

An updated review of the customized employment literature

Tim Riesen^{a,*}, Aubrey Snyder^a, Rachel Byers^a, Beth Keeton^b and Katherine Inge^c

^a*Institute for Disability Research, Policy and Practice, Utah State University, Logan, UT, USA*

^b*Griffin-Hammis Associates, Atlanta, GA, USA*

^c*Virginia Commonwealth University, Richmond, VA, USA*

Received 10 December 2021

Revised 6 January 2022

Accepted 31 October 2022

Pre-press 9 December 2022

Published 17 January 2023

Abstract.

BACKGROUND: There is clear federal priority to develop effective strategies to mitigate the continued disparity in employment opportunities and outcomes for people with significant disabilities. At the same time, there are calls for rehabilitation practitioners to understand, utilize, and implement evidence-based practices (EBP) with fidelity to improve rehabilitation outcomes, such as competitive integrated employment. Customized employment (CE) emerged as a promising practice that promotes improved employment outcomes.

OBJECTIVE: The purpose of this manuscript is to describe published literature on CE and to make recommendations on the best methods for establishing CE as an evidence-based practice.

METHOD: We included 10 articles classified as “data-based” articles from a review of the literature on CE conducted by Riesen et al. We also conducted an electronic search of articles on CE published between 2015 and 2021.

RESULTS: This review indicates that CE research is predominantly descriptive. Based on the results of the review, we categorized CE research into three types: model description and project evaluation, perceptions of CE, and essential structure and competency. The descriptive studies suggest that CE produces quality employment outcomes for people with disabilities.

CONCLUSION: While research on CE has expanded, future research on CE should use more robust indicators including (a) quality descriptions of the participants, (b) quality descriptions of settings and conditions, (c) descriptions of the independent variables, (d) descriptions of fidelity to procedures, and (e) quality descriptions of social validity measures. Researchers should also focus on using correlational research to establish customized employment as an evidence-based practice.

Keywords: Customized employment, evidence-based practices, significant disabilities, literature review

1. Introduction

Customized employment (CE) first emerged when the U.S. Department of Labor, Office of Disability Employment (ODEP) announced 3.5 million dol-

lars in competitive grants for strategic planning and implementation activities to improve employment outcomes for people with disabilities who accessed One-Stop Career Centers (Federal Register, 2002). The initial definition of CE in the funding announcement highlighted the importance of individualizing the relationship between employees and employers so both needs were being met. The definition also reinforced the notion that CE be based on individual

*Address for correspondence: Tim Riesen, PhD., Utah State University, Salt Lake Center, 920 West Levoe Drive, Taylorsville, UT 84123, USA. E-mail: Tim.Riesen@usu.edu.

determination of the strengths, needs, and interests of the person with a disability, and be designed to meet the specific needs of the employer. More recently, the Rehabilitation Act, as amended in the Workforce Innovation and Opportunity Act (WIOA), 2014, included targeted provisions to improve competitive integrated employment outcomes for individuals with significant disabilities. One of these provisions modified the definition of supported employment to include customized employment (CE).

WIOA mirrored early descriptions of the CE process and defines CE as “competitive integrated employment, for an individual with a significant disability, that is based on an individualized determination of the strengths, needs, and interests of the individual with a significant disability, and is designed to meet the specific abilities of the individual with a significant disability and the business needs of the employer” (29 U.S.C §705(7), p. 1634). The statute also outlines specific strategies for implementing CE including: (a) exploring jobs with the individual; (b) working with employers to facilitate placement, including customizing a job description based on current employer needs or on previously unidentified and unmet employer needs; (c) developing a set of job duties, a work schedule, and job arrangement, along with specifics of supervision (including a performance evaluation review), and determining a job location; (d) representing a professional chosen by the individual, or self-representation of the individual in working with an employer to facilitate placement; and (e) providing services and supports at the job placement (29 U.S.C §705 et seq.).

Codifying CE in statute established a clear federal priority to develop effective strategies to mitigate the continued disparity in employment opportunities and outcomes for people with significant disabilities. At the same time, ongoing calls for rehabilitation practitioners to understand, utilize, and implement evidence-based practices (EBP) with fidelity to improve rehabilitation outcomes, such as competitive integrated employment, received attention (Leahy et al., 2014). Because of ongoing calls for rehabilitation practices to be “evidence-based”, the term became somewhat ubiquitous and rehabilitation may call a practice, intervention, or strategy “evidence-based” without enumerating on what research supports their claim. Further, there may be some gaps in how rehabilitation practitioners understand, reference, and utilize EBP in day-to-day practice (Graham et al., 2013).

