

Knowledge Brokering in Vocational Rehabilitation Agency Contexts

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KTER • CENTER

Knowledge Translation for Employment Research

Presentation Objectives

- Describe the targeted outcomes of the Center on Knowledge Translation for Employment Research (KTER Center).
- Describe related research activities—research questions, activities, and findings—of the KTER Center’s study of knowledge brokering in vocational rehabilitation (VR) agency contexts.
- Describe implications of the findings and future research topics.

KTER Center's Targeted Outcomes and Related Research, Development, and Dissemination Activities

- **Outcome 1:** Increased understanding of processes and practices that will lead to successful knowledge translation (KT) in the field of employment for individuals with disabilities.
- **Outcome 2:** Increased adoption and use of relevant research findings funded by NIDILRR and other entities to improve the employment of individuals with disabilities.
- **Outcome 3:** Increased capacity of NIDILRR's employment-focused grantees to plan and engage in KT activities.



Research: Test a knowledge brokering strategy in the context of VR agency work, focused on the role of VR supervisors promoting staff use of research.



Research: Identify VR's informational needs and conduct scoping reviews to identify relevant research to address them.

Development: Embed findings in training used in knowledge brokering studies.



Dissemination: Disseminate findings from knowledge broker studies for the benefit of other researchers interested in promoting use and adoption of their findings.

NIDILRR is the National Institute on Disability, Independent Living, and Rehabilitation Research.

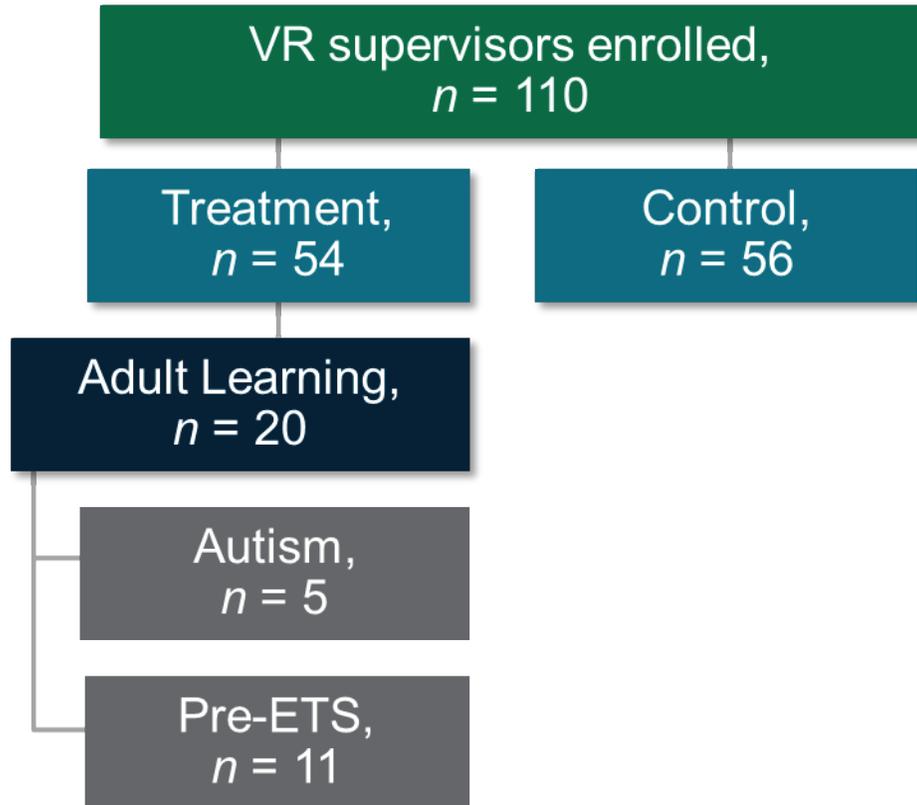
Research Questions for Knowledge Broker Study

- Can research liaisons (e.g., VR supervisors trained as knowledge brokers) who receive training and support in the use of research-based practices improve the use of relevant research by VR counselors, with the goal of increasing employment and job retention among VR consumers?
- Did employment outcomes (e.g., greater entry to competitive employment and higher wages) of consumers served by VR counselors whose supervisors participated in the study improve compared with the employment outcomes of consumers served by VR counselors in the control group?

Study Activities

- VR supervisors were invited to participate in the study.
- As part of signing up, they took a survey describing levels of “Research Orientation,” “Interactions,” and “Use of Resources,” along with demographic information.
- They shared this survey with their counselors (or shared staff names with KTER Center staff, who sent those counselors the survey).
- Then KTER staff randomly assigned all supervisors who signed up from a given state to one of two study groups: the training group or a comparison group that received no training.
- Counselors were assigned to the same study group as their supervisors for the purposes of data collection, but no counselors received any direct training.

