

# Effective Vocational Rehabilitation Services for Transition-Aged Youth: Lessons From the Literature

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**Objective:** The purpose of this study was to provide an overview of the current literature regarding the vocational rehabilitation services found effective in promoting employment among transition-age youth with disabilities as well as identifying factors affecting the effectiveness of those services.

**Methods:** This study utilized the Preferred Reporting Items for Systematic reviews and Meta-Analyses Extension for Scoping Reviews (PRISMA-ScR) guidelines to theoretically and methodologically ground the systematic review. Through a three-stage filtering process, 35 studies were identified that helped identify common and effective vocational rehabilitation services for transition-aged youth.

**Findings:** Three major themes were observed in the review of literature: validated vocational rehabilitation services, vocational rehabilitation counselor factors, and demographic variables.

**Conclusions:** Additional research is needed in the role of disability severity as a variable of successful service provision. Further identifying successful vocational services for varying levels of disability severity will provide vocational rehabilitation consumers with more individualized options and has the potential to increase positive case closure rates. Lastly, research indicated a need for continued training of VR counselors to ensure they are meeting the needs of their consumers.

**Keywords:** rehabilitation counseling; transition; youth; vocational rehabilitation; employment

Work is the primary organizing structure of life (Strauser et al., 2015) and a central aspect of one's self-identity (Miscenko & Day, 2016). It functions under the premise that work can be a therapeutic activity to promote health and well-being (McLellan, 2017; Strauser et al., 2015), particularly when the job requirements and work environment match the person's traits and characteristics (Spokane & Cruza-Guet, 2005).

For transition-aged youth, exploring career preferences, preparing for an occupation, and establishing a career are among the key developmental tasks during this stage (Lechner et al., 2016; Super, 1990). However, compared to older workers, youth

are at a disadvantage in the labor market due to a lack of work experience (Pastore, 2015). In addition, lack of motivation, lack of self-confidence, and unrealistic expectations about work life can create extra barriers to youth employment (Ose & Jensen, 2017).

Disability has been identified as the most significant barrier to transition-aged youth pursuing education and employment (Ose & Jensen, 2017).

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According to the National Longitudinal Transition Study, the employment rate of youth with disabilities was 5.1%–19.8% lower than those without disabilities, and the mean wage was 4.1%–15.3% lower than those without (Mann & Wittenburg, 2015). Moreover, youth with disabilities face additional challenges that reduce their chances to obtain a job, challenges that include lack of access to comprehensive and up-to-date career information, lack of opportunity to live independently and develop social relationships, inaccessible transportation, limited supported employment services in some geographical locations, and discrimination against youth with disabilities in the workplace (Lindsay, 2011; Pandey & Agarwal, 2013).

The state-administered vocational rehabilitation (VR) agencies are tasked with reducing employment barriers and assisting individuals with disabilities and chronic conditions to find and maintain competitive integrated employment. State VR agencies offer a variety of services such as assessment, diagnosis and treatment of impairments, VR counseling and guidance, college or university training, occupational/vocational training, on-the-job (OTJ) training, job readiness training, job search assistance, OTJ supports, transportation services, maintenance services, rehabilitation technology, and interpreter services in the rehabilitation process.

## TRANSITION SERVICES IN VR

Legislation has and continues to play a vital role in developing transition services and reducing the gap in employment outcomes for people with disabilities. The Rehabilitation Act of 1973, which mandated services for people with severe disabilities, could be perceived as the stepping stone to people with disabilities receiving services to aid them in obtaining employment. Moreover, other legislations, such as the Individuals with Disabilities Education Act (IDEA) of 1990, The Rehabilitation Act Amendments of 1992, The School-to-Work Opportunities Act of 1994, the IDEA Amendments of 1997, the Ticket to Work and Work Incentives Improvement Act of 1999, and the Workforce Innovation and Opportunity Act (WIOA) have helped advocate for equity for people with disabilities in the context of education and employment opportunities. The WIOA, passed in 2014, amends the Rehabilita-

tion Act of 1973 and requires state VR agencies to allocate at least 15% of their federal funding to provide preemployment transition services to improve transition outcomes of students with disabilities (US Department of Education, 2016). As a result, VR agencies have provided more tailored services for youth with disabilities, which also led to practitioners and researchers developing and improving programs and interventions (e.g., Project SEARCH).