The EBP construct emerged from health care fields in the early 1970’s (Beyea & Slattery, 2013) and has been adopted by other social science fields including education and vocational rehabilitation. Traditionally, the health care field used a hierarchical structure to determine the degree of evidence for a health-care practice or intervention. This hierarchy consists of five levels that range from *Level 1*, systematic review of meta-analysis of randomized controlled trials (RCTs) to *Level 5*, expert opinion or case reports (Burns et al., 2011). From a social sciences perspective, there are several frameworks that outline what constitutes an EBP. The first framework is a five-level hierarchy for rehabilitation practices that draws from the medical field’s EBP hierarchy (Leahy et al., 2018). The second framework is outlined by the National Technical Assistance Center on Transition (NTACT) (2018) which contains operational definitions for education and rehabilitation research. The operational definitions describe how evidence-based, research-based, and promising practices can be supported in group experimental designs, single case designs, quasi-experimental designs, and a mix of designs (single case, correlational, or qualitative designs). Table 1 provides a description of levels of evidence outlined from both Leahy et al. (2018) and NTACT (2018).

To date, there remain questions regarding whether CE is considered an EBP as outlined in the established hierarchies. For example, Riesen et al. (2015) found that the extant research on CE is primarily descriptive and noted a significant gap in research that establishes the evidence for effective and consistent implementation of CE. Leahy et al. (2018) conducted a Delphi panel with experts in vocational rehabilitation (VR) regarding the relevance and levels of evidence for VR practices. The Delphi panel was asked to rate the relevance of CE with 1 = not relevant and 5 = highly relevant, and to rate the level of evidence with 1 = lowest level of evidence and 5 = highest level of evidence. Based on their findings, CE is rated highly relevant (4.19) with low levels of evidence (2.00). CE certainly shows much promise as strategy to support individuals with more significant disabilities in finding meaningful employment. To ensure CE remains a relevant rehabilitation practice, a review of the literature is necessary to identify how the CE process and intervention are outlined and to better understand the best method to determine the efficacy of CE process. The purpose of this updated review, therefore, is to examine published literature to determine the status of research on CE and

Table 1
Levels of evidence

| Leahy, 2018 | | NTACT criteria for levels evidence | | | | |
|--------------------|--|------------------------------------|---|---|--|--|
| Levels of evidence | Description | Level of evidence | Description | | | |
| | | | <i>Group experimental design only</i> | <i>Single case only</i> | <i>Correlational design only</i> | <i>Mix of group experimental, single case, correlations</i> |
| 1 | Strong evidence from at least one systematic review of multiple well-designed randomized controlled trials | Evidence-based practice | 2 studies with random assignment with n of 60 or 4 studies with non-random assignment with n of 120 and no studies with negative effects and effect size reported | 5 studies demonstrating positive effects $n = 20$ and no studies with negative effects, studies are conducted by three independent research teams | 2 a priori studies using propensity score modeling which demonstrate correlations between predictor and outcome variables and effect size reported with no negative correlations | Meet 50% of criteria for group, single case, and quasi-experimental correlation designs |
| 2 | Strong evidence from at least one properly designed randomized controlled trials of appropriate size | Evidence-based practice | 1 study with random assignment and positive effects | | | |
| 3 | Evidence from well-designed trials without randomization, single group pre-post, cohort, time series, or matched case-controlled studies | Research-based | 2 or 3 group comparison studies with non-random assignment and positive effects or no studies conducted with negative effects, and at least a 2:1 ratio of methodologically sound studies with positive effects to methodologically sound* studies with neutral/mixed effects and effect size reported | 2 to 4 single case studies demonstrating a functional relation (positive effects) and b) includes no studies conducted with negative effects with 2:1 ratio of studies with positive effects | 2 a priori studies demonstrating consistent significant correlations between predictor and outcome; and b) studies must calculate effect size or report data that allows for calculation; and c) there are more a priori studies demonstrating positive correlations than a priori studies demonstrating negative correlations | Meet at least 50% of criteria for group experimental, single case designs, and/or quasi-experimental correlational design as described |

| | | | | | | |
|---|---|-------------------------------|--|--|---|--|
| 4 | Evidence from well-designed non-experimental studies from more than one center or research group | Promising practice | 1 group comparison study with non-random assignment to groups; and positive effects; and ratio of studies with positive effects to studies with neutral/mixed effects is less than 2 : 1; or 1 or more studies conducted with negative effects, as long as studies with negative effects do not out number studies with positive effects | 1 single case study demonstrating a functional relation (positive effects); or 2 or more single case studies demonstrating positive effects using methodologically weak designs (e.g., non-concurrent multiple baseline, AB); and the ratio of studies with positive effects to studies with neutral/mixed effects is less than 2 : 1; or 1 or more studies conducted with negative effects, as long as studies with negative effects do not out number studies with positive effects | 1 a priori study with consistent significant correlations between predictor and outcome; or 2 exploratory (no specific hypothesis) studies with significant correlations between predictor and outcome | Meet at least 50% of criteria for group experimental, single case designs, and/or quasi-experimental and/or exploratory correlational designs as described |
| 5 | Opinions of respected authorities, based on clinical evidence, descriptive studies, or reports of expert committees | Unestablished practice | Insufficient research exists to meet the criteria for any of the other levels of evidence above (e.g., descriptive studies, anecdotal evidence, and/or professional judgment articles describing a practice). More studies demonstrating negative effects, than studies demonstrating positive effects | | | |

to make recommendations about the best methods for establishing CE as an EBP.