Participant Structure for the Study



- VR supervisors from all states (including the District of Columbia and Puerto Rico) were invited to participate.
- VR supervisors who signed up to participate in our study were randomly assigned at the state level to either the treatment or control group.
- VR supervisors assigned to the treatment group self-elected the focus track: either autism spectrum disorder (ASD) or the pre-employment transition services (Pre-ETS) track.
- The treatment group received training tailored for each track and support from the KTER Center.
- States that had VR supervisors who completed the training or assigned to the control group were contacted by the KTER research team to share their RSA-911 data.

RSA is the Rehabilitation Services Administration.

Training and Follow-up Data Collection

- All VR supervisors in the training group first participated in an online training module on tips for teaching adults.
- Then they watched a second module that focused on either the employment of adults with autism or pre-employment transition services.
- The modules included prerecorded slide presentations, with embedded quizzes, exercises, and research summaries available for download.
- After training completed, KTER Center research staff sent follow-up surveys to all participants who completed at least one of the modules, to the counselors those training participants supervised, and to all supervisors and counselors in the control group.

Data Analyses: Three Datasets

- **Survey data:** baseline and post-training for VR supervisors and to the counselors each supervised, in both training and comparison groups
- **Qualitative data:** monthly follow-up interviews with training participants
- **Caseload data:** analyses of RSA-911 data from states that had participants complete all data collection

First Dataset: Survey

- Demographic information
- Each of the 43 items had four possible responses: strongly agree, agree, disagree, and strongly disagree
- Three sections focused on
 - Research orientation (23 questions)
 - Interactions (i.e., collaboration with others in addition to coworkers, 9 questions)
 - Use of resources (11 items)

Research Orientation Scale

Example Questions

Do you agree or disagree with the following statements?

- There are opportunities in my unit/office to discuss research-based best practices.
- My office/unit is open to evidence-based practices that I bring to team meetings.
- I am willing to try new ideas based on research.

Types of Interactions Scale

Example Questions

*Do you agree or disagree that that the following **interactions** offer information you can use to do your job better?*

- Attending unit/office meetings
- Meeting with consumers
- Collaborating with researchers (e.g., academic institutions, trade associations, consortiums, nonprofit organizations)

Use of Resources Scale

Example Questions

*Do you agree or disagree that the following **resources** offer information you can use to do your job better?*

- Academic journals (print/online)
- In-person professional development opportunities (e.g., conference, summit, training, workshop)
- Social media (e.g., Facebook, Twitter, LinkedIn, YouTube)

Analysis Questions for Survey Data

- Do VR supervisors who receive training and support in the use of research-based practices improve on the outcomes of interest (Research Orientation, Interactions, and Use of Resources)?
- Will the staff supervised by supervisors who receive the training improve on these outcomes?
- What factors predict improvement related to these outcomes?

Factors That Might Affect Survey Outcomes

- Number of staff members supervised
- Length of time as a VR supervisor or counselor (tenure)
- Certification as a certified rehabilitation counselor (CRC)
- Level of education
- Age
- Ethnicity

States Included in Survey Analyses

Training Group

Region II: New York, New Jersey

Region III: Virginia

Region IV: North Carolina

Region V: Minnesota, Wisconsin

Region VI: Louisiana

Region VIII: Montana

Region IX: Hawaii

Region X: Alaska

Control Group

Region I: Vermont

Region II: Puerto Rico

Region III: District of Columbia

Region IV: Florida, Georgia, Kentucky, South Carolina

Region V: Illinois

Region VI: Arkansas, Oklahoma

Region VIII: Colorado, Utah

Region IX: Nevada

Region X: Washington

Note: Recruitment was national. Random assignment occurred at the state/territory level. Regional breakdowns presented to illustrate geographic diversity in the sample.

