KTER·CENTER
Knowledge Translation for Employment Research

Technical Brief 10

Knowledge Brokering in Vocational Rehabilitation Agency Contexts

Overview

The National Institute on Disability, Independent Living, and Rehabilitation Research funded the Center on Knowledge Translation for Employment Research (KTER Center; http://www.kter.org) at the American Institutes for Research (AIR) from 2015 to 2020 to test a knowledge broker model in vocational rehabilitation (VR) agency settings. Knowledge brokers are individuals positioned to bridge the worlds of research and practice (Long et al., 2013). As part of the interventions that the KTER Center developed for testing, in November 2018 through June 2019, the KTER Center trained supervisors from VR agencies how to act in a knowledge broker role. The study set out to answer two questions:

1. 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?

2. Did 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 outcomes of consumers served by VR counselors in the control group?

Description of Intervention and Study Design

Supervisors (N = 110) from 22 states, as well as the District of Columbia and Puerto Rico, enrolled in the study. Random assignment, made at the state level, determined whether participants from that state/territory were in the training group or the control group. Thus, all supervisors from a particular state or territory were assigned to the training group (n = 54 supervisors) or the control group (n = 56 supervisors). Counselors' (n = 96) assignment corresponded to that of their supervisors. Thirty-eight counselors had supervisors assigned to the training group, and 58 counselors had supervisors assigned to the control group. The training included online modules about adult learning, research on the employment of adults with autism, and research on preemployment transition services (pre-ETS). All supervisors in the training group were invited to view the adult learning module, and 20 of the 54 supervisors did so. They could then choose to view either the module related to autism, which five did, or the one related to pre-ETS, which 11 did. After that, for 6 months, a member of the KTER Center's research team offered to check in with the 20 supervisors who had completed at least one training to see how they implemented what they had learned and offer follow-up support. The KTER Center did not offer any training or resources to any counselors, no matter to which they group they were assigned, nor to any supervisors in the control group.

Data Collection

The study collected three types of data: (a) survey, (b) interview, and (c) caseload data from the RSA-911 data (i.e., administrative data collected and reported quarterly to the Rehabilitation Services Administration (RSA) by each state VR agency). Survey data were collected from supervisors and their staff in both the training and control groups when they signed up for the study, and after 6 months of interviews had ended, to compare impacts among study participants and the staff they supervise to the supervisors and counselors in the control group. The KTER Center also analyzed patterns in the caseload data from states that had supervisors completed the training, and from other states in the control group.

Survey. The online survey examined three primary domains: Research Orientation (23 items), Interactions (9 items), and Use of Resources (11 items). The survey was adapted from an existing instrument, *Making Research Work in VR Agencies* (Murphy et al., 2011). Respondents indicated their level of agreement to questions within these domains using a 4-point scale ranging from *strongly disagree* to *strongly agree*. Examples of the questions are as follows:

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.

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)

Interviews. The interviews, conducted by telephone, asked questions about the training participants' satisfaction with the training, their use of what they learned, barriers to implementation, and any need for follow-up support.

Caseload Data. To explore the training's effect on client employment outcomes, KTER Center researchers analyzed data from the RSA Case Service Report (i.e., RSA-911 data). These data often are used to evaluate the impact of VR services provided to clients and track the progress of VR agency.

Study Samples: Survey, Interviews, and Caseload Data

Survey Data. In total, 39 of the 110 VR supervisors who enrolled completed both baseline and follow-up questionnaires, 20 supervisors (37%) from the training group and 19 supervisors (34%) from the control group. There were no statistically significant differences in demographics across the training and control groups. The supervisors ranged in age from 25 to 67 years old and had an average age of 43.73 years. Fifty-eight percent of the participants had been a VR supervisor for more than 10 years, 16% of the participants had 6–10 years of experience, 24% had 3–5 years of experience, and 3% had 2 years or less or

experience. Most participants were certified rehabilitation counselors (CRCs; 86%). In addition, most participants had a master's degree (89%), whereas some had a doctoral degree (11%). Among the 96 counselors, 27 counselors submitted both baseline and follow-up surveys, 12 counselors (32%) from the training group and 15 counselors (29%) from the control group.

