

Topical Manuscript

Collaborations to Support Employment Outcomes of Youth With Disabilities

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The unemployment and underemployment of transition-age youth with disabilities represents a major barrier to full participation in the range of adult life activities. The lack of participation in employment has a negative effect on their physical health, mental health, and overall quality of life. The state–federal vocational rehabilitation (VR) program is the largest program in the United States focused on helping individuals with disabilities achieve employment in support of independent living and community integration of persons with disabilities. However, in addition to VR programs, there are a number of public and private agencies focused on employment of transition-age youth with disabilities. In recognition of the multiple stakeholders and supports, the Workforce Innovation and Opportunities Act of 2014 (WIOA) emphasizes the need for collaboration between VR programs and other agencies and providers. The purpose of this study was to conduct a scoping review to identify effective collaborative practices for improving transition to work of transition-age youth with disabilities. Through a methodical review of the literature, 31 articles were identified that met the research protocol criteria. Findings from this scoping review are provided along with implications for efforts to promote collaboration between VR programs and other entities.

While the transition from school to adult life of transition-age young adults with disabilities is considered a critical phase in itself, the high unemployment rates experienced by these individuals presents unique challenges. Unemployment serves as a major challenge as it prevents individuals with disabilities from community participation, including employment participation, and has great negative impacts on their physical health, mental health, and quality of life (Iwanaga et al., 2021; Murali & Oyeboode, 2004; Storlie et al., 2016). Studies have shown that unemployment affects people beyond their socio-economic status. In specific, long-term unemployment is more likely to lead to depression and anxiety disorders, alcohol use disorders, lower self-esteem, and quality of life (Dutta et al., 2008; Hall et al., 2013; Mueller, 2017). As a result, participating in competitive integrated employment (CIE) and other meaningful work activities is crucial to the health and well-being of individuals with disabilities, as well as a fundamental human right (Chan et al., 1997; Ditchman et al., 2013).

Employment, particularly those positions with benefits, allows individuals to provide for themselves, live independently and with dignity, connect with people, access healthcare services, and function as a productive member

of society. Hence, work is essential for both the physiological and psychological well-being of people with and without disabilities (Fryers, 2006). Youth have been described as living in a sensitive time because of the effects unemployment has had on their mental health, which may persist until their adulthood (Fergusson et al., 2014; Hammarström & Janlert, 2002; Strandh et al., 2014; Viner et al., 2015). Employment for transition-age youth, regardless of disability status, is one of the most desirable social achievements (Hendricks, 2010), with activities such as career exploration, preparation for an occupation, and establishment of a career being key to the developmental stage in which they are (Lechner et al., 2016; Super, 1990). Moreover, transition-age youth go through the developmental stage of emerging adulthood, which indicates that individuals are expected to experience an “exploration” phase where individuals encounter the different possibilities for their future (Arnett, 2000).

During this developmental stage, individuals then engage in identity exploration where they may gradually begin embracing adult-like responsibilities and behaviors, along with other areas in relation to their life as an adult such as employment (Arnett, 2004, 2006). Additional benefits of employment for transition-age youth with disabili-

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ities include better health outcomes (Dean et al., 2018), higher quality of life (Eggleton et al., 1999; Huang et al., 2012), fewer struggles with development of sense of purpose (Nevala et al., 2019), more opportunities to socialize with others and develop relationships (Auerbach & Richardson, 2005; Test et al., 2000), and higher sense of belongingness (Koletsi et al., 2009; Leufstadius et al., 2009). Despite the significance and benefits employment has on transition-age youth, in 2020, the employment rate for youth with disabilities between the ages of 16 and 19 was 23.6% versus 35% for those without disability; whereas for those between the ages of 20 and 24, the employment rate was 44.2% versus 70.4% for those without disability (U.S. Department of Labor, 2020).

The state-federal vocational rehabilitation (VR) program is the largest program in the United States helping individuals with disabilities achieve employment, independent living, and community integration and participation goals. Currently there are state VR agencies in all 50 states and U.S. trust territories. However, the public VR program has had limited success in serving youth with disabilities in the transition to employment or postsecondary education (Burgess & Cimera, 2014). In response to the lack of progress in serving these youth, several initiatives have been offered to increase public VR program capacity. The Workforce Innovation and Opportunities Act (WIOA) mandates 5% of public VR programs' funding to be expended directly on services for youth with disabilities to coordinate and collaborate on pre-transition and transition-related activities. However, one of the major challenges VR professionals are facing is how to implement transition and VR services for transition-age youth and young adults with disabilities that are grounded in scientifically-based research required by the Individuals with Disabilities Education Act (IDEA) and the Rehabilitation Act.

According to the U.S. Department of Labor (2020), to promote outcomes among youth in transition, WIOA also fosters regional collaboration whereby states must identify economic regions among their state and local areas where each of the regions is required to coordinate planning and service delivery strategies. This legislation also emphasizes employer engagement, particularly in ensuring workforce investment activities meet the needs of employers, and support regions economic growth through collaboration and coordination among employers, economic entities, and service providers. Section 223 of WIOA also depicts agency collaboration to occur whenever possible to avoid duplication of services and expand the impact of such collaborations and/or activities provided. Lastly, WIOA mandates collaboration among employment, educational, and other human resource programs to integrate service delivery to enhance better long-term employment outcomes for individuals who are receiving such services, such as transition-age youth with disabilities (U.S. Department of Education, 2016).

Moreover, the updates to WIOA in 2014 continue to advocate for strong interagency collaboration between state-federal VR programs and schools by mandating that youth between the ages of 14 and 24 who are transitioning from

school to employment must work with VR agencies (U.S. Department of Education, 2014). Additionally, VR agencies and schools are also required to work collaboratively to provide the needed pre-employment transition services (pre-ETS) transition-age youth with disabilities may need, along with engaging with and supporting parents and students throughout the transition from school to employment (U.S. Department of Education, 2014). The aim of pre-ETS is to serve as a career pathway for transition-age youth with disabilities through the provision of information and experiences related to career development. As described in WIOA of 2014, there are five activities within pre-ETS: job exploration counseling, work-based learning experiences, counseling on postsecondary opportunities, work-related training, and instruction in self-advocacy.

Furthermore, WIOA of 2014 aims to enhance the transition from school to work of transition-age youth with disabilities. This is due to, as previously mentioned, its call for ongoing development and strengthening of interagency collaborations, along with service provision for this population. Although stakeholders have begun implementing said practices mandated by WIOA, there is limited research examining the existent scientifically valid and effective collaborative practices to enhance employment outcomes of transition-age youth with disabilities. Given the crucial role interagency collaborations can play in the transition outcomes of these youth (e.g., employment), this study sought to examine the literature to better understand existent collaborative projects.

