

VEWAA Journal

Special Issue: Transition Assesment

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Mission

The Vocational Evaluation and Work Adjustment Association (VEWAA) Journal advocates for the advancement of an evidence based practice for the disciplines of vocational evaluation and work adjustment, specifically as applied to the field of vocational rehabilitation. Our primary audiences are the practitioners of these crafts. We seek a knowledge and skill base that will improve service delivery, improve VR client access to employment and career outcomes, define and legitimate evaluation and adjustment roles, and encourage a community that recognizes the unique value of vocational evaluation and work adjustment in the spectrum of VR service.

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Introduction to the Special Issue on Transition Assessment

Catherine A. Anderson University of Wisconsin-Stout Vocational Rehabilitation Institute Andrea Perkins Nerlich Hofstra University Laura Owens TransCen, Inc.

This special issue contains a selection of papers related to assessment for youth and students with disabilities in transition. The papers cover a range of topics including involvement of rehabilitation counselors in transition planning, disability advocacy, empowerment, autism spectrum disorder, intellectual and/or developmental disabilities, assistive technology, and the intersection of disability and poverty.

With the Workforce Innovation and Opportunity Act (WIOA) of 2014 fully implemented, a focus on enhancing engagement and employment outcomes of transition-age youth through vocational rehabilitation collaboration is more important than ever. The legislative and regulatory guidance around competitive, integrated employment is clear and strongly supports full inclusion of individuals with disabilities in the workforce. To achieve these outcomes, it is important to be familiar with the evidence-based predictors of post-high school success in employment, education, and independent living, including career awareness, inclusion in general education, paid employment and work experiences, parental involvement, and interagency collaboration among others (Test & Cease-Cook 2012; Test et al., 2009).

Further research specifically identifies employment training and work experience during high school and parental expectations as critical elements that positively influence post-high school employment (Wehman et al., 2014). As noted in the study, household income and educational level, receipt of public benefits, general health, ability to understand, and youth race/ethnicity are also important considerations influencing engagement and outcomes. Continued research in these areas, as well as the role of assessment and evaluation to better understand nuances and develop effective evidence-based service strategies, is needed. Our hope is the articles comprised in this special issue provide an overview of both conceptual and research-based perspectives involving assessment and transition to inform further study and practice.

In *Poverty, Disability, and Vocational Assessment of Youth with Disabilities,* a conceptual backdrop is provided to highlight issues for vocational rehabilitation practitioners' and policy makers' consideration when engaging youth with disabilities from low-income households and communities. Given the focus in WIOA for state vocational rehabilitation programs to better identify and serve marginalized and underserved populations, with a heightened emphasis on poverty, the authors recommend further study to enhance cultural competency and practice in this area. In *Transition Assessments for Adolescents and Young Adults with Autism Spectrum Disorder*, Segall, Bohlke, and Rossbach present a multidimensional transition assessment model designed to assist with smooth planning into adulthood for children on the autism spectrum, a burgeoning transition population.

Through Investigating Disability Advocacy: An Exploratory Factor Analysis of the Disability Advocacy Inventory, Sharp, Thompson, Friefeld, and Mainella present empirical evidence supporting use of the Disability Advocacy Inventory (DAI) as a psychometrically sound instrument for use at the individual, organizational, and system levels. In Measuring Engagement of Students with Intellectual and Developmental Disabilities in Meaningful Transition Activities: A Pilot Study, Molfenter, Hartman, Roskowski, Brinck, and Brodhagen share background and application of the Transition Services Rating Scale (TSRS) as a tool for identifying and tracking individual student transition services in the areas of self-determination, individualized employment goals, collaboration, inclusion, community work experiences, postsecondary education opportunities, and coordination of transition services. Use of the instrument with 11 students is provided to help illustrate its utility in practice.

In Unrecognized Potential: The Value of the Rehabilitation Counselor in Transition Planning, Moreno-Tucker, McCarthy, and Sprong discuss how the knowledge and skill set of rehabilitation counselors complements the transition process, particularly when career exploration and evaluation are involved. And finally, in Empowering Youth Self-Definition and Identity through Assistive Technology Assessment, Shay, Anderson, and Matthews explore the role that assistive technology assessment and implementation play in defining self-identity which subsequently influences educational and employment choices and career trajectory.

We thank all the authors of this special issue for their contributions as well as thank the blind peer reviewers for their efforts in ensuring the quality of the papers. The knowledge, expertise, and guidance provided resulted in a meaningful issue with implications for future scholarship, as well as practical application in the field.

Guest Reviewers

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Poverty, Disability, and Vocational Assessment of Youth with Disabilities

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Poverty and disability appear to be inextricably linked, with implications that disparately impact youth and adults with disabilities across generations. Lack of a living wage and limited access to material, educational, employment, and health resources create a barrier for individuals with disabilities to overcome the poverty gap. Spurred by policy initiatives in the Workforce Innovation and Opportunity Act (WIOA), vocational rehabilitation services provide a stepping stone out of poverty and toward integrated, competitive employment. These services, particularly vocational evaluation, must be attuned to the unique needs of low-income populations. Rehabilitation counselors and vocational evaluators are ethically-bound to provide culturally-sensitive services to maximize the potential of low-income youth and adults with disabilities. This paper provides a conceptual overview of the issues impacting this population and identifies strategies for further exploration, implementation, and study.

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isability represents one of the largest and fastest growing minority groups in the nation (Brault, 2012) and the effects of poverty, including material hardship (e.g., food insecurity, inadequate housing, and lack of medical care) and difficulty paying bills, may be greater for those with disabilities (Fremstad, 2009; Hughes & Avoke, 2010; Parish, Rose, & Andrews, 2010; Parish, Rose, Grinstein-Weiss, Richman, & Andrews, 2008; Yamaki & Fujiura, 2002). Nationally, adults with disabilities ages 21-64 are more than twice as likely to be living at or below the federal poverty level, at 28.2% compared with peers without disabilities at 12.5% (Erickson, Lee, & von Schrader, 2017). Nearly half (47%) of adults who experience income poverty for at least 12 months and nearly two thirds (65%) of those experiencing long-term poverty have one or more disabilities (Brucker, 2015; Fremstad, 2009; Ra & Kim, 2016).

Poverty is a complex problem that impacts many areas of an individual's life, including housing, education, employment, independence, and full inclusion in society. While disability and poverty have historically been studied as separate issues, the considerable intersection is raising attention to studying disability as both a cause and a consequence of poverty (Blanchett, 2008; Emerson & Hatton, 2007; Fremstad, 2009; Nye-Lengerman & Nord, 2016). The effects of poverty extend beyond income and earnings and are related to compromised health outcomes, educational access, food and housing insecurity, and social and economic isolation (Gershoff, Aber, Raver, & Lennon, 2007; Halfon, Larson, Lu, Tullis, & Russ, 2014; Holzer, Whitmore Schanzenbach, Duncan, & Ludwig, 2008; McDonough, Sacker, & Wiggins, 2005; Nye-Lengerman & Nord, 2016). Poverty also permeates families across the ages. Generational poverty is commonly defined as living with a lack of multiple resources for more than one generation with an increased risk of poorer physical and mental health (Emerson & Hatton, 2007).

The relationship between poverty and disability is often cyclical. Poor physical and psychological health can be contributing factors, which then further make obtaining and maintaining employment a greater challenge (Allard, Danzinger, & Wathen, 2012; Iceland, 2013). Mann and Wittenburg (2015) reported that employment and wage differences of individuals with disabilities emerge by age 24 and may be linked to disparities later in life. Therefore, the need to recognize and explore the role poverty, particularly generational poverty, plays in perpetuating disparity within the context of disability and employment is key. The opportunity to intervene early by providing culturally-relevant, strengthbased vocational assessment and employment supports that consider contextual factors experienced by youth with disabilities living in poverty is important in improving educational and employment outcomes within

this population. This article provides a conceptual overview of the issues and identifies strategies for further exploration, implementation, and study.

Poverty Indicators and Systems

Despite the existence of public and private programs designed to address disparity among individuals with disabilities, including those providing basic housing, food, health care, and financial assistance, poverty rates have remained stubbornly consistent over time (Allard et al., 2012; Brucker & Scally, 2015; Iceland, 2013; Nve-Lengerman & Nord, 2016; Trattner, 2007). Indicators are used to identify, estimate, measure, and report poverty levels nationally, as well as in specific geographic regions. Examples of such poverty indicators include participation in the federal Supplemental Security Income (SSI) program, receipt of Medicaid benefits, eligibility for free or reduced school lunches, food stamps, and other means-tested programs. Among these programs, SSI serves as a primary poverty indicator among both children and adults with disabilities due to the strict asset and income limitation requirements involved. In addition to providing substantial evidence of a physical or mental impairment that (a) results in marked or severe functional limitations for children, (b) results in an inability to engage in substantial gainful activity for adults, (c) can be expected to result in death, or (d) has lasted or can be expected to last for a continuous period of no less than 12 months, an individual must have limited income and no more than \$2.000 in assets (Social Security Administration, 2017). Approximately 19.5% of noninstitutionalized adults with disabilities between the ages of 21-64 receive SSI benefits nationally (Erickson et al., 2017). In 2015, this equated to 8.3 million people in the United States receiving SSI benefits, with an average monthly payment of \$541. Fifteen percent, or approximately 1.2 million, of the SSI payments were provided to children and youth under the age of 18 (Social Security Administration, 2017).

The Federal Poverty Guidelines represent an estimate of the pre-tax income a household needs to sufficiently meet minimal food and other basic needs. In 2017, 100% of the federal poverty level for a household of one is defined as \$12,060 per year or \$1,005/month (Federal Register, 2017). In considering the household compilation of youth and students with disabilities under the age of 18 years, an assumption can be made that at least two individuals live in the household (a minimum of one adult and one child). In 2017, 100% of the federal poverty level for a household of two is defined as \$16,240 per year; in the same year, 200% of the federal poverty level for a household of two is \$32,480 per year. Table 1 depicts the full Federal Poverty Guidelines for 2017.

Subminimum Wage and Poverty

While originally well intentioned, work centers (previously known as sheltered workshops) and similarly segregated Community Rehabilitation Provider (CRP) programs systematically limited individuals with accessing competitive, disabilities in integrated employment (National Disability Rights Network, 2011). As of 2013, over 3,300 programs, including 2,744 CRPs, carried 14(c) certifications from the Department of Labor, which allows "subminimum wage" payment, or wages below the established minimum wage, to workers with disabilities (State Employment Leadership Network, 2015). The payment of subminimum wage to workers with disabilities reinforces poverty by reducing the opportunity to earn a living wage. Historically, many individuals with disabilities working in segregated settings were not presented with the option of competitive, integrated employment and an opportunity to earn at least minimum wage. The opportunity to engage in competitive employment is essential in supporting individuals with disabilities to move out of poverty. Ongoing federal and state initiatives are drawing attention to the effects of subminimum wage in discriminating against individuals with disabilities and contributing to economic oppression.

While integrated, competitive employment for individuals with disabilities is very possible, it also requires appropriate system resources be invested to ensure access to high quality services and adequate capacity in the community. As stated by Wehman (2006),

There is no reason why individuals with significant disabilities should not contribute to the nation's productivity and gross national product. There is no reason to exclude these persons from the opportunity to participate in the American dream of greater wealth and economic independence because of a label of severe disability. (p. 123)

Furthermore, job training programs for people with intellectual disabilities have historically targeted low paying, part-time, entry-level jobs offering few benefits or opportunities for promotion or advancement (Metzel, Boeltzig, Butterworth, Sulewski, & Gilmore, 2007).

Table 1

Size of Family Unit	48 Contiguous States and D.C.	Alaska	Hawaii
1	\$12,060/year; \$1,005/month	\$15,060	\$13,860
2	\$16,240	\$20,290	\$18,670
3	\$20,420	\$25,520	\$23,480
4	\$24,600	\$30,750	\$28,290
5	\$28,780	\$35,980	\$33,100
6	\$32,960	\$41,210	\$37,910
7	\$37,140	\$46,440	\$42,720
8	\$41,320	\$51,670	\$47,530

2017 Federal Poverty Guidelines

Source: U.S. Department of Health and Human Services (2017)

Competitive, Integrated Employment

Entry-level jobs may be a very reasonable expectation for youth and others entering the workforce; however, career ladders beyond entrylevel, minimum wage jobs *must* be part of the career development trajectory for individuals with disabilities. Without an opportunity to earn at least a living wage and experience potential for advancement, individuals with disabilities are quickly predisposed to the poverty trap, which further reinforces generational poverty in families and communities.

For many students with severe disabilities, the desired post school outcome is likely work and, therefore, paid employment before leaving school is critical (Rusch, Hughes, Agran, Martin, & Johnson, 2009; Wehman, 2006; Wehman et al., 2015). All students, regardless of disability, must be provided with opportunities to develop the necessary employment- and work-related social skills while in high school. Building a job history while still in school can start students on the road to career development, resume building, and upward career

mobility, which all serve as predictors of gainful employment in adulthood (Test et al., 2009; Wehman, 2006). Work experiences and expectations for employment while in high school lead to improved graduation and competitive, integrated employment rates in young adulthood (Carter et al., 2010).

Therefore, employment service providers and educators must challenge themselves to look beyond entry-level, low-paying jobs as employment options for people with severe disabilities. Research clearly demonstrates individuals with severe disabilities *can* be successfully employed in well-paying jobs requiring more complex skill sets (Brown, Shiraga, & Kessler, 2006; Certo et al., 2008). While youth with disabilities may start with entry-level, part-time jobs comparable to their peers, opportunities to engage in career exploration, planning, and preparation options that support prospects for postsecondary education and jobs leading to meaningful career paths in adulthood also need to be explored.

The Workforce Innovation and Opportunity Act of 2014

The advent of progressive policies, such as the Workforce Innovation and Opportunity Act (WIOA) of 2014, provide key guidance and tools designed to help address poverty and disability. WIOA strengthens the alignment of the state-federal vocational rehabilitation program with other federally funded employment and workforce preparation programs. The regulations also clearly competitive integrated employment; define incorporate the principle that individuals with the most significant disabilities are capable of high quality competitive, integrated employment, when provided with the necessary services and supports; and place clear limitations on the use of subminimum wage (WIOA, 2014).

To effectively meet the requirements of this legislative and programmatic paradigm shift, an array of services and new approaches is being identified, developed, and adopted. Awareness and data collection around issues such as generational poverty and homelessness, and a targeted, intentional focus on students in transition and at-risk youth changes the landscape and competencies needed by rehabilitation counselors and vocational evaluators. Work incentives benefits counseling, financial capability and empowerment coaching, trauma informed care, and other key knowledge areas and services need to be integrated into the assessment and employment process to provide necessary information and supports in moving toward successful employment, career trajectories, and economic independence.

Youth, Poverty, and Disability

More than 25% of children with disabilities are living in families with earnings below the poverty level (Fujiura & Yamaki, 2000; Hughes & Avoke, 2010; Parish et al., 2010). Growing up in poverty has deep influences on children and their families, including unemployment, underemployment, and job instability (Annie E. Casey Foundation, 2009; Duncan & Brooks-Gunn, 2000; Sharkey, 2009). Furthermore, stressors associated with living in impoverished communities (e.g., increased crime rates, persistent joblessness, limited health care and transportation options, inadequate housing) can impact children's and family members' overall mental and physical health, producing high levels of anxiety, hypertension, fear, or depression (Hughes & Avoke, 2010; Shipler, 2004). Living in long-term poverty also limits opportunities to volunteer, participate in organized sports, or participate in extracurricular activities; all of which further limit social networks and capital (Hughes & Avoke, 2010; Hughes, Stenhjem, & Newkirk, 2007).

Intersection of Disability, Poverty, and Race

Students living in low-income neighborhoods are more likely to attend schools that are racially and ethnically segregated, have limited resources, and experience low graduation rates (Balfanz & Legters, 2004; Orfield, 2009). The average Black or Hispanic student attends a school where 60% of students live below the poverty line (Orfield, 2009). Almost 50% of Black and 40% of Hispanic students, as compared with 11% of White students, attend high schools with dropout rates that average 50% or more (Balfanz & Letgers, 2004). Furthermore, these schools are typically located in communities with low property tax revenues to finance education, historically underfunded and understaffed, and have the highest dropout rates reported nationally (Hughes & Avoke, 2010). The co-occurrence of disability and poverty is associated with poor post-school outcomes, such as low graduation and postsecondary enrollment rates, and increased disengagement, unemployment, and underemployment (Newman, Wagner, Cameto, & Knokey, 2009).

Children with disabilities are more likely to live in single parent families and families of racial minority backgrounds (Parish et al., 2008). These children face the compounding educational, employment, and social challenges associated with poverty (Hughes & Avoke, 2010; Hughes et al., 2007). Disconcertingly, students with disabilities from racially and ethnically diverse backgrounds, as well as those with more severe disabilities, are more likely to be placed in restrictive educational settings and are less likely to receive access to appropriate services (Artiles, Kozleski, Trent, Osher, & Ortiz, 2010; Donovan & Cross, 2002; U.S. Department of Education, 2009). Specifically, more than half of students with a label of intellectual disability, of which Black students are three times more likely than their White peers to be identified, spend most of their school day in settings other than the general education classroom (Hughes & Avoke, 2010; U.S. Department of Education, 2009).

Students with severe disabilities attending highpoverty, urban high schools spend significantly less time per week attending general education classes, participating in school-based job training, and receiving community-based instruction than their counterparts attending more affluent schools. Additionally, students attending high-poverty schools also score significantly lower than their counterparts when asked to report their use of selfdetermination skills, including self-advocating, selfmonitoring, choice making, and problem solving (Hughes & Avoke, 2010).

Racially and ethnically diverse students are more likely to attend under-resourced schools and are disproportionately affected by disability (Artiles et al., 2010). The complex and compounding effects of disability, poverty, and race intersect to construct multifarious challenges in relation to employment and economic development. These students are significantly less likely to receive guidance and support leading to adult employment and economic mobility. This highlights a great need for access to inclusive environments with a range of opportunities and a distinct need to teach self-determination skills to youth with disabilities living in poverty (Argan & Hughes, 2008; Sharkey, 2009).

Emergent Disability and Generational Poverty

Growing up in poverty increases the likelihood of having a disability due to a range of factors including exposure to environmental hazards (e.g., lead poisoning, unsanitary drinking water, preterm births), stress (e.g., unsafe neighborhoods or lack of transportation), or lack of material needs (e.g., inadequate food, housing, or medical care) (Duncan & Brooks-Gunn, 2000; Shipler, 2004). The effects of living in long-term poverty can exacerbate an already existing disability and compromise the well-being among some children and youth with disabilities attributed to generational poverty and related inequalities, such as exclusion (Emerson & Hatton, 2007).

Cultural Competency in Assessment, Evaluation, and Counseling

The Commission on Rehabilitation Counseling Certification (CRCC) infused cultural diversity and multicultural themes throughout their code of ethics in 2010 and continues to highlight this in the revised 2017 code of ethics. Specific attention is paid to including cultural diversity issues as key aspects of rehabilitation practitioners' roles and ethical responsibilities counseling. assessment/ in evaluation, supervision, and teaching (Cartwright & Fleming, 2010). Cartwright and Fleming (2010) further noted that culturally competent counselors consider the personal and cultural context of clients, including socioeconomic status, when addressing informed consent to ensure a well-reasoned decision can be made. The Code of Ethics for Rehabilitation Counselors (CRCC, 2017) specifically defines cultural competency and diversity requirements and identifies the obligation that rehabilitation counselors must "recognize diversity and embrace a cultural approach in support of the worth, dignity, potential, and uniqueness of individuals with disabilities within their social and cultural context" (p.1) and maintain a commitment to cultural diversity in that rehabilitation counselors "are aware that all individuals exist in a variety of contexts and understand the influence of these contexts on an individual's behavior. Rehabilitation counselors are aware of the continuing evolution of the field, changes in society at large, and the different needs of historical. individuals in social, political. environmental, and economic contexts" (p. 2),

developing and implementing rehabilitation and treatment plans, and providing and adapting interventions.

To effectively meet the needs of youth from diverse racial and ethnic backgrounds who are living in poverty, vocational evaluators and rehabilitation counselors need to think carefully about the use and application of evaluation instruments and approaches. Contextual relevance, intercultural awareness, and understanding and acknowledging the environmental factors involved in each situation are critical to developing sound recommendations. Culture has a significant impact on every aspect of an individual's life, including assessment and evaluation process and results. All phases of the evaluation are affected by culture, from the assessment of work performance to the results of standardized testing to behavioral observations. Culture also affects the participant's view of the assessment and the VR system (Thirtieth Institute on Rehabilitation Issues [IRI], 2003).

The CRCC Code of Ethics also emphasizes the importance of careful consideration of cultural diversity in being cognizant of historical and social prejudices in the misdiagnosis and "pathologizing" of certain individuals and groups based on race, ethnicity, and socioeconomic status. A high level of cultural competency is required by vocational evaluators in selecting assessment techniques, administering and interpreting assessment tools, making recommendations based on assessment results, releasing information, and explaining information in a manner that respects varying language and comprehension needs.

Contemporary Vocational Assessment and Evaluation Practices

Vocational evaluation is a comprehensive process of assessment, using real or simulated work, to target vocational exploration and assist with the vocational development of individuals; it incorporates medical, psychological, social, vocational, educational, cultural, and economic data within the process to

attain the goals of evaluation (Dowd, 1993). As noted by Sligar and Betters (2012), the roles and functions of vocational evaluators have evolved over time as has the vocational evaluation process, settings, and acceptable length of time involved. The new paradigm in vocational evaluation, contained in the 30th Institute on Rehabilitation Issues (IRI, 2003), specifically described vocational evaluation services as designed to: (a) optimize consumer-driven employment outcomes and long-term career development; (b) facilitate a consumer's success in effectively choosing and maintaining desired employment despite severity of disability; (c) tailor the VE process to fit the consumer; (d) provide individualized evaluations of varying lengths that are sensitive to specific information needs and outcomes; (e) focus on employment with the consumer; (f) use a team approach; (g) facilitate a consumer-driven process emphasizing participant involvement and decision making (the basis of empowerment, self-determination, informed choice); (h) be offered more than once, if needed, as a dynamic process to evaluate change and accommodation; (i) incorporate other disciplines (e.g., assistive technology, career development, transition); (j) facilitate empowerment using profiles and portfolios to enhance consumer involvement and ownership; and (k) be offered in a variety of community-based settings for numerous populations. This description inherently describes the essential elements and perspective needed for providing culturally-relevant assessment, including understanding and respecting the needs and issues of those experiencing long-term poverty.

Cultural Considerations

Culture affects every aspect of life and all rehabilitation professionals involved in the vocational evaluation process should do everything possible to explore the various aspects of culture and/or diversity that affect the consumer and the evaluation process (30th IRI). While educational, vocational, medical, and psychological information is routinely integrated into vocational evaluations and reports, it is unknown the extent to which

cultural considerations related to poverty, beyond basic demographic information, are included.