The literature has demonstrated a variety of findings in relation to the employment rates of youth with disabilities served by VR. Successful employment outcomes of youth have been noted to vary among disability type with 49.7% having traumatic brain injuries (Rumrill et al., 2016), 52% autism (Chen et al., 2015), 52.5% visual impairment and blindness (Cimera et al., 2015), and 46.7% intellectual disabilities (ID) (Kaya, 2018). Ji et al. (2015) further explored the employment rates of youth with learning disabilities with the primary concern of gender and race/ethnicity differences among this population. The study identified that for males, 60.6% were White, 60.6% Hispanic, and 46% African Americans achieved competitive employment, whereas for females, 53.5% were White, 51% Hispanic, and 42.4% African American attained competitive employment (Ji et al., 2015). Hence, for youth with learning disabilities being male and White had a greater advantage, whereas being female and African American had the greatest disadvantaged in obtaining competitive employment. Kaya (2018) also examined the race/ethnicity differences in employment outcomes among youth with ID, where it was discovered that 51.6% were American Indian or Alaska Native, 49.7% Asian Pacific Islander, 49.5% White, 44.8% African American, and 40.7% Hispanic or Latinx. Furthermore, it is evident how contextual factors (e.g., disability type, the severity of symptoms, ethnicity) play a critical role in the employment outcomes of youth with disabilities receiving services from VR.

Several personal and contextual factors have been found to influence the employment outcomes of transition-age youth with disabilities. Certain demographic and personal characteristics, such as female, race/ethnicity minority status, having a cognitive disability (e.g., ID, autism, traumatic brain injury), poor general health status, low family income, and receiving social security benefits (Supplemental Security Income [SSI] or Social Security Disability

Insurance [SSDI]) are associated with poorer post-school competitive employment outcomes (Fabian, 2007; Sima et al., 2015). In contrast, employment training and work experiences in high school and high parental expectations for their child’s future predict successful school-to-work transition outcomes for youth with disabilities (Fabian, 2007; Wehman et al., 2015). However, many of these individual-level factors are non-modifiable, limiting the practical value of such findings.

To further improve employment outcomes for youth with disabilities, researchers have started to explore the potential impact of service-related factors on transition-age youth employment outcomes. Over the past decade, researchers have been investigating what VR services have been effective specifically for youth and what agency/counselor-related factors might moderate service outcomes. A systematic literature review regarding effective VR services for transition-aged youth with disabilities contributes to the overall understanding of which types of services continue to be effective as well as identifying which services require additional support or modification to become effective for transition-aged youth.

## METHODS

### Research Design

To theoretically and methodologically ground the systematic review, the research team utilized the Preferred Reporting Items for Systematic reviews and Meta-Analyses Extension for Scoping Reviews (PRISMA-ScR) guidelines set by Tricco et al. (2018). Through the use of consensus-building, expert consultation, and multiple rounds of reviews, the body of literature is evaluated in a way that ensures fidelity and gives the research team the ability to answer broader research questions (Tricco et al., 2018).

### Research Procedure

To better understand the constituency of the literature and to help create an a priori concept map, the team leader and one program assistant conducted a search of each of the 50 United States’ state VR websites for information related to the types of services provided to transition-aged youth with disabilities (see Figure 1). After conducting a review of available