Purpose of the Study

The purpose of this study was to conduct a scoping review to identify effective collaborative practices for improving transition to work of transition-age youth with disabilities. The following research question was addressed in the current study:

1. Which collaborations between services providers (e.g., secondary education, VR, other providers) are found to be scientifically valid and effective for improving transition to work of youth with disability?

Methods

Research Design

Scoping review is a process of systematically mapping the existing landscape of literature and examining knowledge gaps for developing recommendations for future research (Arksey & O'Malley, 2005; Levac et al., 2010). This approach of reviewing the literature is ideal for research topics that are complex and have not been empirically and systematically examined sufficiently, without removing practices that are not evidence-based practices but nonetheless provide important practice and guidance for future research directions (Dijkers, 2009; Johnston et al., 2009).

Research Procedure

This scoping review followed PRISMA-ScR (Preferred Reporting Items for Systematic reviews and Meta-Analyses Extension for Scoping Reviews) guidelines (Tricco et al., 2018) to increase methodological transparency and uptake of research findings. It was developed according to published guidance by the EQUATOR (Enhancing the QUALity and Transparency Of health Research) Network for the development of reporting guidelines (Moher et al., 2009, 2010; Tricco et al., 2018). The PRISMA-ScR guidelines provide 17 preferred reporting items, such as database search, reviewing process, information sources, and synthesis. In addition, Arksey and O'Malley (2005) and Levac et al. (2010) recommended including consultation with experts in the field to make sure to cover important documents of the theme.

Database Search

Database. This scoping review included a search among the eight following electronic bibliographic databases: (a) CINAHL Plus, (b) Education Research Complete, (c) ERIC, (d) Family & Society Studies Worldwide, (e) Family Studies Abstracts, (f) Social Work Abstracts, (g) APA PsycInfo, and (h) APA PsycArticles. The search was limited to peer-reviewed articles only, studies in the United States, and works published in the English language from 2005 to 2020 to capture current practices, as well as how the landscape has changed over time.

Keywords. The literature search was further facilitated by five categories of keyword search terms. The selection of keywords was based on the nature of the research question and the scoping review. The first keyword search term was related to disability (disab* OR handicap* OR impair* OR behavior disorder OR autism OR emotional disorder OR learning disorder OR developmental disorder OR mental ill* OR intellectual disorder). To further narrow the population of interest, youth keywords were implemented (youth OR transition* OR teenag* OR adoles* OR "high school" OR student), as well as employment keywords (job OR work OR employ* OR hire OR career OR intern*). Lastly, general keywords (collabor* OR coordinat* OR MOU OR partners* OR cooperat*) and specific keywords (Federal* OR state* OR privat* OR public OR contract OR grant) were selected based on the nature of the present study's research question.

Reviewing Process

Subsequent to the initial literature search, there were three processes used to filter out articles that did not meet the inclusion criteria: title review, abstract review, and full-text review. The inclusion criteria for title review were that articles must be related to "employment" and "disability." The inclusion criteria for the abstract review indicated that articles had to be associated with "youth with disability or chronic illness" or "employment" or "transitional services." For the full-text review, the inclusion criteria were that articles needed to relate to "disability or chronic illness" or

"employment" or "service providers collaboration on transitional services". Lastly, as recommended by Arksey and O'Malley's (2005) and Levac and colleagues (2010), a consultation with stakeholders (i.e., research expert in the areas of collaboration, transition-age youth, and transition to work) was implemented where they were asked to review the references to ensure all the collected articles were appropriate and no critical articles were missing from the scoping review literature.

The reviewing process was facilitated primarily by two members of the research team. Prior to beginning the research project, the research team members received training on the basics of scoping reviews, as well as on interrater reliability, to promote consistency of inclusion/exclusion judgment. For the first two review processes (title and abstract review), two members of the research team reviewed each study independently. Articles were excluded when both raters concluded the article did not meet the inclusion criteria. In situations where disagreements between the reviewers occurred, an additional reviewer was assigned to review the article. If the additional reviewer believed the article did not fit the inclusion criteria, the article in question was dropped from consideration. For the full-text review, the articles remaining after the abstract review were divided among the two raters. Each rater then reviewed the corresponding articles independently and consulted with the additional reviewer if questions came up about the inclusion or exclusion of a particular article. Furthermore, due to two raters being involved in the title and abstract reviewing process, Cohen's kappa (κ) was utilized as the measure for the interrater reliability estimate, as suggested by McHugh (2012). Rationale for not calculating the interrater reliability estimate (i.e., Cohen's kappa) for the full-text review was due to only one rater reviewing the articles.

Expert Consultation. After the full-text review was completed, a consultation was sought with an expert (i.e., researcher) in the areas of collaboration, transition-age youth, and transition to work. The consultant was asked to review the articles to help identify important articles that were missing from our collection.

Synthesizing Literature. The studies collected via the electronic database search and expert consultation were analyzed through a recursive process of reflecting on emerging themes. Two research members facilitated the process of identifying and synthesizing recurrent themes. Once the themes were identified, the research team continued integrating the data by reviewing the articles and writing the summary of each theme. We utilized the same literature synthesize procedure as in the Iwanaga and colleagues (2021) study.

Results

Study Selection

The initial literature search within the selected eight databases generated a total of 686 articles. The title review resulted in 334 duplicate articles and 271 excluded articles, resulting in 81 articles moving to the abstract review. The interrater reliability estimate for the title review was 72%

($\kappa = 0.72$), indicating a moderate agreement as suggested by Cohen (1960). The abstract review resulted in the exclusion of 32 additional articles, leaving 49 articles for the full-text review. The interrater reliability was 60% ($\kappa = 0.60$), also indicating a moderate agreement as suggested by Cohen (1960). In the full-text review, 22 additional articles were excluded due to not meeting the inclusion criteria. Additionally, two other articles were also excluded because the studies took place outside the United States, resulting in not meeting the stated inclusion criteria. Moreover, to guarantee the scoping review was comprehensive of collaborative projects promoting transition to work of transition-age youth with disabilities, we consulted with an expert. The expert identified six relevant additional studies that were added to our literature collection. Ultimately, there were a total of 31 articles in the final literature collection, with 25 articles from the overall three-step reviewing process and six from the expert consultation (see [Figure 1](#)).