Concern over the use of standardized measures with minority and culturally diverse populations, and resulting evidence that many measures do not accurately assess individuals from these groups, is clearly evidenced in the research (30th IRI). Sue and colleagues (1982) found that cultural bias and errors related to ethnocentricity regularly occur in test administration and interpretation. Therefore, the evaluator should make every attempt to determine if the measure is appropriate given the consumer's cultural background. The evaluator should actively consider the constructs being assessed, to ensure no culturally-based conflicts exist (Power, 2013). Additionally, considerable care should be exercised to ensure the instrument has been normed with a group that is consistent with the cultural background of the consumer (30th IRI). If appropriate norms are not available, caution should be exercised in using the instrument and situational assessment involving performance of relevant tasks may present as a better option.

Implications for Practice

It is important for the vocational evaluator to be flexible and creative during the process, assess cultural appropriateness, utilize a strengths-based approach, and strive to only utilize methods that provide a true and accurate assessment of the consumer's potential (30th IRI). Additionally, the evaluator and other rehabilitation professionals must examine their own cultural backgrounds and biases, to actively and reflexively engage in cultural selfevaluation. Lewis (2009) and Sue, Arredondo, and McDavis (1992) noted an awareness of one's assumptions about human behavior, values. preconceived notions, limitations, and biases, along with an understanding of the worldview of consumers without imposing negative judgment, are critical in providing culturally-competent services.

Understanding implicit bias. Beginning with an understanding of one's implicit biases related to poverty, race, and other factors, as well better understanding the role external and societal biases

play in influencing opportunity, is an important starting point. Encouraging self-assessment and reflection in this area is important for vocational evaluators and other rehabilitation professionals to better identify areas for growth and development in serving individuals representing diverse populations.

One source for exploring this, Project Implicit, (https://www.projectimplicit.net/index.html) is a collaborative network of researchers looking to better understand attitudes, stereotypes, and other hidden biases that influence perception, judgment, and action. Free, online implicit association tests are available to measure and help individuals better understand implicit biases across several areas, such as race and skin color, age, disability, gender, and sexuality.

Use strength and asset-based approaches. Strength-based approaches are grounded in positive psychology and break from traditional deficit and risk-based approaches by instead seeking to understand the strengths and capabilities that affect lives in positive and participatory ways (Alvord & Grados, 2005; Barton, 2005; Benson, Leffert, Scales, & Blyth, 1998; Seligman, 2007). Vocational evaluators and rehabilitation counselors working with low-income youth with disabilities through schools and public vocational rehabilitation programs need to be skilled in identifying and using asset and strength-based approaches.

A strength-based method inherently fosters an individualized approach inclusive of contextual issues, including poverty, race, and culture, and integrates these influences in meaningful and sustainable progression toward goals. Research conducted by Kintrea, St. Clair, and Houston (2015) suggested the need for strength-based models may be particularly important when working on career and employment assessment and goal setting with youth from disadvantaged communities. The evaluator seeks to help identify and address social, personal, cultural, economic, and structural constraints to the desired goals. vouth's growth. and selfdetermination. This recognizes and embraces the role of resiliency in positive youth development with a focus on collaboration, community involvement, meaningful participation. and vouth voice

throughout the process (O'Connell, 2006; Rapp & Goscha, 2006).

Identifying and administering targeted testing, only as needed to answer specific referral questions, is key. Information gathered and synthesized from multiple sources, including interviews, direct observation, and real work and world experience, can be used to develop recommendations based upon the youth's expressed interests, as well as measured strengths and support needs. Effectively communicating assessment results and recommendations with youth, their family, and service team in an environment and format supportive of vocational rehabilitation planning is critical in supporting an approach that maximizes independence and promotes empowerment, selfawareness, and self-determination. The Discovery process, as part of the customized employment model, is a good example of a strength-based assessment approach that holds promise for expanded use in career exploration with low-income youth populations (Condon & Callahan, 2008; Heath, Ward, & Reed, 2013).

Conclusion

Increasing emphasis is being placed on effectively serving youth with disabilities living in low-income environments. Rehabilitation counselors are well positioned to provide high-quality vocational assessment and employment services using contemporary, strength-based models. Further research regarding use of these models in supporting increased competitive, integrated employment outcomes is warranted. The paradigm shift presented by WIOA offers opportunities for professionals across disciplines to collaborate, design, and engage in participatory approaches to better serve youth and adults with disabilities living in poverty.

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Transition Assessments for Adolescents and Young Adults with Autism Spectrum Disorder

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The need for transition services is increasing as larger numbers of children identified with an autism spectrum disorder (ASD) age toward adulthood. Transition specialists and rehabilitation counselors are often charged with leading this transition, yet may be underequipped to do so due to the complexity of ASD and lack of specific training. This article describes a transition assessment model, in which we implement a multidimensional approach to collect information and plan for a smooth transition to adulthood. Key components of the assessment include a thorough document review, completion of behavior rating scales, a parent/guardian interview, person-centered discovery interviews, and a natural setting observation. The resulting assessment report outlines various recommendations in domains such as employment supports, postsecondary education, development of intrapersonal skills, development of independent living skills, and other specific recommendations tailored to the individual with ASD. Limitations and directions for future use and research are discussed.

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ach year, over 50,000 individuals with autism spectrum disorder (ASD) will turn 18 years old and enter into adulthood (Shattuck et al., 2012). Though efforts to improve early detection of ASD and early intervention have resulted in positive gains in key outcomes such as communication, behavior, academic skills, and social interaction (Barbaro & Dissanayake, 2009; Odom, Collet-Klingenberg, Rogers, & Hatton, 2010), ASD remains a lifelong condition with symptomatology persisting into adulthood (American Psychiatric Association, 2013; Seltzer, Shattuck, Abbeduto, & Greenberg, 2004). Adult outcomes range from significant dependence on caregivers and support services to individuals who attain fully independent lives (Howlin, Goode, Hutton, & Rutter, 2004).

In general, analysis of psychosocial outcomes for adults with ASD suggests alarmingly poor results (Billstedt, Gillberg, & Gillberg, 2005). These outcomes include unemployment (Shattuck et al., 2012), underemployment (Hendricks, 2010), inability to live independently (Seltzer et al., 2004), and reduced quality of life (van Heijst & Geurts, 2014). Recent research has focused on the initial years following high school graduation to report on key outcomes for individuals with disabilities, including ASD (Cameto, Levine, & Wagner, 2004). For example, Taylor and Seltzer (2011) reported that community employment rates for young adults with ASD are low; the majority of their sample who were employed found menial jobs and otherwise experienced underemployment. Indeed, data from the National Longitudinal Transition Study-2 (NLTS2) indicates that about half of individuals with ASD do not find employment or attend postsecondary education within the initial years after high school (Shattuck et al., 2012).

Social and community participation outcomes are also poor (Myers, Davis, Stobbe, & Bjornson, 2015). Well over half of young adults with ASD do not spend meaningful time with friends nor are they regularly contacted by peers or friends (Liptak, Kennedy, & Dosa, 2011; Orsmond, Shattuck, Cooper, Sterzing, & Anderson, 2013). Likewise, engagement in activities in the community substantially decreases after high school (Myers et al.).

Further exacerbating these disappointing outcomes, service use, such as case management, therapy, and medication, significantly declines in adulthood for individuals with ASD (Shattuck, Wagner, Narendorf, Sterzing, & Hensley, 2011). Approximately 40% of young adults with ASD do not receive any services after high school (Shattuck et al.).

Thus, while outcomes are staggeringly poor for young adults with ASD, a key focus has been on increasing engagement in learning opportunities for this population. Given the significant developmental delays experienced by individuals with ASD, incorporation of developmentally-appropriate goals alongside age-appropriate activities is critical (Baker, Koch, Higgins, & Greene, 2012). In addition, strong collaboration between existing public service systems (e.g., department of education, vocational rehabilitation, and department of behavioral health and developmental disabilities) is essential, though often difficult to achieve and relatively neglected in the research literature (Certo et al., 2003; Trach, 2012). The "Transition Service Integration Model" (Certo et al.), for example, calls for the involvement of a community non-profit organization to link state agencies/departments, maximize funding streams, organize collaborative planning meetings, and provide services to the individual with ASD. Such a system fosters consistency and continuity and avoids gaps or changes in service provision as the student shifts from the school system to the supports of state agencies. Moreover, strong partnerships with community businesses must be forged to provide opportunities training and employment for transition-age youth with ASD (Wehman et al., 2013). The emergence of inclusive postsecondary education programs is yet another important example of increasing opportunities for engagement and participation for young adults with ASD (Hart, Grigal, & Weir, 2010), and recent data suggests that approximately one-third of individuals with ASD will pursue postsecondary education (Shattuck et al., 2012).

Within these settings and opportunities, it is imperative that practical and evidence-based strategies are implemented to support the learning and development of individuals with ASD. For example, direct instruction of social and vocational skills should be given in multiple formats (e.g., lecture, guided and repeated practice, role-play, discussion, etc.) and occur across multiple settings (e.g., job sampling) in order to facilitate skill

acquisition and generalization (Hillier, Fish, Cloppert, & Beversdorf, 2007; Wehman et al., 2013). Within employment settings, key accommodations and strategies include maintenance of a consistent schedule and set of responsibilities, utilization of organizers to increase structure, reduction of idle (i.e., unengaged) time, provision of clear and concrete feedback (including positive feedback), and use of visual supports (Wong et al., 2015). In the postsecondary education environment, practical supports, such as peer mediated interventions, counseling services, and academic and test accommodations, also recommended are (VanBergeijk, Klin, & Volkmar, 2008). Training for university faculty about ASD is another key component (Zeedyk, Tipton, & Blancher, 2016).

Researchers with expertise in transition planning for youth with developmental disabilities suggest skill building across three key domains-causal capacity, agentic skills, and adaptive behaviors-to promote self-determination skills (Wehmeyer, Shogren, Zager, Smith, & Simpson, 2010). Causal capacity skills refer to behaviors and abilities, such as choice making, problem solving, and goal setting; agentic skills refer to intrapersonal skills, such as behavior and emotion regulation, self-awareness, and self-advocacy; and adaptive behaviors refer to an array of discrete behaviors, including social independent living competency, skills. and community participation (Wehmeyer et al.). Strengths-based, person-centered planning is often strongly recommended to facilitate engagement and buy-in from the transition-age youth (Hagner, 2010).

Special education transition specialists and rehabilitation counselors represent key professionals charged with supporting the transition to adulthood for youth with ASD. Unfortunately, often such professionals lack the specialized training and content knowledge in ASD to effectively guide this phase of development (Tidwell, Fleming, Kraska, & Alderman, 2016). Tidwell and colleagues (2016) reported that nearly 75% of vocational rehabilitation counselors are working with individuals with ASD; these counselors are often supporting these clients without comprehensive assessments to provide guidance on targeted behaviors and skill sets. Accordingly, the current article provides a framework for comprehensive transition assessment for transition-age youth with ASD.

Assessment Model

We propose an assessment model that includes a combination of records review (to include student Individualized Education Program (IEP), psychological evaluation, vocational evaluation, medical records, etc.), completion of behavioral rating scales, client interviews, parent/guardian interview, and observation in a natural vocational, social, or community setting. Assessment of multiple domains across multiple raters is an essential feature of our assessment model to provide corroboration of evidence, as well as insights regarding settingspecific strengths and limitations of self-awareness. The following section describes a pilot assessment model at the Emory Autism Center in Atlanta, GA.

Referral process. Vocational rehabilitation counselors who have identified a client appropriate for an ASD transition assessment complete a referral form, gathering information about (a) current concerns, (b) significant medical history (including medications), (c) known sensory challenges, (d) evaluation and intervention history, (e) educational history and learning style preferences, and (f) vocational history. In addition. vocational rehabilitation counselors provide information about the individual's schedule of activities to assist with identification of an appropriate natural observation setting.

A second component of the referral process is the completion of behavioral rating scales by the individual with ASD, his/her parent or guardian, and a teacher (if the individual is still in school). These rating scales provide information on social skills and related behaviors (e.g., Social Skills Improvement System; Gresham & Elliott, 2008), adaptive behaviors (e.g., Adaptive Behavior Assessment System-3rd edition; Harrison & Oakland, 2015), and autism spectrum specific behaviors (e.g., Social Responsiveness Scale-2nd edition; Constantino & Gruber, 2012).

Once the referral form and rating scales are completed, these documents, along with relevant available records (e.g., IEP, psychological evaluation, etc.), are returned to the assessment team. Upon review of these documents, the client and his/her parent(s)/guardian(s) are scheduled to participate in interviews to learn more about the client's individual profile of strengths, interests, and challenges. These interviews may occur at the Center or in the client's community (e.g., high school).

Person-centered discovery interviews. The discovery interview focuses on the individual and his/her goals and aligns well with recommendations regarding promoting self-determination (Hagner, 2010). The interview is guided by the clinician to provide clear structure and is strongly visually oriented, using pictures and graphic organizers rather than relying solely on verbal comprehension and communication. Topics discussed include family culture and background, family and peer relationships, likes and dislikes, appealing and nonappealing things about working, strengths and challenges, communication, leisure interests, and other related topics. This interview lasts between one and two hours and may have to be modified depending on the level of cognitive functioning and verbal ability of the individual. A second, more clinically-oriented interview is also conducted with the individual to focus more specifically on awareness of beneficial supports and services (such academic accommodations and/or visual as educational supports), social and history, employment experience, coping skills, and other relevant clinical information. These interviews were developed based on professional experience and staff knowledge of evidence-based practices and research regarding common challenges for transition-age youth with ASD. Again, modifications to the interview protocols are often implemented to account for individual characteristics (e.g., verbal ability limitations).

Parent interview. A parent interview is conducted to learn of relevant medical and developmental history, treatment history, educational and vocational history, and key insights regarding his/her child's profile of strengths, interests, challenges, and effective strategies. Particular attention is paid to the individual's learning preferences and supports, such as taking breaks, small group learning, and visual supports, which promote positive outcomes.

Natural setting observation. Prior to scheduling the discovery and parent interviews, the assessment team, family, and vocational rehabilitation counselor coordinate to arrange an observation of the individual engaged in a social, vocational, educational, or community routine. The observation takes place approximately one week after the interviews and focuses on assessing the individual's social communication and behavioral profile. Examples of settings include volunteer sites, high school classrooms, church youth group gatherings, and part-time employment sites. Settings are chosen from available options based on which setting will best allow for observation of behaviors that can be adequately translated to future vocational activities. A key feature of the setting is that the individual with ASD is familiar with the routine and expectations of the setting and the activity is meaningful; ideally, activities are social and/or vocational in nature, though this is not necessary requisite for scheduling. Observations in which the client is new to the setting or otherwise demonstrating limited interest and engagement with the activity are not preferred. Table 1 depicts various domains assessed through this assessment protocol and which raters provide the information.

Table 1

	Rehabilitation Counselor	Individual with ASD	Parent/ Guardian	Educator/ Vocational Supervisor
Referral form	Х			•
Social skills rating scales		Х	Х	Х
Adaptive behavior rating scales		Х	Х	
ASD-specific rating scales		Х	Х	
Person-centered Discovery interviews		Х		
Parent interview		Х	Х	
Natural setting observation		Х		Х

Aspects of the Transition Assessment Protocol and Related Information Sources

Client characteristics. Clients referred for this assessment model have typically had average or better verbal communication (e.g., conversational speech) and varying levels of cognitive abilities ranging from Low Average to Superior. In our pilot implementation of this assessment model, most clients were adolescents and young adults ranging

from 15 to about 25 years of age. Some individuals' goals included college and employment, while others were more focused on independent living skills or inclusive postsecondary programs and technical training programs. Clients not appropriate for the assessment include those currently in crisis, experiencing suicidality and/or intense behavioral

episodes, with a recent history of hospitalization, or those who have had significant recent changes to their medication. Instead, clients with these profiles are encouraged to first address current significant mental health and behavioral concerns.

Report and Recommendations

A summary report of the transition assessment is prepared for the vocational rehabilitation counselor to guide subsequent transition planning and opportunities. The report highlights key individual strengths and preferences that will guide vocational and educational placements, as well as functional limitations that will require individualized intervention and strategies. Recommendations are made in accordance with current perspectives on evidence-based practices for individuals with ASD (e.g., Wong et al., 2015), and guidance on individualized goals and implementation is provided. Common recommendations include vocational matches and supports, postsecondary education supports, development of intrapersonal skills, and development of independent living skills (Wehmeyer et al., 2010).

Employment supports. Often individuals referred for transition assessment require opportunities to learn and practice vocational skills behaviors, rather than immediate paid and employment. Thus, engagement in volunteer opportunities, job shadowing, and internships are often recommended (Wehman et al., 2013); likewise, integrated and community-based employment opportunities are recommended, as opposed to sheltered employment (Shogren & Plotner, 2012). These experiences should be strongly matched to the individual's interests and preferences (Olney, 2000). However, if the client has a limited history with work and/or volunteer positions, or does not have a clear idea of what s/he would like to pursue vocationally, exposure to multiple and various opportunities is usually recommended. Workplace recommendations may include accommodations within the workplace (e.g., strong structure and routines and clear rules, use of visual supports, task analysis, opportunities for breaks within the vocational routine), training for supervisors and coworkers (such as understanding ASD-related behaviors, the need for direct and concrete feedback, positive behavior supports, assigning roles which are not heavily speeded or socially demanding), and instruction on workplace norms for the individual client (Standifer, 2009).

Postsecondary education. In some cases, clients have goals that are more oriented towards attending postsecondary education (PSE) rather than entering the workforce. PSE recommendations frequently involve taking a slow approach to entering the college environment, which may include living at home for the first year or starting out at a community or technical college and then transferring to a 4-year university (Zeedyk et al., 2016). Likewise, a reduced course load (e.g., two courses rather than four or more) is often recommended for students at the initial stage of their PSE experience. Registration with a campus office of disability services is strongly encouraged in order to access key academic accommodations, such as extended time for assignments and exams, and related supports (VanBergeijk et al., 2008). Other recommendations typically involve increasing engagement on campus such as seeking a peer mentor or joining a student activity or interest group (Zeedyk et al.).

Development of intrapersonal skills. Transition-age youth with ASD will commonly need structured supports to assist with their development of intrapersonal skills, including self-determination and self-advocacy. Often this process begins with increasing self-awareness; that is, individuals with ASD often require opportunities to learn more about themselves, including their individual profile of strengths, talents, and challenges, as well as what supports and strategies are effective in promoting their success (Held, Thoma, & Thomas, 2004). An individualized approach utilizing a cognitive behavior therapy format with an individual counselor is recommended (Gaus, 2011). Many transition-age vouth with ASD will also benefit from psychoeducation regarding the ASD diagnosis and how his/her individual characteristics align with this diagnosis and other related conditions (e.g., attention deficit-hyperactivity disorder; anxiety). Often, discrepancies between client and parent report during interviews and on behavioral rating scales highlight key areas for improvement on selfawareness and perspective taking.

As individuals become increasingly aware of their individual talents and challenges, further development of social, emotional, and behavioral skills is required. Development of such skills requires both opportunities to learn concrete information and strategies within a direct instruction format, as well as natural opportunities to practice these skills and receive feedback. Direct instruction may occur both individually or in groups; natural practice opportunities are generally most successful in group settings with peers (Hillier et al., 2007). Naturalistic intervention, modeling, and cognitive behavioral intervention (Wong et al., 2015), in addition to positive behavior supports, are often essential for effective development of social, emotional, and behavioral skills for transition-age youth with ASD.

Development of independent living skills. Most individuals with ASD appropriate for this assessment model have goals that include living independently; at the stage of transition planning and assessment, however, many continue to require a range of supports and prompting to engage in these behaviors. Goals may come from any array of adaptive behavior domains, including home living skills, personal care and hygiene, self-management, leisure skills, time management and scheduling, and transportation, among others (Kanne et al., 2011). Strategies and recommendations typically include task analysis and development of checklists and/or visual supports, implementation of reward systems, repeated practice, prompting, use of ubiquitous assistive technology (e.g., smart device applications), and concrete goal setting (Wong et al., 2015). For individuals who are living with parents or guardians, these skills are practiced at home; thus, parent training and family support is also often recommended (Bearss et al., 2015). This may include training parents on behavioral strategies or making referrals for them to community support groups.

Other common recommendations include referrals to medical or pharmacological treatment, access to a health and wellness curriculum, or participation in a transition program appropriate for individuals with developmental disabilities. In addition, for adolescents currently in high school, delaying graduation beyond age 18 is often recommended in order to maintain access to key services and learning opportunities, which may be limited following graduation (Shattuck et al., 2011).

Limitations and Future Directions

The model of transition assessment for adolescents and young adults with ASD described in this article has several key limitations. For individuals with ASD and significant verbal language impairments, the interview protocols used in this assessment may be appropriate, even with significant not modifications. In addition, individuals with ASD and significant mental health and behavioral health concerns may be better suited to psychiatric and behavioral services that assist the individual in attaining a more stable behavioral profile. Finally, transition specialists and rehabilitation counselors should address engagement concerns for young adults with ASD who are not involved in any social, community-based vocational. educational or activities prior to referring the individual for the type of transition assessment described in this article.

Future research regarding transition assessments should focus on the relationship between participation in the transition assessment and subsequent participation in therapeutic and learning activities that address key goals and concerns. Moreover, it is likely that professionals across disciplines and settings (e.g., psychologists, postsecondary education disability service providers, job coaches, etc.) will benefit from additional training in supporting individuals with ASD. In addition, further research is required to learn more about which activities and strategies are most strongly associated with key positive outcome variables, such as employment, college graduation, social participation, and independent living (Cameto al., 2004). Increased awareness of the et effectiveness of access to and participation in these activities will help transition specialists better prioritize referrals to services and programs.

Summary

The pilot assessment battery described in the current article provides a model for assisting rehabilitation counselors and transition specialists in identifying vocational strengths, functional limitations, and associated recommendations and strategies to promote participation in meaningful activities for adolescents and young adults with ASD. Our model includes a review of records, completion of behavioral rating scales, person-centered interviews, information from caregivers and educators, and behavioral observation to describe a functional profile of individual strengths, interests, challenges, and supportive strategies. Inclusion of perspectives from multiple sources, including the individual with ASD, is essential to the development of this profile.

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Investigating Disability Advocacy: An Exploratory Factor Analysis of the Disability Advocacy Inventory

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Disability advocacy among individuals with disabilities has a long-standing history dating back to the disability rights movement and it remains an important part of the ongoing social justice movement promoting equity for individuals with disabilities. The objective of the current study was to explore the factorial structure of the Disability Advocacy Inventory (DAI) in a sample of individuals with disabilities (N = 129) who completed a program with the Youth Leadership Forum (YLF), a state-by-state program focused on the development of advocates for individuals with disabilities. Researchers used a principal component axis method with Varimax rotation to investigate the factorial structure of the DAI. A three-factor structure best fit the scale: efficacy, agency, and connection to others with disabilities, which is consistent with related literature on disability advocacy. In addition, concurrent validity was explored and found to be valid with constructs with similar characteristics. Results provide empirical evidence that the DAI offered a psychometrically sound instrument that may be used at the individual, organizational, and public policy levels. The DAI has demonstrated concurrent validity, and shows potential to be an instrument that provides utility in understanding how advocacy can impact positive outcomes such as postsecondary education, work, positive disability identity development, and other adult life roles for heterogeneous populations of people with disabilities.