2. Method

We included 10 articles classified as “data-based” articles from a review of the literature on CE conducted by Riesen et al. (2015). We also conducted an electronic search of articles on CE published between 2015 and 2021 using Academic Search Premier electronic databases using the key words and Boolean operators “customized employment” AND “disability” OR “disabled” OR “disabilities” “customized employment” AND “outcomes” “customized employment” AND “intellectual disability” and “customized employment” AND “significant disabilities.” Abstracts were screened to be included in the review using the following criteria: (a) publications in a peer-reviewed journal in the U.S., (b) a clearly stated research question or objective related to customized employment, and (c) a summary of qualitative and/or quantitative data regarding customized employment outcomes and/or procedures. The updated electronic search yielded 14

manuscripts. Six of these manuscripts were excluded as they did not meet inclusion criteria.

3. Results

Based on the search criteria, a total of 18 manuscripts were included in this review: 10 from the original Riesen et al. (2015) review and eight from database literature search. Articles were reviewed and classified into three distinct journal article types: descriptive research, group experimental or quasi experimental, and correlational research. None of the articles were experimental/quasi experimental and only one article included a correlational analysis. After the review, we stratified the articles into three manuscript types including model description and project evaluation, perceptions of CE, and essential structure and competency (Table 2).

3.1. Model descriptions and project evaluation

Nine articles published between 2006 and 2019 described or evaluated CE project models. Luecking and colleagues provided outcome data for two CE

Table 2
Customized employment (CE) journal articles

| Author, year | Journal article type | | |
|---|--|---------------------------------|------------------------------------|
| | Descriptive | | |
| | Model description and project evaluation | Perceptions and knowledge of CE | Essential structure and competency |
| 1. Citron, T., Brooks-Lane, N., Crandell, D., Brady, K., Cooper, M., & Revell, G. (2008). | X | | |
| 2. Elinson, L., Frey, W. D., Li, T., Palan, M. A., & Horne, R. L. (2008). | X | | |
| 3. Fesko, S., Varney, E., DiBiase, C., & Hippensiel, M. (2008). | X | | |
| 4. Harvey, J., Szoc, R., Rosa, M.D., Pohl, M., & Jenkins, J (2013). | | | X |
| 5. Heath, K. L. Ward, K. M., & Reed, D. (2013). | X | | |
| 6. Inge, K. J., Graham, C. W., Brooks-Lane, N., Wehman, P., & Griffin, C. (2018). | | | X |
| 7. Jones, K. T., Currier Kipping, K., Landon, T., & McKnight-Lizotte, M. (2020). | | X | |
| 8. Luecking, R., Cuozzo, L., & Buchanan, L. (2006). | | X | |
| 9. Luecking, R. G., Cuozzo, L., Leedy, M. J., & Seleznow, E. (2008). | X | | |
| 10. Luecking, D. M., Gumpman, P., Saecker, L., & Cihak, D. (2006). | X | | |
| 11. Luecking, D. M., & Luecking, R. G. (2006). | X | | |
| 12. Riesen, T., Hall, S., Keeton, B., & Jones, K. (2019). | | | X |
| 13. Riesen, T., Hall, S., Keeton, B., & Snyder, A. (2021a). | | | X |
| 14. Riesen, T., Hall, S., Keeton B., & Snyder, A. (2021b). | | | X |
| 15. Riesen, T., & Morgan, R. L. (2018). | | X | |
| 16. Rogers, C. Lavin, D., Tran, T., Gantenbein, T., & Sharpe, M. (2008). | X | | |
| 17. Shogren, K. A., Dean, E., Griffin, C., Stevely, J., Sickles, R., Wehmeyer, M. L., & Palmer, S. B. (2017). | X | | |
| 18. Smith, T. J., Ching, D., Weston, A., & Dillahunt-Aspillaga, C. J. (2019). | | | X |

demonstration projects funded by the Office of Disability Employment Policy (ODEP). First, Luecking and Luecking (2006) provided information on outcomes for the Tennessee Customized Employment Partnership (TCEP), a model demonstration project. One hundred and thirty-five individuals received CE services from the TCEP project between 2001 and 2005; participant ages ranged between 16 and 56 or older and the majority (54.8%) had a cognitive/intellectual disability. At intake, none of the participants were working a full-time, competitive integrated job and less than 10% were working part-time in a competitive integrated job. Approximately 14.1% of individuals were working in a non-competitive job, such as sheltered employment. Those who were working in either a competitive or non-competitive job were paid an average of \$5.54 per hour. Seventy-one individuals receiving services through the project reported having a customized job. Average time from intake to job placement was 128 days. The average hourly wage at time of employment was \$6.65 per hour, the federal minimum wage was \$5.15 at the time, and average hours worked were 19 hours per week. Luecking and Luecking also provided case studies related to the discovery process, job negotiations, and accommodations. As a follow-up to the TCEP project, Luecking and Gumpman et al. (2006) assessed the quality of life outcomes for 30 individuals who received CE services through the project. Of these 30 participants, 39.3% of the participants had not worked previously and 50% were not currently working. The authors also examined the relationship between CE services and specific quality of life indicators. Participants who were working at the beginning of the study and continued for the duration of the study earned an average of \$6.36 per hour and worked an average of 16.45 hours per week. Luecking used a one-way ANOVA to determine quality of life changes and found that participants' ratings on 12 of the 13 quality of life indicators increased significantly across time.