Summary of Contents

Our scoping review demonstrated that the number of studies concerning collaborative efforts for transition services has dramatically increased during the last decade. Majority of the articles ($n = 24$; 77%) related to collaboration of transition services for transition-age youth with disabilities were published within the last seven years. This is not surprising as WIOA of 2014 requires state VR agencies to partner with local and state agencies, such as schools and employment centers, pushing the move toward interagency collaboration in transition services and giving birth to a number of new collaborative programs (Fabian et al., 2016). Furthermore, 17 of the 24 articles were published between 2017 and 2020, speaking to the increased attention and interest in collaborative efforts to encourage better outcomes for transition-age youth with disabilities. Out of the 31 selected studies, 26 addressed collaborations, while five addressed barriers in collaborations. To further examine the 31 collected studies, themes were developed to provide a more structured discussion about the literature. As a result, four major themes were observed: (a) nature of the partnerships, (b) nature of the collaborations, (c) outcomes from collaborations, and (d) barriers to collaborations.

Nature of the Partnerships

Numerous partnerships were observed through the selected 31 studies, with a variety of collaborators such as VR, school districts, universities, businesses, families, advocates, adult service providers, medical centers, and private service providers. For example, the New York State Model Transition Program (MTP) was one of the studies that addressed a collaborative project between VR and schools (Karpur et al., 2014). Meanwhile, the Indiana School-to-Work Collaborative project was also among one of the observed multi-agency collaborations in our review, where stakeholders included VR, school districts, community employment and rehabilitation providers, representatives from the state parent center, and other adult service providers (e.g., mental health, developmental disabilities,

workforce development; Grossi et al., 2019). As a result of such diverse collaborative teams, partnerships in the literature search were depicted in the following categories: multi-agency collaborations ($n = 12$), VR and schools ($n = 7$), VR and businesses ($n = 7$), VR and universities ($n = 3$), VR and families ($n = 1$), and private service provider and businesses ($n = 1$).

Nature of the Collaborations

Collaborations observed in the literature search were classified into five categories: Project SEARCH ($n = 6$), PROMISE ($n = 4$), PIE ($n = 4$), other collaborative transition projects ($n = 7$), and informal collaborations ($n = 5$).

Project SEARCH

The Project SEARCH Model is an employer-based education and employment transition program consisting of a 9-month job training program for youth with intellectual and developmental disabilities (IDD) who are in their last year of high school (Rutkowski et al., 2006). Students in the training program participated in a 10 to 12-week internship in a community business, with daily classroom instruction that facilitated the development of a wide set of skills such as social communication and employability skills (Whittenburg et al., 2020). Collaborators involved in the program varied from state to state, however the primary contributors included VR counselors and businesses. Project SEARCH can also be applied with additional supports relating to autism spectrum disorder (ASD), known as the Project SEARCH Plus ASD Supports Model. This model's purpose is to better support youth with ASD and aims to do so through the incorporation of three additional components: (a) onsite, intensive, systematic instruction following applied behavioral analysis (ABA) principles; (b) provision of support and consultation from a behavior/autism specialist; and (c) thorough training in ASD and the Project SEARCH Model (Whittenburg et al., 2020). A total of six Project SEARCH-related studies were identified in our search (Christensen et al., 2015; Müller & VanGilder, 2014; Schall et al., 2015; Wehman et al., 2012, 2014; Whittenburg et al., 2020).

PROMISE

The Promoting the Readiness of Minors in Supplemental Security Income (PROMISE) projects were funded by the U.S. Department of Education to promote collaborative effort for transition-age youth with disabilities among different stakeholders, such as universities, state VR, secondary schools, community service providers, and families. According to the Social Security Administration (n.d.), there are currently a total of six projects across 11 states that have incorporated this model. States that have participated include Maryland, New York, Arkansas, Wisconsin, California, and the six-state ASPIRE consortium that included Arizona, Colorado, Montana, North Dakota, South Dakota, and Utah. Services within PROMISE included case management, employment-promoting services, benefits counseling, and