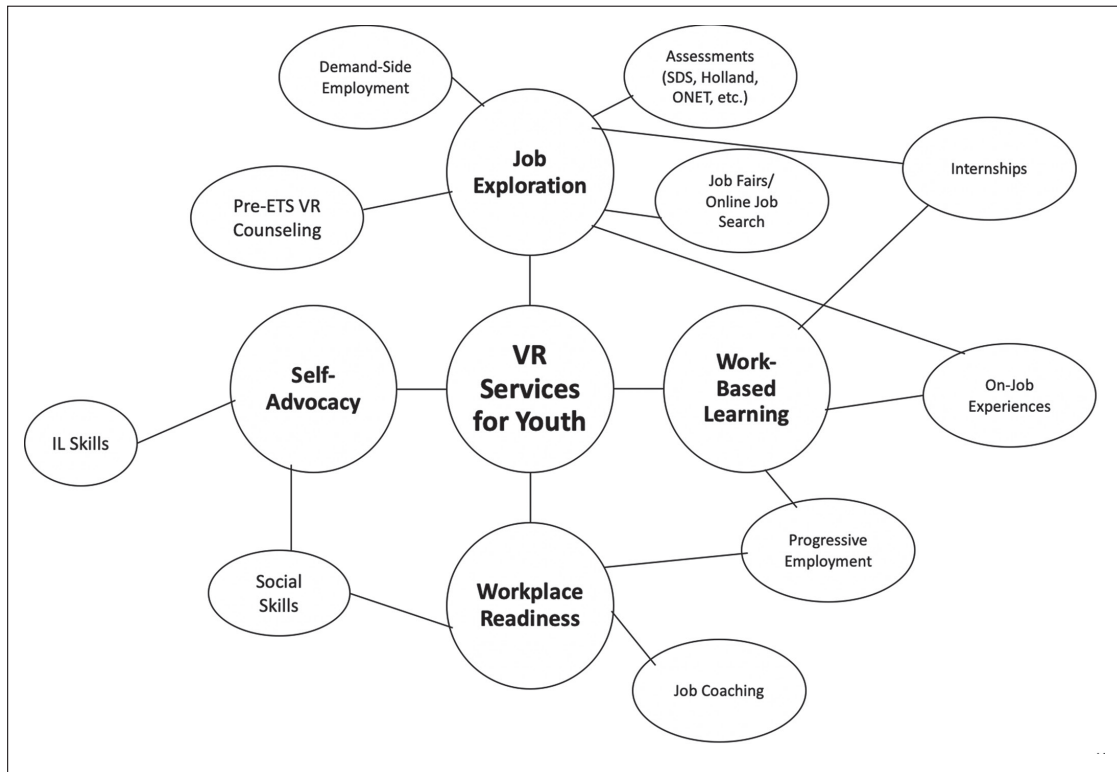


FIGURE 1. A priori concept map.

services for transition-aged youth across the United States, the research team identified that available services fell into one of four categories: job exploration, work-based learning, workplace readiness, and self-advocacy. While most services fell into a single category (i.e., Pre-ETS Vr Counseling and job exploration), several services were considered as belonging to multiple (e.g., On-job experiences and both job exploration and work-based learning). By operating under the assertion that VR services are not provided unless they are evidence-based, the research team hoped to capture the breadth of services available to transition-aged youth. To further guide the search, the research question, and sub-question were utilized to identify other sources. The research question and guiding framework for this systematic review was the following:

1. What public VR program services are found to be scientifically valid and effective for improving transition to the work of youth with a disability?
  - a. What contextual factors mediate the efficacy of public VR program services in the transition to work of youth with disability?

### **Research Team**

The systematic review research team consisted of one faculty member in the Rehabilitation Counseling Faculty who served as the team lead, and three program assistants. All of the program assistants were first- or second-year doctoral students in the Rehabilitation Counselor Education program. Team members attended training regarding systematic review procedures, training regarding interrater reliability, and were present at weekly project-wide meetings to facilitate procedural knowledge and to ensure consistency in information.

### **Database Search**

**Database Pool.** To ensure that the largest amount of information was collected through the search procedures, a total of eight databases were selected for search: (a) CINAHL Plus with Full Text, (b) Academic Search Premier, (c) Education Research Complete, (d) ERIC, (e) Social Work Abstracts, (f) APA PsycInfo, (g) APA PsycArticles, and (h) Family & Society Studies.

### **Initial Inclusion Criteria**

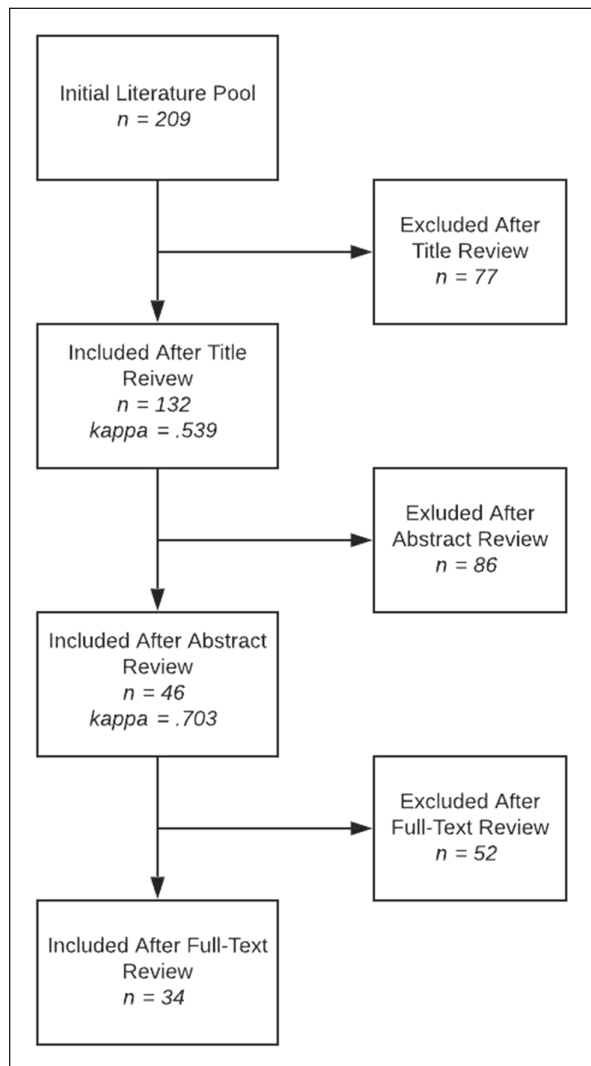
To gather an initial volume of data, a preliminary set of inclusion criteria was developed. To be included, the literature must: (a) have been published in the United States between January 2005 and May 2020, (b) be peer-reviewed, and (c) be empirically driven research.