In another study, Luecking et al. (2008) described an ODEP-funded demonstration project in Maryland. The project focused on providing CE services to individuals who were: (a) on the waitlist for employment services, (b) students in secondary education programs who will likely be put on the waitlist for employment services, or (c) currently receiving employment services in a segregated setting and would like to obtain integrated employment. The project braided resources to deliver CE services to participants. Sixty-two individuals participated in

the project, 55 of whom obtained employment. The authors provided a case study example from the project and suggested that One-Stops present an opportunity for CE methodology adoption in systems change efforts.

Citron et al. (2008) described Project Exceed, an ODEP-funded systems change initiative that focused on securing customized employment for individuals with disabilities through collaboration with rehabilitation providers. The primary goal of the project was to shift from traditional services such as day programs and sheltered workshops to integrated employment opportunities. The project provided services for 198 individuals with disabilities including those with mental illness, developmental disabilities, and physical disabilities. One hundred and forty-one participants obtained employment working an average of 15–20 hours per week with a mean wage of \$8.00 per hour. Of the 141 participants, 59 were self-employed, 73 were employed in a position that was negotiated with the employer, and 9 were employed in a position where job duties were not negotiated in detail with the employer. The authors identified six key organizational change factors essential to successful CE facilitation: staff development, community partnerships and diversified funding, sustainability, shift in managerial approaches and supervision, changes in human resource processes, and expanding customized employment to diverse populations. Additionally, Citron and colleagues (2008) identified barriers that were encountered during the process.

Fesko et al. (2008) provided information on ODEP-funded CE partnership and collaboration models that provided a substantive provision of CE service. The authors examined 26 grantee reports to identify common themes related to developing partnerships. Results showed that grantees formed partnerships with a wide variety of diverse organizations. Common themes identified as strategies for effective partnerships included: (a) understanding partners, (b) building on preexisting partnerships, (c) identifying shared values and a common vision, (d) creating partnerships enhanced through collaborative service delivery, (e) developing multilevel partnerships, (f) creating collaborative opportunities, (g) developing customized support teams, and (h) systematizing service delivery collaboration. The authors concluded that collaboration was the foundation of systems change efforts and a primary innovation of the grant sites and recommended that disability providers engage with One-Stop Career Centers (One-Stops) to create interagency work

groups.

Rogers et al. (2008) described a five-year ODEP-funded transition project that trained staff to implement CE. Four hundred seventy-five transition-aged youth across seven school districts participated in the project. The primary goals of the project included: (a) encouraging students to work through a customized employment approach, (b) engaging students and families on competitive integrated employment, (c) promoting choice making, self-determination, and self-reliance skills, and (d) providing services without regard to students' race, culture, national origin, ethnicity, religion, gender, age, sexual-preference, or nature of disability. At the conclusion of the project, 287 individuals obtained competitive integrated employment with 232 individuals retaining employment for at least 90 days. Participants worked an average of 28 hours per week with a mean wage of \$8.17 per hour.

Elinson et al. (2008) evaluated 31 ODEP-funded demonstration projects that implemented CE as part of One-Stop services for individuals with disabilities. Qualitative and quantitative outcome data that included information on site visits, quarterly reports, and interviews with key informants was collected. Data on employment outcomes, including wages, hours worked, and type of supports received, was collected in three rounds over a two-year period. The results of the evaluation showed 6,555 participants were served through ODEP demonstration projects and of these participants, 2,936 (44.8%) obtained employment. Although CE service implementation was inconsistent across programs, data indicated that participants enrolled in CE services maintained consistent hours and wages. The authors noted that individualization services were implemented frequently, while negotiation and job carving were not. In addition, they noted that while project sites were successful at assisting persons with disabilities develop job leads and prepare for interviews, only a few project sites successfully negotiated or carved new employment positions. The authors also indicated that while programs were successful at implementing components of CE, the programs had a difficult time sustaining CE practices after demonstration funding ended.

Heath et al. (2013) described a four-year self-employment CE project in Alaska that examined the association between successful entrepreneurial business launches and the process of discovery. The study included seventy-one individuals with non-cognitive mental impairments or physical impairments who

pursued microenterprises that involved selling a product and/or selling a service. Participants also contributed to the development of a self-employment CE model, emphasizing four essential components including a dedicated self-employment facilitator, discovery, access to virtual business incubator, and business plan development. The authors distributed a survey to participating facilitators and virtual incubators that asked specific information about participant and program characteristics and outcomes. The authors established criterion variables for the study including business launch outcomes. Predictor variables included gender, age, disability, education level, wage, and access to discovery, among others. The authors used a chi-square analysis to determine if there was an association between participating in the CE process and launching a business. Results suggested that the CE discovery process was associated with successful self-employment.