Supervisors Included in Analyses

- ***N*** = 39 supervisors
(training, *n* = 20; control, *n* = 19)
- **Tenure**
 - 2 years or less (3%)
 - 3–5 years (24%)
 - 6–10 years (16%)
 - More than 10 years (58%)
- **CRC**
 - Certified (86%)
 - Not certified (14%)
- **Level of education**
 - Master's degree (89%)
 - Doctorate (11%)
- **Age**
 - Range (25–67 years)
 - Mean (43.7 years)
- **Ethnicity**
 - Hispanic (11%)
 - Non-Hispanic (89%)

Counselors Included in Analyses

- ***N* = 27** counselors
(supervisors in treatment group, *n* = 12;
supervisors in control group, *n* = 15)
- **Tenure**
 - 2 years or less (26%)
 - 3–5 years (19%)
 - 6–10 years (15%)
 - More than 10 years (41%)
- **CRC**
 - Certified (30%)
 - Not certified (70%)
- **Level of education**
 - Bachelor's degree (7%)
 - Master's degree (93%)
- **Age**
 - Range (24–60 years)
 - Mean (44.5 years)
- **Ethnicity**
 - Hispanic (4%)
 - Non-Hispanic (96%)

Was there a difference between those included in analyses and those who didn't finish the training?

Supervisor

- Only one significant difference between participants who stayed in the study and those who left:
 - Those with higher levels of education were more likely to complete the training ($p = 0.03$)

Counselor

- No significant differences

Results: Supervisors

- Were there significant group differences?
 - No significant difference occurred between training and control groups.
- What did make a difference? Supervisors scored higher if they
 - held CRC certification ($p = 0.011$).
 - had higher level education ($p = 0.008$).
- All other included variables (e.g., number of staff members, age, ethnicity) did not have significant effects on the outcomes.

Results: Supervisors

What variables were associated with individual outcome domains of the survey?

- **Research Orientation** was higher with
 - longer tenure (i.e., years working for VR; $p = 0.022$).
 - holding a CRC ($p = 0.005$).
- **Use of Resources** was more likely with
 - longer tenure (i.e., more years working for VR; $p = 0.039$).
 - holding a CRC ($p = .004$).
 - higher level of education ($p = 0.01$).

Results: Supervisors

- Were there significant group differences?
 - No significant difference occurred between training and control groups.
- What did make a difference? Counselors scored higher if they
 - held CRC certification ($p = 0.025$).
- All other included variables (e.g., number of staff members, age, ethnicity) did not have significant effects on the outcomes.

Results: Counselors

Any significant differences in the individual outcome areas?

- **Research Orientation**

- Having a CRC ($p = 0.0249$)

- **Interaction: More interaction for those**

- having a CRC ($p = 0.0428$).
- who were older ($p = 0.007$).

Implications: Demographics Made a Stronger Impact Than Did the Training

- CRC certification
- Tenure
- Level of education
- Age

Limitations

- Sample size: Attrition occurred: lost 65% of enrolled supervisors from enrollment to final survey.
- Ceiling effect
 - When participants took the baseline survey, they already scored fairly high in the three outcome domains.
 - A 4-point scale does not allow a lot of room to show growth.

Dataset 2: Qualitative Data From Telephone Interviews

- Analyzed data from telephone interviews with VR staff who had taken the trainings.
- The goal was to conduct one interview per staff member every month from January to June. However, most staff did not respond to requests.
- Overall, we interviewed five people once, five people twice, one person three times, and one person four times.

Sample

- Seven staff from four different states who took the pretransition services module
- Five staff from three different states who took autism spectrum module

Reactions to Trainings

The initial telephone interview began with a series of quantitative questions aimed at measuring staff satisfaction and the scope of implementation.



Experiences After Training

Implementation of Training



Changes on an Individual Level

- All participants said the trainings either increased their awareness of Pre-ETS or ASD or positively reinforced previous knowledge.
- About 75% of the participants noted that they found the adult learning principles training very useful and have used those practices when they conduct internal trainings.

Changes on an Individual Level

- About 50% of the VR counselors who took the ASD training noted that they appreciated statistics about ASD and have shared them with their staff.
- VR counselors who took the Pre-ETS training talked more about using adult learning principles than the content in Pre-ETS likely because their departments already focused on Pre-ETS.

Changes on an Organizational Level

Most participants noted that they found it very hard to enact change on an organizational level for the following reasons:

- Very high staff turnover made it difficult to impart lessons learned during the training.
- VR counselors are always “putting out fires” and do not have the resources to implement best practices based on research.
- VR counselors have a lot of competing demands and do not often have the time or energy to attend trainings or put new ideas into practice.

Changes on an Organizational Level

Despite these challenges, there were success stories.

- Several participants mentioned that sharing the materials they received in the training is helping spur dialogue within their organization and sometimes at the state level about Pre-ETS, ASD, or adult learning principles.
- One VR counselor shared that after she attended the Pre-ETS training, the VR agency created a new job category called “vocation rehabilitation specialist” who works specifically with youth. Three new staff were added.

Future Research

- Most VR counselors who attended the trainings did not respond to follow-up requests to receive additional assistance.