Interview Data. The goal was to conduct an interview with each supervisor in the training group once per month from January to June 2019. However, most participants did not respond to any follow-up requests. KTER Center researchers spoke with 12 VR supervisors from seven states, seven staff who had completed the pre-ETS module and five staff who had completed the autism spectrum disorder module. On average, researchers completed two interviews per supervisor during the 6-month period.

Caseload Data. In summer 2019, KTER Center researchers contacted states that had participating VR supervisors and requested that they share their RSA-911 caseload data. Six states submitted these data: three from the control group and three from the training group. These data covered two time points: one from 2018, prior to initiation of training, and one from 2019, one year after the training was initiated. The adults with autism track analytic sample included 2,700 adults with autism in 2018 and 3,200 in 2019. These individuals indicated either primary or secondary disability source as autism and did not receive pre-ETS. The pre-ETS track analytic sample included 7,200 individuals in 2018 and 17,900 in 2019. These individuals indicated a record of pre-ETS. Similar to the autism track, most of the analytic sample from both years was from the training states. One state in particular had the majority of cases: for the autism track, 88% of the 2018 data and 78% of the 2019 data, and for the pre-ETS track, 82% of the 2018 data and 56% of the 2019 data.

Analyses

Survey Data. KTER Center staff used exploratory descriptive analyses to examine outliers, covariate balance, and trends. They examined covariate balance along with the other preliminary analyses to ensure that the training and control groups were properly balanced on each variable. For instance, looking at the variable "tenure," if the training group had only senior members of staff and the control group had only junior members of staff, this imbalance could suggest that random assignment was not properly balanced. The research team also compared the supervisors and counselors who completed all data collection to those who dropped out of the study. Because this study used pretest and posttest surveys, an analysis of covariance (ANCOVA) for each outcome is an appropriate statistical tool to examine differences in the training and control groups while controlling for extraneous variability. The primary analysis used three separate ANCOVAs.

Interview Data. The research team tabulated answers to the structured questions regarding satisfaction with the training and summarized notes from the conversations by theme. The research team also documented anecdotes about any effects of the training in the participants' agencies.

Caseload Data. KTER Center researchers studied individual employment outcomes and the various services provided by VR agencies to consumers. For employment outcomes, the researchers examined three variables: employment status (employed or not), hourly wage, and hours worked in a week. For VR service-related outcomes, researchers created four VR service-related variables to examine whether the

percentages of clients who received these four types of services varied statistically significantly between the control and training states: pre-ETS, training services, career services, and miscellaneous types of services. The data for both outcomes were examined descriptively by each year, training status, and each topical track. Then the averages of outcome variables were compared using the independent sample t-test, assuming unequal variances.

Results

Survey Data. Analyses showed no significant differences on demographic variables between the training and control groups and between those who finished the study and those who dropped out. There was one exception, however: Those with less education were more likely to drop out of the study (level of education, $p = 0.03$).

There were no significant differences between the training and control groups on the outcomes. Certain demographic variables appeared to be associated with the outcomes, however. For the Research Orientation domain, tenure ($p = 0.022$) and having a CRC ($p = 0.005$) had a significant effect on the outcome. For the Resource Use domain, tenure ($p = 0.039$), having a CRC ($p = 0.004$), and level of education ($p = 0.010$) had a significant effect on the outcome. Having more tenure and more education, plus holding the CRC, may predict that the respondent was more likely to be research oriented and use research resources on the job. The outcome of Type of Interaction did not show any significant effects.

Interview Data. All participants interviewed indicated a very positive or positive reaction to the training modules. For supervisors interviewed who completed the pre-ETS module, 100% noted that they shared the training information with their staff, and about 60% conducted trainings with staff based on what they learned in the modules. For supervisors interviewed who completed the autism module, about 75% said they shared training information with their staff, and 50% conducted trainings guided by information learned. Across the modules, the majority of interviewees indicated that they did not encounter resistance when trying to implement new ideas or practices based on the trainings.