Shogren et al. (2017) described a capacity-building model and preliminary outcomes of a model of employment systems change in three rural project sites in a midwestern state. The project model combined CE, the discovery process, and the Self-Determined Career Development Model (SDCDM) to train various local community partners including one special education cooperative and two community support providers. Each site received several rounds of training on the discovery process and SDCDM. Further, each site received funding to create an Active Employer Council (AEC) that allowed sites to better partner with local employers, local Chambers of Commerce, and other business networks. Each site was encouraged to collaborate with multiple employment stakeholders within their communities. Twenty-five participants were enrolled across the three project sites and at the end of the project year, seven participants obtained employment. The authors noted several important findings and implications for successful service implementation, including taking sufficient time to build community relationships, assessing, and structuring professional development and systems change initiatives on improving integrated employment, establishing earlier referrals to vocational rehabilitation, and the need to create meaningful partnerships with workforce development activities.

3.2. Perceptions and knowledge about CE

Three of the articles examined perceptions of CE. Luecking, Cuozzo, and Buchanan (2006) sur-

veyed nine employers from a range of industries who had hired individuals with significant disabilities with customized job descriptions. Employers were selected from a CE demonstration project in Maryland between 2004 and 2005. Survey responses were independently reviewed and summarized. All employers indicated that their experiences with the career specialists were positive and that they would recommend a CE approach to other employers. Employers reported that having a specific job description and systematic approach was important. Some of the employers indicated that their perspectives on hiring people with disabilities had become more positive because of the experience. Several employers expressed interest in further collaboration with the career specialists. Authors provided recommendations for CE strategies and service values to create a work environment that is beneficial to employers and welcoming to people with disabilities.

Riesen & Morgan (2018) conducted a study using standardized open-ended focus group interviews using semi-structured questions to assess employer perceptions of CE. Ten employers representing small to large businesses who had no previous experience with CE participated in the study. Five key themes were identified from the analysis of focus group questions, including: identifying business needs, networking, communicating, training, and examining financial implications. Study results suggest that employment specialists build meaningful relationships and take time to adequately get to know business operations before negotiating a job. Riesen and Morgan also recommend that employment specialists use value proposition to make the business case for CE. Value propositions require an employment specialist to explain to the potential employer how the person with a disability can contribute to the overall needs of the business and improve the business' financial position through personalized job description.

Jones et al. (2020) conducted a survey among state vocational rehabilitation counselors (VRCs) to assess their knowledge of the discovery process of CE. The authors distributed a 55-item survey that collected demographic information, items asking participants to rate the importance of various discovery activities, items regarding CE perceptions, and open-ended questions regarding barriers and supports to the CE process. Quantitative analysis indicated that participants considered themselves knowledgeable of both the overall CE process and various components of CE. Analysis revealed no significant difference in CE knowledge or perceptions based on VRC training

in CE. However, the results indicate that number of years worked in the field had a statistically significant impact on opinions regarding the length of time that should be spent on the discovery process; those with more years of experience placed greater emphasis on the length of time to be spent on the discovery process than those with fewer years of experience. Qualitative analysis of open-ended questions resulted in the identification of collaboration and training as promoters of the CE discovery process. Lack of organizational support, limited training, and limited resources were identified as barriers to the CE discovery process.

3.3. *Essential structure and competency*

Six articles included in the review examined the essential structure of CE. Harvey et al. (2013) conducted a series of panel reviews with 26 subject matter experts (SMEs) to develop and refine a competency model for the knowledge, skills, abilities, and other characteristics (KSAOs) and tasks essential for CE service provisions. The authors identified 31 task items divided into discovery, job search planning, job development and negotiation, and post-employment support components. A total of nine competencies and 83 KSAOs for each competency were outlined. Competencies included: (a) positive and open approach to life; (b) customized job development; (c) CE components and process; (d) demonstration of respect and willingness to relate to others; (e) business and employment practices; (f) business networking; (g) information collection, interpretation, and use; (h) communication with others; and (i) development of plans and organizations. The authors discussed implications for the CE competency model and suggested it be a tool for setting and implementing standards for CE services.

Inge et al. (2018) conducted focus groups with 28 national experts and implementers of CE to develop research-based descriptions of CE that agencies can use to replicate CE when supporting individuals with significant disabilities. The authors used open-ended questions to solicit feedback from participants about underlying values and strategies for customized employment implementation. After reviewing the focus group data, Inge and colleagues outlined 12 themes/core CE practices. These themes/core practices included: meeting at a location of the individual's choice, building rapport and getting to know the individual, identifying the interests, skills, and abilities of the individual, conducting interviews with family and friends, observing the person in daily

activities in different community settings, arranging opportunities for the job seeker to observe a local business, conducting informational interviews, observing the job seeker engaging in job related tasks, assisting the job seeker in identifying a work experience to refine/identify job interests, collaborating with the job seeker and others to confirm job seekers interests, and negotiating a customized job.