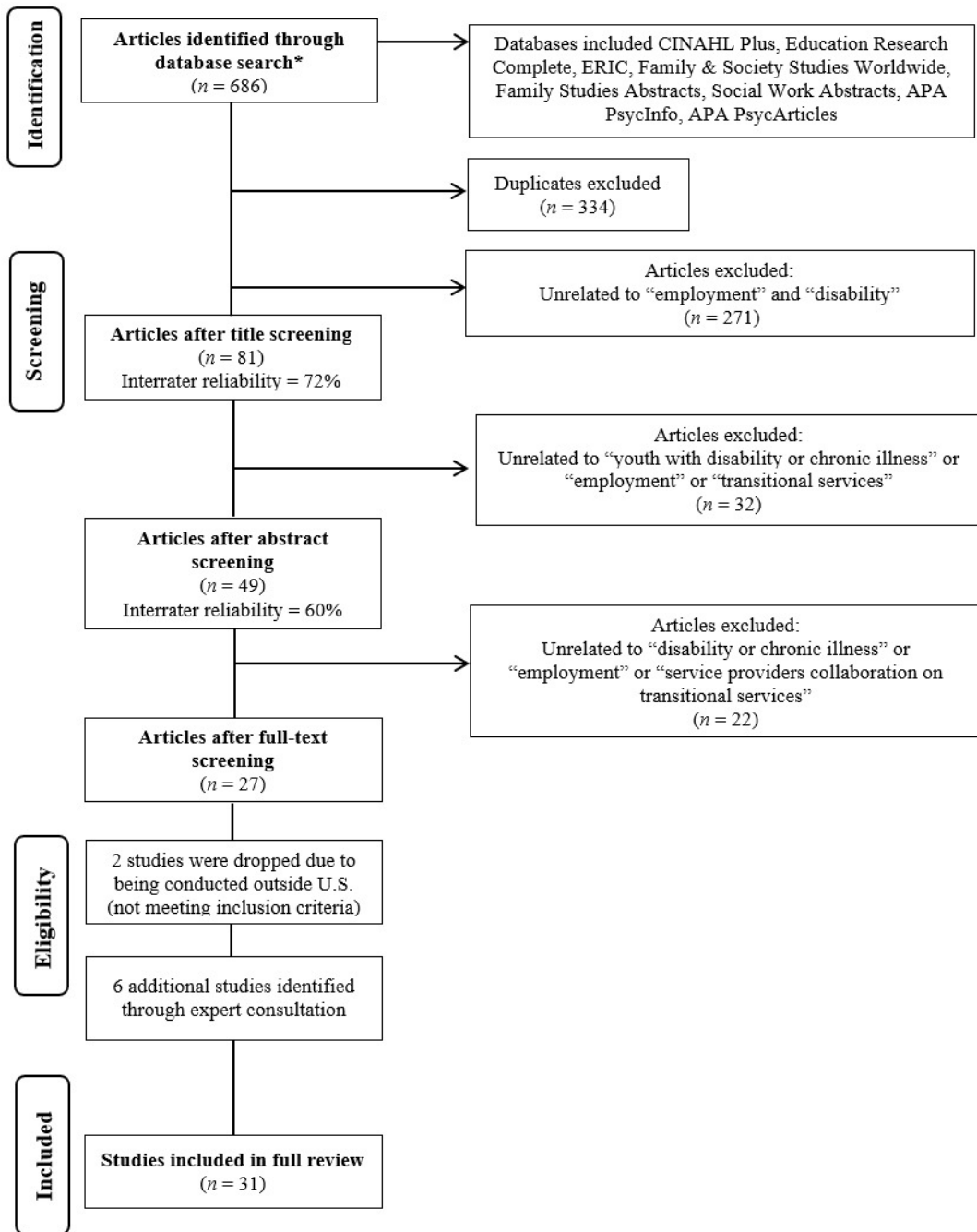


Figure 1. PRISMA Flow Chart of Article Selection

financial education, among many others (Livermore et al., 2020). A total of four PROMISE-related studies were identified in our search. These specific projects were comprised of Wisconsin PROMISE (Hartman et al., 2019), Maryland PROMISE (Luecking et al., 2019), ASPIRE—a PROMISE initiative (Ipsen et al., 2019), and an evaluation of the overall PROMISE services (Livermore et al., 2020).

PIE

The Partnerships in Employment (PIE) project was funded by the Developmental Disabilities Assistance and Bill of Rights Act Reauthorization of 2000 (DD Act) Projects of National Significance and the Administration on Intellectual and Developmental Disabilities (AIDD). The PIE

project utilized a cross-systems approach to bring traditionally non-communicating agencies together (Tucker et al., 2017). Collaborators included stakeholders from developmental disabilities (DD) agencies, VR agencies, state education agencies, and the state DD council. These entities worked together to deliver activities focused on employment preparation for high school students with IDD, as well as providing CIE opportunities for young adults prior to graduation. There has been a total of 14 states that have participated in the PIE project: California, Iowa, Mississippi, Missouri, New York, Wisconsin, Alaska, Tennessee, District of Columbia, Hawaii, Kentucky, Massachusetts, South Carolina, and Utah (Youth Employment Solutions Center, 2020).

Our scoping review identified a total of four PIE-related studies. The specific projects included the Missouri PIE Project (i.e., Show-Me-Careers; McVeigh et al., 2017), the Mississippi PIE Project (i.e., Mississippi Partnerships for Employment for Youth and Young Adults with Intellectual and Developmental Disabilities [MSPE]; Hughes, 2017), the New York PIE project (i.e., New York State Partnerships in Employment Systems Change; Christensen et al., 2017), and a study evaluating the eight PIE projects (i.e., projects from the states of California, Iowa, Mississippi, Missouri, New York, Wisconsin, Alaska, and Tennessee; Tucker et al., 2017). Nonetheless, our search did not find PIE studies relating to the projects in the following five states: District of Columbia, Hawaii, Kentucky, Massachusetts, and South Carolina. A potential explanation for this is that articles addressing PIE projects in the listed states (e.g., Hawaii) were not published in the timeframe within which our scoping review was focused (i.e., 2005-2020).

Other Collaborative Transition Projects

An additional seven collaborative transition projects were identified that included the following: (a) California Employment Consortium for Youth with IDD (CECY), (b) Paid Apprenticeship and college for Youth with disabilities (PAY Check) program, (c) Jobs by 21 Partnership Project, (d) Guided Group Discovery (GCD), (e) Indiana School-to-Work Collaborative Transition Model, (f) New York State Model Transition Program (MTP), and (g) Transitional Workforce Project. A brief description of each project is provided below.

California Employment Consortium for Youth with IDD (CECY). This project consisted of a partnership among 45 representatives from 25 local and state agencies, organizations, families, and stakeholders (Raynor et al., 2017). The project followed two models for change: (a) a high-performing states framework that identifies effective elements for employment systems change, and (b) a collaborative leadership that works in engaging diverse stakeholders in conversations, mutual learning, shared responsibility, and action. The mission of this program was to promote policy change and strengthening the state systems and communities in California, with the goal of increasing CIE outcomes for youth with IDD (Tarjan Center at UCLA, n.d.).

Paid Apprenticeship and college for Youth with disabilities (PAY Check) Program. The PAY Check program is a multi-component secondary transition program for youth with disabilities from under resourced schools in New Orleans and includes partnerships among the University Center of Excellence in Developmental Disabilities, state VR, Local Education Agencies (LEA), Delgado Community College, and University Medical Center-New Orleans (Wilson et al., 2017). The program has multiple sources of funding through an earlier grant focused on postsecondary education youth with intellectual disability from the U.S. Department of Education. The typical length of the program consists of three semesters and includes the following four key components: work-based high school diploma, postsecondary education, paid apprenticeship components, and ongoing self-determination training. The PAY Check pro-

gram is the first program for people with disabilities that formally integrates all four key components.

Jobs by 21 Partnership Project. This project was developed as a result of a majority of young adults with IDD in Washington not having successful transition outcomes from school to employment (Winsor et al., 2011). This project is also one of eight partnerships of the Employment National Transitions Systems Change Project. The purpose of Jobs by 21 Partnership Project was to identify, develop, and promote policies and practices to improve transition outcomes, such as obtaining competitive employment and postsecondary education (Winsor et al., 2011). This project was developed in 2007 by the state legislature of Washington with the goal of establishing state-wide partnerships between the Division of Development Disabilities, counties, and schools to ensure students use the needed, available supports while in school and thus enhance their likelihood of obtaining employment (Winsor et al., 2011).

Guided Group Discovery (GCD) Approach. The GCD approach was developed as a new approach to customized employment where multiple agencies provided support to transition-age youth and adults to attain successful employment outcomes (Salon et al., 2019). Collaborators involved in the facilitation of this approach were the Oregon VR Agency and the National Center on Leadership for the Employment and Economic Advancement of People with Disabilities (LEAD Center). The GCD approach consisted of a weekly one to two-hour session for a total of five to six weeks, where facilitators supported transition-age youth and adults with disabilities in developing a “Blueprint for Employment” to help them discover their interests, skills, support network, and potential employers (LEAD Center, n.d.).