### **Keywords**

To further facilitate the literature search, a set of keywords were introduced to further narrow the search results. To be included in the initial search, the keywords must have appeared in the article abstract. Keywords were created based on the overall nature of the systematic review as well as specific ideas identified in the a priori concept map (see Figure 1). Review-level keywords regarding disability included the following: (disab\* OR handicap\* OR impair\* OR behavior disorder OR behavioral disorder OR autism OR emotional disorder OR learning disorder OR developmental disorder OR mental ill\* or intellectual disorder). The results were further modified to reflect the specific population of transition-aged youth: (youth OR transition\* OR teenag\* OR adoles\* OR “high school” OR student), and employment focus: (job OR work OR employ\* OR hire OR career OR intern\*). To specifically address the research question, the following keywords were included for search within the abstract: (“self-advocacy” OR “workplace readiness” OR “work-based learning” OR “job exploration”).

### **Reviewing Process**

Three additional exclusion points were identified after the initial literature search to further scope the body of literature in a meaningful way: (a) title review, (b) abstract review, and (c) full-text review. Two project assistants conducted independent reviews for the title and abstract reviews to identify if the article should be included for subsequent review. Articles that were found by both reviewers to be acceptable for inclusion were forwarded for subsequent review, and those that were found by both to not meet criteria were excluded from further review. In the event of a disagreement between reviewers on inclusion, the third project assistant acted as an additional reviewer to determine if the



**FIGURE 2.** Literature review search results.

article should be included or excluded. For the full-text article review, each project assistant independently reviewed the article for inclusion in the final reference list and consulted with the team lead if questions arose regarding inclusion or exclusion. While specific inclusion criteria were developed for each round of reviews, the reviewers only excluded articles that were directly or obviously unrelated to the research questions.

## RESULTS

The initial literature search yielded a total of 209 articles for consideration. The title review resulted in 77 articles being excluded from the study, leaving a

total of 132 articles advancing to the abstract review. The interrater reliability  $kappa$  value for the title review was computed to be .539. Of the 132 articles considered for abstract review, 86 articles were found to have not met the established criteria and were therefore excluded from the full-text review. Forty-six articles advanced to the full-text review, and the  $kappa$  value for the abstract review was .703. A  $kappa$  score was not computed for the full-text review, as each article was reviewed by a single member of the research team. The full-text review did not utilize the consensus-building process used in the title or abstract review, rather each article was reviewed independently, a summary created, and a decision was made regarding inclusion in the final literature pool. A consensus was only used when the reviewer had questions or was unsure of whether or not an article should be included. While this is a departure from the prescribed PRISMA-ScR method, the research team did not consider it a significant limitation of the study.

The final literature pool at the conclusion of the full-text review was 35 articles, including 34 articles from the successful abstract reviews and one additional article that was added to the final literature pool during the full-text review. This additional article was located within one of the full-text reviews and was found to meet all of the established criteria for both title and abstract review, as well as a full-text review.

At the conclusion of the review, the research team evaluated the a priori concept map based on the findings. Several revisions were made to reflect the concepts represented in the literature, and a new concept map was created (see Figure 3). The revision of the concept map reflects a change in understanding related to effective services. The initial conceptualization of the concept map specifically focused on available VR services, whereas the updated concept map reflects the significant impact of both consumer and counselor factors on the efficacy of VR services. Furthermore, to accommodate these factors, the VR services were condensed into a service type rather than specific services that were provided.