Riesen and colleagues conducted three studies on customized employment fidelity scales. The first two studies represent an effort to validate the discovery fidelity scale (DFS) developed by Hall et al. (2018). In the first study, Riesen et al. (2019) used a modified online Delphi process to generate consensus among CE experts regarding what they believe to be acceptable and unacceptable indicators for CE discovery systems and services constructs. The expert panel reviewed and rated a total of 60 systems and service items. While the authors indicated that there appeared to be some subtle differences in what experts believe are acceptable and acceptable practices, almost all the acceptable and unacceptable systems and services level tenet indicators met criteria for consensus. In a follow-up study, Riesen et al. (2021a) sought to determine the internal consistency of the DFS and the respective systems and services constructs. The authors examined completed DFS for customized job seekers and used Cronbach's alpha to determine the internal consistency of the systems and service level tenets. A total of 17 DFS were completed and the results indicated moderately acceptable internal consistency for both service and systems constructs. However, the analysis indicated that three items in the service construct should be revised or removed to increase internal consistency. The authors also collected 90-day outcome data on the customized job seeker engaged in discovery and reported preliminary data. However, the small sample size constrained the authors' ability to conduct a robust analysis of the outcome data. Finally, Riesen et al. (2021b) conducted a three round Delphi study to build consensus among CE experts regarding 52 customized job development fidelity scale (JDFS) descriptors developed by Hall and Keeton (2019). Like the DFS, the JDFS has systems and service level constructs. After three Delphi rounds, consensus was obtained for most CE job development systems fidelity descriptors and all the CE job development services fidelity descriptors.

Finally, Smith et al. (2019) described Phase I, open trials of the Achieving Competitive, Customized Employment through Specialized Services (ACCESS) intervention. The ACCESS intervention

protocolizes the CE process into a package of tools, templates, and logs. Phase I consisted of the research team conducting an open trial to test the feasibility and acceptability of the ACCESS recruitment, intervention, and data collection benchmarks. The authors recruited 13 participants to participate in the Phase I trial and the research team was able to meet initial feasibility benchmarks. However, acceptability benchmarks were unable to be met as only four of these participants completed the open trial due to barriers with service providers and benefits analyses. The authors noted five of the participants were randomly assigned to one service provider who was unsuccessful in carrying out the intervention for any participant, leading the research team to attribute the failure to the provider rather than the intervention.

4. Discussion

The extant research on CE is predominantly descriptive research and suggests that CE produces quality employment outcomes for people with disabilities. There are several important observations that can be gleaned from the review. First, most model descriptions and project evaluations of CE did not provide thorough descriptions or operationalizations of the component parts of the CE process necessary to effectively replicate the model or to ensure fidelity to best-practice CE standards. Operationalizing the component parts of the CE process is a critical to move a practice or intervention to an EBP. Over the past three years, there have been several studies (Inge et al. 2018; Smith et al. 2019; Riesen et al. 2018; 2019; 2021a; 2021b) that represent a promising step toward systematically operationalizing the interventions, descriptions of the customized employment process. These studies identified objective measures that researchers can use to determine if a rehabilitation practitioner's implementation of customized employment discovery and customized job development meets established best practices. With elements of CE discovery and job development identified, researchers will be able to conduct more robust studies on what elements of CE are effective and what elements are not effective.

Second, none of the research on CE used randomized controlled trial (RCT) designs. The absence of RCT designs raises some questions about how to feasibly conduct employment related research with people with more significant disabilities as the relatively small, homogeneous population, lim-

its sufficient sample sizes for this methodology. This finding is important considering calls for rehabilitation practitioners to use EBP. As outlined in Table 1, the gold standard for EBP is RCT and the absence of this research methodology reinforces the notion espoused by Leahy et al. (2018) that while CE is highly relevant to rehabilitation practitioners, it has low levels of evidence. This observation may lead some rehabilitation practitioners to believe that the CE is not effective because of the lack of RCT research. The issue is further compounded by the fact that rehabilitation practitioners have differences in opinion about how to describe EBP and these differences may create challenges for service providers implementing rehabilitation practices (Sherman et al., 2018). Given this problem, researchers should use a wide range of research methodology outlined by NTACT to continue to establish CE as an EBP.

5. Conclusion

The findings have direct implications from both a practitioner and research perspective. From a practitioner perspective, we need to ensure practitioners are implementing CE with fidelity. Without objectively measuring fidelity to the process, we run the risk of practitioners believing they are implementing CE when they are not. When CE procedures are implemented without fidelity to procedures, there is a greater risk that the strategy will not produce desirable employment outcomes and the practice will be viewed as not effective. With specific validated fidelity measure in place, researchers, funding agencies, and community rehabilitation providers can reasonably ensure consistency and reliable implementation of CE process that produce valued outcomes.