Indiana School-to-Work Collaborative Transition Model. The Indiana School-to-Work Collaborative Transition Model was funded by the National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR). This model was developed by VR, schools, The Arc, and the special education center, among other entities in the state of Indiana. Interventions under this model consisted of the incorporation of a career coach in schools that supported students in a various set of ways. Responsibilities of the career coach included the following: (a) serve as a liaison between student and adult agencies and work experiences, and (b) be the main point of contact for schools, families, community, and providers (Grossi et al., 2019).

New York State Model Transition Program (MTP). This transition program involved the collaboration between LEA and community partners (e.g., community rehabilitation providers) with the goal of improving postsecondary outcomes for youth with disabilities. Funding for this program was made possible through the VR agency of the New York State Education Department (NYSED) which provided MTP grants to sixty LEA (Brewer et al., 2011). Furthermore, requirements of program included the following: (a) usage of evidence-informed transition to adulthood strategies, (b) development of networks with community-based service providers for a more collaborative service delivery,

and (c) collaboration with local VR district offices (Karpur et al., 2014).

Transitional Workforce Project. This project was funded through a transition workforce grant project that involved the collaboration between the state workforce commission, school districts, and employers who were part of the consortium (Brendle et al., 2019). The purpose of the project was two-fold, to prepare: (a) students with learning disabilities for a job setting, and (b) employers that were part of the consortium to understand the needs of students in the workplace. Moreover, students in this project were assigned to a job coach that had received training in quality job indicators for students with learning disabilities. Employers who were part of this project also received the same training as job coaches. The selected quality job indicators for this project were in the areas of safety, productivity, attendance, acceptable behavior, punctuality, on-the-job training, job coaching, and writing and/or communication-related accommodations (Brendle et al., 2019).

Informal Collaborations

A total of five informal collaborations were found in our scoping review relating to career assessment services (Herbert et al., 2010), employers' perspectives on work-based learning experiences (Riesen & Oertle, 2019), VR professionals' influence on curricula for youth with severe disabilities (Plotner & Dymond, 2017), postsecondary programs' collaborative efforts (Grigal et al., 2012), and a video-modeling intervention (Allen et al., 2010). Due to the great impact career assessments have on employment outcomes of youth with disabilities, Herbert and colleagues (2010) analyzed the career assessment practices provided to high school youth with disabilities in Pennsylvania via a statewide online survey for transition professionals (e.g., VR counselors, special education teachers, high school staff, transition counselors). Among the various research questions the researchers examined in the Herbert et al. (2010) study, one was pertaining to the perceived level of collaboration in the career service delivery along with their views on such collaboration. Consequently, Riesen and Oertle (2019) examined employers' perspectives in the development of work-based learning experiences for youth with disabilities where they collected data through online surveys provided to employers in a western state in the United States.

As an effort to better comprehend the collaborative efforts within curriculum decisions for youth with the most significant disabilities, a population that is known to have the lowest employment outcomes, Plotner and Dymond (2017) investigated the role VR professionals had on curricula development for youth with severe disabilities. Researchers interviewed six VR transition specialists in a Midwestern state, with the aim to further comprehend the existing collaborative process by which curriculum decisions were being made. Moreover, Grigal and colleagues (2012) explored the collaborative efforts between postsecondary programs and school systems (i.e., K-12 and postsecondary institutions) as well as the impacts it had on employment supports provided to students with IDD. The last

informal collaboration identified involved a video-modeling intervention that taught vocational skills in a social setting to male youth with ASD (Allen et al., 2010). In Allen and colleagues' (2010) study, participants were trained to fulfill their job as a WalkAround mascot® whose responsibilities included entertaining customers in a retail setting. The video-modeling intervention was a collaborative project between a University Center for Excellence in Developmental Disabilities and a local private business.

Outcomes from Collaborations

The outcomes from the overall collaborations found in this literature search can be best understood in the following four categories: increased collaborations ($n = 5$), increased readiness to go to work for youth ($n = 7$), increased work attempts and retention for youth ($n = 13$), and facilitated policy changes ($n = 3$).

Increased Collaborations

Studies reported beneficial and efficacious employment outcomes for youth as a result of these collaborative efforts. Livermore et al. (2020) found formal partnership and regular communication increased interagency collaborations across PROMISE states where multiple stakeholders collaborated to develop and implement transition programs for low-income youths with disabilities who received Supplemental Security Income (SSI). Additional projects that demonstrated to enhance collaborations included the eight-state PIE projects, Show-Me-Careers Initiative (i.e., Missouri PIE project), MSPE project (i.e., Mississippi PIE project), Indiana School-to-Work Collaborative Transition Model, and CECY. More specifically, the Show-Me-Careers Initiative increased the engagement between employers and communities, thus contributing to more employers hiring students with IDD in paid work experiences (McVeigh et al., 2017). Additionally, the MSPE project resulted in changes for self-advocates, family members, educators, and businesses regarding their attitudes, knowledge, and awareness of employment for youth with IDD (Hughes, 2017). Thus, changes in perspectives on employment for the identified population can enhance collaboration among entities, as it can facilitate members' agreement on a vision and outcome (e.g., improvement of employment outcomes for youth with disabilities). Other projects such as the Indiana School-to-Work Collaborative Transition Model increased schools' connections with adult service providers (Grossi et al., 2019), whereas CECY strengthened ties within stakeholders and its partnering agencies, families, and organizations, thus establishing cross-system accountability (Raynor et al., 2017).

Increased Readiness to Go to Work for Youth

Collaborative efforts such as Project SEARCH, PROMISE, MSPE, GCD, New York State MTP, and the Indiana School-to-Work Collaborative Transition Model demonstrated a contribution to youths' readiness to go to work in a variety of ways. First, there were three projects that contributed

to youths with disabilities' understanding of employment, along with building the needed skillsets for work. For example, the MSPE project showcased positive changes in attitude and awareness of employment among youth with IDD (Hughes, 2017). Similarly, the GCD approach revealed that youth with disabilities exposed to this tool reported having a better understanding and relationship with adult services agencies thus increasing youth's confidence in seeking employment (Salon et al., 2019). Meanwhile, Project SEARCH showed significant progress in youth with ASD's specific entry-level job skills and workplace behaviors, such as the ability to send emails and exhibit a good work ethic (Müller & VanGilder, 2014).

