

# **Activities and Outcomes of a Cognitive Support Technology and Career Preparatory Intervention for Postsecondary Students with Traumatic Brain Injuries**

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## TBI in America

- TBI is a serious US public health problem, the leading cause of death and disability among Americans under age 45
- 2.5 million Americans sustain TBIs annually
- 52,000 TBIs each year result in death
- 500,000 people each year sustain TBIs but receive no medical treatment
- Since 2001, there has been a 50% increase in TBIs resulting from sports or recreational activities
- 18% of Iraq and Afghanistan veterans have TBIs (413,000 people since 2000)

## Multi-Systemic Effects of TBI...

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

## College Students with TBI

- 80% report problems with the cognitive demands of their classes
- Less than half use campus disability services
- 25% are aware of community support services
- Lower grades and social capital than non-disabled students
- 4 times more likely to drop out than non-disabled students
- 3 times less likely to utilize career services
- 3.5 times less likely to participate in Co-Op and paid internships
- Veteran students with TBI are less likely than civilian students with TBI to request classroom accommodations



## Employment and TBI

- Impact on academic achievement (lower grades, higher drop-out rates) limits post-injury employment options
- 62% employed at the time of injury
- 31% employed 1 year after injury
- Most lose jobs within 90 days of placement without adequate supports
- Overall employment rate for Americans with moderate/severe TBI is less than 40%

## 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 TBI
- Based on the cognitive support technology (CST) and vocational case management model that was developed in Project Career
- 31 students with TBI (16 full treatment, 15 control), 2-year or 4-year undergraduates, have enrolled to date

## Project Next Students, N=31

- 77% male (n=24)
- 23% female (n=7)
- 81% White (n=25); 13% Black (n=4); 6% Hispanic/Latinx (n=2)
- 29% Veterans (n=9)
- Average age=24 years (range=17-29 years)
- 3 students have withdrawn (10%)
- 23% indicated that they had mild TBIs, 23% moderate, 48% severe
- 2 respondents (6%) did not report the severity of their injuries
- 29% were employed part- or full-time at the time of enrollment in the project
- Mean GPA at enrollment = 2.57

## 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: Identifies 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 post-tests

## 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
- Refer to Career Services, the state VR program, and the VA for employment assistance
- 6-month and 12-month post-tests

## Full Treatment Group Activity Data

- Students meet with TECs an average of once every 12 days
- Students use an average of 3.92 apps
- 88% have worked with mentors
- 81% have participated in summer, part-time, or full-time employment in their chosen fields
- 69% have received degree credit for work experiences
- 94% evaluated apps as helpful or very helpful to their academic pursuits
- 94% evaluated employment services as helpful or very helpful to their career pursuits
- 100% described TECs as very good or excellent

## Full Treatment Group Academic and Employment Outcome Data

- GPA: Pretest = 2.61, 6-month posttest = 2.65, 12-month posttest=2.79
- Employment rate: Pretest = 31%, 6-month posttest = 69%,  
12-month posttest = 81%



## 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:
  - Use of iPads and apps
  - Career optimism
  - Perceived knowledge of study skills
  - Social capital
  - Life satisfaction
  - Career preparatory activities
  - Perceived mental and overall health
  - GPA
  - Employment rate

## That's All Folks...

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

# VCU-RRTC-Transition

VCU-RRTC on Employment of Transition-Age Youth with Disabilities

Thank you!



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