From a research perspective, researchers should use operational descriptions and fidelity scales established in the literature to conduct scaled-up research and replication studies on CE. To move the needle toward establishing CE as an EBP, future research should include quality indicators for group experimental and quasi experimental research (Gersten et al., 2005), single subject research (Horner et al., 2005), and correlational research (Thompson et al., 2005). Based on these indicators, future research on CE should contain more robust indicators including (a) quality descriptions of the participants, (b) quality descriptions of settings and conditions, (c) descriptions of the independent and dependent variables, (d)

descriptions of fidelity to procedures, and (e) quality descriptions of social validity measures. Because of some of the problems with conducting RCT with individuals with significant disabilities, researchers should expand correlational research to establish CE as an EBP. Correlational studies should contain more robust measures including (a) reliability coefficients for all measured variables, (b) evidence inducted from a prior study that suggest scores are valid for the study inference, and (c) score validity is evaluated based on data generated in a study. Future correlational studies should examine components of the CE process (i.e. discovery and customized job development) to ensure that the two process parts are connected. For example, research might use the fidelity scales for discovery and customized job development to examine how scores on one scale predict outcomes on the other and whether combined score predict better CE. Future group designs should also be conducted to examine the efficacy of CE across groups and settings.

Acknowledgments

The authors have no acknowledgments.

Conflict of interest

The authors report no conflict of interest.

Ethics statement

As this was not a human subjects research study, ethical approval was not necessary and thus not obtained.

Funding

The contents of this paper were developed with support from a grant from the National Institute on Disability, Independent Living, and Rehabilitation Research (Grant number: 90DP0085), a center within the Administration for Community Living (ACL), U.S. Department of Health and Human Services (HHS), and from the Vocational Rehabilitation Technical Assistance Center for Quality Employment (Grant number: H264K200003) from the U.S. Department of Education. However, the contents do not necessarily represent the policy of the U.S.

Department of Education or U.S. Department of Health and Human Services, and you should not assume endorsement by the Federal government.

Informed consent

As this was not a human subjects research study, informed consent was not necessary and thus not obtained.