What are ways to increase participation in follow-up activities?

- Most participants who did follow-up identified staff turnover as a barrier to implementing best practice.

How should trainings take staff turnover into account?

What can be done about high staff turnover?

- States have very different cultures, resources, and mandates related to VR services.

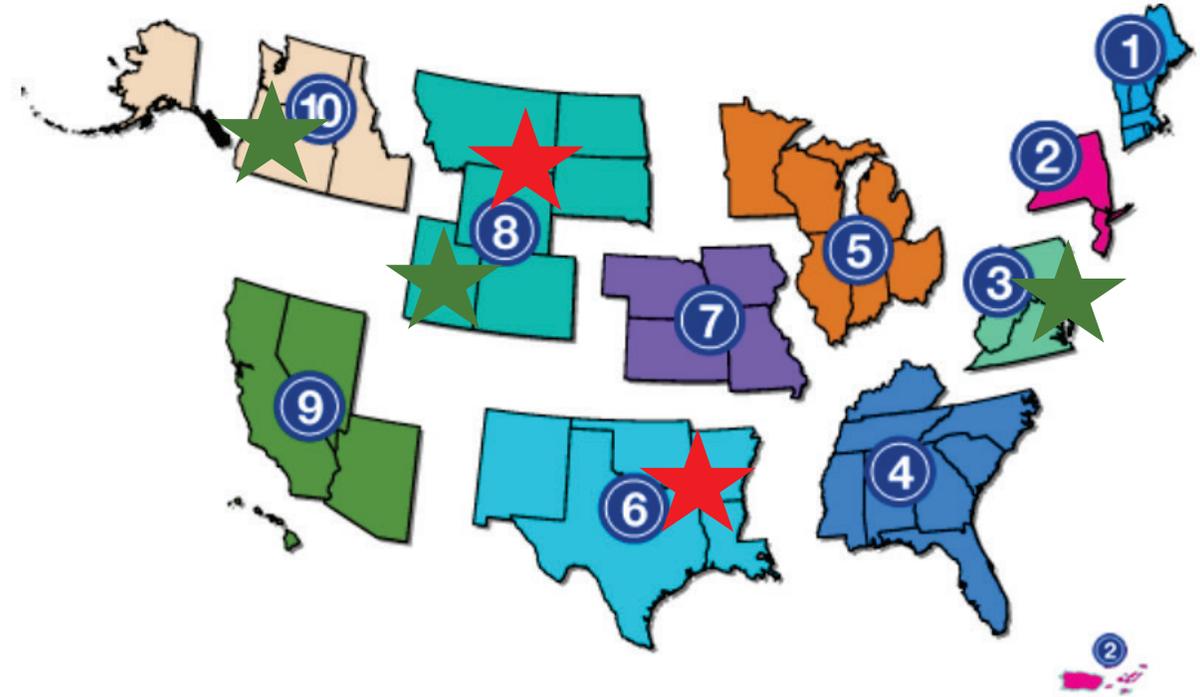
How should trainings address the wide diversity in state VR agencies?

Dataset 3: Rehabilitation Services Administration Case Service Report (RSA-911) Data

- Administrative data collected by each state VR agency each quarter
- Intended to track the progress of VR agency services and their impact
- Includes various information about individuals in the state VR service system, such as demographics, disability type, service interventions, and employment status
- Advantages
 - Large sample size across all states and jurisdictions
 - Detailed information regarding individuals' disability types, education and employment status, and services provided to them

Participating States for the RSA-911 Data Analysis

- **Three control states** in Regions VI and VIII
 - One in adults with autism track
 - Two in Pre-ETS track
- **Three treatment states** in Regions III, VIII, and X
 - One in adults with autism track
 - Two in Pre-ETS track
- Time periods: July 1 to September 30, 2018, and July 1 to September 30, 2019 (two quarters, one prior to initiation of training and then a 12-month follow-up)
- We asked states not to disclose any personally identifiable information; therefore, we could not track individuals and could not conduct longitudinal analysis.



NOTE: The map is from ADA National Network, adata.org.

Analytic Sample: Adults With Autism Track

- Individuals with either primary or secondary disability source indicated as autism and who did not receive Pre-ETS
- $N = 5,900$ (2018 = 2,700 and 2019 = 3,200)
- 90% of the analytic sample is from the treatment states for both years.

Analytic Sample: Pre-ETS Track

- Individuals with a record of Pre-ETS
- $N = 25,100$ (2018 = 7,200 and 2019 = 17,900)
- 83% and 90% of the analytic sample are from the treatment states for 2018 and 2019, respectively.