Our review of 35 articles revealed three major themes related to effective VR services for youth with disabilities. The major themes discovered consisted of the following: (a) VR services, (b) VR counselor factors, and (c) VR consumer variables.

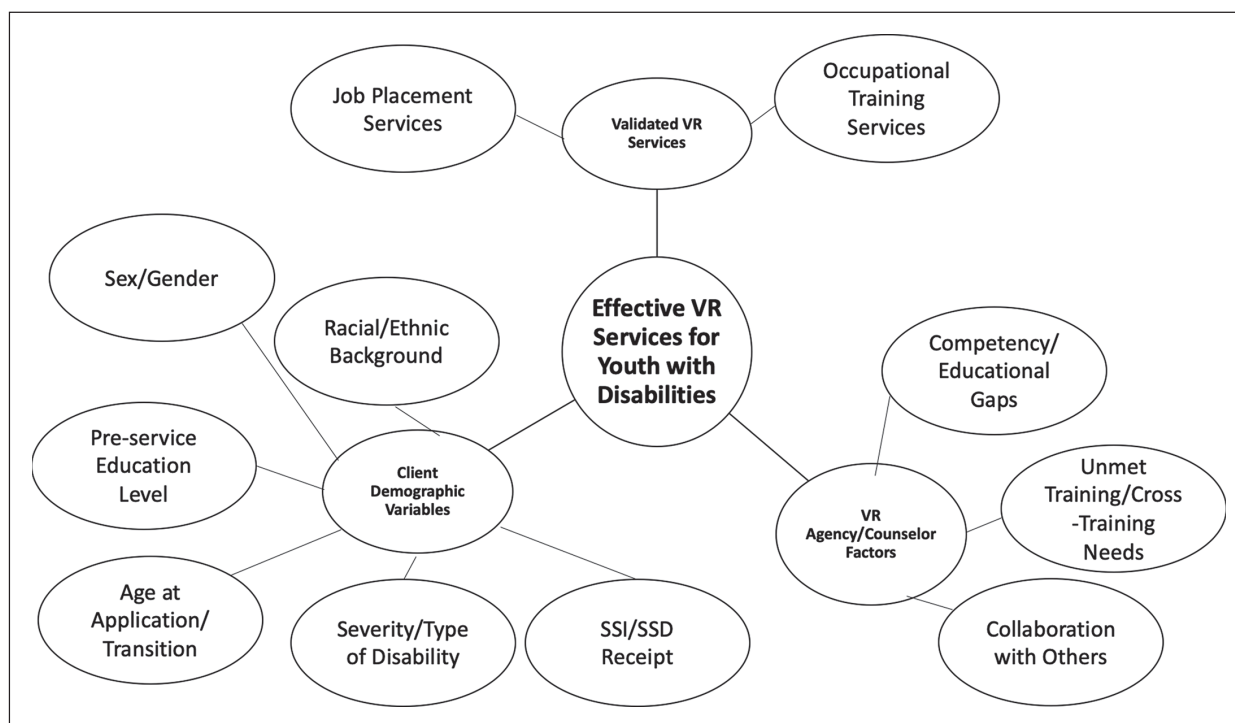


FIGURE 3. Post hoc concept map.

### Validated VR Services

As a result of the WIOA, more attention and delivery of services has been provided to youth with disabilities with the hopes of it aiding them in acquiring the skills necessary to be able to attain competitive employment, a noted component of all the articles. Based on the studies from our search, the most common key validated VR services associated with successful employment outcomes (i.e., competitive employment) were job placement and occupational training.

#### Job Placement

Our findings identify ten studies that cite job placement as a critical predictor of employment outcomes for people with various types of disabilities. Job placement is the primary method of VR counselors assisting people with disabilities in work environments, and it is often used as a wraparound term to describe services provided between application and obtaining employment in the state-federal VR system.

The other critical element of job placement is job search or job search assistance. Job searches

occur as a part of plan development in VR and traditionally consist of the counselor and consumer working together to identify existing jobs in the area using newspapers, want ads, job development connections, and the internet. Eight studies (Eun et al., 2015; Kaya, 2018; Kaya et al., 2016; Luecking et al., 2018; Migliore et al., 2012; Rumrill et al., 2016; Sung et al., 2015) identified the job search and assistance with the job search as being variables of interest or variables that impacted the outcome.

