1980
- 70% of students with ASD report problems with the academic demands of their classes and 80% report dissatisfaction with the social scene on campus
- Only 60% use campus disability services
- 20% are satisfied with community support services, including mental health
- Lower grades and social capital than non-disabled students
- 3 times more likely to drop out than non-disabled students
- 4 times less likely to utilize career services
- 3 times less likely to participate in Co-Op and paid internships

Employment and ASD

- 16% of individuals with ASD of working age are employed full-time
- 32% have some kind of paid employment
- 75% of workers with ASD lose jobs within 90 days of placement without adequate supports

(Autism Speaks, 2023)

Project Next

- Two-group randomized clinical trial with a pretest/multiple posttest prospective experimental design
- Virtually delivered intervention designed to promote academic and employment success for college students with ASD
- Based on the cognitive support technology (CST) and vocational case management model that was developed in Project Career (2013-2018; Rumrill et al., 2019)
- 38 students with ASD (21 full treatment, 17 control), 2-year or 4-year undergraduates, have enrolled to date

Project Next Students, N=38

- 63% male (n=24)
- 37% female (n=14)
- 82% White (n=31); 16% Black (n=6); 2% Hispanic/Latinx (n=1)
- Average age=21 years (range=17-25 years)
- 4 students withdrew (11%)
- 26% were employed part- or full-time at the time of enrollment in the project
- Mean GPA at enrollment = 2.64

Full Treatment Condition

- Delivered by Technology and Employment Coordinators
- Pretest assessment: Psychosocial, academic, health-related, technology-related, and career-preparatory indices
- Matching Person and Technology assessment: Identified students' cognitive functioning, academic strengths, and technology needs
- CST training: iPads and Apps to support cognition, academic performance, and career preparation

Full Treatment Condition, Continued

- Individualized vocational case management:
Career assessments, mentors, resume preparation, job-seeking skills training, summer and part-time employment, internships, workplace accommodation planning, self-advocacy training, job development and placement, and follow-along services (for 12 months)
- 6-month and 12-month posttests

Control Condition

- Pretest assessment
- Abbreviated Matching Person and Technology assessment: Summary report
- No CST training and no iPads: Provide CST apps list and refer to the Job Accommodation Network
- Referrals to Career Services and state VR program for employment assistance
- 6-month and 12-month posttests

Full Treatment Group Activity Data

- Students met with TECs an average of once every 9 days
- Students have used an average of 4.68 apps
- 86% have worked with mentors
- 76% have participated in summer, part-time, or full-time employment in their chosen fields
- 67% have received degree credit for work experiences
- 95% evaluated apps as helpful or very helpful to their academic pursuits
- 100% evaluated employment services as helpful or very helpful to their career pursuits
- 95% described TECs as very good or excellent

Full Treatment Group Academic and Employment Outcome Data

- GPA: Pretest = 2.58, 6-month posttest = 2.69, 12-month posttest=2.83
- Employment rate: Pretest = 29%, 6-month posttest = 52%, 12-month posttest =67%

Between-Group Comparisons

- At 6-month and 12-month follow-ups, the full treatment group has reported significantly higher gains than the control group on the following measures:
 - Familiarity and comfort with iPads and apps
 - Career optimism
 - Career decidedness
 - Social capital
 - Acceptance of disability
 - Career preparatory activities
 - Mental health
 - GPA
 - Employment rate

That's All Folks...

- Comments?
- Questions?
- Thank you for your time and attention!
- Email: phillip.rumrill@uky.edu

References

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