Analytic Sample

- Individuals with autism who received Pre-ETS were considered only as the Pre-ETS track sample.
- 67% of the analytic sample is from one treatment state.

Outcomes of Interest

- Employment outcome of individuals
 - Employment status
 - Hourly wage
 - Hours worked in a week
- VR services provided to individuals
 - Percentage of individuals who received any services
 - Percentage of individuals who received specific type of services

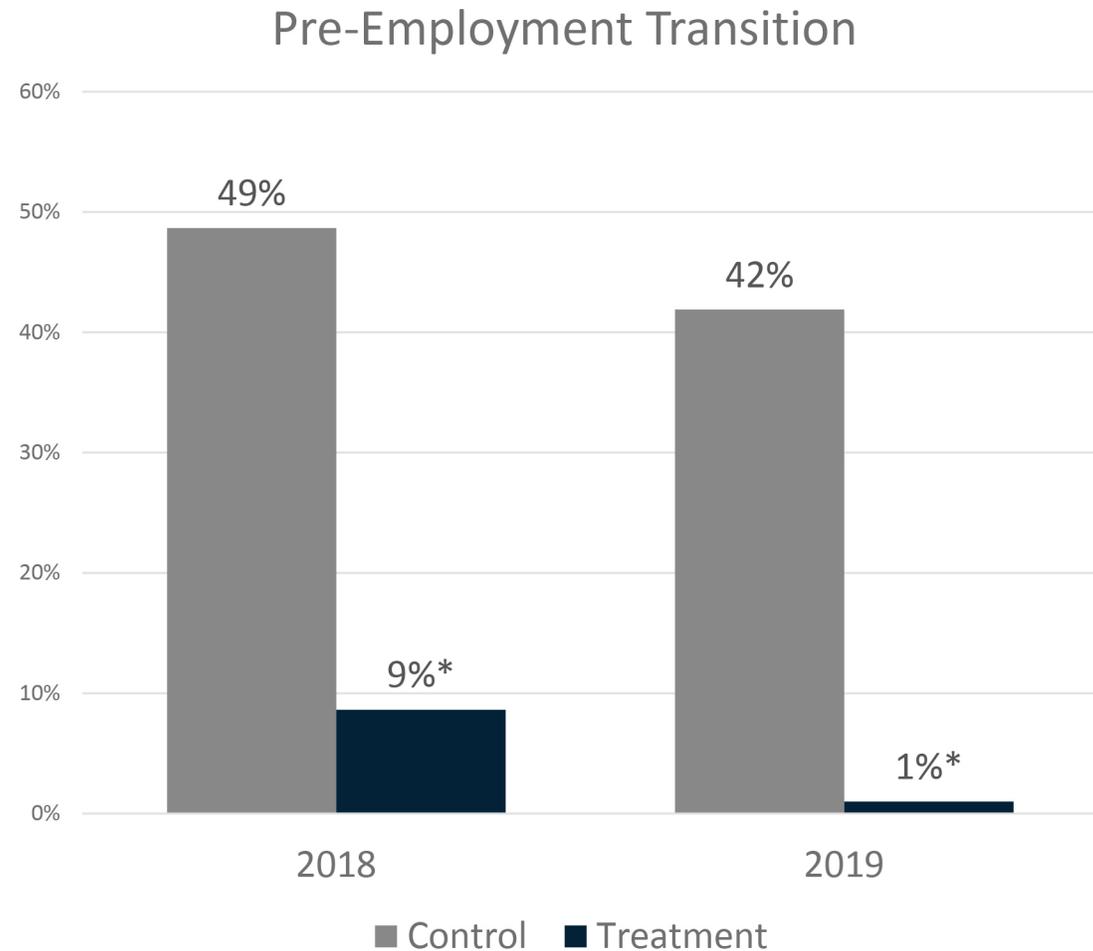
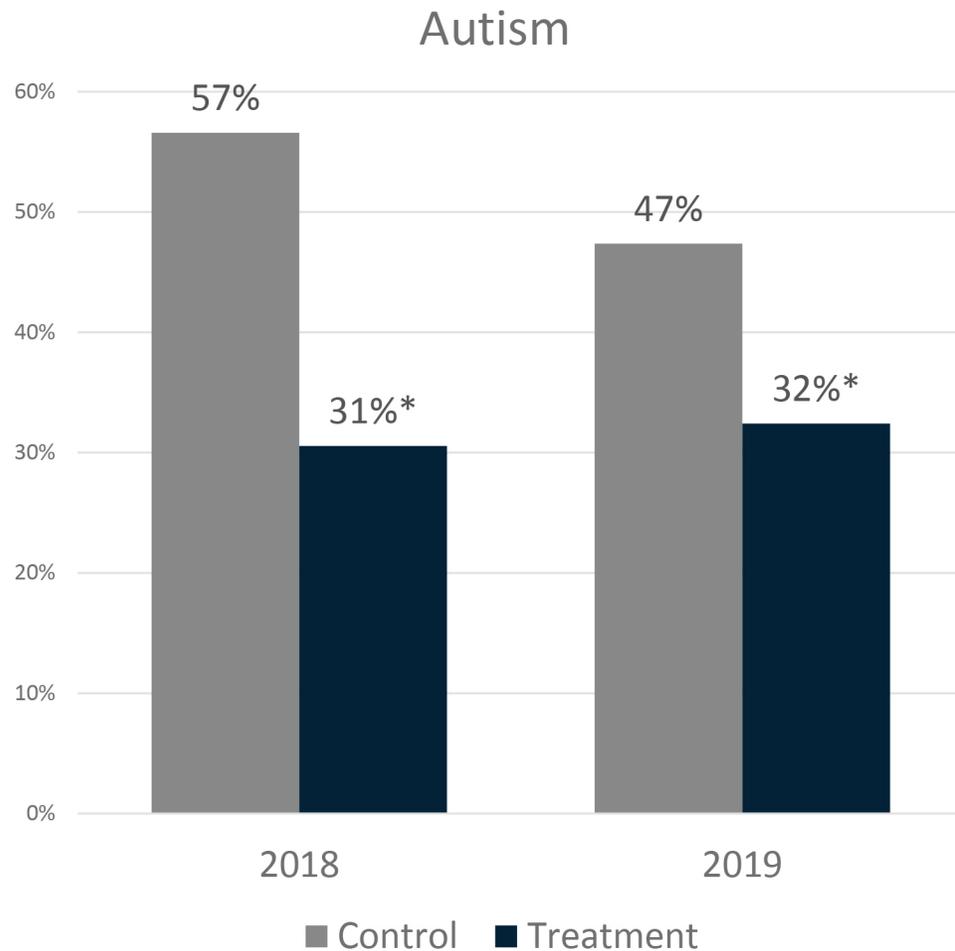
VR Service-Related Variables