#### Occupational Training

Occupational training (including college training services, OTJ support/training, and job readiness training) was the other significant category of validated VR services to serve transition-aged youth with disabilities. Three studies identified college training as being critical (Chen et al., 2015; Ji et al., 2015; Luecking et al., 2018), where consumers who were offered college training were more likely to have successful employment outcomes. OTJ training and support, is a term used to describe services taking place in situ, where consumers are trained for and supported in jobs directly in an employment setting. Four articles (Cimera et al., 2015; Kaya,

2018; Kaya et al., 2016; Migliore et al., 2012) identified OTJ services as having an impact on overall employment success. In comparison, five articles (Cimera et al., 2015; Ji et al., 2015; Kaya, 2018; Kaya et al., 2016; Migliore et al., 2012) found that job readiness training was also predictive of successful employment outcomes for transition-aged youth with disabilities.

### **Other Services**

Other services known to be positively associated with competitive employment were maintenance (Cimera et al., 2015; Kaya, 2018; Kaya et al., 2016; Rumrill et al., 2016), rehabilitation technology (Cimera et al., 2015; Kaya, 2018; Kaya et al., 2016; Luecking et al., 2018; McDonnall & Crudden, 2009), transportation (Cimera et al., 2015; Kaya, 2018; Kaya et al., 2016), assessment (Kaya, 2018; Kaya et al., 2016; Migliore et al., 2012; Oswald et al., 2016), and supported employment (Nevala et al., 2019; Tidwell et al., 2016; Wehman et al., 2014).

### **Demographic Factors**

In addition to the service type, the current scoping review found that consumers' demographic characteristics affect VR service outcomes. Demographic variables associated with having a mediating effect on the efficacy of VR services included sex, race, education, age at application, and receipt of SSI/SSDI benefits.

#### **Sex and Gender**

Studies have consistently shown that consumers that identify as males have better employment outcomes than females (e.g., Alsaman & Lee, 2017; Balcazar et al., 2013; Kaya, 2018). In this review, 17 studies identified sex or gender as a variable of interest or variable of impact, while three (Balcazar et al., 2013; Cimera et al., 2015; Sung et al., 2015) specifically cited sex or gender as impacting the overall results of the study. In a study of VR referrals for transition-aged youth, the research team found that consumers that identify as female are more likely to receive services related to higher education rather than employment as compared to their male peers (Cimera et al., 2015).

#### **Race**

Compared to racial/ethnic minority youth, White youth are more likely to obtain competitive employment (Alsaman & Lee, 2017; Cimera et al., 2015) and receive higher pay (Ji et al., 2015; Migliore et al., 2012) at case closure. On the other hand, Black youth have significantly lower rates of competitive employment (Ji et al., 2015; Kaya, 2018), while employment outcomes have been mixed in Hispanic/Latino youth (Awsumb et al., 2016; Kaya, 2018; Kaya et al., 2016).

#### **Education**

The current review also found the effect of education level on VR service outcomes for transition-aged youth with disabilities. Higher education level at application predicted better employment outcomes at case closure (Alsaman et al., 2017; Cimera et al., 2015; Kaya, 2018; Sung et al., 2015). In contrast, youth who have received special education had lower rates of competitive employment (Kaya et al., 2016). The results align with our finding that receiving college/university training service improves the quality of employment outcomes (Cimera et al., 2015; Ji et al., 2015).

#### **Age at Application**

Younger age at application and early transition state also predict higher employment rates and better employment outcomes (Cimera et al., 2015; Jun et al., 2015; Migliore et al., 2012). Specifically, receiving VR transition services by age 14 significantly enhances employment outcomes (Cimera et al., 2014). In support of these findings, a recent study discovered that youth who received VR services from the targeted secondary transition program had better employment outcomes than those who did not receive these services (Langi et al., 2017). This suggests that VR agencies should promote an early delivery of vocational preparation and employment support services for transition-aged youth with disabilities.

#### **SSI/SSDI Receipt**

Youth who receive SSI/SSDI benefits, especially SSDI benefits, are shown to have worse employment outcomes (e.g., Cimera et al., 2015; Honeycutt et al., 2017; Poppen et al., 2017). This might be because

recipients of SSI/SSDI tend to have more severe disabilities that significantly impact their ability to work or have limited income and financial resources. The result is in accordance with another finding of this review that youth with more severe disabilities (e.g., ID, traumatic brain injury, autism spectrum disorder [ASD]) or multiple disabilities have lower rates of competitive employment (Giesen & Cavanaugh, 2012; Poppen et al., 2017). Although several studies have examined effective VR services for youth with disabilities (e.g., Cimera et al., 2015; Kaya, 2018; Migliore et al., 2012), the investigations were limited to certain types of disabilities (ASD, Kaya et al., 2016; Migliore et al., 2012; ID, Kaya, 2018; visual impairment, Cimera et al., 2015). Moreover, these studies were generic and did not identify targeted VR services for disability subgroups by severity

### VR Counselor Factors

VR counselors play a vital role in the transition planning for youth with disabilities, which typically involves setting employment goals (e.g., obtaining full-time employment with at least minimum wage salary). A group of four research studies exploring VR counselors' training, competencies, and perspectives on the quantity and quality of services being provided to youth with disabilities have pointed out important areas, which may be impacting the services youth with disabilities are receiving.