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he campaign for the recognition of human rights and abilities among persons with disabilities garnered momentum as individuals came together against barriers to participation in mainstream society (Grenwelge, 2010; Neudel, 2011; Winter, 2003). The historical marginalization of persons with disabilities, rooted in the perceptions of and prejudices about these individuals, drove cross-disability groups to advocate for control of their own lives in order to influence social policies and practices (Gilad & Rimmerman, 2014; Winter). The protest culture resulting in many social movements in the 1960s served as one catalyst for the disability rights movement (Scotch, 1989). Movements seeking equal rights, such as the black civil rights and women's rights movements, provided a model for the disability community as they organized to address the main sources of attitudinal, environmental, and institutional barriers (Grenwelge; Scotch). Further, the discrepancy in the treatment and attitudes for injured soldiers returning from WWII versus for individuals with congenital disabilities heightened the awareness that all individuals with disabilities

should have the opportunity to access services and resources to better their lives (Neudel).

The activism of self-advocates, families, and community members enacted change in policies and systems with the passing and implementation of legislative acts aimed specifically at individuals with disabilities (Grenwelge, 2010). The Architectural Barriers Act of 1968, noted as one of the first civil rights laws for persons with disabilities, stated structures built with federal funds needed to be accessible (Neudel, 2011). Following initial vetoes of the bill for the Rehabilitation Act of 1973, disability rights activists responded with demonstrations and sit-ins. Four years later in 1977, when the bill finally passed into law, activists and individuals again engaged in demonstrations, like the occupation of the federal office building in San Francisco, until the government issued the regulations of the Rehabilitation Act (Neudel). The passing of the Rehabilitation Act of 1973 and subsequent regulations to Section 504 reflected the coming social changes on a larger scale, as all entities receiving money from the federal government could no longer discriminate based on disability.

Additional legislation, including the Individuals with Disabilities Education Act of 1975 and Americans with Disabilities Act of 1990, further granted equal opportunity and access to individuals with disabilities, supporting a new view of persons with disabilities as peers rather than inferior citizens (Grenwelge).

Exemplified in the disability rights movement, advocacy served as a critical contributor to the empowerment of persons with disabilities and remains an essential element for improving quality of life (Landmark, Zhang, Ju, McVey, & Ji, 2016). Self-advocacy has been defined as an act a person with a disability engages in to demand supports (Roberts, Ju, & Zhang, 2016; Test, Fowler, Wood, Brewer, & Eddy, 2005b). This has been distinguished from leadership advocacy which tends to affect larger and system-level changes (Landmark et al., 2016). As part of a literature review aimed at developing a conceptual framework of selfadvocacy, Test and colleagues (2005b) compiled a chronology of self-advocacy definitions and noted initial definitions as emphasizing self-advocacy as a civil rights movement followed by a shift to selfadvocacy as a movement and skill, to now current definitions reflecting self-advocacy as a component of self-determination.

Considering these definitions and input from stakeholders, a conceptualization of self-advocacy was proposed consisting of four major components: (a) knowledge of self, (b) knowledge of rights, (c) communication, and (d) leadership (Test et al., 2005b). In knowing oneself, individuals with disabilities can identify their preferences, strengths, interests, needs, and attributes of their disability. Knowledge of rights refers to an understanding and awareness of rights as a person with a disability; this personal rights, community rights, includes educational rights, and knowledge of resources. In addition to having knowledge of self and rights, individuals with disabilities must be able to effectively communicate to promote self-advocacy. Communication may involve promoting feelings, assertiveness, use of assistive technology, as well as an ability to say 'no'. The last major tenet of Test and colleagues (2005b) conceptualization framework is leadership—a culmination of the three other components—which enables an individual to shift from advocating for the self to advocating for others as part of a group with common interests through political action, knowledge or resources, and organizational participation. Test et al. (2005b) indicated, for an individual to be considered a successful self-advocate, engagement in the leadership component is not necessary. Further, the framework suggests self-advocacy may develop and occur throughout an individual's lifespan to varying degrees of complexity.

In the consideration of youth and young adults with disabilities. educational research has established self-advocacy as a necessary skill to achieve successful outcomes across the following areas: high school completion, employment, independent living, and postsecondary education (Roberts et al., 2016). Test, Fowler, Brewer and Wood (2005a) conducted a methodological review of interventions intended to enhance the selfadvocacy skills of individuals with disabilities. Focusing on publications between 1972 and June 2004, researchers concluded self-advocacy was a skill individuals with disabilities could learn through such practices as peer tutoring, employment skills training, published curricula, transition planning involvement, writing activities, and leading Individualized Education Program (IEP) meetings (Roberts et al.; Test et al., 2005a). However, Test et al. (2005a) also indicated a need for increased methodological rigor in conducting and reporting these studies.

As an extension and update to the work done by Test and colleagues (2005a), Roberts et al. (2016) reviewed empirical evidence of self-advocacy promotion studies published between June 2004 and June 2010. Conclusions indicated a continued need to focus on individuals from diverse backgrounds and more rigorous research on the predictors and outcomes of self-advocacy. Roberts et al. suggested students with disabilities should be provided opportunities to practice self-advocacy skills and cited the Youth Leadership Forum (YLF) as an example of such a program. A state-by-state program, YLF promotes development of selfadvocacy skills which enable high school students with disabilities to cultivate leadership, citizenship, and social skills (United States Department of Labor, 2017). Youth leadership programs are further supported by Des Marais, Yang, and Farzanehkia (2000) and Wingenbach and Kahler (1997) who found real-life experiential learning necessary to develop leadership skills and provided youth with real-work context to apply and experience these skills. Researchers also found positive relationships between involvement in youth leadership activities and youth leadership development (Des Marais et al.; Greiman & Addington, 2008; Wingenbach & Kahler).

Various constructs have been associated with effective promotion of self-advocacy skills. The following section provides a more in-depth understanding of these constructs and how they connect to and impact disability advocacy. This paper considered the Disability Advocacy Inventory (DAI) as a proposed tool to understand the advocacy behaviors of transition-age youth. The paper provides a summary of literature related to the three factors of the DAI and literature related to the primary outcome skills of the YLF: leadership skills, citizenship skills, and social skills. An explanation of the methods for measuring factors contributing to the DAI follows, as well as the process of surveying participants. After presenting the statistical findings of the research, the paper has concluded with a discussion of the DAI in relation to relevant uses. recommendations, and future directions.

Youth Advocacy Skills

Various constructs have been associated with effective promotion of self-advocacy skills. Bandura (1977) defined self-efficacy as the perceived proficiency and competency to complete a task and the ultimate drive to engage individuals in meaningful behaviors. Self-efficacy permeates an individual by influencing what one chooses to do, one's level of effort, persistence in the face of challenges, and subsequent performance (Lunenburg, 2011; Watson, Chemers, & Preiser, 2001). When individuals are experiencing low self-

efficacy, or a lack of confidence, they will lack motivation to produce changes or complete an activity due to debilitating self-doubt (Wood & Bandura, 1989). Conversely, when individuals are experiencing high self-efficacy, they will experience confidence with positive concomitants and will be motivated to engage and persevere in activities they feel they can reasonably accomplish (Bandura, 1977; Chemers, Watson, & May, 2000; Wood & Bandura). Thus, judgments individuals make regarding their self-efficacy are important not only because they influence the skills individuals perceive they have, but also what individuals believe they can do with those skills (Chemers et al.). Previous research has found self-efficacy to influence and be associated with a variety of outcomes including work-related performances. learning achievement. and motivation, performance, career choice, adaptability to new technology, and effective leadership (Greiman & Addington, 2008; Hoyt, Murphy, Halverson, & Watson, 2003). Empowerment variables, including self-efficacy and self-advocacy have been noted as instrumental contributors to quality of life (Tschopp, Frain, & Bishop, 2009).

Following Bandura's (2001) Social Cognitive Theory, self-efficacy is the cornerstone to an individual's agency. Bandura described agency as an intentional act of change, typically directed by one's own belief systems and self-regulatory capabilities, influencing self-development, self-renewal, and adaptation to change. Through an agentic perspective toward human development, adaptation, and change, individuals are considered an intentional influence over their own functioning and life circumstances (Bandura, 1986, 2001, 2006). Bandura (2006) described four core properties of human agency: intentionality, forethought, self-reactiveness, and self-reflectiveness. Individuals who demonstrate intentionality form intentions that include plans and strategies and may include a coordination of plans when looking toward a collective effort. Further, human agency involves forethought or setting goals and anticipating likely outcomes to guide and motivate behaviors. Bandura (2006) further explained agents not only make plans and consider future outcomes, but also are able to regulate their

behaviors and proceed with an action plan when it is most appropriate, demonstrating the third property of self-reactiveness. Lastly, agents are self-reflectivethey consider their own functioning, personal efficacy, and meaning of goals and adjust their actions accordingly. Through this conception of human agency, where people are not merely bystanders to their lived experiences, individuals may feel a sense of control over the events in their lives (Bandura, 2006; Haggard & Chambon, 2012). control is particularly relevant when This considering individuals with disabilities and disability rights. When individuals with disabilities feel confident and competent in their ability to create change, agency towards advocacy likely follows.

As a final consideration, when thinking about the origination of this movement for change, there is a need for an advocate to feel connected to the group for which they are advocating. Ryan and Deci (2000) a detailed understanding provide of how connectedness is vital for individuals to internalize, or become more intrinsically motivated, to complete a task (i.e., self-determination). When an individual has greater internalization, chances increase for behavioral effectiveness, volitional persistence, increased perceived subjective well-being, and increased assimilation to his or her social group (Ryan & Deci). When thinking about how social connectedness impacts overall disability advocacy, it is evident the connection individuals with disabilities have with others with disabilities propels the movement forward and creates an increased internal drive for advocacy.

To elucidate this, Skinner (2004) investigated variables which facilitate academic success of college students with learning disabilities. An analysis of transcripts from semi-structured interviews identified eight common themes, including self-advocacy and importance of social support systems. The transcripts of the twenty student interviews were considered in light of Skinner's (1998) definition of self-advocacy which encompassed knowledge of disability, awareness of legal rights, and ability to competently and tactfully communicate rights and needs to individuals in positions of authority (Skinner, 2004). Eleven out of

twenty students expressed themes of self-advocacy, and consistently across the interviews, the researcher noted students lacked awareness of their legal rights. In the context of the study, academically successful learning with disabilities college students demonstrated competency in at least two areas of Skinner's self-advocacy definition. Skinner (2004) found all twenty student participants to express the importance of support systems. These systems included family, friends, instructors, and/or support personnel, consistent with academic previous literature documenting the positive effects of support systems for students with disabilities.

Frawley and Bigby (2015) suggested selfadvocacy was a vehicle for social inclusion of members of self-advocacy groups, particularly by providing a sense of belonging and social connections. Anderson and Bigby (2015) explored the effects of membership of independent selfadvocacy groups on individuals with intellectual disabilities and found membership in self-advocacy groups contributed to skill development, confidence, and general life engagement; specifically, selfadvocacy was a means of social inclusion for these individuals. Self-advocacy groups were notably characterized by collegiality, ownership, and control, which contributed to creating opportunities for change (i.e., helping others, having power and status, speaking out). These opportunities, provided by selfadvocacy groups, act as catalysts for individuals to become more confident and engaged in life (Anderson & Bigby). As self-efficacy increases, multiple possible positive identities may arise: a selfadvocate, an expert, a business-like person, and an independent person. Self-advocacy groups provided persons with intellectual disabilities opportunities to not only grow individually, but also helped foster a sense of empowerment and competence; leading some individuals to living more independently and increasing participation in community activities (Anderson & Bigby).

Despite demonstration that self-efficacy, agency, and connectedness contribute to advocacy and leadership, little is known about how young adults with disabilities develop, define, and demonstrate leadership (Carter, Swedeen, Walter, Moss, & Hsin,

2011). Caldwell (2010) noted there are traditionally few opportunities for individuals with developmental disabilities to develop leadership skills and assume leadership roles. Through in-depth, qualitative interviews with leaders in the self-advocacy movement of the United States, themes emerged regarding the process of leadership development. The four major themes were: (1) disability oppression and resistance, (2) environmental supports and relationships, (3) leadership skills, and (4) advanced leadership opportunities. Life stories of self-advocates revealed experiences of oppression, and resistance set the foundation for future leadership development and influenced a positive disability identity. Individuals also discussed the various environmental forces which also contributed to their leadership development process, including family influence, relationships and key support persons, and community supports and services (Caldwell, 2011). Self-advocates highlighted the limited opportunities to develop leadership skills through school and employment, leading individuals to seek alternative experiences including volunteer opportunities, positions in the self-advocacy movement, service boards and committees, and leadership development workshops and experiences. Lastly, the fourth theme identified by self-advocates was a need for advanced leadership opportunities, particularly for individuals with disabilities, who often encounter a 'glass ceiling' preventing individuals from advancement within organizations (Caldwell, 2011).

Focusing on young adults with disabilities, Carter, Swedeen, Walter, Moss, and Hsin (2011) conducted qualitative interviews to explore and identify the factors which foster youth leadership development. Young adults with disabilities identified key indicators of effective leadership related to attitudes, skills, and influence on others. Examples of effective attitudes and skills included perseverance, positive attitude, goal setting, desire to lead, and social skills (Carter et al.). Further, young adults identified the following as effective ways for leaders to influence others: advocacy/self-advocacy, helping others, mentoring youth, and leading by contributing example. Factors to leadership development as identified by young adults with disabilities included key experiences (i.e., extracurricular activities, disability-specific opportunities) and key relationships (i.e., parents and other family members, mentors, friends). Carter et al. concluded that this study underscored the importance of providing leadership opportunities to transitionage youth with disabilities and supporting transitionage youth in the leadership development process.

The primary purpose of this paper is to explore the factorial structure of the Disability Advocacy Inventory in a sample of individuals with disabilities who completed a Youth Leadership Forum program, a state-by-state program that focuses on the development of advocates for individuals with disabilities. The DAI targeted feelings and behaviors related to advocacy. In a broad sense, high levels of disability advocacy may also relate to other prosocial behaviors or positive psychological constructs. For instance, higher levels of advocacy may be related to more leadership behaviors; greater knowledge, confidence, and self-efficacy; increased social connection (i.e., support system of peers and mentors); and having a positive self-image as a person with a disability. These behaviors are distinct, yet consistent with an engaged and informed advocate for oneself and others with disabilities. The construct that the DAI targets-advocacy-shares variance with several other latent constructs described above. However, the advocacy construct is arguably a distinct area that can be conceptually differentiated from other psychosocial variables.

Methods

The present study utilized non-experimental quantitative design with a convenience sample. The research design was a descriptive field study, hallmarked by lower internal validity due to the lack of experimental conditions, but higher external validity because it was conducted in a naturalistic setting (Heppner, Wampold, & Kivlighan, 2007). Past literature has highlighted the importance of disability advocacy and suggested that several dimensions of advocacy exist. The driving research question for the present study was: "What is the

underlying factor structure of the DAI, based on sample of transition-age youth and young adults with disabilities who completed the YLF program?"

Participants

The present study sought to survey the disability advocacy behaviors of transition-age youth and young adults with disabilities, primarily seeking a sample that had knowledge and experience in disability advocacy behaviors. To obtain a sample, researchers sought a convenience sample of transition-age youth and young adults who had completed a YLF curriculum in the United States. Data was collected with the support of members of the national Association of Youth Leadership Forums (AYLF). AYLF members are state stakeholders (e.g., vocational rehabilitation, developmental disability agencies, independent living, or other non-profit organizations) that produce a YLF program for transition-age youth in their state. AYLF members that assisted with recruitment distributed an online survey link to: (a) YLF alumni listservs; (b) online groups with YLF alumni (i.e., Facebook groups); and (c) other YLFaffiliated organizations, when applicable.

A total of 129 (69%) participants submitted a completed the survey out of 187 who began the survey; in total, 58 incomplete surveys were screened from data analysis. Participants had a mean age of 23.9 years (SD = 5.81), and over half were female (60.5%), followed by male (36.4%), with the remaining (3.1%) identifying as "other" (e.g., genderqueer, non-binary gender). Participants identified their primary disability as follows: mobility disability (29.7%), learning disability (26.8%), autism spectrum disorder (20.4%), intellectual disabilities (7.2%), hearing disability (7.2%), and visual disability (4.9%), with the remaining 3.8% reporting either emotional/behavioral disability or "I don't know." The majority of respondents had a congenital disability (63.8%), followed by disabilities acquired after birth (25.3%) and the remaining (10.9%) reporting "I don't know."

Educational achievement ranged from some high

school to completion of graduate school, the largest percentage (26.4%) having started college, but not self-reported Participants completed. their race/ethnicity as predominantly White/Caucasian (76.7%), followed by Black or African American (7.8%), Hispanic (7.8%), Asian or Pacific Islander (3.9%), multiple ethnicity (3.1%), and one participant American Indian or Alaskan Native (0.7%). Most respondents (53.9%) reported being employed, followed by students (27.1%), and the participants remaining were volunteers. homemakers, or unemployed.

Procedures

Participants were recruited through advertisements, listservs, and outreach to targeted partners through AYLF organizations, and completed an online questionnaire with 170 questions on SurveyMonkey. Data was analyzed using SPSS version 23. The survey included demographic questions, standardized measurement tools, and the Disability Advocacy Inventory. Participants were offered the option of receiving a \$15 gift card after completing the survey, and personal identifying information (name, email, mobile phone number) remained confidential and separate from survey responses. Any participants choosing optional participatory compensation were linked to a site separate from the survey to collect and process their gift card.

Measures

Several instruments were used to measure variables in this study. In addition to self-reported demographics, seven scales measured advocacy, social support, self-evaluation, identity, life purpose and satisfaction, flourishing, health/disability, and quality of life on the part of the participants.

Disability Advocacy Inventory. Disability advocacy was measured using the Disability Advocacy Inventory. The DAI seeks to estimate advocacy behaviors, thoughts, and feelings related to advocacy for transition-age youth and adults with disabilities. The DAI was originally designed to explore the advocacy behaviors as an outcome measure for the Youth Leadership Forum to track programmatic outcomes for YLF participants; it was originally developed for use as an outcome measure for a week-long conference in 2009, and was paired with disability identity. Participants were youth ages 16 to 19 years with a wide variety of disabilities.

Item content was informed by disability advocacy scales. The DAI was proposed as a 19-item measure, using a 6-point Likert-type scale (1 = strongly disagree; 6 = strongly agree). Item content measures the latent constructs of (1) efficacy (i.e., "I feel that I am a good disability rights activist"), (2) agency (i.e., "I know how to get agency administrators or legislators to listen to me"), and (3) connection (i.e., "I feel like I matter to people in the disability community"). The proposed factors look at legislative and advocacy aspects of the YLF and generalize to self-advocacy behaviors, as well as advocacy for the disability community more broadly. The Cronbach's alpha coefficient for the current study was .95.

Multidimensional Scale of Perceived Social Support. Perceived social support was measured using the Multidimensional Scale of Perceived Social Support (MSPSS). Zimet, Dahlem, Zimet, and Farley (1988) created the MSPSS to measure perceived social support from three specific sources: family, friends, and significant other. The MSPSS measures 12 items on a 7-point Likert scale (1 = very strongly agree; 7 = very strongly disagree). Measures test the support and its adequacy from family, friends, and significant others (i.e., "There is a special person around when I am in need"). Testretest reliability was .85 between two and three months (Zimet, Powell, Farley, Werkman, & Berkoff, 1990). The Cronbach's alpha coefficient for the current study was .92.

Core Self-Evaluation Scale. Core selfevaluation was measured using the Core Self-Evaluation Scale (CSES). Judge, Erez, Bono, and Thorensen (2003) created CSES, measuring 12 items (i.e., "I am capable of coping with most of my problems") on a 5-point Likert scale (1 = strongly disagree; 5 = strongly agree). The core traits on this scale are shown to be correlated with measures of job performance, job satisfaction, and life satisfaction (Judge et al., 2003). Internal consistency of CSES measures between .81 and .87, with a test-retest reliability of .81. The Cronbach's alpha coefficient for the current study was .86.

Disability Identity Scale. Disability identity was measured using the Disability Personal Identity Scale (DID). Hahn and Belt (2004) developed the DID to measure positive disability identity and a feeling of belonging in the disability community. DID is an 8-item measure with a 5-point Likert scale. Questions seek to measure disability identity (i.e., "I believe that because I am a person with a disability, I have many strengths"), with higher scores suggesting stronger disability identity. Good reliability and validity were found in early evidencebased measures, and high DID ratings were associated with less desire for a cure to disability (Hahn & Belt). Bogart (2014) also utilized the DID and found that disability identity was a significant predictor of satisfaction with life. The Cronbach's alpha coefficient for the current study was .87.

Satisfaction with Life Scale. Satisfaction with life was measured using the Satisfaction with Life Scale (SWLS). The SWLS scale has been used widely in studies of rehabilitation outcomes and has been validated internationally, including use for populations (Hultell different ages and & Gustavsson, 2008). Created by Diener, Emmons, Larsen, and Griffin (1985), the SWLS includes five items measuring "global cognitive judgments" in life satisfaction (i.e., "In most ways my life is close to my ideal"). The SWLS is measured on a 7-point Likert scale with a total score from 7 to 35. Higher scores on the SWLS indicate higher life satisfaction, the converse for lower scores. This measure has shown strong internal consistency ($\alpha = .89$) with a test-retest reliability of .82 over 2 months. The Cronbach's alpha coefficient for the current study was .87.

Flourishing. Perceived self-success was measured using the Flourishing Scale. Diener wt al. (2009) created the Flourishing Scale as a measure of psychological functioning in an 8-item format. Each item is phrased using positive language (i.e., "I lead a purposeful and meaningful life") and rated on a 7point Likert scale. Higher scores suggest higher life flourishing. The validity and reliability of the scale has been proven in several studies (see Hone, Jarden, Schofield & Duncan, 2014). The Cronbach's alpha coefficient for the current study was .95.

WHODAS. Health and disability were measured using the World Health Organization Disability Assessment Schedule 2.0 (WHODAS 2.0). The WHODAS was refined by the World Health Association (WHO) after its original creation in 1988 to assess psychiatric functioning. The WHODAS 2.0 is an assessment for health and disability, applicable across disability, culture, and age (WHO, 2010). The instrument is administered with 12 or 36 items; this study used the 12-item scale that measures six areas of functioning: cognition (i.e., "Learning a new task, for example learning how to get to a new place"), mobility (i.e., "Walking a long distance such as a kilometer [or equivalent]"), self-care (i.e., "Getting dressed"), getting along (i.e., "Maintaining a friendship"), life activities (i.e., "Your day-to-day work") and participation in society (i.e., "How much of a problem did you have in joining in community activities (for example, festivities, religious or other activities) in the same way as anyone else can?"). The measure uses a 5-point Likert scale (0 = Nodifficulty; 4 = Extreme difficulty or cannot do). Higher scores indicate more difficulties with functioning. The WHODAS has demonstrated high internal consistency and a test-retest reliability of 0.98. The Cronbach's alpha coefficient for the current study was .85.