- We divided consumers into two groups: one that had received a service type, and the other that did not receive the service.
- Five **Pre-ETS groups**, including, for example, job exploration counseling and workplace readiness training
- Twelve **training services**, including for example, postsecondary education, occupational/vocational training, and basic academic remedial/literacy training
- Eleven **career services**, including for example, assessment, diagnostic and treatment of impairments, short-term job supports, and benefits counseling
- Eight **other types of services**, including for example, transportation and interpreter services (e.g., sign language)

Analysis

- Data were examined descriptively by treatment status.
- Independent sample *t*-test with unequal variance was conducted for each year and tracked separately to compare whether the averages of outcome variables varied between the control and treatment states.
- Outcome variables
 - Employment outcome variables
 - Proportion of individuals receiving VR services
- Treatment versus control states

Results: Employment Status



* Significantly different from the control group ($p < .05$).

Results: Hourly Wage and Hours Worked

Hourly Wage

| Year | Control | Treatment | |
|---------------------------|---------|-----------|---|
| Autism | | | |
| 2018 | \$10.39 | \$10.17 | |
| 2019 | \$10.94 | \$10.78 | |
| Pre-employment Transition | | | |
| 2018 | \$10.45 | \$9.75 | * |
| 2019 | \$10.57 | \$10.01 | * |