References

- Beyea, S. C., & Slattery, M. J. (2013). Historical perspective on evidence-based nursing. *Nursing Science Quarterly*, 26(2), 152-155. <https://doi.org/10.1177/0894318413477140>
- Burns, P. B., Rohrich, R., & Cheng, K. C. (2011). The levels of evidence and their role in evidence-based medicine. *Plastic and Reconstructive Surgery*, 128(1), 305-310.
- Citron, T., Brooks-Lane, N., Crandell, D., Brady, K., Cooper, M., & Revell, G. (2008). A revolution in the employment process of individuals with disabilities: Customized Employment as the catalyst for system change. *Journal of Vocational Rehabilitation*, 28, 169-179.
- Elinson, L., Frey, W. D., Li, T., Palan, M. A., & Horne, R. L. (2008). Evaluation of customized employment in building the capacity of the workforce development system. *Journal of Vocational Rehabilitation*, 28, 141-158.
- Federal Register, June 26, 2002, Vol. 67(123), 43154-43149. <https://www.govinfo.gov/content/pkg/FR-2002-06-26/pdf/02-16098.pdf>
- Fesko, S., Varney, E., DiBiase, C., & Hippensiel, M. (2008). Effective partnerships: Collaborative efforts that support customized employment. *Journal of Vocational Rehabilitation*, 28, 159-168.
- Graham, C. Inge, K., Wehman, P. Murphy, K., Revell, W. G., & West, M. (2013). Moving employment research into practice: Knowledge and application of evidence-based practices by state vocational rehabilitation agency staff. *Journal of Vocational Rehabilitation*, 39, 75-81. <https://doi.org/10.3233/JVR-130643>
- Gersten, R. Fuchs, L. S., Coyne, M., Greenwood, C., & Innocenti, M. (2005). Quality indicators for group experimental and quasi-experimental research in special education. *Exceptional Children*, 71, 149-164.
- Hall, S. R. & Keeton, B. (2019). Job development fidelity scale. Griffin-Hammis Associates.
- Hall, S., Keeton, B., Cassidy, P., Iovannone, R., & Griffin, C. (2018). *Discovery fidelity scale*. Atlanta, G. A., Center for Social Capital. <https://www.griffinhammis.com/wp-content/uploads/2020/10/DFS-December-2018-4-2.pdf>
- Harvey, J., Szoc, R., Rosa, M.D., Pohl, M., & Jenkins, J. (2013). Understanding the Competencies need to customize jobs: A competency model for customized employment. *Journal of Vocational Rehabilitation*, 38, 77-89.
- Heath, K. L., Ward, K. M., & Reed, D. (2013). Customized self-employment and the use of discovery for entrepreneurs with disabilities. *Journal of Vocational Rehabilitation*, 39, 32-27.
- Horner, R. H., Carr, E. G., McGee, G., Odom, S., & Wolery, M. (2005). The use of single-subject research to identify evidence-based practice in special education. *Exceptional Children*, 71(1), 165-179.
- Inge, K. J., Graham, C. W., Brooks-Lane, N., Wehman, P. & Griffin, C. (2018). Defining customized employment as an evidenced-based practices: The results of a focus group study. *Journal of Vocational Rehabilitation*, 48, 155-166. <https://doi.org/10.3233/JVR-180928>
- Jones, K. T., Currier Kipping, K., Landon, T., & McKnight-Lizotte, M. (2020). State Vocational Rehabilitation Counselors' Knowledge of the Discovery Process in Customized Employment. *Journal of Rehabilitation*, 86(2), 13-21.
- Leahy, M. J., Chan, F., Lui, J., Rosenthal, D., Tansey, T., Wehman, P., Menz, F. (2014). An analysis of evidence-based best practices in the public rehabilitation program: Gaps, future directions, and recommended steps to move forward. *Journal of Vocational Rehabilitation*, 41, 147-163. <https://doi.org/10.3233/JVR-14070>
- Leahy, M. J., Del Valle, R. J., Landon, T., Iwanaga, K., Sherman, S. G., Reyes, A., Chan, F. (2018). Promising and evidence-based practices in vocational rehabilitation: Results of a national Delphi study. *Journal of Vocational Rehabilitation*, 48, 37-48. <https://doi.org/10.3233/JVR-170914>
- Luecking, D. M., Gumpman, P., Saecker, L., & Cihak, D. (2006). Perceived Quality of Life Changes of Job Seekers with Significant Disabilities Who Participated in a Customized Employment Process. *Journal of Applied Rehabilitation Counseling*, 37(4), 22-28. <https://doi.org/10.1891/0047-2220.37.4.22>
- Luecking, D. M., & Luecking, R. G. (2006). A Descriptive Study of Customizing the Employment Process for Job Seekers with Significant Disabilities. *Journal of Applied Rehabilitation Counseling*, 37(4), 14-21.
- Luecking, R., Cuozzo, L., Leedy, M. J., & Seleznow, E. (2008). Universal one-stop access: Pipedream or possibility? *Journal of Vocational Rehabilitation*, 28, 181-189.
- Luecking, R. G., Cuozzo, L., & Buchanan, L. V. (2006). Demand-side workforce needs and the potential for job customization. *Journal of Applied Rehabilitation Counseling*, 37(4), 5-13. <https://doi.org/10.1891/0047-2220.37.4.5>
- National Technical Assistance Center on Transition (2018). Introduction to NTACT criteria for levels of evidence. <https://transitionta.org/wp-content/uploads/docs/criteria.NTACT-Levels-of-Evidence-2018.pdf>
- Riesen, T., Hall, S., Keeton, B., & Jones, K. (2019). Customized employment discovery fidelity: Developing consensus among experts. *Journal of Vocational Rehabilitation*, 50(1), 23-37. <https://doi.org/10.3233/JVR-180985>
- Riesen, T., Hall, S., Keeton, B., & Snyder, A. (2021a). Internal consistency of the customized employment discovery fidelity scale: A preliminary study. *Rehabilitation Counseling bulletin*.
- Riesen, T., Hall, S., Keeton, B., & Snyder, A. (2021b). Building Consensus Among Experts Regarding Customized Job Development Fidelity Descriptors: A Delphi Study. *Journal of Rehabilitation*, 87(3), 22-30.
- Riesen, T., & Morgan, R. L. (2018). Employer views of customized employment: A focus group analysis. *Journal of Vocational Rehabilitation*, 49(1), 33-44. <https://doi.org/10.3233/JVR-180952>
- Riesen, T., Morgan, R. L., & Griffin, C. (2015). Customized employment: A review of the literature. *Journal of Vocational Rehabilitation*, 43, 183-193.

- Rogers, C. Lavin, D., Tran, T., Gantenbein, T., & Sharpe, M. (2008). Customized employment: Changing what it means to be qualified in the workforce for transition-aged youth and young adults. *Journal of Vocational Rehabilitation*, 28, 191-207.
- Sherman, S., Landon, T. J., Del Valle, R., Leahy M. J., Chan, F. (2018). Contemporary perceptions of evidence-based practices in rehabilitation counseling. *Journal of Rehabilitation*, 84(4), 4-12.
- Shogren, K. A., Dean, E., Griffin, C., Steveley, J., Sickles, R., Wehmeyer, M. L., & Palmer, S. B. (2017). Promoting change in employment supports: Impacts of a community-based change model. *Journal of Vocational Rehabilitation*, 47(1), 19-24. <https://doi.org/10.3233/JVR-170880>
- Smith, T. J., Ching, D., Weston, A., & Dillahunt-Aspillaga, C. J. (2019). Achieving competitive, customized employment through specialized services (ACCESS). *Journal of Vocational Rehabilitation*, 50(3), 249-258. <https://doi.org/10.3233/JVR-191004>
- Thompson, B. Diamond, K. E., McWilliam, R., Snyder, P., & Snyder, S. (2005) Evaluation the quality of evidence from correlational research for evidence-based practice. *Exceptional Children*, 71(2), 181-194.
- Workforce Innovation and Opportunity Act. 29 U.S.C §705 et seq. (2014).