WHOQOL-BREF. Quality of life was measured using the World Health Organization Quality of Life Scale, abbreviated version (WHOQOL-BREF; WHOQOL Group, 1998). The WHOQOL-BREF contains 26 items and four different domains estimating physical (i.e., "to what extent do you feel that physical pain prevents you from doing what you need to do?"), psychological (i.e., "to what extent do you feel your life to be meaningful?"), social relationships (i.e., "how satisfied are you with your personal relationships?"), and environment health (i.e., "how healthy is your physical environment?"). The WHOQOL-BREF is rated on a 5-point Likert scale with various ratings appropriate for the question being asked. Higher scores indicate higher levels of quality of life. The present analysis utilized an SPSS syntax file available through WHO to compute the domain scores and standardize them through a 0 to 100 scale. WHOQOL-BREF total scores were computed as a composite of the four domain scores. The Cronbach's alpha coefficient for the current study was .92.

Statistical Analysis

The data was screened for missing values, accurately weighted Likert-type scale values, multivariate outliers, skewness, and kurtosis. Missing data was replaced using multiple imputations. Outliers were removed using the Mahalanobis distance square procedures; this method is appropriate in retaining necessary data and assisting in the transformation of a normal distribution (Gao, Mokharitan, & Johnston, 2008). Descriptive statistics, including mean, deviation. skewness. kurtosis. standard and Cronbach's alpha were calculated to offer an overall description of the variables (Table 1).

Results

Items were analyzed using two factor analysis models. The aim of this review was to assist in scale development of a theoretically-based disability advocacy measure, as well as to reduce unnecessary items. The DAI was originally developed as an outcome measure for the California YLF. The development of the scale included input from subject matter experts working in state government, YLF alumni, and staff from federal grant-driven initiatives, which also included people with disabilities. These experts identified behaviors to be used in the DAI as a result of direct observation of the YLF, as well as an understanding of the research available regarding disability identity in relation to self and collective advocacy. Broadly, the DAI intended to capture several aspects of advocacy thoughts, feelings, and behaviors using both direct observations and expert judgment to develop the initial pool of items. Several revisions of the DAI were piloted and reviewed by staff during development of the instrument.

Given the intended use of the DAI, a normreferenced measurement would be most appropriate. For a norm-referenced measurement, items showing very little variation are eliminated because they show minimal value in representing the disability advocacy construct. Norm-referencing allows a basic comparison based on one respondent's performance

referenced against the performance of a representative group. One of the driving foundations behind YLF—what the DAI was designed to measure—was the advocacy behaviors and skills learned in the program. A goal of YLF is to introduce these concepts in the communities through empowered, advocating delegates.

Table 1

Composite Score Means, Standard Deviations, Skewness, Kurtosis, and Cronbach's Alpha for All Variables (N = 129)

Construct	Mean (SD)	Skewness	Kurtosis	Cronbach's a
WHODAS	9.9 (7.76)	.76	27	.85
WHOQOL	283.5 (53)	29	58	.92
MSPSS	67.1 (15)	66	66	.96
CSES	43.5 (7.6)	.31	78	.86
DID	67.8 (10.3)	18	65	.87
DAI	85.7 (17)	19	56	.95
SWLS	25.6 (5.7)	3	49	.87
FLOURISH	47.8 (7.2)	82	.15	.95

Note: WHODAS = World Health Organization Disability Assessment Schedule 2.0 (12-item); WHOQOL = World Health Organization Quality of Life-BREF; MSPSS = Multidimensional Scale of Perceived Social Support; CSES = Core Self-Evaluation Scale; DID = Disability Identity Scale; DAI = Disability Advocacy Inventory; SWLS = Satisfaction with Life Scale; Flourish = Flourishing Scale.

Exploratory Factor Analysis

Researchers conducted a factor analysis using principal component analysis (PCA) extraction method and a Varimax rotation method with Kaiser Normalization to investigate the factorial structure of the DAI. The aims of this investigation were to explore the factorial structure of the DAI and to reduce unnecessary or inappropriate items. Given the aim of the evaluation, the PCA extraction method was the most appropriate and parsimonious of factor analysis methods (Sass & Schmitt, 2010; Schmitt & Sass, 2011). Tests of sampling adequacy and sphericity were appropriate, with the Kaiser-Meyer-Olkin measure of sampling adequacy at .92 (above the recommended value of 0.6) and Bartlett's test of sphericity significant ($\chi 2$ (171) = 2095.2, p < .000).

A scree plot was produced (Figure 1) and interpretation suggested an appropriate two- or threefactor solution (Cattell, 1966). Visual inspection of the scree plot suggested the factorial structure normalizes after three to four factors.

Figure 1. Scree Plot for Principal Component Analysis



The initial factor solution of the DAI had a total of three factors. The first factor solution included

items 1, 2, 3, 6, 7, and 8. These factors were designated as the construct of "efficacy." The second factor solution included items 9, 10, 11, 12, and 5, and was designated as "agency." Item five also loaded heavily on factor one, suggesting that the item content does not contribute to a singular factor, and the item may be overly ambiguous or unclear. The third factor solution encompassed items 14, 15, 16, 17, 18, 19, and 4, and was designated "connection." Item four ("when faced with a problem involving disability, I am good at working in a group to solve it") loaded strongest onto the connection factor (.47), but also loaded on the efficacy (.41) and agency factor (.44) at comparable levels, and item five ("I see myself as an effective organizer for the disability rights movement") also loaded heavily on the agency and efficacy factors, which suggested the item content does not represent one latent factor. The three-factor solution included all 19 items and accounted for 70.5% of the total variance.

Both items four and five were proposed for deletion because they did not contribute to a simple factor structure, with shared factor loadings being particularly high. In addition, upon inspecting the variance and Cronbach's alpha of the whole scale if the items were deleted, it was noted both could be deleted without a negative impact on variance or reliability of the overall scale.

A second PCA factor analysis using a Varimax rotation with Kaiser Normalization was conducted with questions four and five omitted. The Kaiser-Meyer-Olkin measure of sampling adequacy for the second factor analysis was .92 with a Bartlett's test of sphericity significant (χ^2 [136] = 1794.6, *p* < .00). The factor structure and basic descriptive statistics are presented in Table 2.

The three factors of the 17-item solution had factor loadings over 0.5 and explained 71.9% of the total variance. Composite scores were computed for the means of items for each factor identified, with higher scores indicating higher levels of efficacy (one's ability to advocate for disability-related issues), agency (advocating for disability-related issues with agencies, government staff, and the community), or connection (connection to, or feeling a part of, the disability community). The internal consistency was good for both efficacy ($\alpha = .88$) and agency ($\alpha = .89$) factors, and was excellent for the connection factor ($\alpha = .93$). All factors showed a negatively skewed distribution, with the efficacy factor showing the greatest skew and a high kurtosis, followed by the connection factor. Each of the factors showed a moderate to strong positive correlation with each other factor. Table 3 displays the correlations between factors, number of items, descriptive statistics, and internal consistency for each factor.

Overall, factor analysis methods indicated three latent factors within the DAI. Each of the related constructs demonstrate good to excellent reliability, and the scale had excellent reliability ($\alpha = .95$). In addition, each of the latent factors demonstrated appropriately high factor loadings, and moderate to strong correlations. Skewness and kurtosis of the overall scale (Table 1) showed a negative skew and a negative kurtosis, but were within normal limits demonstrating the data was appropriate for factor analysis.

Validity

To determine concurrent and discriminant validity, participants' responses to the DAI were also correlated with other measures (Table 4). Overall, the DAI was shown to have a non-significant relationship with the WHODAS (r = -.1, p > .05), a measure of general disability, included as a measure to determine discriminant validity. The DAI had moderate to strong associations with quality of life (r = .48, p < .01), social support (r = .52, p < .01), general disposition (r = .42, p < .01), life satisfaction (r = .44, p < .01) and flourishing in life (r = .64, p < .01).01). Given the DAI was developed to capture advocacy thoughts, behaviors, and feelings, the positive correlations on other positively-valanced measures provides initial empirical evidence the DAI is concurrently valid. The DAI shards the strongest correlations with the Disability Identity Scale (r =.64, p < .01), conceptually the closest related construct, alongside Flourishing (r = .64, p < .01)
Table 2

Factor Loadings for Disability Advocacy Inventory, Means, Standard Deviations, Skewness, and Kurtosis (N = 129)

		_				
		Factor	-		~	
Item Number and Content	1	2	3	Mean(SD)	Skew	Kurtosis
1. I believe people with disabilities and I can influence	.76	.09	.29	4.9(1.2)	-1.5	2.4
services for people with disabilities		.0,	>		110	
2. I feel confident in my ability to help people with disabilities	.67	.1	.54	5(1.2)	-1.5	1.7
grow and develop	_			0(11-)		
3. I feel that I am a good disability rights activist	.5	.37	.44	4.6(1.3)	75	23
6. My opinion is as important as a professional's opinions in	.75	.13	.19	4.7(1.3)	75	19
deciding what people with disabilities need			,		110	,
7. I'd like to join a disability rights group and work on a	.53	41	32	42(14)	- 38	- 5
certain issue			10 -	(1)		
8. I feel comfortable telling agencies and government staff	.66	.38	.34	4.4(1.4)	67	48
how services for people with disabilities can be improved			10 1	(11.1)		
9. I help other people with disabilities get the services they	49	.65	22	4 1(1 6)	- 4	-1
need	,			(1.0)		1
10. I get in touch with my legislators when important bills	04	.89	13	3(1.6)	41	- 88
concerning disability are pending		.05	.110	5(110)		.00
11. I know how to get agency administrators or legislators to	12	.87	2	32(16)	23	- 96
listen to me	.12	•••	.2	3.2(1.0)	.23	.90
12. I know what the rights of disabled people are under the	49	56	39	45(13)	- 8	17
Americans with Disabilities Act (ADA)	.12	.20	.57	1.5(1.5)	.0	.17
13. I have a good understanding of the disability rights	47	63	32	44(14)	- 8	1
movement	/	.00	.52	4.4(1.4)	.0	.1
14. I am able to get information to help me better understand	48	29	63	47(13)	- 99	58
people with disabilities	.40	.27	.05	4.7(1.5)	.,,,	.50
15. I feel a sense of connection to other people with	22	25	82	47(13)	-1	6
disabilities	.22	.25	.02	4.7(1.5)	-1	.0
16. I feel like I matter to people in the disability community	.42	.14	.78	4.7(1.2)	87	.4
17. I feel like I belong when around people with disabilities	.24	.15	.85	4.6(1.4)	78	19
18. I have quality relationships with other people with	2	28	79	46(14)	- 95	13
disabilities	• 4	.20	•19	7.0(1.7)	75	.15
19. I feel that people with disabilities care about me	.38	.22	.76	4.7(1.3)	-1.2	1.3
M. () Estimation Method. During in al Community Anglancia						

Note: Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 5 iterations.

Table 3

Construct				# items	Mean (SD)	Skew	Kurtosis	α	
Efficacy	-			6	4.66(1.3)	99	1.2	.88	
Agency	.70*	-		5	3.84(1.5)	19	44	.89	
Connection	.76*	.63*	-	6	4.7 (1.3)	88	.52	.93	

Correlations, Number of Items, Descriptive Statistics, and Reliability of Factors

Note: * p < 0.01 level (2-tailed). α = Cronbach's alpha

Table 4

Correlations for All Variables in the Model (N = 129)

Construct	1	2	3	4	5	6	7
1. WHODAS	_						
2. WHOQOL	439**	_					
3. MSPSS	239**	.614**	_				
4. CSES	306**	.605**	.541**	_			
5. DID	194*	.547**	.532**	.486**	_		
6. DAI	098	.483**	.517**	.418**	.644**	_	
7. SWLS	254**	.620**	.568**	.641**	.481**	.444**	_
8.FLOURISH	217*	.712**	.684**	.594**	.626**	.643**	.732**

Note: **p < .01. WHODAS = World Health Organization Disability Assessment Schedule 2.0 (12-item); WHOQOL = World Health Organization Quality of Life-BREF; MSPSS = Multidimensional Scale of Perceived Social Support; CSES = Core Self-Evaluation Scale; DID = Disability Identity Scale; DAI = Disability Advocacy Inventory; SWLS = Satisfaction with Life Scale; Flourish = Flourishing Scale.

Discussion

Historically, disability advocacy has been socially constructed and understood to encompass a wide range of events, ideas, and people. Currently, there are no scales that provide a measurement of disability advocacy behaviors in people with disabilities. The current study investigated the factorial structure of the Disability Advocacy Inventory, an intended measure of disability advocacy in a sample of individuals with disabilities who completed a program with the YLF. This exploratory factor analysis supports the DAI as a multidimensional scale that provides empirical evidence for a threefactor structure of disability advocacy in a sample of transition-age youth and young adults with disabilities who have received training in disability leadership and advocacy. The three factors identified in the research included efficacy, agency, and connection to others with disabilities. Results also revealed that two items loaded poorly onto the original factor structure. These items appear to not load for several reasons, which may include (a) lack of clarity, (b) esoteric content, and/or (c) over specificity and lack of generalizability to all participants.

Examination of the external constructs (e.g., WHOQOL-BREF, MSPSS, CSES, DID, SWLS, Flourishing Scale) provides evidence for concurrent validity of the DAI. Each of the constructs, except for the WHODAS, showed a statistically significant correlation, lending preliminary evidence of concurrent validity with the DAI and other positively-valenced measures. Future research should further establish the discriminant validity on measures such as the WHODAS. The DAI shares the strongest correlation with the Disability Identity Scale (r = .64, p < .01). The underlying constructs of disability advocacy and disability identity share a common theoretical and historical origin, and this positive correlation stands as initial evidence regarding the concurrent validity with related measures (Bogart, 2015; Buggie-Hunt, 2007; Gill, 1997; Hahn & Belt, 2004).

The exploration of the DAI resulted in a theoretical, measurable, and psychometrically sound scale that can provide researchers with a means to measure disability advocacy moving forward. The DAI was found to target feelings and behaviors specific to the advocacy of young people with disabilities, which, as previously explained, is the broad construct the DAI seeks to capture. This study provides justification for use of the DAI to measure disability advocacy, especially in terms of thoughts and behaviors relating to efficacy, agency, and connection to others with disabilities. Although these three constructs are not new to the field of disability and rehabilitation and have their roots in the foundational theories of behavior change, bringing the concepts together to understand disability advocacy is vital to successfully develop future leaders within the disability community. This conceptualization paves the way for both researchers and rehabilitation or educational professionals to further understand and apply the necessary training components to increase disability advocacy efforts. The present findings have several theoretical research implications and practical applications, which will be further explored below.

First, looking at the potential use for the DAI in research, the portability and application can be assessed from a socio-ecological approach, one which defines the many environments with which an individual interacts (e.g., individual level. interpersonal level, organizational level, community level, public policy). The DAI demonstrated potential for use as an instrument for measuring these constructs in numerous environments. First, regarding psychosocial adaption and adjustment of disability, the disability advocacy construct may be further utilized to understand the developmental process of acquiring or living with disability, and how psychosocial adaptation correlates to advocacy efforts. Furthermore, there arises a need to increase research on the intersection of disability identity and disability advocacy.

By exploring the thoughts and behaviors of individuals with disabilities, the DAI has the potential to be used as an objective measure or guideline to promote self-determination and positive disability concepts in transition-age youth as they progress toward attaining adult-life roles (e.g., postsecondary education, gainful employment, living independently). From the interpersonal, organizational, or community level, an exploration of disability advocacy among people with disabilities and their allies can provide insight into the interconnectivity within and in support of the disability community. Increased understanding across communities is vital to decrease stigma and increase the efforts put in place to maintain and gain rights for individuals with disabilities. Finally, from a policy perspective, a theoretical understanding of the most effective use of disability advocacy could be crucial to the efficiency and the success of policy change in support of the rights of individuals with disabilities; through increased advocacy power, societal progress in building a more accessible and equal world for people with disabilities will come to fruition.

In addition to the contribution to disability research and theory, the DAI also has numerous

practical applications. Broadly, use of the DAI can provide a more pointed way to target advocacy skill and behavioral development overall, as well as how the latent areas of efficacy, agency, and connection to others with disabilities apply across a multitude of settings. This is integral to increase the advocacy efforts of individuals with disabilities. The DAI can also serve as a useful tool in clinical practice. Using the DAI, clinicians can utilize objective measures to estimate levels of comfort and confidence in their consumers with disabilities defined by selfefficacy-the agency in which clients support other individuals with disabilities-and the connection their clients have with their in-group, which will provide helpful information about adjustment and adaptation to disability. Similarly, special education teachers may use the instrument, as part of the transition assessment process, to assess advocacy thoughts, feelings, and behaviors of students with disabilities and peers without disabilities. particularly as they relate to curriculum content about disability history, disability culture, academic inclusion, or other disability-related topics. This not only provides information about individuals, but also how consumers or students with disabilities both interact with and advocate for peers with disabilities interpersonally.

At the organizational level, this tool could be used in programs similar to YLF to provide a method for administrators to evaluate program outcomes and development. Just as YLF provides a means in which program participants can measure their growth over the time of the program or after their time with the organization, this tool is vital to the development of disability identity and advocacy. The DAI can provide a justification for creating more programs like YLF around the country, as well as secure future funding. Additionally, at the organizational level the DAI may be used within the school setting. Test, Fowler, Brewer, and Wood (2005a) provided insight into the importance of promoting self-advocacy skills within an IEP. This idea brings about the instructional components and the conceptual importance of disability advocacy at an earlier point of intervention, which is supported in research as crucial for developing appropriate advocacy skills (Izzo & Lamb, 2002; Wehmeyer, Bersani, & Gagne, 2002).

Incorporating disability advocacy within a school setting not only increases the early promotion of disability advocacy among individuals with disabilities, but it can help promote the dissemination of knowledge about disability among peers and educators. Beyond promoting advocacy, use of the DAI as a tool to facilitate critical thinking by students weaves disability advocacy into schools as a proactive method to foster diversity and inclusion. Using the DAI as a method to help evaluate individuals in their process of obtaining advocacy skills will help educators and students with disabilities alike define initial baseline disability advocacy feelings and behaviors and measure ongoing disability advocacy as more skills are learned, developed, and practiced.

Regarding public policy, Grenwelge and Zhang (2012) stated, "federal and state policies concerning disability issues are often made based on advocacy efforts by individuals with disabilities and their allies" (p. 158). Disability advocacy is vital to the ongoing support and development of disability rights. Furthermore, a more cohesive community of people who identify as having a disability can strengthen positive identity formation and impact stigma through legislative change, as well as direct actions (Hahn & Belt, 2004). Although considerable progress has been made since the disability rights movement, much remains to accomplish. The DAI provides a concrete means of providing public policy makers a way to measure disability advocacy. This scale can serve as a means by which individuals are recruited and encouraged to advocate for equitable supports and rights for individuals with disabilities.

Limitations

This study has several limitations to consider when analyzing the results. The methodology included a self-reported, online survey, which may restrict the generalizability of the findings. When individuals self-report their thoughts and/or behaviors, risk of biased reporting increases. Participants may also respond in ways that present themselves as more favorable. In addition, as the DAI constituted part of a longer survey of approximately 170 items (demographic questions and validated instruments), response fatigue could have affected results (Porter, Whitcomb, & Weitzer, 2004). Another methodological limitation involved some individual items on the DAI having particularly high skewness and kurtosis, an important consideration for future investigations.

Due to the nature of an online survey, individuals who do not have access to a computer or Internet access may have been precluded from participation, which may impact potential participants of lower socioeconomic status by biasing towards those who are more educated and more comfortable using technology. Another limitation impacting generalizability is that most participants who completed this study were female, European American, and had a congenital disability; men, people from other racial and ethnic backgrounds, and individuals who acquired a disability were notably underrepresented. This may be due to the types of delegates (YLF participants) recruited by YLF programs. It is suggested that future studies seek a more representative sample.

Obtaining information about disability advocacy skills from individuals who acquired a disability is especially important as these individuals have had a shorter period of time to adapt, adjust, and positively integrate disability into identity. This could impact the ability of transition-age youth to feel ready to advocate, as they may still be working through their own acceptance process. This study is crosssectional in nature; therefore, causality cannot be assumed. Future studies will want to consider a longitudinal approach in which directionality can be gathered from the data.

Recommendations and Future Implications for the DAI

Considering the limitations of this study and looking forward to possibilities for expansion of the DAI and its measurement of disability advocacy, several recommendations have been considered. Future studies should seek to validate the factor structure

and psychometric properties of the DAI with other populations of transition-age youth, as well as with adults with disabilities and allies or professionals working in rehabilitation or educational settings. The DAI should also be used and assessed across various demographics and regions. More research using the DAI will help further generalize the scale, provide evidence of assessment universality, and more precisely define disability advocacy. Modifications to the DAI may include reducing the total number of items when deemed appropriate or adding additional items investigating other potential constructs that may contribute to defining disability advocacy (e.g., disability advocacy outcome expectancy). Finally, future research should validate the DAI in other populations of transition-age youth (i.e., outside of YLF specifically), and as a predictor or outcome measurements in other transition-related projects or programs. Using the DAI as either a predictor or outcome variable will provide a more comprehensive look at the disability advocacy construct and its utility within the field of disability, rehabilitation, and special education. Overall, the DAI has considerable potential for use in both research and practice, and further studies using this measure would be beneficial.

Conclusion

In summary, the present study explored the factorial structure of the Disability Advocacy Inventory in a sample of individuals with disabilities who completed a Youth Leadership Forum program, which offers states a standard curriculum focusing on the development of advocates for individuals with disabilities. The study examined additional constructs that provide a foundational understanding of components that comprise disability advocacy. Results indicated that a three-factor structure underlies the scale. These factors are defined by these researchers as efficacy, agency, and connection to others with disabilities. The results provide empirical evidence the that DAI is а psychometrically sound instrument to use in a number of contexts: individual, organizational, and public policy levels. Future research should explore

how the DAI could be used within these contexts. The DAI can be a tool that provides future utility in understanding how advocacy can impact positive outcomes, such as postsecondary education, work, positive disability identity development, or other adult-life roles for heterogeneous populations of people with disabilities.

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Measuring Engagement of Students with Intellectual and Developmental Disabilities in Meaningful Transition Activities: A Pilot Study

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The Administration on Intellectual and Developmental Disabilities (AIDD) Partnerships in Employment (PIE) systems change grant project titled Let's Get to Work (LGTW) was carried out in a large Midwestern state. The project aimed to improve transition practices and inform policy initiatives related to competitive integrated employment outcomes for students with intellectual and developmental disabilities (IDD). Recognizing the need for educators to better understand specific transition services linked to positive employment outcomes, systematic coaching to implement a framework of best practice activities was provided. In order capture the types and extent of opportunities being afforded LGTW students over time, a tool called the Transition Services Rating Scale (TSRS) was developed. This tool poses a series of questions organized by seven categories of evidence-based services. A point system in the TSRS is applied by teachers to determine transition activity strengths and needs, as well as track increases in those activities over time for an individual student. Thus, the TSRS functions as an assessment of the transition services provided to a student, while at the same time gathering information for appropriate planning. A pilot study of the TSRS was devised and executed with LGTW teachers and students using single-subject research methodology. Through the pilot study, preliminary evidence of positive impact emerged. Such impact included identifying gaps and facilitating increases in specific transition service activities and supplementing coaching to guide teachers in applying evidence-based practices in transition services. Results were analyzed and reported for individual students and overall. The mean score across all seven sections of the TSRS increased an average of eleven points from first to second administration.