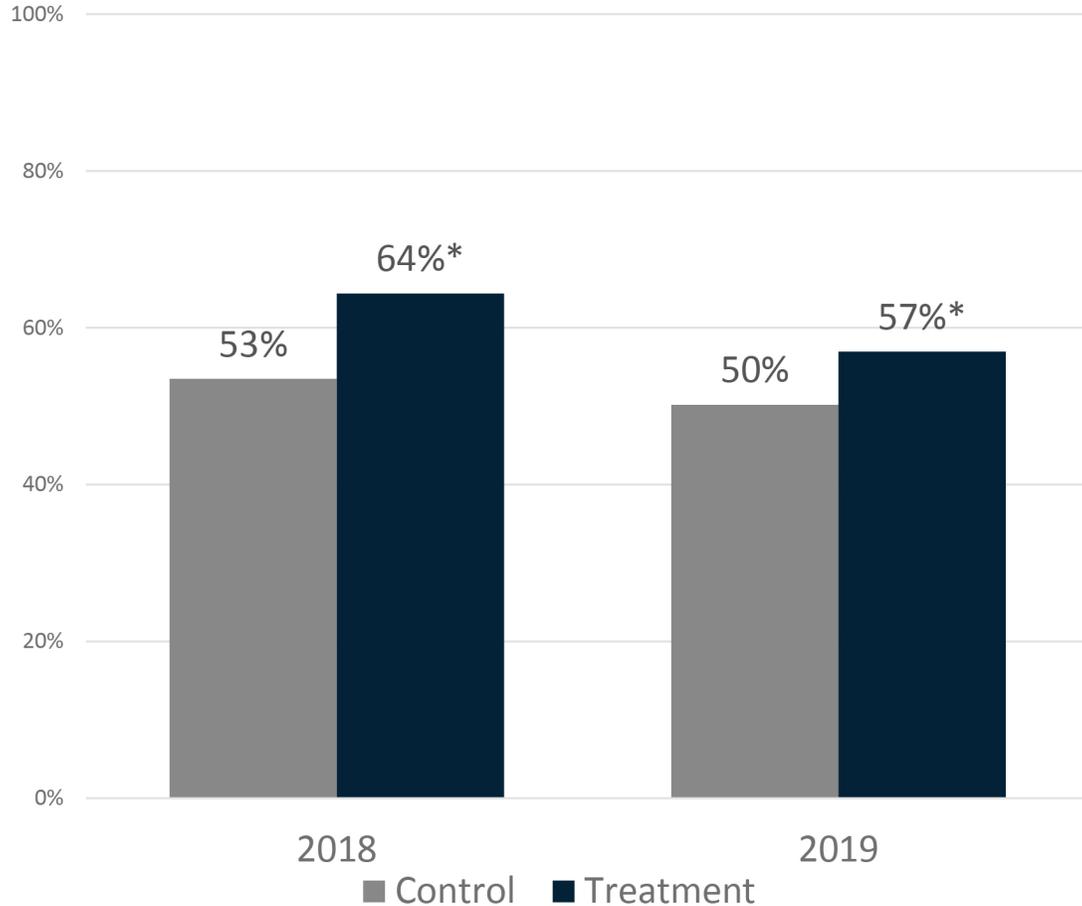
Hours Worked per Week

| Year | Control | Treatment | |
|---------------------------|---------|-----------|---|
| Autism | | | |
| 2018 | 25 | 24 | |
| 2019 | 26 | 25 | |
| Pre-employment Transition | | | |
| 2018 | 30 | 25 | * |
| 2019 | 30 | 25 | * |

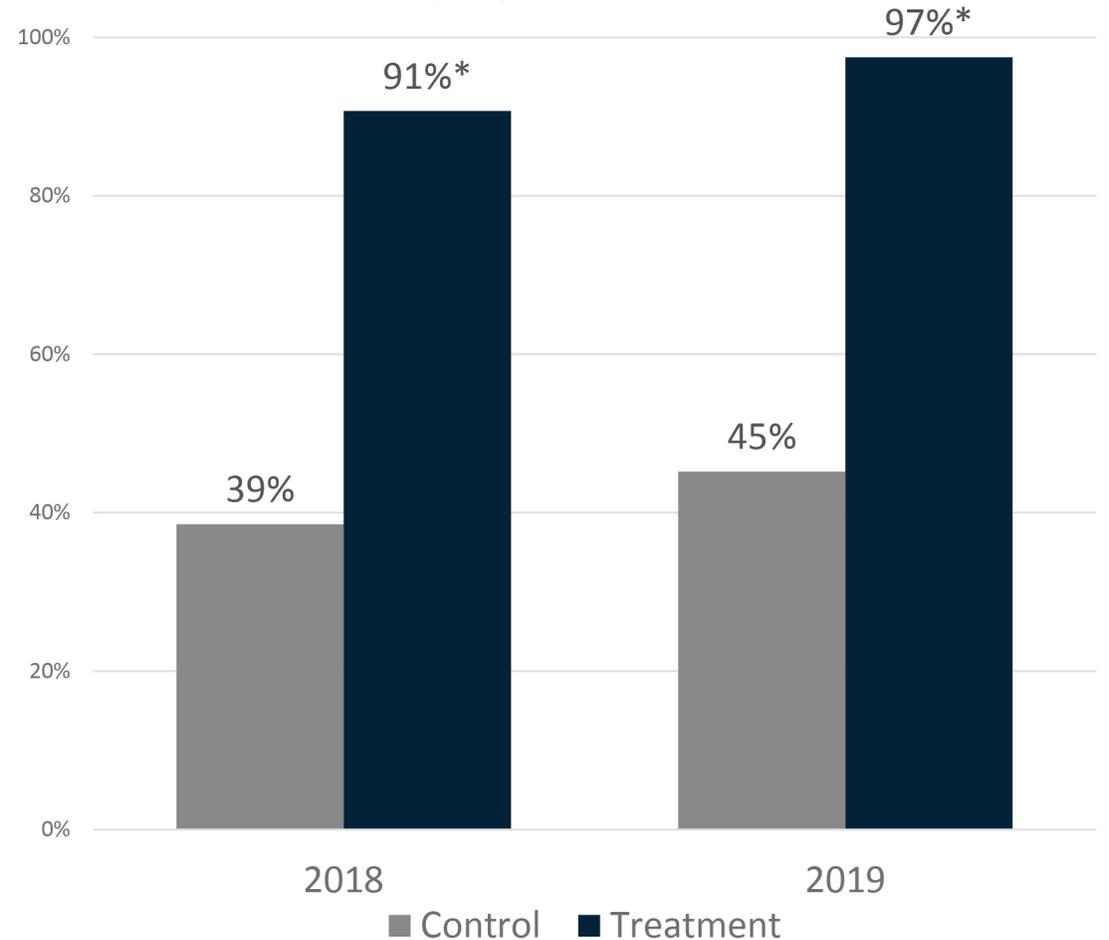
* Significantly different from the control group ($p < .05$).