Second, there were four projects that reported interventions and activities that increased the likelihood of successful employment outcomes among youth with disabilities. For example, the provision of career assessments early on in high school (i.e., within the first two years) suggested a greater likelihood of obtaining employment due to the early exposure to career exploration activities (Herbert et al., 2010). Similarly, the New York State MTP also supported the significance of youth being exposed to career development activities by demonstrating its association to better employment outcomes (Karpur et al., 2014). The New York State MTP also highlighted the importance of having postsecondary education and employment goals in individualized education plans (IEPs) due to their positive association to youth engagement in in-school work and receiving services from community-based providers (Karpur et al., 2014). Moreover, the Indiana School-to-Work Collaborative Transition Model revealed that having a career coach in high schools increased the work-based learning experiences available to students with disabilities, resulted in better employment outcomes, and increased the connections to adult service providers (Grossi et al., 2019). Lastly, the PROMISE ASPIRE initiative suggested that the number of in-person meetings and early engagement in self-determination training were significant predictors of long-term employment for youth with disabilities receiving SSI (Ipsen et al., 2019).

Increased Work Attempts and Retention for Youth

Youth with disabilities engaged in more work attempts after partaking in collaborative programs such as Project SEARCH, PROMISE, PIE, Show-Me-Career Initiative, MSPE, Jobs by 21 Partnership Project, Indiana School-to-Work Collaborative Transition Model, New York State MTP, and the Transitional Workforce project. Project SEARCH, for example, was associated with attainment of competitive employment among youth with ASD (Wehman et al., 2014), with youth participating in the program having higher wages, job retention, and number of hours worked per week (Christensen et al., 2015). Similar findings were observed in youth with ASD that were military-dependent and -connected that participated in Project SEARCH (Whittenburg et al., 2020). As for PROMISE, the established interagency collaborations and integration of services and supports resulted in better employment and earning outcomes for youth with disabilities receiving SSI (Hartman et al., 2019;

Livermore et al., 2020). Thus, indicating that PROMISE overall was positively associated with employment and earning outcomes for youth with disabilities receiving SSI.

The PIE projects removed systemic barriers and implemented practices that supported CIE through business engagement, family engagement, and expanding postsecondary education options (Tucker et al., 2017). More specifically, the Show-Me-Careers Initiative (i.e., Missouri PIE project) increased student employment, both part-time and paid employment (McVeigh et al., 2017). The MSPE Project (i.e., Mississippi PIE project) conducted two pilot projects among two selected school districts, where both pilot projects demonstrated improved transition services outcomes and employment experiences. A total of 72 students that participated in the MSPE pilot projects obtained employment in the community (Hughes, 2017). Similarly, the Jobs by 21 Partnership Project indicated that youth with disabilities that participated in the project had a greater likelihood of youth obtaining employment after school exit (Winsor et al., 2011).

The Indiana School-to-Work Collaborative Transition Model (Grossi et al., 2019) and the New York State MTP (Karpur et al., 2014) were additional collaborative projects that demonstrated to increase employment outcomes of youth with disabilities. Specifically, the New York State MTP reported that the likelihood of youth with disabilities achieving successful postsecondary outcomes (e.g., employment) were doubled compared to youth with disabilities that did not participate in the project (Karpur et al., 2014). Additionally, the Transitional Workforce project demonstrated to adequately support youth with learning disabilities, primarily by increasing their ability in completing their job tasks more satisfactorily (Brendle et al., 2019), thus increasing the likelihood of youth with learning disabilities maintaining the job. Moreover, for youth with severe disabilities, it was noted that employment outcomes could be improved when VR professionals and school personnel coordinated in decisions involving the school curriculum (Plotner & Dymond, 2017).

Facilitated Policy Changes

Three projects in our literature search identified outcomes relating to collaborations that resulted in facilitation of policy changes, with some relating to employment. The PIE projects led to policy changes and development relating to employment-focused policies, such as prioritizing CIE over sheltered workshops and subminimum wage and establishing funding for employment services and initiatives focused on CIE (Tucker et al., 2017). Specifically, the MSPE project resulted in changes in government and agencies policies and procedures as well as changes in policymakers' attitudes, knowledge, and awareness of employment for youth with IDD (Hughes, 2017). Lastly, the CECY project saw policy changes that supported CIE for youth with disabilities (Raynor et al., 2017).

Barriers to Collaboration

Although there were various benefits from collaborations particularly in relation to successful employment outcomes for youth, researchers have also identified several barriers to collaborative efforts. A total of five studies were identified in our search that addressed barriers in collaborations. However, there were some additional studies that, apart from addressing various collaborative efforts, also identified barriers to collaboration. To better comprehend the overall barriers discussed in the set of studies, the following four categories were identified: duplication of tasks ($n = 1$), system costs ($n = 1$), employer and provider attitudes ($n = 2$), and gaps between services ($n = 4$).

Duplication of Tasks

Our scoping review revealed that duplication of tasks was among one of the barriers of collaboration. More specifically, duplication of tasks was observed to hinder the successful transition outcomes of youth with disabilities within collaborative projects and efforts. Students, directors, and coordinators of an office of disability services at a university expressed particular concerns on this matter. As Dutta and colleagues (2009) reported, participants (i.e., students with disabilities and university directors/coordinators) indicated that there existed a crucial need for collaborative service providers to eliminate the duplication of their efforts. This suggests the need for better communication and knowledge of other partners and service providers' roles in order to improve the collaborative work and avoid having a duplication of tasks.

System Costs

Despite the benefits of collaborations, engaging in partnerships can be challenging for some stakeholders due to the time and continued effort needed to form collaborative relationships (Livermore et al., 2020). Hence, it is important to recognize that some of the stakeholders involved may have other responsibilities they need to fulfill outside of the collaboration, thus resulting in having a limited capability of committing to a collaborative partnership. Additionally, intensive case management, a core feature of the PROMISE projects, was also noted to cost the most across all PROMISE states (Livermore et al., 2020).

Employer and Provider Attitudes

While studies revealed that the partnerships with the local businesses and/or universities resulted in successful collaborative efforts, it was also noted that employers and/or providers had several concerns about hiring someone with a disability. Riesen and Oertle (2019) found that 33% of employers expressed concerns about the nature of the work at their business being too difficult for a person with a disability to fulfill. Although the difficulty of the task was the primary concern, employers also expressed some concerns around business liability and impact on coworkers' performance. Additionally, students with disabilities that

received services from the university's office of disability services, expressed experiencing various barriers (e.g., lack of accommodations) that resulted from attitudinal barriers (Dutta et al., 2009).

Gaps Between Services

Rehabilitation professionals are known to be a key provider in ensuring the successful transition to adulthood of youth with disabilities which was noted across various collaborations mentioned earlier. Despite the great role these professionals have on collaborative teams and supporting youth, Honeycutt and colleagues (2015) found that most rehabilitation counselors recognized they cannot serve all youth with disabilities who qualify for education services under IDEA. This is quite concerning due to it indicating that there is a lack of rehabilitation counselors, as well as those currently serving youth potentially having big caseloads thus impacting their ability to adequately serve all youth with disabilities.