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egislative mandates outline clearly the overarching objective of the education system to support youth with disabilities, including those with intellectual and developmental disabilities (IDD) to move successfully into adulthood. Under the Individuals with Disabilities Education Act (IDEA), post-school goals in the areas of education and training, and employment must be developed for each student with an Individualized Education Program (IEP) beginning no later than age 16 (Baer et al., 2003; Todis & Glang, 2008). Thus, the expressed intent of transition planning requirements is to prepare students with disabilities for further education and jobs after high school (Test et al., 2009; Wehman, 2013). Signed into law in July of 2014, the Workforce Innovation and Opportunity

Act (WIOA) reinforces the role of school transition services to facilitate movement to postsecondary education and competitive integrated employment, while also significantly enhancing the role of vocational rehabilitation (VR) as a partner (Ginn, 2015). The questions, then, of how students can be best prepared for further education and jobs after high school, and how teachers learn to provide aligned transition services, are critical to the objective of increasing the percent of youth with IDD who achieve competitive integrated employment.

Age-appropriate transition assessment serves as a foundational component of IDEA requirements (Carter, Brock & Trainor, 2013; Gil, 2007). Conducted annually with an individual student, assessment serves as the basis for determining

preferences, interests, needs, and strengths. (Landmark, Ju, & Zhang, 2010; Luecking & Fabian, Once identified through assessment, 2000). individual preferences, interests, needs, and strengths are used to set post-school goals and select transition services to be provided (Migliore, Timmons, Butterworth, & Lucas, 2012). Yet, age-appropriate determining what transition assessment to use and how to apply results meaningfully through transition services for students who have IDD can present a challenge for teachers (Balcazar et al., 2012; Murray, 2003).

A growing body of research has demonstrated that experiential assessment, or evaluating student preferences, interests, needs, and strengths via context-driven activities, contributes relevant information to the development of post-school goals and planned transition services (Benz, Lindstrom, & Yovanoff, 2000; Rabren, Dunn, & Chambers, 2002; Migliore et al., 2012). In fact, assessment that takes place in a variety of settings, while the student completes tasks guided by expressed goals, should be an integral part of planning for employment (Mazzotti, Rowe, Cameto, Test & Morningstar, 2013). By engaging students with IDD in a range of activities in natural settings, collection and analysis of assessment data to evaluate progress can also be accomplished (Carter, Trainor, Owens, Swedeen, & Sun, 2010; Skinner & Lindstrom, 2003). Effective application of experiential assessment and the provision of coinciding transition services requires that teachers understand and use appropriate activities drawn from evidence-based research (Carter & Lunsford, 2005). Research has also contributed important findings related to the particular types of transition services leading to the positive outcomes of postsecondary education and competitive integrated employment.

The literature developed over a period of more than twenty years has yielded a set of school transition services linked to increased positive postschool outcomes for students with IDD (Carter, Austin & Trainor, 2012; Landmark et al., 2010). Thus, identified in-school predictors of post-school success serve as the guide for the provision of evidence-based educational services in transition, as

well as the means by which to evaluate them. The Let's Get to Work (LGTW) Administration on Intellectual and Developmental Disabilities (AIDD) Partners in Employment (PIE) grant was awarded in the fall of 2011 with the expressed goal of demonstrating practice and policy changes needed to improve employment outcomes for students with IDD. In alignment with that goal, the project drew from this existing literature to develop a framework called the "Five C's," to represent evidence-based transition service components and foster teacher understanding of best practices. The five components included: (1) coordinating transition services; (2) fostering inclusive high school and college classes extracurricular activity; (3) facilitating and individualized career goal development; (4)identifying and supporting paid community work experiences; and (5) ensuring collaboration with multiple transition partners during the transition process. Rationale for each component can be found in transition research.

First, coordination of transition services helps to ensure links between assessment, opportunities, services, and goals (Kohler & Field, 2003; Mazzotti et al., 2013). Coordination of transition planning and services entails having someone assigned the responsibility and a process outlined to oversee the provision of services (Cobb & Alwell, 2009). Second, inclusion in general education classes in high school and college classes, along with extracurricular activities with students who do not have disabilities, promotes optimal academic and social development (Rojewski, Lee, & Gregg, 2013; Test, Smith & Carter, 2014). In fact, in a secondary analysis of National Longitudinal Transition Study-2 (NLTS2) data, Rojewski et al. (2013) found "students who received 80% or more of their academic credits in general education environments were twice as likely to participate in postsecondary education compared to their peers who received fewer credits in such settings." Both systematic literature review (Mazzotti et al., 2016; Test et al., 2009) and secondary analysis of NLTS2 data (Carter et al., 2012) have yielded connections between inclusion in general education and employment outcomes. Third, engaging students, along with

family members, in setting career goals based on individual strengths, preferences, and needs is key to fostering successful outcomes (Martin & Williams-Diehm, 2013; Wehman, 2013). Thus, in addition to the provision of appropriate transition assessment, teachers must also ensure that students and their family members are an integral part of the planning process. A fourth category of services is directly gaining community-based integrated employment experiences during high school (Benz et al., 2000; Shandra & Hogan, 2008; Wehman et al., 2015). The opportunity to work in one or more jobs prior to high school graduation is emerging as a transition service with the greatest impact on post-school employment outcomes (Carter et al., 2012; Luecking & Luecking, 2015; Mazzotti et al., 2016). Fifth, as indicated throughout the rationale for the first four services, strong collaboration between teachers, students, family members, vocational rehabilitation, adult service providers, and employers is essential to facilitating transition to postsecondary education, job training, and competitive integrated employment for students with IDD (Luecking, 2009; Luecking & Luecking 2015; Fabian, Simonsen, Dechamps, Dong & Luecking, 2016).

Teachers working with high school students with IDD report a desire for additional professional development and training on what transition services to provide to assist students working toward employment goals (Benitez, Morningstar & Frey, 2009). Teachers involved in the LGTW project were provided coaching to understand the five components of the framework and how each is linked to positive outcomes. Over the course of three years, teachers took steps to expand student engagement in aligned activities. As this occurred, the potential benefits of a tool for teachers to document and track the provision of individual transition activities were identified. For teachers, a tool to track the ongoing provision of evidence-based transition activities to an individual student could serve as a checklist of what do to, helping to embed best practices. In addition, a tracking system would maintain a running record of student accomplishments and progress. Compiling transition activities provided to a student that support the achievement of post-school goals and having assessment data to review fosters discussion for the IEP team. In accordance with the requirement of an annual age-appropriate transition assessment, reviewing the engagement of youth in specific activities can inform, clarify, and impact transition services to better support movement toward student goals (Carter, Owens, Trainor, Sun & Swedeen, 2009; Skinner & Lindstrom, 2003). The Transition Services Rating Scale (TSRS) was developed in the fall of 2013 in response to this identified need and a pilot study was conducted with LGTW teachers and students. The methods used for this pilot study, along with the results, are described.

Method

Analysis of the transition services being provided to individual students at LGTW schools was included in the application approved by the University of Wisconsin-Stout Institutional Review Board (IRB). Using single-subject research design, a pilot study of TSRS impact was conducted with LGTW schools and students over a period of two years. This section will discuss the purpose, background, and intended use the instrument; pilot study design and procedures; and results obtained.

The Transition Services Rating Scale (TSRS)

Purpose. This tool was designed to help high school special educators and transition teachers understand and improve transition services provided to students with disabilities. The TSRS accomplishes this by assisting teachers in tracking the use of evidence-based practices for individual students, and identifying transition service needs to address existing gaps. Although the majority of activities listed in the scale typically occur through high school services, teachers might need to gather some information from family members and other partners in transition for a few items on this scale.

TSRS development. Working from the evidence-based transition service categories outlined in the Five C's framework, the TSRS was developed by two Ph.D.-level project staff. One of

these project staff served as a coach to school sites and the other was the project evaluator. The initial draft of the tool was based on only the Five C's framework and did not include the point system. After consultation with three additional subject matter experts, two of Ph.D.-level researchers with extensive understanding of transition services for students with disabilities, the two categories of self-determination and postsecondary education opportunities were added in conjunction with the point tracking system. The resulting TSRS comprises 26 activity items spanning seven categories and an accompanying tracking form. Upon completion of the second draft of the TSRS, the same three external content experts and two additional project staff were asked to review items for content and direction clarity prior to conducting the pilot study using the scale with LGTW teachers and individual students.

The seven categories of the TSRS include: (a) self-determination, (b) individualized employment goals, (c) collaboration, (d) inclusion in classes and extracurricular activities, (e) community work experiences, postsecondary education (f) opportunities, and (g) coordination of transition services. The items were organized in the above order with the goal of following a typical progression of transition services and a Results Tracking Form was developed to support assessment data analysis. Appendix A contains a full copy of the TSRS and the Results Tracking Form is included Appendix B. Rationale for the inclusion of each of the seven sections follows.

Self-determination. Developing self-advocacy skills that support self-determination serves as a key influence on attaining employment for youth with disabilities (Wehmeyer, Palmer, Soukup, Garner, & Lawrence, 2007). Self-determination is defined as having the "ability, motivation, and support needed to direct one's own life in ways and a direction that are personally meaningful" (Carter, Trainor et al., 2010, p. 68). This means learning to communicate strengths, needs, and interests as an integral part of learning during the transition process (Carter, Trainor et al., 2010; Schwartz et al., 2014). Yet, youth with disabilities can have a difficult time with

effective expression of their support and transition needs (McDougall, Evans & Baldwin, 2010). Parents who have children with disabilities may shelter them due to the association of a disability being a "toxic label"; unfortunately, the resistance to acknowledge and discuss needs can create a barrier to success (Caldwell, 2011). To increase the efficacy of selfdetermination strategies in secondary education environments, teachers must be made aware of resources available to support self-determination, with curricula translated into the classroom and IEP goals addressing self-determination skills (Martin & Williams-Diehm, 2013; Test, Karvonen & Wood, 2000; Yuen & Shaughnessy, 2001). Given its foundational quality, self-determination is the first set of activities to be tracked using the TSRS.

Individualized goals. Goal setting in the areas of employment, college, and community life is vital to job attainment and career development (Carter et al., 2009). Educating youth on how to set goals takes place through involvement in the transition planning process and balancing desired outcomes with skills and abilities (Balcazer et al., 2012). Individualized goals represent a vision and next steps that promote action, growth, and learning (Taylor-Ritzler et al., 2001). Employment goals are designed to help youth pursue interests and ultimately live productive lives (Camacho & Hemmeter, 2013; Condon & Callahan, 2008). According to Benz et al. (2000), youth who completed four or more transition goals were twice as likely to graduate with a standard high school diploma. Items specific to having an individuallydriven post-school employment goal are part of the TSRS for these reasons.

Collaboration. Transition-focused education requires the collaboration of schools with vocational rehabilitation, community businesses, and adult service agencies. When working together, these integrated systems help provide continuity in learning and supports (Plotner, Trach, & Shogren, 2012). Partnership among vocational rehabilitation counselors, job developers, and families can provide the support for the youth to continue striving in postsecondary education or competitive employment (Timmons & Wolfe, 2011). Family involvement is critical and emphasized in three areas of practice including participation and roles, empowerment, and training (Carter et al., 2012; Kohler & Field, 2003). Family engagement in transition planning improves attendance, assessment scores, self-esteem and confidence, and graduation rates. Transition activities that include community planning, cultural and ethnic sensitivity, and sufficient resources for students can promote positive outcomes (Kohler & Field, 2003; Trainor, 2008). The TSRS includes items to document engagement of VR, family members, and adult services as part of the scope of transition activities, with the importance of VR collaboration highlighted via extra points for the receipt of VR services.

Inclusion in classes and extracurricular activities. Research has demonstrated that youth with disabilities who are included in general education classes and participate in extracurricular activities attain more successful transition outcomes, including employment and postsecondary education (Test et al., 2009). Participation in general education classes serve as a predictor of these positive outcomes (Mazzotti et al., 2013; McConnell, Martin, & Hennessey, 2015). In one study, youth with disabilities enrolled in inclusive general education were two times more likely to enroll in postsecondary education (Rojewski et al., 2013). Involvement in inclusive extracurricular activities also supports increased positive outcomes, yet is often limited for youth with disabilities (Gil, 2007). Inclusion in classes and extracurricular activities to prompt discussions and opportunities for youth are embedded in TSRS items.

Community work experience. Gaining work experience in the community during high school leads to more positive post-school outcomes (Carter, Ditchman et al., 2010). Research has shown that youth with disabilities who have paid employment are more likely to work as adults (Benz et al., 2000). Rabren et al. (2002) found that two or more paid jobs, in conjunction with transition goals, facilitated more positive post-school outcomes, including work or continuing education, for special education students; secondary analysis of the NLTS2 data set revealed similar findings (Carter et al., 2012; Wehman et al., 2015). Thus, paid work during high school has been highly correlated with postsecondary employment (Mazzotti et al., 2016; Test et al., 2009; Shandra & Hogan, 2008). Due to the critical role of paid work experience in integrated community settings, items in this section of the TSRS are awarded extra points.

education exploration. **Postsecondary** Completion of any amount of postsecondary education predicts future earnings (Kleinert, Jones, Sheppard-Jones, Harp, & Harrison, 2012). Yet, youth in special education are less likely to enroll in postsecondary programs (e.g., college and vocational training) and, as a result, have lower academic and employment achievement than their counterparts who did not receive special education services in school (Test et al., 2009). Youth and young adults with identified disabilities express concern about their ability to pursue higher education, as well as their anticipated need for assistance should they enter postsecondary education (Stumbo, 2009). In a study conducted with a self-selected pool of students with disabilities registered for academic support services at a large public university, many identified that their disability was a positive attribute that enriched their lives, yet expressed they had a difficult time sharing disability information with university peers (Olney & Brockelman, 2003). Thus, there are several indicators from the research that increased preparation and support for students with disabilities to participate in college and other postsecondary education programs is needed.

Coordination of transition services. Ongoing coordination of services is an important foundational aspect of planning and executing successful transition from school to adult life for students with disabilities (Cobb & Alwell, 2009; Kohler & Field, 2003). Such coordination includes engaging students and family members in the process, supporting the development of individualized goals, fostering inclusive opportunities, setting and assessing the attainment of benchmarks, collaborating with transition partners, exploring postsecondary options, and facilitating work experiences (Luecking, 2009). Given the potential number and complexity of transition service needs, having someone responsible for overseeing provision of services fosters success.

Instrument use. The TSRS, as a whole, provides a practice profile for teachers to implement evidencebased transition service coordination and results of TSRS completion are based on a point system. The TSRS point system is designed to measure the degree to which a student has engaged in evidence-based transition to employment activities at baseline and then subsequently, since the last time the tool was completed. Each item describes a specific evidencebased transition activity for students with disabilities (the activity linked to a higher likelihood of being employed after school). One point is given for each instance the student engaged in the activity described. For some items, there is a secondary criterion that receives one or more extra points as listed. Secondary criteria are awarded extra points because these items have demonstrated a stronger impact on employment outcomes.

For example, on the first item, if a student practiced sharing information about her/his disability to two different special education teachers and the student also shared disability information with one general education teacher, the student would have earned three points and a three would be placed on the first line. An additional extra credit point is added for the instance of sharing with the general education teacher because this is known to be beneficial to success in general education classes, with a one on the next line. The total for the item would be four. Points for each item and section accumulate over time to create an ongoing tracking system for transition to employment activities. Items and sections receiving more points are areas of current strength in terms of the student's transition services. Items that receive zero points and sections with minimal points indicate areas of need in the scope of transition services for the student. Goals for next steps in transition activities can be developed based on results.

Recommended frequency of use. This scale will be most helpful to teachers and students if completed at the beginning, middle, and end of each academic year starting in the first school year the student enters at age 14. Completing the scale for a student mid-year will allow educators time to adjust services and activities for the second half of a given school year to increase attention to transition activities, as well as assist in planning for summer opportunities.

Using results. By completing the scale over the course of the transition years, educators can track the opportunities for individual students in each of the included areas linked to positive employment outcomes. Using the tracking form provided, teachers can identify, and then provide. opportunities that have been lacking or underrepresented in transition planning and services previously. By reviewing scores across a group of students at a high school or in a district, educators and administrators can identify areas of strength, as well as gaps, in transition services for students with disabilities.

Pilot Study

There were nine LGTW school sites all located in a large Midwestern state. Seven of these sites included only one high school, one included three high schools, and another included two high schools, for a total of 12 total schools participating in the project. In January of 2014, LGTW sites were asked to identify a minimum of one student each for completion of the TSRS. Since all of the students participating in the project were identified as having IDD and already receiving transition services based on an IEP, there was no need to further specify criteria for student selection.

Participants. Teachers and students who participated in the TSRS pilot study were also involved in the LGTW grant project. In total, 11 teachers and 11 students took part in the pilot study. Ten of the 11 teachers were female (90.9%) and only one male (9.1%). All 11 of the teachers were secondary special educators and held some degree of responsibility for assisting students to complete postsecondary transition plans. Years of experience of the teachers providing transition services averaged 5.1 (range = 1-22).

Students were between the ages of 15 and 17 at the onset of the LGTW grant project. The age range for this group was up to between 17 and 20 years of age during the time period that TSRS completion took place. Of the 11 students who participated in TSRS activities and completion, seven were male (63.6%) and four were female (36.4%)

Setting. Based on the items included in the TSRS, activities were completed by students at a combination of in-school and community settings. The 11 LGTW schools were located across the state where the pilot study took place and comprised a range of community sizes. One way to determine the range of community sizes is via definitions used by the U.S. Department of Education (2016). Of the school and community settings, one was classified as town, fringe (territory inside an urban cluster than is less than or equal to 10 miles from an urbanized area); four as town, distant (territory inside an urban cluster that is more than 10 miles and less than or equal to 35 miles from an urbanized area); two as city, small (territory inside an urbanized area and inside a principal city with population less than 100,000); and three as town, remote (territory inside an urban cluster that is more than 35 miles from an urbanized area).

Data Collection

Teachers were instructed to complete the scale with one or more students at least one time during the spring 2014 semester, and then again with the same student(s) later in the semester or in the fall of the following school year. Teachers were told that completing the scale two times, spread out by two or more months was required, and that additional scale completion was encouraged as long as a minimum of two months passed in order to allow time in between for engagement in additional transition activities. In total, LGTW schools completed the TSRS according to those instructions with 11 students. As teachers utilized the TSRS with individual students, completed scales were submitted to project staff.

A tracking form was created in Excel (see Appendix B) to assist teachers in compiling the total points for the student in each section of the TSRS, as well as the overall scale points. The Excel spreadsheet was designed to track data on the individual student level, as aligned with the single subject research design and intent of the TSRS. For the purpose of the pilot, LGTW project staff collected the completed scales and entered the data into the Excel spreadsheet. As completed TSRS forms were submitted and entered by one of the LGTW project team members, a second project team member reviewed completed scales and data entry in order to ensure accuracy of data entry. Inter-rater reliability was found to be 87%. Data entry errors were corrected following the inter-rater reliability check of the data entry process.

Results

TSRS point totals were graphed by section for the overall pilot study and for each of the 11 LGTW students with whom the TSRS was completed two or more times between spring 2014 and spring 2015 to observe increased transition services by section over time. Pseudonyms have been used in the reporting of these results. Cumulative section point totals for each student were calculated by adding the totals from the seven different item categories of the TSRS over time as each additional assessment was completed. To compile the cumulative point totals, section points from the first assessment were added to the total of the second assessment, and, for those available, the total scores from the second assessment were added to the total of the third assessment. An intended purpose of the TSRS was to support teachers and IEP teams to identify needs for the student to be engaged in specific types of activities. A steady increase in opportunities was observed across all seven sections for each student.

Growth by Individual Student

Figure 1 illustrates the individual student growth in transition service activity engagement for each of the 11 participating students across all sections of the TSRS. The highest overall point total increase was 107 points as seen by Nolan, and the lowest overall growth was 25 points for Mark. The mean overall TSRS point total increase of the eleven participating students increased from 45 to 122 from the first assessment to the second, a 77-point gain. Though only two students completed a third assessment, the

mean increased again from 122 to 221, a 99-point gain. Of note is the fact that all 11 of the students with whom the TSRS was completed two or more

times as part of this pilot study had at least one paid work experience.

Figure 1. Total TSRS Points for Each Student During the First, Second, and Third Assessments



Mark. The results for Mark show a modest increase in transition services across all seven categories of the TSRS. Mark's cumulative growth, represented in Figure 3 by the line "ME", is reflective of his 25-point growth between the first and second assessments. The sections where Mark showed the most growth occurred in the Collaboration section, where he had a score of 5 on the first assessment and 10 on the second assessment, and the Classes and Extracurricular section, where he had a score of 5 on the first assessment and 11 on the second assessment with a 5- and 6-point increase, respectively. Across all sections, Mark had a mean transition service increase of 4 points of transition services per section, 7 points shy of the group's mean increase across assessments one and two.

Caleb. The cumulative results for Caleb, shown in Figure 3 as line 'CA', illustrate substantial increase in transition services between the first and second assessments where Caleb had point totals of 72 and 172, respectively. Caleb's greatest area of transition service growth occurred in the Classes and Extracurricular section where he totaled scores of 38 and 77, doubling his score between assessments. Across all sections of the TSRS, Caleb had a mean transition service increase of 14 points between assessments one and two, 3 points higher than the groups mean increase.

Marcia. The cumulative results for Marcia, represented in Figure 3 by line "MW", show her increase across the seven sections of the TSRS between her first assessment, where she had a score of 55, and her second assessment, where she had a score of 159—a 104-point growth in transition services. Marcia's greatest areas of transition service growth occurred in the Classes and Extracurricular section where she had scores of 17 and 45, a 28-point growth, as well as the Community Work Experience

section where she had scores of 13 and 48, a 35-point growth. Across all sections of the TSRS, Marcia averaged a mean transition service increase of 15, 4 points higher than the groups' total mean increase.

Mary. The results for Mary show a modest increase in transition services across the seven sections of the TSRS. The cumulative results, as represented in Figure 3 by line "MS", illustrate her total transition service growth between her two assessments with scores of 30 and 85, a 55-point increase in transition services between assessments. Mary's greatest areas of transition service growth occurred in the Community Work Experience section where she had scores of 5 and 19 (14-point increase), and the Classes and Extracurricular section, where she had scores of 7 and 16 (9-point increase). Mary's average mean transition service increase across the seven sections of the TSRS between her first and second assessments was 8, 3 points below the group's average mean increase between assessments.