Results: Percentage of Individuals Who Received VR Services

Autism



Pre-Employment Transition



* Significantly different from the control group ($p < .05$).

Results: Percentage of Individuals Who Received VR Services by Service Type

Autism

| | 2018 | | 2019 | | | |
|----------|---------|-----------|---------|-----------|--|---|
| | Control | Treatment | Control | Treatment | | |
| Training | 7% | 7% | 5% | 5% | | |
| Career | 52% | 64% * | 50% | 56% * | | |
| Other | 8% | 11% | 8% | 15% | | * |

Pre-Employment Transition

| | 2018 | | | 2019 | | |
|----------|---------|-----------|--|---------|-----------|---|
| | Control | Treatment | | Control | Treatment | |
| Pre-ETS | 8% | 84% * | | 25% | 95% * | |
| Training | 7% | 7% | | 5% | 5% | |
| Career | 52% | 64% * | | 50% | 56% * | |
| Other | 8% | 11% | | 8% | 15% | * |

* Significantly different from the control group ($p < .05$).

Take a Closer Look: Pre-ETS Track Treatment State

| | State A | Other States | State A | Other States |
|------------------------|---------|--------------|---------|--------------|
| | 2018 | | 2019 | |
| Employment status | 8% | 49% | 9% | 10% |
| Hourly wage | \$9.73 | \$10.45 | \$10.02 | \$10.53 |
| Number of hours worked | 25 | 29 | 25 | 29 |
| Pre-ETS service | 84% | 9% | 93% | 83% |
| Training service | 5% | 10% | 6% | 1% |
| Career service | 38% | 32% | 37% | 6% |
| Other service | 10% | 10% | 11% | 2% |

Summary: Employment Outcome

- For both tracks, the percentage of employed individuals was higher for the control states for both years.
- No significant difference occurred in the hourly wage and the number of hours worked per week for the autism track.
- Hourly wage and number of hours worked per week was higher for the control states for both years.
- Any significant differences are not likely related to the study treatment.

Summary: VR Services

- For both years, the percentage of individuals who received VR services was higher for the treatment states.
- For the autism track, the percentage of individuals who received career services was higher for the treatment states.
- For the Pre-ETS track, the percentage of individuals who received Pre-ETS and career services was higher for the treatment states.
- Causal conclusion should not be made even with some significant differences.

Limitations

- Unable to conduct across-year comparisons.
- Unable to link individuals served by the VR counselors whose supervisor participated in the study.
- Potential spillover effects.
- Using extant data (e.g., caseload data that state agencies collect, not data our research team itself collected).
- Potential data entry errors/outliers could not be verified.

Implications

- Although employment outcomes may be more difficult to change, the service delivery practice seems changeable, with strong emphasis from state agency leadership and VR supervisors to use evidence-based practices.
- Proper data collection and analysis can better inform how to improve VR services.

Contact Information, Evaluation and Disclaimer

For more information, please contact:

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Evaluation:

<https://survey.alchemer.com/s3/6089023/Evaluation-KTER-Knowledge-Brokering-and-VR-Webcast>

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