### DISCUSSION

Job placement services are critical, primarily for people with disabilities, due to the unique barriers they may encounter in daily activities and work environments. Furthermore, researchers have suggested VR counselors incorporate organizational and occupational knowledge on job matching with the biopsychosocial framework of return to work to improve the delivery of job placement services (Nützi et al., 2017). A biopsychosocial framework is fitting due to its conceptualization of a person's work functioning being a result of the interactions between their medical conditions, personal resources, and influences of the environment (Waddell & Aylward, 2010). Future research should explore further the implication to evaluate its effectiveness in the provision of

better-quality job placement services. In addition, counselors and practitioners should ensure youths are being provided with more targeted job placements (Wehman et al., 2014, as cited in Kaya et al., 2018).

There are several factors to take into consideration when contemplating the effectiveness of VR services, such as beginning time of services, length of provision/receiving of services, and gender and disability category differences. Research has demonstrated that the earlier the individual begins receiving services, the more likely they will be employed (Cimera et al., 2014; Jun et al., 2015). Another important finding observed in relation to the provision of VR services is the length of provision of services for youth with disabilities in which mixed findings were observed. Jun et al. (2015) identified how the longer an individual is part of VR programs, the greater the likelihood of them obtaining competitive employment. While Kaya (2018) study identified the opposite in which individuals would obtain better CE outcomes if they stayed in VR for a shorter amount of time.

A possible explanation for such mixed findings could be a result of differences in the context of gender and disability groups. Sung et al. (2015) identified job placement and OTJ supports to be equally effective in males and females with ASD, yet, gender differences were observed, with males benefitting more from counseling and guidance, job search assistance, and other services. When looking at youth with disabilities in general, it was noted males were provided with more OTJ training, while females received more literacy services (Oswald et al., 2016). In addition, the study also identified differences in the provision of services based on disability category, with youth with ID receiving more OTJ training compared to other disability groups, along with the provision of college services being lower for youth with ID, ASD, and mental illness. Disability category differences also played a role in the impact of the start age of services. Jun et al. (2015) discovered that the age at the beginning of participation in the VR program was a significant predictor of employment outcomes, primarily for individuals with cognitive disabilities. A commonality observed in our study was the positive association between the number of services an individual received with a higher likelihood of obtaining employment (Ditchman et al., 2018; Kaya, 2018; Poppen et al., 2017).



A common concern by researchers has been observed in regard to the training vocational counselors are receiving, which various studies have pointed out existing gaps in the training being provided to VR counselors (Neubert et al., 2018; Plotner et al., 2012, 2014). Some of the areas in which training can be improved consist of increasing counselors' level of preparedness, which based on barriers identified, could be facilitated through a more thorough focus on case management and job placement skills (Neubert et al., 2018). Moreover, due to transition-focused VR counselors frequently working with other professionals (e.g., special education educators), training should incorporate the information in relation to how to better collaborate with other professionals into their curriculum along with consideration of implementing a type of "cross-training" approach. Plotner et al. (2014) identified that regardless of whether a VR counselor had the CRC certification, it did not impact their feelings of preparedness.

The findings indicate the existence of gender, and race/ethnicity disparities in VR service outcomes for transition-aged youth with disabilities, which is consistent with the previous findings of such disparities in VR services and outcomes across age groups and disability types (Cardoso et al., 2007; Delman, 2019; Dutta et al., 2008). VR agencies should promote service equity to benefit clients from diverse cultural backgrounds, potentially through improving VR counselors' multicultural competency. Prior research has shown that VR counselors' multicultural competency positively affects the rehabilitation rate and employment outcomes (Bellini, 2003).

The findings suggest that VR counselors should promote college/university training services to youth who demonstrate the capability and willingness to further schooling. It remains unknown what VR services would benefit youth with other types of disabilities or with more severe disabilities. Therefore, more research is needed to identify effective services for people with severe and/or multiple disabilities.