Erin. The cumulative results for Erin, illustrated in Figure 3 by the line "EK", show the total growth in transition services between her first assessment score of 69 and second assessment score of 155, an 86-point increase. Erin's main areas of transition service growth occurred in the Collaboration section with scores of 16 and 36 (20-point increase), and the Classes and Extracurricular section with scores of 21 and 43 (22-point increase). Erin's average mean transition service increase across the seven sections of the TSRS between her first and second assessments was 12, 1 point above the average of the group.

Amanda. The cumulative results for Amanda, represented in Figure 3 by the line "AL", illustrates the total transition service growth between her first assessment score of 60, her second assessment score of 153 (93-point increase), and her third assessment score of 248 (95-point increase). Between her first, second, and third assessments, Amanda's greatest level of transition service growth occurred in the Classes and Extracurricular section with scores of 15, 43, and 68; and the Community Work Experience section with scores of 10, 29, and 45. Amanda's average mean transition service increase across all 7

sections between her first and second assessment was 13, 2 points higher than the group's average. Her average mean transition service increase across all seven sections between her second and third assessments was 14.

Jacob. The cumulative results for Jacob represented in Figure 3 by the line "JA", illustrates the level of transition service growth between his first assessment score of 33 and his second score of 87, a 54-point increase across the seven categories of the TSRS. Jacob's main areas of transition service growth occurred in the Collaboration section with scores of 7 and 21 (14-point increase), and the Classes and Extracurricular section with scores of 10 and 22 (12-point increase). Jacob's average mean transition service increase across all seven sections of the TSRS between his first and second assessment was 8, 3 points lower than the group average.

Mike. The results for Mike, represented in Figure 3 by line "MP", illustrate dramatic transition service growth between his first assessment score of 53 and his second score of 139, an 86-point increase across the seven categories of the TSRS. Mike's strongest areas of transition service growth occurred in the Community Work Experience section with scores of 15 and 40 (25-point increase), and the Collaboration section with scores of 12 and 31 (19-point increase). Mike's average mean transition service increase across the seven sections of the TSRS between his first and second assessments was 12, 1 point above the group's average.

Nolan. The cumulative results for Nolan, represented in Figure 3 by the line "NC", illustrates the total transition service growth between his first assessment score of 33, his second assessment score of 87 (54-point increase), and his third assessment score of 194 (107-point increase). Between his first, second, and third assessments, Nolan's greatest level of transition service increase occurred in the Collaboration section with scores of 7, 14, and 21; and the Classes and Extracurricular section with scores of 10, 12, and 23. Nolan's average mean transition service increase across all 7 sections between his first and second assessment was 8, 3 points lower than the group's average. His average mean transition service increase across all seven

sections between his second and third assessments was 15.

Tanner. The cumulative results for Tanner, represented in Figure 3 by the line "TF", illustrate the total transition service growth between his first assessment score of 43 and second assessment score of 117, a 74-point growth across the seven categories of the TSRS. Tanner's strongest transition service growth occurred in the Community Work Experience section with scores of 14 and 39 (25-point increase), and the Collaboration section with scores of 12 and 33 (21-point increase). Tanner's average mean transition service increase across the seven sections of the TSRS between his first and second assessment was 11, equal to the group mean.

Nick. The cumulative results for Nick, represented in Figure 3 by the line "NV", illustrate a substantial transition service increase between his first assessment score of 65 and second assessment score of 153 (88-point increase). Nick's strongest transition service growth occurred in the Community Work Experience section with scores of 34 and 80 (46-point increase), and the Collaboration section with scores of 11 and 28 (17-point increase). Nick's average mean transition service increase across the seven sections of the TSRS between his first and second assessment was 13, 2 points higher than the group mean.

Overall Pilot Study Results

In addition to analyzing and reporting transition service growth for individual students in each of the seven transition service categories of the TSRS via engagement in specific activities, overall TSRS point totals were calculated to demonstrate the degree of increase in evidence-based practices, as a whole. The calculation of overall point total increases provides an additional means of evaluating impact of the TSRS by teachers. Although the calculation of section totals was identified as being most useful to teachers, students, and teams in planning appropriate evidence-based transition activities for students, point gains in the overall scale also provides the opportunity for teachers, students, and teams to understand the usefulness of the TSRS in supporting and tracking the provision of such services to an individual student.

Growth by Transition Service Category

Figure 2 illustrates results in terms of the mean growth as demonstrated by engagement in activities per the seven transition service categories for each student across first, second, and, as applicable, third assessments. In each of these seven sections, demonstrable growth was evidenced by increased engagement in the transition service activities. The most dramatic increase occurred in the Classes and Extracurricular section, where the mean points per student increased from 13 to 30 to 57 across the three assessments, respectively. The lowest growth total occurred in the Coordination section, where the mean point total increased from 2 to 5 to 8. The remaining sub-sections also increased: Self-Determination section (4 to 11 to 33), Goals section (5 to 16 to 36), Collaboration section (9 to 25 to 40), Community Work Experience section (9 to 27 to 40), and Postsecondary Education section (3 to 9 to 17). The average mean increase across all sections of the TSRS from assessment one to assessment two was 11. The average mean increase across all sections of the TSRS from assessment two to assessment three was 15, although this was based on only two cases and should be interpreted with caution.

Discussion

WIOA raised expectations for employment outcomes of students with IDD. Therefore, increased coordination and collaboration between VR and schools is needed to continue to build capacity to provide transition services that foster competitive integrated employment. It is imperative, therefore, to help teachers understand and apply evidence-based practices in transition. Use of a tool designed at the individual, student level can help support this goal.

During project meetings that occurred before, during, and after the pilot study, LGTW project coaches captured anecdotal teacher feedback on the TSRS. When initially asked to complete the TSRS with at least one student, some teachers asked how



Figure 2. Mean Student Points During the First, Second, and Third Assessment by TSRS Section

this scale was different from age-appropriate transition assessment for students already being done in accordance with IDEA transition planning requirements. After explanation about the connection to the Five C's framework and intention to support teachers and IEP teams to track the engagement of an individual student in evidencebased practices, multiple teachers expressed belief this would be a useful tool. Upon completion of the scale with a student two or more times, several teachers also reported they saw benefits for educators, students, and teams from the collection and compilation of TSRS data. Teachers and students alike were excited to see the increases over time in evidence-based activities captured by the TSRS. Teachers reported and data demonstrated that this tool prompted engagement in activities previously underutilized, thus supporting a more well-rounded transition experience. In addition, the TSRS can be an effective tool for sharing preemployment transition service (Pre-ETS) information between the school and VR toward the

goal of improved employment outcomes.

By providing teachers with a "template" of transition activities, and asking them to capture data to track those activities, the engagement of youth with IDD in evidence-based practice activities grew throughout the pilot study. The implementation of such practices by schools is integral to the postsecondary success of youth with IDD (Carter et al., 2012; Test et al., 2009). The utilization of evidence-based practices for improving the postsecondary success of youth with IDD is not a 'one size fits all', uniform practice (Luecking, 2009). The TSRS provides teachers with a road map tailored to each student, thus facilitating an individualized transition service plan to ensure the youth are being granted the opportunities they need to succeed in obtaining competitive integrated employment. In conjunction, this tool can help ensure school requirements for transition services under both IDEA and WIOA are met.

Limitations and Future Research

This study piloted utilization of the TSRS to determine potential positive implications of the tool for advancing implementation of evidence-based transition services for students with IDD. There were several limitations to this pilot study. First, the TSRS was completed for a small number of students by their teachers and trials spanned only two school years. Second, the teachers who completed the TSRS for the pilot study were already part of LGTW project, and had received coaching to increase implementation of evidence-based transition services. Thus, the coaching teachers received before the TSRS pilot may have increased prior knowledge about specific services outlined in the tool. In addition, the teachers in the study had already expressed commitment to improving employment outcomes, which might not be typical. This may have influenced both selection of particular students by their teachers for the pilot and the support provided to engage in transition activities. Future research should explore the impact of the scale on implementation of evidence-based transition services over a longer timeframe and across a larger and more varied set of schools, transition educators, and students, testing a range of conditions.

In addition, teacher feedback was only sought and obtained informally, and student and family feedback was not sought. Feedback from all stakeholders would provide valuable information related to impact, as well as revisions to the TSRS tool. This will be important with respect to implications for future research because expanded use of the TSRS, will likely require clarification of a portion of activity definitions, including adaptation for use in states beyond the one in which the pilot took place. Last, an assumption in the development of the TSRS was that use would increase teacher understanding of evidence-based transition practices and engagement of students in coinciding activities. While the results of the pilot study demonstrated growth in opportunity and participation by students, matched pair design is recommended for future studies to test for differences between groups using and not using the TSRS.

Implications for Practice

Teachers consistently express the need for information and professional development regarding practices to use when providing transition services to students with IDD (Benitez et al., 2009). The Five C's framework developed for the LGTW project provided a digestible guide, but did not outline specific practices. The TSRS offers a concrete method for supporting teachers, students, and teams to understand the activities that have been shown to lead to better employment outcomes. The TSRS also provides a means of tracking areas of strength and need for the transition services.

The specific TSRS items, along with the ability to track and measure growth for individual students, align with requirements of IDEA and WIOA by supporting the provision of pre-employment transition services. When students are served collaboratively by VR and schools, the information compiled through use of the TSRS can be used to inform both the IEP and the Individual Plan for Employment (IPE) developed by the VR counselor. Completion of the TSRS can encourage enhanced engagement of the student, family, and other team members in the planning process by helping students identify roles and responsibilities of team members and for the team members to understand the activities in which the student is engaging. To that end, utilization of the TSRS can allow teachers, students, and other team members to track progress over time by providing a platform for discussion about positive movement versus "getting stuck" on what has not gone well.

Conclusion

While the present pilot study of TSRS implementation was small scale and several limitations were identified, the TSRS holds significant potential for supporting teachers, students, families, and other transition partners, including VR, to engage in evidence-based transition practices to a greater extent. This potential comes in part due to the template of specific services outlined in the TSRS, as well as in the application of the measurement toll it provides. Working from the knowledge that what gets measured gets done, the TSRS therefore also holds potential to bridge the research to practice gap. Excellent research has been conducted to identify evidence-based practices and predictors of positive employment outcomes for students with IDD, but the application of these practices has been largely evasive. The TSRS offers an opportunity for the field to test a tool to address this research to practice gap.

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Appendix A. Transition Service Rating Scale (TSRS)

Student Name: Completed By: Age and Grade: Date of Completion:

Section I - Self-Determination

- 1. Student can identify her/his strengths and impact of disability to:
 - Case manager and special education staff
 - General education teachers
 - Prospective employers/community members

1 point for every occurrence of student self-disclosing disability to someone from the list above

*Add 1 *extra* point for each time the student self-disclosed his/her disability to a general education teacher or prospective employer/community_____

Item points (add numbers from both lines above here) _____

- 2. Student can identify what accommodations he/she needs in:
 - a. Education settings
 - b. Employment/community settings

1 point for every occurrence of student self-identifying accommodation needs to someone

Item points_____

- 3. Student can self-advocate for accommodations needed in
 - a. Educational settings
 - b. Employment/community settings

1 point for every documented occurrence of student asking for needed accommodation

*Add 1 extra point for each time the student asked a general education teacher or employer_____

Item points_____

Section I Points (add numbers from all "Item Points" lines here) _____

Section II – Individualized Planning and Goals

 Student provided direct input into the development of her/his annual transition and post-school employment and education goals.
 Examples – *documented* discussions with student prior to and at planning meeting, review and revision of goals based on student data or transition assessment results.

1 point for each documented event of gathering student input toward goals______ *Add 1 extra point for any meetings that were student-initiated or student-led_____

Item points_____

 Student's family member(s) provided input for annual transition and post-school employment and education goals
 Examples – *documented* discussion with family at planning meeting, transition survey completed by family, direct contact with family to gather input

1 point for each documented event of gathering family input for employment goals

Item points_____

6. Student has annual goals and objectives designed to directly support progress toward individualized post-school education and employment goals. Examples – learning to use public transportation to facilitate independence getting to college or work, using assistive technology to successfully complete a general education class, learning to follow a set list of instructions to develop skills for completing job tasks, or learning how to follow a time schedule without assistance

1 point for each annual goal that directly aligns with post-school goals points_____

*Add 1 extra point for each annual goal aligned with post-school goals that was selfidentified by the student (student directed the team to include the goal through input)

Item points_____

2 Student's annual and post-school employment and/or education goals have been revised as a result of community work experiences

1 point for each goal revised as a result of community experience

Item points_____

Section II Points

Section III - Collaboration

 Student and IEP team have worked with general education staff to identify classes and extra-curricular opportunities.
 Examples – documented review of all available general education classes and clubs or extracurricular activities offered at the school (opportunity mapping), discussions with general educators about classes and activities the student plans to attend, meetings with general educators.

1 point for each documented consultation with general education staff

Item points_____

 Student and his/her family have met with guidance counselor or equivalent person at school to discuss options for higher education and career plan.

1 point for each time student met with guidance staff

Item points_____

 Student and her/his family have been provided information about Vocational Rehabilitation (VR) services.

1 point for every documented occurrence of information being provided ______

*Add 1 extra point if an application has been submitted to VR _____+

*Add another 1 extra point if student has Individual Plan for Employment (IPE) +

*Add an additional 3 extra points if VR services are being used to facilitate paid employment_____

Item points

10. Student and her/his family have been provided information about the process of seeking resources from adult or long term care services. Examples: Contacts for adult services intake (local aging and disability resource center, local state or county authority on disability services, social security, mental health, and health care benefits), and agencies that provide supportive services (home supports, recreation support, personal care assistance, mobility training, and transportation).

1 point for every different/new resource shared with student and her/his family

Item points_____

11. Student and her/his family have been provided with information about integrated employment service providers available in the community where they live. Examples: Transition night at school where integrated employment support providers are present, brochures given to student and family, student and family meet with former students who are using the provider to learn about the services offered. *Note – DO NOT count information provided about sheltered/segregated workshop settings in points for this scale.

1 point for each different *integrated employment* support provider introduced______ *Add 1 extra point for every prospective *integrated employment* support provider the student and her/his family have met or been in contact with______

Item points_____

 Student and family have been provided information about obtaining work incentives benefits counseling to learn about how to keep needed benefits when working.
 *Note: this is not the same as applying for public benefits through a Benefits Specialist

1 point for each documented time information was provided_____

*Add 1 extra point if student has had an analysis completed by a Work Incentives Benefits Counselor (WIBC) _____+

Item points_____

Section III Points

Section IV - High School Classes and Extra-Curricular Activities

 Student has had support to review the list of classes offered to all same-grade peers and participate in making choices about the classes he/she is taking now and will take in the future (opportunity mapping).

1 point per *documented* opportunity for student to choose from classes offered *Add 1 extra point for each class chosen by the student that was placed on his/her schedule_____

Item points_____

 Student is currently enrolled in general education classes with peers who do not have disabilities.

1 point for each *inclusive* gen ed class the student is taking at this time_____ *Add 1 extra point for every current gen ed class with content directly related to a postschool education or employment goal____

Item points_____

15. Student has had opportunities to choose from the list of school-sponsored extracurricular activities offered to all other same-grade peers based on her/his talents and interests. (opportunity mapping)

1 point for every *documented* opportunity provided for the student to choose inclusive extra-curricular activities offered through school

Item points_____

 Student is actively involved in extracurricular activities with peers who do not have disabilities.

*Note: DO NOT count activities designed especially for students with disabilities such as Best Buddies or Special Olympics for points on this scale.

1 point for each extracurricular activity the student chose and actively participates in at this time_____

*Add 1 extra point for each activity directly related to post school education or employment goal_____

Item points_____

Section IV Points

Section V - Community Work Experiences

17. Student has had one or more volunteer experiences in the community.

1 point for every new different volunteer experience since last completion of scale_____

*Add 1 extra point for each of the different or new experiences directly related to employment goal_____

Item points_____

 Student has gone on job shadows and/or tours of community businesses for the purpose of career exploration.

*Note: DO NOT include tours of sheltered workshops in the points for this scale.

1 point for each new and different job shadow/business tour since last completing this scale_____

*Add 1 extra point for new job shadows/business tours in fields directly related to post school employment goal_____

Item points

19. Student has participated in work study, service learning, or another program to obtain school credit for time working or volunteering at a community business/organization.

1 point for each new opportunity to earn credit for community work experience since last completion of scale

Item points_____

20. In conjunction with community work experiences, the student has been provided opportunities to practice and develop social and soft skills needed for optimal employment success.

Examples: Job skills class, assigned mentoring, use of video modeling, implementation of social and/or soft skills curriculum, job coaching

1 point for each new and different formal learning opportunity provided since last completion of scale _____

*Add 1 extra point if social and/or soft skills training took place in community setting____

Item points_____

Student has had one or more paid integrated jobs in the community.
 Note: DO NOT count paid work experience at sheltered workshops in the points for this scale.

1 point for each current paid integrated community job_____ *Add 1 extra point for each paid job directly related to post-school employment goal

*Add **3 additional** extra points for each current job that is paid directly by the employer (student is on company payroll)_____

Item points_____

Section V Points

Section VI - Postsecondary Education Goals

22. The student has had opportunities and support to explore options for postsecondary education that matches intended career choice.

1 point for college or postsecondary vocational-technical education goal_____ *Add 1 point if the postsecondary goal is directly related to the employment goal__

Item points

23. Student has a program of study planned through her/his Individual Education/Transition plan (IEP/ITP) and/or Individual Learning Plan (ILP) or Academic Career Plan (ACP) that is aligned with postsecondary education goal.

1 point for course of study plan and postsecondary education goal alignment

Item points

24. Student and her/his family have been provided information about specific college or postsecondary vocational-technical education programs that might be a good fit. *Note: DO NOT include points for providing information about segregated vocational training programs such as sheltered workshops on this scale.

1 point for each college or vocational-technical institution introduced

*Add 1 extra point for every new postsecondary education institution toured since last completion of scale_____

*Add 2 extra points for each college class the student has taken through dual enrollment since the last completion of the scale _____

Item points_____

Section VI Points

Section VII - Coordination of Transition Services

Coordination of transition planning services involves assistance to students with disabilities to engage in all of the activities covered in this rating scale. There are sometimes Additional required goals and activities as determined by the team and IEP.

25. Student has a designated school staff member assigned to coordinate and oversee the delivery of transition services, including course of study, annual goals, postsecondary education and employment goals, and all related transition activities.

1 point if formal transition coordination is an assigned job_____

*Add 1 extra point if the transition coordinator's time is dedicated full-time to that role_____

Item points_____

26. Student's transition plan and services are reviewed regularly to ensure

1 point for this completion of the transition services rating scale _____

Item points_____

Section VII Points_____

Summary of Section Points

Ι.	
н.	
ш.	
IV.	
v.	
VI.	
VII.	

Total Points _____

Transition Service Goals based on Section Scores:

1.

2.

3.

4.

5.

MEASURING ENGAGEMENT WITH IDD STUDENTS

Appendix B. Transition Services Rating Scale (TSRS) Tracking Form

	Fall	Winter	Spring	Fa	11	Winter	S	Spring	Fa	1	Winter		Spring	
Student:	20	20	20	20		20	2	20	20		20		20	
I - Self-Determination - Item 1.														
I - Self-Determination Item 2.														
I - Self-Determination Item 3.														
I - Self-Determination Section Total	0	0		0	0		0		0	0		0		0
II - Goals Item 4.														
II - Goals Item 5.														
II - Goals Item 6.														
II - Goals Item 7.														
Goals Section Total	0	0		0	0		0		0	0		0		0
III - Collaboration Item 8.														
III - Collaboration Item 9.														
III - Collaboration Item 10.														
III - Collaboration Item 11.														
III - Collaboration Item 12.														
III - Collaboration Item 13.														
III - Collaboration Section Total	0	0		0	0		0		0	0		0		0
IV - Classes/Extra-Curriculars Item 14.														
IV - Classes/Extra-Curriculars Item 15.														
IV - Classes/Extra-Curriculars Item 16.														
IV - Classes/Extra-Curriculars Item 17.														
Classes/Extra-Curriculars Section Total	0	0		0	0		0		0	0		0		0
V - Community Work Exp Item 18.														
V - Community Work Exp Item 19.														
V - Community Work Exp Item 20.														
V - Community Work Exp Item 21.														
V - Community Work Exp Section														
Total	0	C		0	0		0		0	0		0		0

MEASURING ENGAGEMENT WITH IDD STUDENTS

VI - Postsecondary Ed Item 22.									
VI - Postsecondary Ed Item 23.									
VI - Postsecondary Ed Item 24.									
VI - Postsecondary Ed Section Total	0	0	0	0	0	0	0	0	0
VII - Coordination Item 25.									
VII - Coordination Item 26.									
VII - Coordination Section Total	0	0	0	0	0	0	0	0	0
Total Points	0	0	0	0	0	0	0	0	0

Unrecognized Potential: The Value of the Rehabilitation Counselor in Transition Planning

Valerie Moreno-Tucker Amanda K. McCarthy Matthew E. Sprong Northern Illinois University

The number of public school students with disabilities is increasing (National Center for Education Statistics, 2016a). As these students and their families plan for education, employment, and independent living after high school, specialized support and services are needed. Special education professionals serve the essential role of assisting students with disabilities in obtaining a high school diploma or equivalency. However, additional services are essential for students and families to make decisions related to postsecondary education/training, employment, and independent living. Graduates of accredited master's-level rehabilitation counseling programs are trained in disability, employment, career development, education, independent living, assessment, and counseling. This skill set positions rehabilitation counselors to assist transition-age students with disabilities in planning for postsecondary life. The purpose of this article is to outline how rehabilitation counselors can bring value to transition-age students and their families by collaborating with school districts. Specific focus will be on how the rehabilitation counselor can add value in the area of vocational evaluation and transition assessment.

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The underlying notion of the rehabilitation counseling profession is to serve people with disabilities by developing an inclusive environment where these individuals are able to obtain employment compatible with their interests. values, and rehabilitation goals (Rubin & Roessler, 2008). Service provision by rehabilitation counselors often includes conducting vocational-related assessments to determine each individual's unique intellectual abilities. interests. academic achievement, aptitudes, work skills, and work behaviors. Such assessments also assist in the identification of the need for supports and accommodations. Additionally, within the rehabilitation counseling profession. some professionals choose to focus their practice on the provision of comprehensive vocational evaluations. These professionals may also have additional coursework, experience, or training in assessment provision and interpretation. Such professionals may have the Certified Vocational Evaluator (CVE) or Professional Vocational Evaluator (PVE) credentials (Hamilton & Shumate, 2005). Alongside assessment, rehabilitation counselors may also support individuals with disabilities in exploring careers, developing job-seeking skills, and expanding

independent living skills. Rehabilitation counselors can extend this expertise to transition-age students (16-21 years of age) with disabilities who are receiving special education services.