Additionally, staff members at a postsecondary disability services office also reported their office was understaffed, which resulted in experiencing challenges with their ability to engage in efficient and effective collaboration with other agencies (Stodden et al., 2005). This is an unsettling discovery due to concerns relating to the continuity of service provision, as well as the gap between policy and practice at educational institutions, which has resulted in students needing to advocate for basic accommodations. Parents have also emphasized the need for additional opportunities to collaborate with different stakeholders (e.g., transition professionals) in setting transition goals and the need to advocate for long-term employment success (Rabren & Evans, 2016).

Teachers have been another partner that have been identified to experience several challenges in adequately supporting transition-age youth with disabilities. Teachers' schedules and differences among team members' confidentiality standards and protocols were found to negatively impact the development of interagency collaborations (Plotner et al., 2017). The busy schedules teachers tend to have, as a result of ensuring all school requirements are being met, result in them not being able to meet with outside agencies and/or community providers critical to their development of a better understanding of transition-related services. Plotner and colleagues (2017) further explained this by describing how the many responsibilities teachers have tend to be outside of those relating to transition. Besides, there is a lack of transition-specific training for teachers, which could be an additional factor contributing to such knowledge gap thus further limiting the improvement of interagency collaborations (Plotner et al., 2017).

Discussion

The purpose of the present scoping review was to examine the existent collaborations between service providers that have been proven to be valid and effective for improving transition to work of transition-age youth with disabilities. The findings of this study can be interpreted in four

main themes: nature of the partnerships, nature of the collaborations, outcomes from collaborations, and barriers to collaboration. Moreover, the selected 31 studies that made up this study identified the current effective collaborations along with the areas of improvement to further facilitate and increase the successful employment outcomes for transition-age youth with disabilities.

Nature of Partnerships

Findings of this study indicate that the majority of the collaborative efforts involved partners from various organizations, agencies, and/or institutions (i.e., multi-agency collaborations), such as VR counselors, schools, universities, businesses, parents, and youth with disabilities, among others. However, collaborations between VR and schools, VR and businesses, and VR and universities were observed, too. It is important to note that although certain collaborations may only have two main partners (e.g., VR and schools), it does not indicate that other collaborators were not involved (e.g., families). This speaks to the reality of how, at times, a collection of members is needed to effectively deliver a specific program or intervention; this emphasizes the importance of building networks with other individuals outside of one's organization, agency, and/or institution. Moreover, awareness and understanding of what relationships have been proven to be effective is important, for it can help develop better provision and coordination of transition services for youth with disabilities.

Nature of Collaborations

The nature of collaborations observed in our literature search were mostly from projects such as those of Project SEARCH, PROMISE, and PIE. This is not to say that these were the only collaborative projects found in relation to supporting youths' employment outcomes, but rather these were the most referenced programs. Moreover, seven other collaborative projects were identified, along with five informal collaborations. Overall, these collaborative projects demonstrated the ability to facilitate the effectiveness of collaborative efforts among various parties. In addition, all the discussed collaborative projects sought to promote successful employment outcomes of youth with disabilities, and provide an evaluation of each respective project. Lastly, several positive outcomes were observed as a result of agencies working collaboratively, some of these included: (a) increased transition-age youth with disabilities quality of life and independence, (b) policy changes, and (c) removal of systemic barriers (Christensen et al., 2017; Tucker et al., 2017).

Outcomes from Collaborations

Outcomes of the identified collaborations were classified into four categories: increased collaborations, increased readiness to go to work for youth, increased work attempts and retention for youth, and facilitated policy changes. Collaborative efforts identified in this scoping review demonstrated to enhance partnerships and communication among

the respective stakeholders in each collaborative project. As mentioned, there were several projects that had this outcome, such as PROMISE, PIE, the Indiana School-to-Work Collaborative Transition Model, and CECY.

Researchers have demonstrated that collaborative efforts contribute to the successful employment outcomes of transition-age youth with disabilities. Successful employment outcomes can be perceived as depending on youth's readiness to work, as well as their work attempts and retention. A trend observed in our review was how the earlier youths with disabilities were exposed to career assessments or opportunities for career development, the better employment outcomes they may experience due to the increased opportunity for career exploration (Herbert et al., 2010; Karpur et al., 2014). Karpur and colleagues (2014) specifically noted how having postsecondary education and employment goals listed in an IEP, along with having related in-school work and receipt of services from community-based providers, predicted successful employment outcomes of transition-age youth with disabilities. Furthermore, collaborations between employment providers and schools also suggested several benefits. For example, schools have information on age-appropriate transition assessments, which can be fundamental to the initiation of the Discovery process, development of work experiences, or facilitation of job development (Grossi & Thomas, 2017). Thus, career assessments are valuable towards the planning of transition services and supports for transition-age youth with disabilities, especially when strong collaborations exist among schools and employment providers.

Another benefit from collaboration among service providers included better service delivery, which helped improve the employment outcomes of transition-age youth with disabilities. For example, the coordination and collaboration of VR and school staff in curriculum decision-making demonstrated an increased likelihood of youth obtaining employment, particularly for transition-age youth with the most significant disabilities. Supports, such as job coach and career coach, resulted in transition-age youth being more prepared to engage in employment (Brendle et al., 2019; Grossi et al., 2019). Particularly, job coaches who were trained in the quality job indicators for students with learning disabilities had a significant impact on the support they provided in the workplace (Brendle et al., 2019).

Other services that promoted successful employment outcomes were case management and self-determination, primarily for transition-age youth with disabilities receiving SSI (Ipsen et al., 2019). This aligns with Gowdy and colleagues (2004) findings, where researchers discussed how collaborations have been cited as important in the employment success of transition-age youth with disabilities. Furthermore, it has been noted how collaborative efforts result in increased probability of employment after school exit, policy changes supporting CIE for youth with disabilities, positive attitude changes and awareness of employment for youth with IDD, and stronger partnerships between collaborating parties (Hughes, 2017; Patterson & Loomis, 2016; Raynor et al., 2017; Winsor et al., 2011).