## **Recommendations and Implications for Rehabilitation Services**

Following the conclusion of the systematic review, several recommendations are made to establish a

future direction for continued research related to methodological recommendations, considerations for severity, and increased attention to training initiatives for counselors. These recommendations have the potential to have far-reaching implications for the body of research as well as the practice of rehabilitation counseling overall.

Currently, the literature identifies two major validated services for transition-aged youth with disabilities: job placement services and occupational training services. When creating transition plans for youth, VR counselors should focus on those services to maximize the opportunity for positive outcomes. Outside of service provision, however, effective services for transition-aged youth revolve around two groups: clients' demographic factors and VR counselor factors. Client's demographic factors are basic demographics that have been found to impact service delivery and outcomes for transition-aged youth with disabilities. VR counselors should be mindful of the impact demographics have on service provision and strive for equity in services. Similarly, the VR counselor should be aware of their own competency gaps regarding the provision of transition services and seek out additional training or educational opportunities to supplement their knowledge base.

The role of disability severity as a variable of successful service provision was explored only in a single study of the final literature pool and only in terms of a consumer being considered "too disabled for services" (Cimera et al., 2015, p. 265). The inclusion of disability severity beyond the dichotomy of "eligible for services" or "too disabled for services" has the potential to identify nuances in establishing validated successful VR services. Particularly when considering spectrum-based or progressive disabilities (e.g., multiple sclerosis, ASD, Parkinson's, schizophrenia spectrum disorders), consumers with differing symptom constellations require individualized rehabilitation services and a "one-size-fits-all" approach would be inappropriate. Further identifying successful vocational services for varying levels of disability severity will provide VR consumers with more individualized options and has the potential to increase positive case closure rates. Prior to receiving VR services, persons seeking services must first apply and be deemed eligible. The state-federal VR system relies on an "order of selection" to determine which applicants will receive priority referral to

begin services. Under the order of selection created by the Rehabilitation Act of 1973, applicants with the most severe disabilities will be given priority eligibility for receiving VR services (The Rehabilitation Act, 1973). Applicants are evaluated thoroughly to establish a need for VR services and assess the potential benefit of receiving such services.

Critical to the development of a nuanced idea of services is the continued training of VR counselors to be able to meet the needs of their consumers. Several of the studies included in the final literature pool identified training needs that exist for counselors who serve transition-aged youth (Neubert et al., 2018; Plotner et al., 2012, 2014). By continuing to develop training initiatives and resources for counselors serving transition-aged youth, VR services are able to be increasingly effective and accessible to a larger client base.

## Limitations

The review of the research was not without limitation. While the research team felt that the systematic review captured a great deal of the extant literature regarding validated services for transition-aged youth, the study's focus solely on empirical literature may have truncated the search. As a result, this review may not have captured emerging services that have not yet been empirically validated. A secondary limitation of this study involves the selected literature being published solely in the United States, as services that have been validated to transition-aged youth in other countries were not captured in this systematic review.

The methodological makeup of the final literature pool demonstrated that a majority of the published research (24 of 35 studies) around transition-aged youth utilized secondary data analysis of the Rehabilitation Services Administration Case Service Report (RSA 911) database (Center for Large Database Research & Data Sharing in Rehabilitation [CLDR], n.d.). While this database contains a significant amount of data regarding consumer demographics and service provision, these data are not available until several months after reporting has taken place. This artifact creates barriers for researchers who are looking for active data trends, and the overall body of literature would benefit from an increase in primary data analysis. The inclusion of

primary data analysis as well as qualitative exploration in future research directives has the ability to provide a more nuanced and contemporary picture of service provision for transition-aged youth.

## CONCLUSION

When considering the service categories that have been validated in this study (job placement and occupational training) it is critical for VR counselors to consider the impact of both counselor factors (e.g., competence) as well as consumer factors (e.g., race, sex) on the person's experience with employment and the state-federal VR system. Consumers who have minoritized backgrounds are less likely to have positive employment outcomes, potentially widening the wage and employment participation gaps across multiple populations. Considering the variety of findings in such differences, more research is needed in exploring the differences among demographic groups to aid in ensuring the appropriate services and length of services are being provided.

Additional study is warranted in the exploration of counselor competencies related to supporting transition-aged consumers, especially as service provision expands in the area of transition overall. Future research in this area should also explore or identify possible explanations for consumers' continuous feelings of competence at the job site and develop training or resources, which may be beneficial in reducing feelings of incompetence.

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