The clinical skills developed by rehabilitation counselors benefit not only adults with disabilities in their pursuit of obtaining employment, but can also be beneficial when developing postsecondary transition goals for young adults. Transition services for students with disabilities are mandated through the Individuals with Disabilities Education Act (IDEA) of 1990 and its reauthorizations in 1997 and 2004. Similarly, the Rehabilitation Act requires that rehabilitation professionals facilitate a student's transition from high school through adult services (Workforce Innovation and Opportunity Act [WIOA], 2014). IDEA requires that all students with disabilities are provided with an Individualized Education Program (IEP). The IEP is developed for a student with a disability in an elementary or secondary educational institution to ensure the student receives specialized instruction and related services (Kamens, 2004). Such related services may include transportation, speech-language pathology, psychological services, school health services, and various other services based on established need

(IDEA 2004). For students age 16 and older, IDEA requires that the IEP include transition services, which are based upon measurable postsecondary goals in education/training, employment and independent living (IDEA, 2004). States may require that transition services are included in the IEP at an earlier age; in some states, the requirement begins at age 14 (Neubert & Leconte, 2013). Both educational and rehabilitation regulations require collaboration, thus providing ample opportunity for rehabilitation counselors to lend their expertise to the transition process.

As rehabilitation counselors' roles continue to expand into the provision of transition services (Herbert, Lorenz, & Trusty, 2010), it is essential that specific ways in which these professionals can execute successful collaboration be identified. The purpose of this article is to discuss how rehabilitation counselors can use their skill set to collaborate with schools to effectively assist students in working toward postsecondary goals. Specifically, this article will provide a history of collaboration, identify potential collaboration methods, outline the value rehabilitation counselors add to the transition process, and define the role of the rehabilitation counselor in age-appropriate transition assessment.

Transition-Age Students with Disabilities

The number of students receiving special education services has risen since the Individuals with Disabilities Education Act was enacted in 1990, with 4,710 students being served from 1990-1991 and increasing to 6,296 to 6,720 students between 2000 and 2014 (National Center for Education Statistics [NCES], 2016a). In 2013-2014, nearly 13% of all public school students age 13-21 were receiving special education services (NCES, 2016a). Students receiving special education services eventually transition out of special education into the world of adult living. Similar to students without disabilities, students with disabilities and their families are tasked with making decisions and plans related to postsecondary education/training, employment, and independent living. These choices can be overwhelming without information, resources, and support.

Data indicates that, although some students with disabilities are integrated into postsecondary education and employment, their participation continues to lag behind students without disabilities (Dallas, Upton, & Sprong, 2014). A 10-year longitudinal study was conducted on 11,276 students with disabilities (13-16 years of age at the start of the study) to determine the postsecondary education, employment, independence, and social outcomes of young adults with disabilities in their first six years out of high school. Results revealed that 36% were reported to be living independently (i.e., living alone or with a spouse, partner, or roommate) at the time of the interview compared to approximately 44% of their peers without disabilities. In 2011-2012 nearly 11% of undergraduate students enrolled in postsecondary institutions reported having a disability (NCES, 2016b). The NTLS2, which collected data on youth and young adults with disabilities from 2001-2009, found that nearly 60% of young adults with disabilities participated in postsecondary education at some time within 8 years of their high school graduation (Newman et al., 2011). However, within the general population, 67% of individuals in a similar age range had enrolled in postsecondary education (Newman et al.). Although this data shows some persons with disabilities are successfully integrated into the community and postsecondary education, many barriers still exist. For example, 17.5% of persons with disabilities are employed compared with 65% of those without a disability (U.S. Bureau of Labor Statistics, 2015a). Individuals with disabilities age 16-24 are more than twice as likely to be unemployed than those of the same age group without a disability (U.S. Bureau of Labor Statistics, 2015b). According to the NTLS2, the percentage of young adults who were employed at the time of the postsecondary interview varied 30-67% (Newman et al.). Although from opportunities for students with disabilities are available, additional efforts are necessary to provide students with successful transition planning that will improve postsecondary outcomes for these students. Ways to improve outcomes for students with
disabilities include capitalizing on the expertise of rehabilitation counselors and incorporating effective collaboration between special education and rehabilitation counselors.

Collaboration

Kline and Kurz (2014) addressed the fact that multiple articles have been written on the topic of collaboration between rehabilitation and special education professionals. Although there has been agreement in past literature about the need for collaboration between schools and rehabilitation professionals (Johnson, Stodden, Emanuel, Luecking, & Mack, 2002), it has been indicated that further specificity regarding collaboration is needed.

Effective transition planning and transition services are dependent on collaboration and productive communication between special education professionals, rehabilitation counselors, and other human service providers. The traditional structure of school systems can act as an impediment to professional collaboration by isolating various professionals from one another (Kochlar-Bryant, 2008). All professionals are concerned with assisting students in their transition from high school into participation in the community at the highest level in which they are able. The President's Commission on Excellence in Special Education (2002) recognized the value of collaboration as it provides collective expertise and combined resources to improve the quality of transition planning. Moreover, they recognized the benefits of including rehabilitation counseling professionals as an approach to improving postsecondary outcomes.

Interprofessional collaboration is a method by which multiple professions work together to serve a single client (World Health Organization [WHO], 2010). Interprofessional collaboration has been used successfully in the medical field. Where once physicians had the sole responsibility for patient care, now physician assistants, nurses, occupational therapists, physical therapists, speech-language pathologists, social workers, and related professionals contribute to the health care process as part of the medical team. Each professional brings a

unique and valuable set of skills and knowledge. As a result, patients receive better care and more positive outcomes are achieved (WHO). The concept of interprofessional collaboration can be applied to transition services where special education counselors, professionals. rehabilitation and professionals from related services can work together to provide services to youth with disabilities.

Given the scope of services needed by students with disabilities as they transition from high school to postsecondary education/training, employment, and/or independent living, it is challenging for one profession to fulfill all roles within the transition process. Instead, a collaborative transition team of special education and rehabilitation professionals is needed to ensure that goals of transition services are met (Kline & Kurz, 2014; Trach, 2012). In addition to lesson planning, parent communication, and other tasks of a classroom teacher, special education professionals are also tasked with advocating for students by helping to manage their IEPs. These plans are complex, comprehensive, and time consuming. Management includes not only preparing the IEP document, but also facilitating input from the IEP team and monitoring the student's progress (Office of Special Education and Rehabilitation Services [OSERS], 2017). Additionally, transition planning for students age 16 and above (14 in some states) must focus on postsecondary goals in education/training. employment, and independent living. With changes in legislation, the role of the special education professional in transition services has grown exponentially. Morningstar and Clavenna-Deanne (2012) found that many educators within special education do not feel prepared to deliver transition services. Further, although special education professionals are competent in the vast techniques of curriculum delivery methods and services, many continue to state they feel unprepared in the area of transition (Benitez, Morningstar, & Frey, 2009; Knott & Asselin, 1999).

In order for interprofessional collaboration to be effective, the role of each profession must be defined (Interprofessional Education Collaborative Expert

Panel. 2011). Roles of special education professionals have traditionally been quite clear. School administrators are responsible for creating a positive culture around transition services by providing resources (e.g., qualified personnel, space, time). The role of special education teachers is to use their expertise to make academic instruction available to students with diverse learning needs. Special educators and schools, however, cannot provide students and their families with all the support and services required for successful transition (Kochhar-Bryant & Heishman, 2010). interprofessional collaboration. Through the rehabilitation counselors' role can become better understood (Webb, Repetto, Seabrooks-Blackmore, Patterson, & Alderfer, 2014). Such collaboration is an opportunity for the rehabilitation counselor to bring value to school districts by providing expertise in the areas of postsecondary services, counseling, and age-appropriate assessment to transition-age students.

Understanding Transition Planning

For rehabilitation counselors to address how they can best collaborate with special education professionals and transition students, it is important that they professional understand the language and terminology used in schools; lack of this understanding can negatively impact collaboration (Kochhar-Bryant, 2008; Kochhar-Bryant, Bassett, & Webb, 2009). To do so, rehabilitation counselors must have an in-depth understanding of the Individualized Education Program and required transition services. School districts are responsible for providing special education services to students with disabilities. These services go beyond a traditional view of public school education from kindergarten through 12th grade. Schools may provide special education services to students with disabilities as young as age 3. For students with disabilities who continue to have learning needs or lack attainment of established IEP and transition goals, schools are responsible for providing special education services through age 21 (IDEA, 2004; OSERS, 2017). The required annual review of the IEP ensures that clear and accurate goals are written into the plan and appropriate services are provided to support those goals.

One goal of IDEA's reauthorization was to emphasize the need for transition planning and services (Cobb et al., 2013). The final regulations of IDEA, handed down in 2006, require that transition planning be included within the IEP document for each student (Muthumbi, 2008). Transition planning is required to be written by the first IEP meeting in which the student is 16 years old (IDEA, 2004). Some states have established an earlier timeline for the transition planning to be implemented; some states require transition planning to begin when the student is 14 years of age (Neubert & Leconte, 2013). Postsecondary transition goals are reviewed annually; transition goals remain an essential component of planning for students until they receive their high school diploma.

Transition planning includes many components. age-appropriate Postsecondary outcomes, assessments, services, course of study, and annual/IEP goals are all essential component of transition planning (IDEA, 2004). Each student's established postsecondary goals/outcomes guide the transition planning process for that student. These goals/outcomes must be written in the areas of education/training, employment, and independent living. It is mandated that the postsecondary goals/outcomes are based not only on student preferences and input, but also on age-appropriate assessment in each of the three areas (IDEA, 2004; OSERS, 2017). Age-appropriate assessment is defined as "an ongoing process of collecting information on the youth's needs, strengths, preferences, and interests as they relate to measurable postsecondary goals" (Neubert & Leconte, 2013, p. 74). The school and IEP team are then responsible for providing services to the student to assist them toward achieving these goals. In addition, a mandated report (i.e., summary of performance [SOP] report) is provided to the student and family prior to the student's exit from high school (IDEA, 2004). The SOP documents the academic achievement and functional performance of the student and includes recommendations on how

the student can best achieve his/her postsecondary goals (Kochhar-Bryant, 2007).

Value of the Rehabilitation Counselor to Schools, Students, and Families

Given the detailed requirements of transition planning within the IEP, rehabilitation counselors can use their skill set to assist schools with the (Rouleau, transition process 2012). This collaboration begins with both special education professionals and rehabilitation counselors understanding each other's areas of expertise and roles. The role of the special education professional in the transition process is usually clear; however, the role of the rehabilitation counselor is less understood by school personnel, students, and families.

For the rehabilitation counselor to be effectively utilized during the transition process, their training and skills need to be understood by student, schools, and families (Trach, 2012). Given that rehabilitation counselors are master's-level counselors with specialized training in disability, employment, and assessment, they complement the knowledge base and skills of special education personnel to help students move from high school to adult living (Commission on Rehabilitation Counselor [CRCC], Specifically, Certification 2016). rehabilitation counselors can provide value to school districts by provision of transition services, career and evaluations. Rehabilitation counseling, counselors' expertise can contribute to transition services in the areas of education/training, employment, and independent living. Rehabilitation counselors can use their specialized knowledge of disability, employment, counseling, and assessment to support special education professionals in the provision of required transition services, thus positively affecting outcomes. Specifically, rehabilitation counselors holding a CVE or PVE have met professional standards not only in education, but also in knowledge of and experience with vocational evaluation (Hamilton & Shumate, 2005; Registry of Professional Vocational Evaluators, 2011).

Rehabilitation counselors can apply their expertise to assist students with disabilities toward achieving postsecondary goals (Muthumbi, 2008). Although students' transition skills are initiated within the confines of the school environment, those skills bear no value without the application of such skills directly to the adult world (Oertle & Trach, 2007). The National Center for Education and Evaluation and Regional Assistance found that students whose transition services included either school-supported work programs or technical education courses experienced better postsecondary success (Cobb et al., 2013). The literature has further stated that career counseling results in effective outcomes. Research (e.g., Fabian, Lent, & Willis, 1998) has indicated that matching employment opportunities with the career interests of students has been shown to be an effective intervention to increase postsecondary employment outcomes. Other research has indicated that exploring employment expectations early in the transition process results in greater outcomes with regard to desired employment and economic outcomes (Estrada-Hernandez, Wadsworth, Nietupski, Warth, & Winslow, 2008). Incorporation of rehabilitation professionals on the IEP team has been shown to improve postsecondary employment outcomes Rehabilitation counselors, (Muthumbi, 2008). therefore, can inform decisions about these students' work skills and technical aptitudes through the provision of not only counseling, but also ageappropriate assessment and services. The expertise of the rehabilitation counselor promotes real world integration of education, employment, and independent living skills, thus aiding school professionals, and schools, in striving for successful postsecondary outcomes for students.

It is important for the rehabilitation counselor to honor other professionals' areas of expertise while practicing within his or her scope of practice. One competency of rehabilitation counselors is career counseling. Complimenting career counseling skills, rehabilitation counselors are also specifically trained in the provision of employment services which

include job placement, job analysis, accommodation provision, and post-employment follow-up services (Leahy, Muenzen, Saunders, & Strauser, 2009). Further, rehabilitation counselors keenly understand how complex the employment process can be for with disabilities. For persons example, а rehabilitation counselor can educate the student with a disability on how to request a reasonable accommodation during the interview process or how to propose a workplace modification to make the work environment more accessible. In sum, rehabilitation counselors add value to schools when providing transition services to students with disabilities.

Vocational Assessment in the Transition Process

The value of collaboration between rehabilitation counseling and special education professionals has been well documented (see Johnson et al., 2002; Kline & Kurtz, 2014); previous literature, however, has indicated the need for further specificity as to how the rehabilitation counselor can add value to each student's individualized IEP and transition services. Although rehabilitation counselors can add value to the transition process in a variety of ways, vocational assessment is one specific way in which they can provide valuable expertise.

Age-appropriate transition assessment is required for transition-age students with IEPs (IDEA, 2004). Transition assessment, as defined by Neubert and Leconte (2013), is an ongoing process to assist in defining measurable postsecondary goals. Age-appropriate transition assessment, as required by IDEA, often begins with screenings or inventories administered by school personnel. Herbert, Lorenz, and Trusty (2010) reviewed the literature from 1989 to 2009 and found that interest inventories were the most commonly utilized assessments; however, the success of students for which this was the only assessment was compromised. Therefore, although interest inventories and screenings are helpful for students, questions may remain about students' postsecondary goals and abilities after inventories and screenings have been utilized. As part of the continuous transition assessment process, a more indepth, comprehensive age-appropriate assessments is often warranted.

Vocational evaluations are comprehensive in nature and not only utilize standardized assessments, but also utilize and synthesize information from other professions with whom the student is involved (Pruitt, 1986). Vocational evaluation includes formal and informal assessments to measure vocational potential. Vocational evaluations are also grounded in real or simulated work (Neubert & Leconte, 2013). Vocational evaluation can be particularly helpful for individuals with the most significant disabilities who would have difficulty completing traditional paperand-pencil assessments. Given that vocational evaluation uses work, either real or simulated, this type of assessment is also helpful for students who have never worked, as it provides information related to the student's work behaviors (e.g., interpersonal communication, ability to request breaks or assistance). Many transition-age students have limited or no work experience; therefore the experience of the vocational evaluation itself can add value. During vocational evaluations, particularly those in which on-the-job evaluations are utilized, rehabilitation counselors have the benefit of applying their specialized knowledge of the assessment of work behaviors, attitudes, and soft skills (Herbert et al., 2010). This can assist in the development of postsecondary goals and annual IEP goals.

In addition to assisting with the assessment of vocational and educational skills, rehabilitation counselors can also utilize their evaluative skills to assess independent living and community integration skills. These skills, as outlined in the 2017 Transition Guide for postsecondary education and employment for students and youth with disabilities, include selfadvocacy, management of finances, and utilization of public information for adult living (OSERS, 2017). Rehabilitation counselors are required to have graduate-level coursework in independent living planning and assessment (see Council of Rehabilitation Education [CORE] accreditation standard C.7.3.a., 2011). Additionally, rehabilitation counselors can help to integrate independent living goals that include any topic related to residence (i.e.,

actual living arrangements), community participation (e.g., faith, community resources), selfcare, or communication. These areas can be assessed by formal or informal assessments related to life skills, time telling, medication management, writing, listening, speaking, use of an interpreter, or knowledge of the community (Illinois State Board of Education, 2009).

In utilizing vocational evaluations to contribute to the ongoing process of transition assessment, rehabilitation counselors are trained to select career assessment instruments that are appropriate for an individual with a disability, administer the instrument, interpret the results, and synthesize the results for the purpose of career planning (CORE, 2011). These competencies allow rehabilitation counselors to assist the school in providing an outcome-oriented process as required by IDEA and the Rehabilitation Act. Once such assessments have been completed, rehabilitation counselors then utilize this data to contribute to transition planning by helping to identify attainable postsecondary goals in education/training, employment, and independent living. The rehabilitation counselor's specialized training in assessing career interest, academic achievement, work-related aptitude, intellectual ability, and independent living skills translates well to the areas in which schools are required to assist students in identifying postsecondary goals (CRCC, 2016). Assessment results provide concrete, objective data regarding students' current levels of performance and aptitudes. These assessments can also inform other areas of transition planning, including needed services and annual IEP goals.

Master's-level rehabilitation counselors trained in an accredited program have learned to convey evaluation results to individuals of varying ability levels (CORE, 2011). This is essential, as OSERS (2017) stated students need to clearly understand their own assets and limitations in order to make informed transition choices. By focusing on objective data from a vocational evaluation (particularly skills, areas of need, and interests), rehabilitation counselors can assist the team in overcoming difficulties by focusing on goal establishment rather than goal attainment (Rusch, Hughes, Agran, Martin, & Johnson, 2009). Additionally, rehabilitation professionals have specialized training in service delivery to persons with disabilities (CRCC, 2010). As such, they are experienced in the identification of work behaviors and soft skills, which may require remediation, support, or accommodation, in order to lead to success in postsecondary education/training, employment, and independent living.

Rehabilitation counselors can be valuable members of a student's IEP team. The IEP team includes the parent(s)/guardian(s) of the student, one or more regular education teacher (if the student is educated in a regular education setting), one or more special education teacher (if the students is educated in a special education setting), and a representative of the local educational agency (OSERS, 2017). Additional individuals, such as those with special expertise of the student personally, may also be present. It is required that the transition-age student be invited to attend his/her IEP meeting (IDEA, 2004); some students will have reached the age of majority, as defined by state law, and therefore must be informed (at least one year in advance of age of majority) of the transfer of rights from the parent/guardian to the student (IDEA, 2004).

The rehabilitation counselor can provide value to the IEP team by providing specific data from the vocational evaluation and applying it directly to the student's transition goals. By applying academic achievement results directly to the student's postsecondary education goal, the rehabilitation counselor can then assist the IEP team to define what services are necessary and what annual IEP goals should be established. Through the application of work sample results (both accuracy and speed results) directly to the student's postsecondary employment goal, the rehabilitation counselor can inform ongoing services, such as placement in a work experience. Rehabilitation counselors can also assist in the identification of specific speed and accuracy goals to be implemented as annual IEP goals. Similarly, through the administration of assessments—such as ones that evaluate a student's ability to tell time, calculate payroll, or read medication bottles-the rehabilitation counselor can

directly apply these results to the development of postsecondary and annual independent living goals. With expertise in the selection, administration, and interpretation of assessment results (CORE, 2011), rehabilitation counselors may broaden assessment to include any area related to established postsecondary goals.

Conclusions

Special education professionals the carry responsibility of academically preparing students for graduation. Alternatively, rehabilitation counselors and other adult services professionals provide individuals support in services that their postsecondary work, educational, and community integration pursuits (Dutta, Shiro-Geist, & Kundu, 2009). With the 2004 reauthorizations of IDEA, services to assist students with disabilities to transition from school-based programming to community-based postsecondary life are required. Transition services. by definition, require collaboration between the student, family, and transition personnel. Collaboration between special education professionals and rehabilitation counselors results in the best transition services due to the combined expertise of both sets of professionals. The literature, however, has lacked specificity regarding how rehabilitation professionals and schools should collaborate and which roles should be assumed by (Kline & Kurz, 2014). Rehabilitation each counselors are critical in providing transition services (Plotner, Trach, Oertle, & Fleming, 2014). Rehabilitation counselors now need to better understand how to execute such collaboration. This collaboration can start with counseling, but more specifically can provide value through the strategic use of vocational evaluations.

A logical first step in executing this collaboration requires both special education professionals and rehabilitation counselors to more clearly understand each other's expertise and roles. Rehabilitation counselors need to better understand the educational process through which the student receives transition services in order to better support these processes and provide expertise (Plotner, Trach, & Strauser, 2012). Additionally, rehabilitation counselors should increase their knowledge of the mandated components of transition planning by which the school is bound.

This article provides rehabilitation counselors an introduction to collaboration, the IEP, and the required components of transition planning. One such IDEA requirement is that each student with an IEP participate in at least one age-appropriate assessment related to each of the established postsecondary goals (in the three areas of education/training, employment, and independent living). A natural route for rehabilitation counselors to apply their knowledge, therefore, is in the provision of vocational evaluations to contribute to the ongoing process of transition assessments. Rehabilitation counselors are uniquely prepared for and experienced in service delivery to persons who have a diagnosis or disability. Those rehabilitation professionals with a CVE or PVE have additional credentialing in the service delivery of vocational evaluations. Also, as career counseling skills are a core competency of rehabilitation counselors (Herbert et al., 2010), these professionals are wellpoised to skillfully convey assessment results to individuals, schools and families in order to best inform decisions regarding transition planning.

While this article serves as an introduction for rehabilitation counselors to better understand transition services, IEPs, and school mandates, rehabilitation counselors should now identify how to apply both counseling and vocational evaluation skills to transition planning by assisting in defining appropriate and attainable postsecondary transition goals/outcomes, as well as services and annual IEP goals. Previous literature has indicated that little detailed research has been conducted to determine how successful collaborative activities have or will positively affect outcomes (Povenmire-Kirk et al., 2015; Trach, 2012). Once rehabilitation counselors special education professionals and more successfully utilize vocational evaluation data to effectively inform each student's individualized transition services, further research will be needed to measure the effect of its utilization on students' outcomes, with a hope for more positive results. Such

research will benefit the fields of both special education and rehabilitation counseling.

Editors' note: This manuscript was accepted for publication prior to the dissolution of the Council on Rehabilitation Education (CORE). As of July 1, 2017, rehabilitation counseling programs are now accredited by the Council for Accreditation of Counseling & Related Educational Programs (CACREP).

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Empowering Youth Self-Definition and Identity through Assistive Technology Assessment

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The processes of identity development and goal striving begin in early childhood. As youth with disabilities transition from school to work, functional limitations have the potential to impede progress toward academic, career, and related goal achievement. This may threaten identity development and inhibit goal-striving behavior by making inaccessible the indicators and symbols of identity. Assistive technology promotes activity and provides compensatory options designed to address challenges by building skills and lessening identity threats. Empowered and effective decision-making by youth during the assistive technology assessment and service delivery process helps facilitate the goodness-of-fit and adoption of assistive technology devices and services. We suggest that the effective adoption and integration of assistive technology further supports goal striving, the development of strong identities, and greater vocational satisfaction and meaning.