Collaborations among service providers and other third parties (e.g., school districts) are vital in the planning and coordinating of services and supports needed by transition-age youth with disabilities. Not only is the coordination of transition services mandated by legislation, such as IDEA of 2004, but research has also proven its relevance and positive impact on employment. Moreover, Grossi and Thomas (2017) discovered that collaborations between schools and employment providers resulted in students being more connected to VR services along with other community agencies; this resulted in transition-age youth with disabilities having more opportunities for work experiences, internships and paid employment. Thus, collaborations among school and employment providers lead to better provision of services for transition-age youth with disabilities, which can then positively impact the likelihood of them obtaining competitive employment.

Barriers to Collaboration

Among the various collaborative efforts gathered on our scoping review four barriers were identified: duplication of tasks, system costs, employers and providers attitudes, and gaps between services. Dutta (2009) study noted the crucial need for collaborative service providers to eliminate the duplication of their efforts, thus suggesting a lack of communication among partners as well as questioning the existing collaborations among such service providers. As described by Himmelman (2001), collaborations can be challenging particularly due to “roadblocks” such as collaborations requiring: (a) much higher levels of trust, (b) a considerable time investment, and (c) the sharing of risks, resources, and rewards among partners. Thus, formation of collaborative partnerships among agencies and organizations can help reduce such roadblocks, and allow members to engage more effectively with employers, maximize scarce resources, and ultimately produce better competitive employment outcomes for transition-age youth with disabilities (Henry et al., 2015).

System costs was another factor contributing to the challenges in developing collaborative teams. For example, although the PROMISE program identified how formal partnership and regular communication helped increase inter-agency collaboration, it also brought awareness into how time-demanding collaborations can be, as well as the continued effort needed to form such relationships (Livermore et al., 2020). To further facilitate the process of collaboration among team members, it is critical for the team to establish a common mission and goals as well as have a support and leadership entity (e.g., University Center for Excellence in Disability) that can aid the team as they move through the project (Plotner et al., 2017). Furthermore, Henry and colleagues (2015) have suggested various elements and vital characteristics needed for collaborators to effectively accomplish the set goal(s). The three critical elements in building and sustaining a collaborative building included: (a) building trust and respect, (b) doing business differently, and (c) having effective structures and processes. These elements can then be implemented in training curricula for providers, in which it can potentially

contribute to better collaborations among agencies and organizations.

Employer and provider attitudes play a critical role in the employment outcomes of transition-age youth with disabilities. As observed in the articles collected in our search, some employers have demonstrated to have concerns relating to transition-age youth with disabilities’ ability to complete the job tasks, as well as liability-related concerns (Riesen & Oertle, 2019). This aligns with Henry and colleagues (2015) study where employers communicated concerns on the value of disability employment services, candidates (i.e., people with disabilities) qualifications for the job, and providers’ knowledge on employers’ needs. Furthermore, as a result of such concerns, employers have recommended that providers coordinate employer outreach and candidate referral using regional account managers to provide an initial point of contact for employers (Henry et al., 2014). Application of this recommendation could help strengthen the relationships among employers and service providers, and thus lead to better collaborations that can result in provision of superb employment services. Moreover, Henry and colleagues (2015) suggested three critical elements for employment-focused collaboration that included the following: (a) addressing employer needs, (b) engaging job developers, and (c) innovating strategically.

Disability services at the university level have also demonstrated attitudinal barriers towards students with disabilities (Dutta et al., 2009). This calls for better training of employers and services providers in relation to disability and disability-related legislation. Particularly, provision of disability training can help educate employers and service providers, helping reduce the likelihood of stigma playing a negative role on the support students with disabilities receive or do not receive (e.g., accommodations).

Gaps between services was the final barrier observed, with studies indicating a lack of rehabilitation professionals, shortage of staff at university disability services offices, and teachers having limited time and capacity to engage in collaborative efforts to better support transition-age youth with disabilities. The shortages in rehabilitation professionals and disability services staff at universities calls for a need to recruit more rehabilitation counselors and perhaps even a need for more transition-focused rehabilitation counselors. It also indicates the need for more professionals and staff in services offices (e.g., employment providers, non-profit organizations). Additionally, there is a need for better coordination across support services. For example, partnerships between a university’s disability services and administration can help reduce the additional barriers students with disabilities face, along with faculty being more prepared in the provision of accommodations (Stodden et al., 2005).

In relation to the challenges facing teachers, several considerations should be made when thinking of collaborating with school districts, such as teacher shortages, understanding of school culture, and understanding the role and responsibilities of the transition coordinator (Grossi & Thomas, 2017). Furthermore, collaborations among schools and employment providers could help address some of the

considerations mentioned. By schools and employment providers collaborating, it can help identify more adequate accommodations and experiences for students and allow providers to enhance work-based learning experiences. This could include offering schools information on best practices in employment services and enhancing their knowledge and experience in local employers and labor markets (Grossi & Thomas, 2017). Additionally, administrators at schools should be more supportive of teachers, so they can be able to attend meetings outside of school with agencies (Plotner et al., 2017). However, in order for this happen it is important for administrators to be knowledgeable on the importance of transition programs, which can occur through teachers and/or local service providers communicating that to the administration. Lastly, the six critical elements identified by Henry and colleagues (2015) could serve as a roadmap for disability employment service providers who are interested in working together to build and sustain a collaborative effort

Limitations

There were limitations to the current study. First, because the scoping review entailed following set criteria such as keywords and specific databases, this limited the overall scope of articles collected. The selected keywords in this scoping review were determined to be the most inclusive of collaborations promoting transition to work for transition-age youth with disabilities by the research team. However, there may have been articles that were not captured, such as those that may have used synonyms of the keywords we selected. As for the selected databases, despite being among the most popular databases in rehabilitation counseling, it could have impacted our collection of articles, whereby some relevant articles may have not been captured. A second limitation to our study involved other criteria that were implemented in our search, such as only focusing on articles published between the years 2005 to 2020, in the United States, and in English language. This then may have resulted in not capturing relevant articles that may have been published outside our selected time

frame, in other countries besides the United States, and were in a different language other than English.

Conclusion

This scoping review identified various collaborations that have demonstrated to successfully enhance employment outcomes of transition-age youth with disabilities. Approximately 10 collaborative projects were identified in our search. Moreover, our results were categorized into four major themes including the following: (a) nature of partnerships, (b) nature of the collaborations, (c) outcomes from collaborations, and (d) barriers to collaborations. Additionally, several barriers to collaboration were identified which included the following: (a) duplication of tasks, (b) system costs, (c) employers and providers attitudes, and (d) gaps in services. This study demonstrates the relevance and importance of collaboration among service providers to better support transition-age youth with disabilities transition to work. Findings of this study can help rehabilitation professionals and service providers develop better strategies in how to improve collaborative efforts.

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