All supervisors interviewed noted that the trainings either increased their awareness of pre-ETS or autism or positively reinforced previous knowledge. Many indicated that the empirical research presented during the trainings provided evidence and context for the challenges these populations face and helped support supervisors' efforts to make changes within their agencies. The majority of those interviewed also noted that they found the module on adult learning principles particularly useful and used those practices when conducting internal trainings with great success.

Most participants shared that they found enacting change on an organizational level very difficult, even when they did not encounter overt resistance. Reasons for these difficulties included the following:

- Very high staff turnover made it hard for information they did disseminate to change organizational culture. Supervisors did not always have the bandwidth to educate new hires repeatedly.

- VR counselors often spend their time "putting out fires," which reduces the resources they have to implement best practices based on research.

- VR counselors juggle competing demands and do not often have the time or energy to provide trainings or put new ideas into practice.

Despite these challenges, the participants interviewed shared some success stories. Several mentioned that the materials they received in the trainings helped spur dialogue within their organizations and sometimes at the state level about pre-ETS, autism, or adult learning principles. One VR counselor shared that after she attended the pre-ETS training, the VR agency created a new job category that specifically works with youths with disabilities. As a result, the agency added three new staff.

Caseload Data. For both tracks, the percentage of employed individuals was higher for the control states for both years, and no significant difference was observed in the hourly wage and the number of hours worked per week for the autism track. Hourly wage and the number of hours worked per week was higher for the control states for both years, but any significant differences are not likely related to our study training effect. For VR service-related outcomes, for both years, the percentage of individuals who received VR services was higher for the training states. For the autism track, the percentage of individuals who received career services was higher for the training states, and for the pre-ETS track, this number was higher for individuals who received pre-ETS and career services. However, the significant differences found in this study are not likely related to the intervention because we observed significant differences in both outcomes prior to initiation of the intervention and a high attrition rate.

Limitations

Before discussing implications, it is important to cover limiting factors that may give further context to the results. One of the biggest limiting factors for the survey and the interview analyses was attrition and, consequently, small sample sizes. By the end of the study, we retained 39 of 110 of the supervisors (35%) and 27 of 96 of the counselors (28%). Although we conducted attrition analysis and found only one difference, the small sample size limited our ability to find effects within the study. Similarly, because of the small sample size, we were unable to nest counselors within supervisors. By ignoring the nesting structure, we may be overlooking dependency issues across the sample. Another limiting factor was ceiling effects. We used a 4-point scale for the primary outcome domains (Research Orientation, Collaboration, Resource Utilization) of the survey. VR supervisor participants averaged a 3.0, 3.6, and 3.1, respectively, for each outcome on the baseline survey. With a maximum score of 4 (every participant answering that they strongly agree to every question), there is very little room for improvement in the posttest survey.

Turning to the caseload data, it is important to note that any causal conclusions should not be made, even though there were some significant differences in the employment status and VR services provided to clients. First, it was not possible to conduct across-year comparisons of the study outcomes and evaluate the effect of our training directly for the RSA-911 data states because the states' datasets did not identify the individual consumers. Thus, we had no way to follow the same individuals across time to collect longitudinal data. In addition, by using an existing dataset—the RSA-911 data, or caseload data that state agencies collected—there were potential data entry errors or outliers in the dataset. KTER Center researchers had no way to verify whether the data were completely accurate. Finally, information about the services and programs delivered to individuals, such as quality or content of the programs, was not available.

Implications

Our study found that having earned the CRC significantly improved the outcomes of Research Orientation and Resource Use. This implies that if VR agencies continue to value evidence-based practice, it is critical to continue to focus on those who have more tenure, have more education, and hold the CRC when positioning future "knowledge brokers."

References

Long, J. C., Cunningham, F. C., & Braithwaite, J. (2013). Bridges, brokers and boundary spanners in collaborative networks: A systematic review. *BMC Health Services Research*, *13*, Article 158. https://doi.org/10.1186/1472-6963-13-158

Murphy, K., Graham, C., Revell, G., West, M., Inge, K., & Markle, M. (2011). *Making research work for VR agencies*. SEDL. The survey instrument is available upon request from ktdrr@air.org.