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dentity development in youth is often overlooked as a key aspect of transition planning. This is also true of the impact making effective assistive technology (AT) decisions plays on developing identities. The process of self-definition takes a lifetime and is a gradual process of collecting the symbols and indicators of a chosen identity (Gollwitzer Kirchhof, 1998; Gollwitzer. & Marquardt, Scherer, & Fujita, 2013). Disability can introduce uncertainty and present challenges with self-definition, which can be especially impactful for youth in transition as they move into adulthood. gathered through Information the assistive technology assessment process can help effectively match youth with their AT needs and positively influence goal-striving behavior and identity development. When the features of identity, goal striving, and assistive technology are considered together, youth have an opportunity to develop a strong identity, engage in more effective goaldirected behavior, and find greater vocational satisfaction, leading to successful career paths. This article is intended to provide a conceptual overview of AT service delivery and the role of AT assessment and implementation in promoting positive identity development among youth in transition.

Promoting Full Inclusion

Intentional behavior, coupled with the use of tools and symbols (e.g., language, identity indicators) represents the essence of vocational goal striving and forms the foundation for new and adaptive behavior (Vygotsky, 1978). Assistive technology can provide the foundation upon which vocational goal striving is realized. Research indicates that youth with disabilities benefit from the use of assistive technology when it comes to accessing and participating in mainstream educational activities (Desideri et al., 2016; Gruner et al., 2009; Hemmingsson, Lidstrom, & Nygard, 2009: McDonnall & Crudden, 2009). However, transitionage students do not always have the necessary information to make informed decisions regarding effective assistive technology options and strategies in school (McDonnall & Crudden). Assistive technology is defined by the Assistive Technology Act of 1998 as "technology designed to be utilized in an assistive technology device or assistive technology service." The former refers to "any item, piece of equipment, or product system, whether acquired commercially, modified, or customized, that is used to increase, maintain, or improve functional capabilities of individuals with disabilities"; the latter refers to "any service that directly assists an individual with a disability in the selection, acquisition, or use of an assistive technology device" (Pub. L. No. 108-364, 2004). It is readily accepted that most students can benefit from the use of technology; AT is especially important, however, for youth with disabilities in promoting access and full inclusion (Kurtts, Dobbins, & Takemae, 2012).

AT Assessment and Service Delivery: A Youth-Centered Process

Assistive technology service delivery is a personcentered process seeking to enable functioning by addressing an individual's unique needs and goals (Cook & Polgar, 2012; McDonnall & Crudden, 2009). This philosophical perspective inherently applies to both youth and adult populations alike. Effective service delivery leads to AT integration into a student's life activities with the overall objective being an increase in quality of life, autonomy, and empowerment (Desideri et al., 2016; Jones & Hinesmon-Matthews, 2014).

The AT assessment and service delivery process can be conceptualized as nine sequential stages: (1) referral-gather contact information, concerns (referral purpose/questions), and assign staff; (2) intake and initial assessment-gather preliminary information regarding service needs, initial impairment related needs identification and feature matching, and potential plan objectives; (3) assessment—comprehensive systematic needs identification, skills assessment, and determination of AT features (including demonstrations, trials, and simulations); (4) plan development-development of a person-centered plan of action outlining AT determination and what will be included in the recommendation and report; (5) recommendations and report- formal write-up of the assessment process, plan, and recommendations to be submitted to the referral/funding source; (6) technology procurement/development-ordering commercially available AT, and/or parts and supplies for modification or fabrication of customized or new AT devices or systems; (7) implementation—consumer and/or site contact, delivery, set-up, fitting, and training; (8) follow-along—a more immediate follow-up (e.g., within 3 months) subsequent to implementation to determine need for maintenance, repair work, and additional or remedial training; and (9) follow-up/re-referral—a longer-term follow-up (e.g., within 6 months) subsequent to implementation used toward determining the need for a re-evaluation, maintenance, repair work, and additional or remedial training. Re-referral through another agency may also be necessary.

Initial steps in the service delivery process, from intake through systematic assessment, involve gathering considerable information regarding youth needs and preferences. The AT assessment should be built on existing strengths, while focusing on individual needs and the context(s) in which the AT will be used (Cook & Polgar, 2012). Assessment data may come from an AT performance review, which identifies technology the youth is currently using, AT strategies he/she has tried in the past, and how effective these approaches have been. Much of this information is gathered from existing school records (e.g., Individualized Education Programs, 504 plans, and educational assessments). Referral source documentation is also gathered, reviewed, and integrated into the process. Interdisciplinary team meetings with stakeholders who can share relevant information related to the student's needs can also be very useful.

This information is aggregated and evaluated by the assistive technology professional (ATP). AT feature matching (i.e., matching specific AT attributes to specific student needs) takes place in collaboration with the student and his/her interdisciplinary rehabilitation team (Cook & Polgar, 2012). A plan is developed with the student and a report is provided with AT recommendations identified as an effective fit for the student. This is submitted to the referral source/funding agency. Although much information is collected at the front end of the assistive technology assessment, the AT service delivery team remains vigilant in gathering and communicating relevant data throughout the entire process. This assures AT-consumer goodnessof-fit since issues and concerns may creep into the process following the formal assessment (i.e.,

technical concerns with device customization or fabrication, during set-up and implementation, or during follow-along/follow-up).

SETT: An AT Decision-Making Model

Determining the effectiveness of AT service delivery requires evaluating the inputs, processes, and outputs of AT use in the environments in which they are used (Cook & Polgar, 2012; Zabala, 1995, 2006). Conceptual models help illustrate the relationships inherent in service delivery. The Student. Environment, Tasks, and Tools (SETT) Model was designed for use with students in secondary school and provides a useful framework for this discussion. Models such as SETT consider individual needs and dispositions toward an effective match with assistive technology. Cook and Polgar found the selection of appropriate AT involves the consideration of the qualities which inhere within the individual, the activity within which the assistive technology will be used, and the device characteristics. To this end, SETT is offered as an AT decision-making model that structures questions around student needs related to its constituent domains (student, environment, tasks, tools). It serves as a guide for the student, family, and professionals through AT service delivery toward providing an accessible and inclusive educational program (Zabala, 1995, 2006). A brief tour of the types of decisions and issues that need to be addressed regarding the SETT elements follows: however, the treatment of each element is not exhaustive.

Youth empowerment. Student-focused SETT considerations include listening to the student's voice in the AT service delivery process when parents and guardians are actively involved and may make final decisions for youth. Building an identity means setting and striving toward goals which the AT assessment process must reflect. Determining the disabilities youth have and the associated functional limitations that impede goal striving is key to effective AT assessments. Consideration must be paid to the purpose for the referral, the extant skills of the youth, the composition of the rehabilitation team, whether the necessary expertise is present, and

who should be invited to join in the event a gap is identified (Zabala, 1995, 2006).

Research involving student perspectives of AT use indicates that youth evaluate AT as it relates to the psychosocial impact on interactions with peers (Craddock, 2006; Hemmingsson et al., 2009). The socialization aspect is particularly important for youth and can directly influence whether AT is accepted and used (Ryan, Klejman, & Gibson, 2013). Additionally, experiencing an immediate benefit, rather than a perceived future one, is also noted by youth as being central to their interest in using AT (Hemmingsson et al.). As such, teachers, transition educators, parents, and rehabilitation counselors need to be cognizant about fully including the student's AT into the classroom and social realm for it to be accepted and effectively used by the youth. Active discussion with youth to learn their perspective about potential benefits, fears, and social stigma associated with AT use is a critical element of the assessment process, and supports a personcentered approach to service delivery.

Traditionally, professionals have prioritized functional perspectives when recommending and prescribing AT. However, the psychosocial aspect, as it relates to identity, is critical and the student's perception of the utility of the device, in addition to adult intention, be prioritized needs to (Hemmingsson et al., 2009). Families and teachers may view the judgment of the AT professionals as more important than the input of the youth, which then contributes to disempowering the youth AT user and decreases the likelihood of successful AT adoption (Parette & Scherer, 2004). Keen attention to youth input regarding the acceptability, practicality. appearance, gender and age appropriateness, social acceptability, and value of the AT throughout the assessment process is paramount in promoting a youth-focused, empowered approach (Hemmingsson et al.: Parette & Scherer).

Environmental considerations. Identification of all contexts in which the AT is to be used is important throughout the assessment stages. If assistive technology is to be used in school, at home, and/or at a job, then each of these specific sites needs to be evaluated and considered to ensure the AT will

function as needed in each environment, including use in transit, as appropriate. School, social, and work environments must all be included with teachers, peers, employers, and co-workers considered and observed where possible (Parette & Scherer, 2004; Zabala, 1995, 2006). Ramifications of the physical, social, and cultural contexts need to be addressed, including the availability of resources within them (Cook & Polgar, 2012).

The school environment, in particular, is an important venue to consider, given that teacher acceptance of assistive technology use by students with disabilities is related to success of AT integration in the educational experience. When teacher attitudes toward use of AT are negative, challenges to effective implementation are considerable (Parette & Scherer, 2004). It is imperative that teachers and transition professionals receive initial and ongoing quality information regarding the integration of AT into curricular and educational processes to avoid stigma (Parette & Scherer).

Coordinating task engagement. Task engagement encompasses the school-to-work-related activity of the youth, or tasks for which they are preparing. When considering task engagement, it is also important to consider the aides involved in task engagement, such as job coaches, teachers, teacher aides, interpreters, etc., and the roles they take in delivering educational services to the youth. Staff roles and responsibilities must be coordinated. Staff roles include monitoring and ensuring AT is maintained, updated, repaired, and necessary materials are present. Successful AT integration relies on this coordination. Student task engagement progress must also be monitored and data recorded, analyzed, and reported in a timely fashion to ensure progress is maintained and AT remains effective for youth achievement (Zabala, 1995, 2006).

Tools. Tools and technology include the assistive technology devices, systems, strategies, and wrap-around services needed for task engagement. Utilizing the resources and supports inherent within the environment and identifying resource providers is also an important component of AT use. Tools-related considerations include: (a) AT currently used

by the youth; (b) what they have tried in the past; (c) whether all of the AT features (past or present) were utilized, in working order, and if the youth outgrew any of them; (d) whether the youth was fully trained regarding optimal use of the AT; (e) whether there was any maintenance, repair, or updating issues (e.g., software upgrades); and (f) how effective the overall strategy was in addressing the youth's unique needs related to overcoming the impact of functional limitations on task engagement (Zabala, 1995, 2006).

The Role of Assistive Technology Assessment

The assistive technology assessment is critical to gathering information necessary for making the best decisions possible to affect goodness-of-fit between the AT selected and the unique needs of the student who will use it (Shinohara & Wobbrock, 2011; Wilson, 2011). As a job accommodation or a transition lynchpin, AT can play a critical role in youths' developing sense of self, successful transition, and goal achievement as they move into the next chapter of their lives.

According to Gollwitzer and Kirchhof (1998) "expected shortcomings and the associated feelings of incompleteness are not responsible for people's disengagement from self-defining goals. Instead, a lack of access to or a refusal to make use of opportunities to acquire relevant symbols is responsible" (p. 411-12). Disability can play a major role regarding access and opportunity in goal striving. The decisions associated with the AT assessment, such as use of the SETT decision making framework, facilitate a discussion of AT devices and strategies to accommodate goal striving.

Severity and number of functional impairments can have an impact on motivation for and access to identity indicators. In fact, active engagement and intentionality is a key factor in motivational processes toward building an identity (Csikszentmihalyi, 1990; Gollwitzer & Kirchhof, 1998; Gollwitzer, Wicklund, & Hilton, 1982). Significant challenges may be mediated through the use of AT with an eye toward optimization. This requires reducing the task engagement challenges further through modifying the goal expectations or changing the task entirely to a more appropriate job goal (Csikszentmihalyi, 1990). Shifting from one task to another tends to reduce the threat of a selfdefinition failure so long as the alternate task still falls in line with an identity goal (Gollwitzer et al., 1982).

Youth Identity Development Theory: Setting, Striving, and Sustaining Goals

Identity is defined in the literature as "an individual's comprehension of him or herself as a discrete, separate entity" (Sharma & Sharma, 2010). Psychological theorists historically have conceptualized identity at the individual level as specific dimensions, with accompanying interventions influencing the development of identity across the life span (Erikson, 1968; Marcia, 1966). More recently, research focusing on positive youth development as a means of influencing positive identity has gained attention. Catalano, Berglund, Ryan, Lonczak, and Hawkins (2004) noted identity as "the internal organization of a coherent sense of self" (p. 106). The promotion of positive identity development is particularly important with youth and involves the constructs of promoting self-esteem, fostering exploration and commitment, and reducing self-discrepancies. Multiple features can be used to assess identity, including: (a) levels and domains of identity, (b) identity statuses, (c) identity dimensions, (d) identity styles, and (e) progressive shifts in identity during development (Tsang, Hui, & Law, 2012).

Goals are by their very nature abstract indicators of a desired state (Feuerstein, Falik, & Feuerstein, 2015). Goal-striving behavior is a fundamental part of building an identity and determining a vocation. It manifests in very young children as they demonstrate an understanding of the concept of achievement, aspire toward independence, and express a preference to accomplish tasks on their own. Positive reinforcement and affirmations reinforce this behavior (Lewin, 1999). Vicarious learning becomes important when youth begin setting goals toward self-definition (Vygotsky, 1994). As children develop they begin to recognize that needs can be met through interaction with the environment (Vygotsky & Luria, 1994). Social interaction begins in very young children as they seek to make sense of their world through the use tools and symbols (i.e., language). As youth mature, they move from a fusion of behavior and language to a separation between the two, sparked by the development of goal-striving behavior (Vygotsky, 1978). As challenge in goal striving increases, so too does the need for interpersonal communication as a means for youth to solve problems (Vygotsky, 1978).

Others provide a frame of reference and meaning for youth on which they place value based on needs (Vygotsky, 1994). Goal directed behavior arises from the tensions created through the process of meeting needs (Lewin, 1997). The value of goalstriving behavior is determined by how well needs have been met. Indeed, value is ascribed based on the balance youth are able to achieve between goal challenges and the skills necessary to achieve them (Csikszentmihalyi, 1975; Lewin, 1997).

Effective goal striving is achieved when task challenges are met with at least an equal level of skill above the average experience (Csikszentmihalyi, 1975; 1990). Disability can contribute to imbalance in the process. Functional limitations may have a negative impact on abilities and an increase in challenges; assistive technology can provide reestablishing solutions toward balance. Additionally, optimization processes afford individuals the opportunity to adjust goal-striving behavior when they find themselves unable to achieve a balance. To reestablish a balance, an individual has one of three choices: reduce task challenges, increase skills, or switch to a different task altogether (Csikszentmihalyi, 1990). Likewise, identity development may require alternate or shifting tasks to overcome skill-demand mismatches (Gollwitzer & Kirchhof, 1998). Setting intermediate goals may be necessary if the overall goal is too difficult. Figure 1 illustrates a relatively high balance between task challenges and task skills, reflecting effective goal striving. The center of the innermost

circle represents the average goal-striving experience. How well-matched skills are to challenges will dictate whether the goal-related activity produces a rewarding and satisfying experience or a more negative one (Csikszentmihalyi, 1990).

When a balance exists between task challenges and skills, a state of self-reinforced motivation for goal striving occurs, especially when the balance is above the average experience; this is referred to as autotelism (Csikszentmihalyi, 1975; 1990). Virtually any activity can lead to autotelic goal striving. This psychological state is characterized by the desire of an individual to engage in an activity for the sake of engagement and less for the outcome. Autotelism lays the foundation for resiliency in the face of setbacks and failures (Csikszentmihalyi, 1975; 1990).

Figure 1. Effective Task Engagement



Identity Development

Self-definition, or development of an identity, may be formal or informal, assigned or chosen (Gollwitzer & Kirchhof, 1998). As youth begin the process of striving toward an identity, they associate the accouterments and artifacts (i.e., indicators) of a distinctive goal and seek to attain these as emblematic of their claim to possessing that particular identity. Identity indicators can take the form of material objects or opportunity structures which have the effect of affirming, reinforcing, and validating role-related dispositions; these may be arrived at through either readily available means or less accessible means. Readily attainable indicators include items, such as:

- using social media;
- wearing clothing associated with self-definition;
- participating in jobs and work studies;
- perceiving a social role;
- acquiring documents, books, journals, tools, and artifacts;
- associating with recognized figures in a chosen field; and/or
- engaging peripherally in role-related communities of practice.

Identity-relevant social validation generally involves alignment of indicators with those of a goalrelevant social group. As the status of group members increases, so too does the value of the indicators associated with them (Matschke, Fehr, & Sassenberg, 2012). Indicators may be difficult to attain and require deliberate and sustained effort to achieve. Although some professional identities require these indicators (e.g., doctor, lawyer), they are not necessarily a requirement of building a selfidentity. Achieving these indicators, however, is connected to self-perception of socially-validated issues, such as skillfully performing difficult tasks and activities or advanced educational attainment, such as a college degree. Social affirmation is a necessary component of self-definition. An embraced identity must be coupled with identity-inaction and be recognized by others, and individuals must be able to effectively engage in goal-directed behavior to develop an identity (Matschke et al., 2012: Gollwitzer & Kirchhof, 1998).

Bridging Gaps, Establishing Goals, and Burgeoning Identities

Individuals need the opportunity to resolve threats to the development of their identity (Gollwitzer et al.,

2013). Assistive technology must be well-matched to the unique needs of the individual, context(s) of use, goals, and the goal-striving activity (Vlasak & Ranaldo, 2012). As such, it can effectively facilitate the introduction, or restoration, of a skill/challenge balance following disability. Skill development relies fundamentally on effort and time-on-task. However, task-related skills training and training on how to effectively use assistive technology is also necessary for overall goal-related skill increases when youth use AT for task engagement (Wilson, 2011). Information obtained through the AT assessment and subsequent services provides an opportunity for resolution. Talent or aptitude toward building skills and achieving goals invariably comes up when discussing skill development. Briefly, the presence of talent does not dictate whether skills can be developed, but does have an impact on the speed with which they progress (Duckworth, 2016). Figure 2 illustrates how assistive technology can bridge the goal-striving gap caused by functional impairments and allow for skill increases toward task efficacy.

Figure 2. Bridging the Goal-Striving Gap with Assistive Technology



The key to skill development is effortful time-ontask. Deliberate and sustained activity typically results in increased skill (Csikszentmihalyi, 1990; Duckworth, 2016). Skill increases occur when individuals push themselves to the limits of the skills they possess for a given task. This enhances motivation for on-task behavior (Csikszentmihalyi, 1990). Figure 3 illustrates this stepwise movement. The lower left circle indicates a relative challenge/skill balance which is maintained as challenges are increased just above skill level. With sustained effort, skills equal challenges and the process repeats.

Figure 3. Step-Wise Skill Development





Self-definition challenges place identity goals at risk. Conflicting identity roles or an inability to overcome a setback can result in task disengagement. Identity goal striving may stop and therefore end pursuit toward identity achievement. Failures and setbacks do not necessarily end identity development; rather, they demand further effort and perseverance (Duckworth, 2016; Gollwitzer & Kirchhof, 1998; Vygotsky, 1978). Perceived failure is an inherent part of building an identity; however, belief in one's capacity to overcome setbacks justifies sustained effort (Duckworth, Peterson, Matthews, Kelly, & Carver, 2007; Matschke et al., 2012).

A setback can be demoralizing for an individual when it occurs within an identity-relevant activity. "These feelings of being burdened, however, are immediately converted into feeling energized when an opportunity for compensation arises" (Gollwitzer & Kirchhof, 1998, p. 405). Transition-age students struggling with a developing sense of identity must navigate the tumultuous waters of major life changes (e.g., leaving high school, beginning college, starting a job, meeting new people, being legally responsible for themselves, and adjusting with functional limitations in new environments). When an effective match is made between an individual and assistive technology, it provides a compensatory opportunity, another chance, to close the goal-discrepancy gap. Individuals seize on welling energy and internal motivation (Matschke, et al., 2012), where "attention rests solely on successful compensation" (Gollwitzer & Kirchhof, 1998, p. 405). This renewed enthusiasm is a product of the increased accessibility of identity relevant indicators (Matschke et al., 2012).

A positive self-definition "depend[s] largely on the individual's framing of the goal" (Matschke et al., 2012, p. 546). There may be an advantage to framing assistive technology devices and systems as being relevant to positive self-definition. Framing AT for youth in this manner also represents an initial social affirmation by the assistive technology professional, which can be further reinforced by others in the youth's social circle. Youth who find the introduction of effective AT helpful can use this experience as a springboard self-determination toward and maximization of goal-striving efforts toward achievement. The following is a case study of Frank, a school-to-work transition student and aspiring certified nursing assistant. Frank's case illustrates the matching of assistive technology to his unique needs as he prepares to embark on his vocational journey.

Case Study: Frank, the Nursing Assistant

Frank, a transition student finishing his last semester in high school, has a goal of becoming a nursing assistant. Relevant symbols and indicators that

support this sense of identity may include enrolling in a postsecondary program leading to nursing assistant certification, building a personal collection of related texts and articles, and being referred to by others as a nursing assistant student. Frank has been diagnosed with attention deficit hyperactivity disorder, predominantly inattentive type. Time management and sustaining attention make it difficult for him to maintain on-task behavior and fully complete assignments when they are due. Thought organization, scheduling, and task planning are problematic. Insensitive remarks by peers critical of his functional limitations stigmatize Frank, increasing self-consciousness and frustration, while exacerbating his cognitive impairments. Functional limitations and lack of social affirmation threaten continued self-defining activity. An assistive technology assessment might result in the following recommendations:

- 1. Thought Organization: mind mapping strategies and applications, progress/ information processing applications.
- 2. Time Management: scheduling applications to organize study time, schedule breaks, and track academic deadlines.
- 3. Note-Taking: strategies, such as Cornell Notes, mind mapping, and a smart pen to record lecture material.
- 4. Mobile Devices: technology including a smart phone with adequate memory for storage of audio files.

Following an effective and systematic AT assessment, Frank's accommodations allow for continued goal striving and may involve compensatory behavior that reinvigorates engagement in self-symbolizing-his drive to reach his vocational goal. As identity building continues toward completion, Frank will continue to strive for identity indicators and symbols that reaffirm his directional disposition and seek identity-relevant validation from others. As a lifelong process, Frank may decide to climb the career ladder, changing his identity goal striving toward becoming a home health aide, registered nurse, or a completely different vocation. With time comes change. Frank will benefit from an updated or new assistive technology assessment to ensure AT goodness-of-fit. This will afford him the greatest opportunity for positive and effective vocational identity development.

Conclusions

Successful vocational outcomes can be achieved when assistive technology professionals frame the use of assistive technology as identity-relevant, valued by the youth, and valued by an identityrelevant social group (preferably by high status members); this will provide a compensatory drive toward identity-completion. Ideally, vocational rehabilitation professionals and the student's rehabilitation team model this youth-centered philosophical approach prior to referral for the assistive technology assessment. This will encourage youth to pursue vocational opportunities, guide them through potential conflicts, and optimize balance between life challenges and building necessary identity-relevant skills. The focus throughout is on identifying, recommending, and providing assistive technology that meets the youth's needs while promoting vocational selfefficacy—full inclusion with maximum independence. Further research is recommended to better delineate the influence of assistive technology goodness-of-fit on transition-age youth identity development.

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